

THE ROCKEFELLER FOUNDATION
ANNUAL REPORT
FOR THE YEAR

The
Rockefeller Foundation
Annual Report

1929

The Rockefeller Foundation
61 Broadway, New York

ПРОДУКТЫ
СВЕЖИЕ МОЛОЧНЫЕ
ЧАЙНЫЕ
ДЛЯ УПОТРЕБЛЕНИЯ

3/83
P. 57

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THE ROCKEFELLER FOUNDATION MEMBERS, COMMITTEES, AND OFFICERS

1929

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ERNEST M. HOPKINS	WILLIAM ALLEN WHITE
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RAYMOND B. FOSDICK	ARTHUR WOODS

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	WILSON G. SMILLIE, M.D.

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Counsel

THOMAS M. DEBEVOISE

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1930

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RAYMOND B. FOSDICK	FREDERICK STRAUSS

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WADE H. FROST, M.D.	WILSON G. SMILLIE, M.D.

~FREDERICK F. RUSSELL, M.D., *Director of the Division, Secretary*

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Vice-President in New York Office THOMAS B. APPLEGATE

Vice-President in Europe SELIGAR M. GUNN

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Director for the Natural Sciences HERMAN A. SPOHR

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Director, International Health Division FREDERICK F. RUSSELL, M.D.

Secretary NORMA S. THOMPSON

Treasurer LOUIS GUERINEAU MYERS

Comptroller GEORGE J. BEAL

Counsel THOMAS M. DEDEVOISE



To the Members of the Rockefeller Foundation,
New York.

Gentlemen:

I submit herewith reports for the year January 1, 1929, to December 31, 1929, 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.

This report covers the first year of operations of the new Rockefeller Foundation under the reorganization completed on January 3, 1929, over the enlarged field of subjects contemplated at that time, and the last year of the presidency of Mr. George E. Vincent, who retired December 31, 1929.

The Foundation has engaged in activities in public health through the International Health Division, and has assisted the advance of knowledge in the fields of medical science, natural science, social science, and the humanities.

Respectfully yours,
MAX MASON
President

DR. PAUL A. LEWIS

Dr. Paul A. Lewis, associate member of the Rockefeller Institute for Medical Research, connected with its department of animal pathology, near Princeton, New Jersey, died of yellow fever at Bahia, Brazil, on June 30, 1929, while engaged, under the auspices of the Rockefeller Foundation, in the investigation of the virus of that disease.

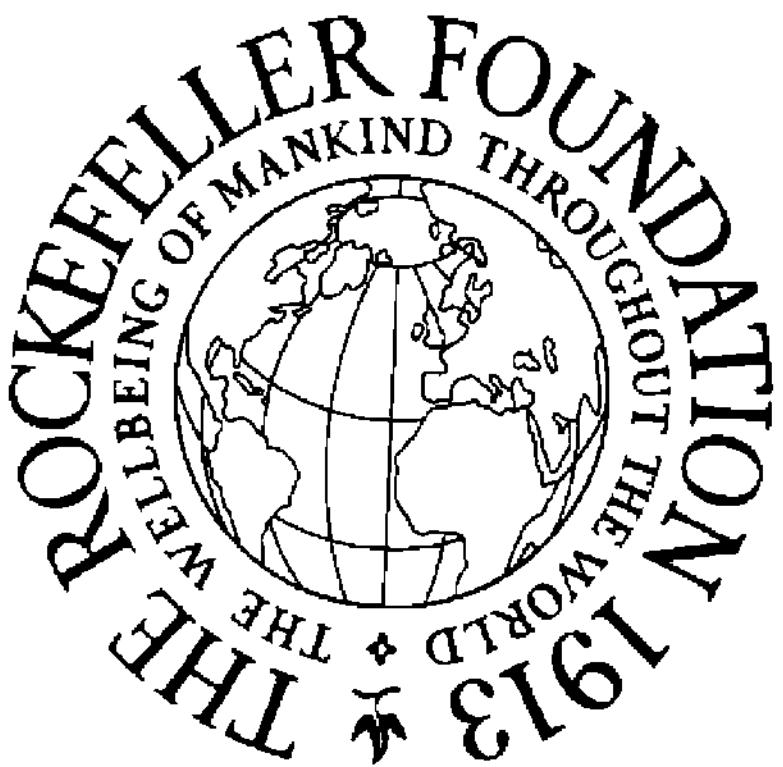
Dr. Lewis volunteered for this service and sailed from New York on December 29, 1928, reaching Bahia on January 15. He devoted himself to the study of several important laboratory problems relating to yellow fever and the nature of its inciting micro-organism, and although this work was interrupted by his death, the notes and records which he left have preserved his findings for the benefit of his co-workers and successors.

Dr. Lewis was born in Chicago, Illinois, on April 14, 1879. He attended the University of Wisconsin and the College of Physicians and Surgeons in Milwaukee, finally completing his medical studies at the University of Pennsylvania, at which institution he took his medical degree in 1904.

While still an undergraduate at the University of Pennsylvania, Dr. Lewis decided upon a laboratory career, rather than a career in the practice of medicine. In 1908 he entered the Rockefeller Institute as assistant in pathology. From 1910 to 1923 he was assistant professor of pathology at the University of Pennsylvania and director of the Henry Phipps Institute. In 1923 he was made an associate member of the Rockefeller Institute.

The significant contributions to knowledge to which Dr. Lewis's name is attached suffice in themselves to bring out the quality and importance of the scientific work to which he devoted himself, but they do not exhaust the sum of observations which he made in related research fields of pathology and bacteriology. To mention merely one of these: As a result of studies with Dr. Flexner it was found that experimental poliomyelitis can be conveyed by inoculation from monkey to monkey through an indefinite series, and that the inciting agent or microorganism of the disease belongs to the class of filter-passing viruses. This research, which led Dr. Lewis into the widening subject of the filter-passing viruses as incitants of disease in man and the lower animals, dominated his investigative interests during the Princeton connection with the Rockefeller Institute and may be said to have been the motivating impulse which led him to volunteer for the yellow fever work in Brazil.

Dr. Lewis possessed a winning personality, and his untimely and tragic death while in the pursuit of knowledge of an insidious and destructive disease came as a great shock to his associates.



Photograph Excised Here

DR. PAUL A. LEWIS

DR. A. MAURICE WAKEMAN

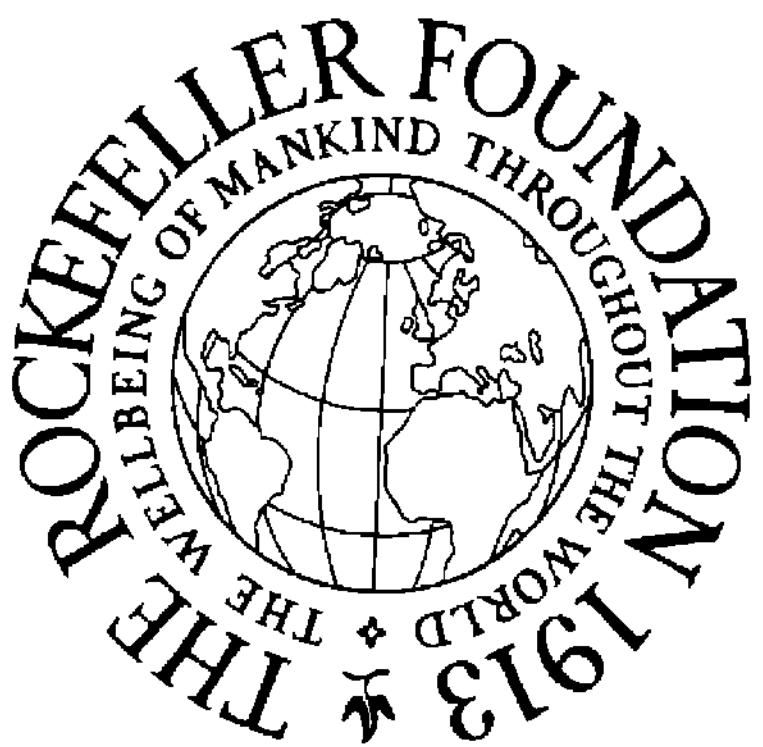
Dr. A. Maurice Wakeman, special member of the staff of the International Health Division of the Rockefeller Foundation, died from cerebral complications following phlebitis, on March 2, 1929, on his way back to the United States from Lagos, Nigeria, where he had been engaged in yellow fever studies.

Dr. Wakeman was born in New York City, March 30, 1897. He graduated from Yale University in 1919 and obtained his medical degree *cum laude* from that university in 1923. He received, in turn, the Perkins scholarship for the best record in work in the basic subjects of the medical and biological sciences during his first year of residence, the Ramsay Memorial Fellowship (1920), awarded to a student of unquestioned ability and character, after completing his first year in the Department of Clinical Medicine, and at his graduation in 1923 the Campbell Gold Medal, awarded to the student who secures the highest rank in the examinations for graduation.

He was an intern at the Presbyterian Hospital in New York City from February, 1924, to October, 1925; assistant in medicine at the Yale School of Medicine and medical resident at the New Haven Hospital from November, 1925, to July, 1926. He was appointed instructor at the Yale School of Medicine in 1926 and was to have become assistant professor at this school upon his return from West Africa, an unusual distinction for one of his age.

Dr. Wakeman was appointed a special member of the International Health Division staff November 29, 1927, as a well-trained biological chemist, to study yellow fever and related diseases in Nigeria, West Africa. He arrived at Lagos, March 15, 1928. His observations were almost concluded and he was about ready to return to the United States to work up his material and submit a report, when he became ill. He sailed from Lagos, February 20, 1929, accompanied by Dr. Beeuwkes, the director of the Foundation's yellow fever work in West Africa. He died on shipboard ten days later.

Throughout his brief career in medicine, Dr. Wakeman showed particular aptitude for investigation, combined with rare ability as a clinical practitioner. He was a talented scientist and physician, a man of great personal charm, endowed with unusual mental capacity, who, along with a straightforward, sympathetic, and diligent character, combined a gallant view toward life and a broad humanitarian vision. All his work showed great promise. Though his task was not completed, his contributions to an understanding of the metabolic aspects of yellow fever are important and significant and will help materially in the campaign against this disease.



Photograph Excised Here

—
DR. A. MAURICE WAKEMAN

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REPORT OF THE SECRETARY

SECRETARY'S REPORT

On January 3, 1929, the consolidation of the Rockefeller Foundation and the Laura Spelman Rockefeller Memorial was effected, and the first meeting of the resulting new corporation, the Rockefeller Foundation, was held.

The Members of the corporation during the year 1929 were:

	John D. Rockefeller, Jr., <i>Chairman</i>
James R. Angell	Julius Rosenwald
Trevor Arnett	Anson Phelps Stokes
John W. Davis	Frederick Strauss
David L. Edsall	Augustus Trowbridge
Simon Flexner	George E. Vincent
Raymond B. Fosdick	George H. Whipple
Jerome D. Greene	William Allen White
Ernest B. Hopkins	Ray Lyman Wilbur
Charles P. Howland	Arthur Woods
Vernon Kellogg	Owen D. Young

The following were elected members of the Executive Committee:

	The President, <i>Chairman</i>
Trevor Arnett	Jerome D. Greene
David L. Edsall	Charles P. Howland
Simon Flexner	Vernon Kellogg
Raymond B. Fosdick	Arthur Woods

Acting in accordance with the plan of organization adopted in 1928, the Trustees of the Foundation appointed the following to be Scientific

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Directors of the International Health Division
for terms of not more than three years:

Rufus Cole, M.D., *Chairman*
Eugene L. Bishop, M.D. Wade H. Frost, M.D.
Louis I. Dublin Wilson G. Smillie, M.D.
C.-E. A. Winslow, D.P.H.
Frederick F. Russell, M.D., *Director of the Division, Secretary*

The officers of the Foundation during 1929
were:

John D. Rockefeller, Jr.	<i>Chairman, Board of Trustees</i>
George E. Vincent	<i>President</i>
Thomas B. Appleget	<i>Vice-President in the New York Office</i>
Roger S. Greene	<i>Vice-President in the Far East</i>
Selskar M. Gunn	<i>Vice-President in Europe</i>
Frederick F. Russell, M.D.	<i>Director, International Health Divi- sion</i>
Richard M. Pearce, M.D.	<i>Director for the Medical Sciences</i>
Max Mason	<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>
Norma S. Thompson	<i>Secretary</i>
Louis Guerineau Myers	<i>Treasurer</i>
George J. Beal	<i>Comptroller</i>
Thomas M. Debevoise	<i>Counsel</i>

Mr. George E. Vincent retired as member and
president of the Foundation on December 31,
1929. Mr. Roger S. Greene resigned May 1,
1929, as vice-president in the Far East.

Meetings

Regular meetings of the Rockefeller Foundation were held on May 22 and November 13, 1929. Nine meetings of the Executive Committee were held during the intervals between regular meetings to execute programs within general policies approved by the Trustees.

Financial Summary

The following is a summary of receipts and disbursements of the Foundation in 1929. 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 1929, remainders of which were payable during succeeding years.

Statement of Funds Available and Disbursements During the Year 1929

FUNDS AVAILABLE

Balances available at consolidation,	
January 3, 1929	
The Rockefeller Foundation....	\$7,351,805.81
The Laura Spelman Rockefeller Memorial.....	12,120,621.58
	<hr/>

Income

January 3 to December 31, 1929.....	14,139,949.19
Transferred from Principal Fund	
January 3, 1929.....	49,924,581.66
November 13, 1929.....	6,000,000.00
	<hr/>
	889,536,958.24

DISBURSEMENTS

Universities and other educational institutions	
Medical science education	\$1,853,795.28
Public health education.....	1,055,305.77
Nursing education.....	1,086,917.21
Social science education.....	179,358.72
Natural science education	272,801.56
Departmental development.....	229,658.09
Research programs.....	783,517.69
Land and buildings.....	2,497,960.67
Research institutions and organiza- tions	
Medical science education.....	4,179.41
Social science education.....	15,000.00
General development.....	290,049.55
Research programs.....	523,092.50

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Land and buildings.....	\$315,685.25
Special committees and commissions.....	70,803.64
Fellowships and grants in aid....	1,088,322.42
Miscellaneous.....	938,171.69
Public health.....	2,408,579.05
General.....	4,577,926.04
Administration.....	848,002.69 \$19,039,127.23

BALANCE

To meet appropriations, pledges, authorizations, and contingent obligations	\$67,402,016.93
Available for appropriation.....	3,095,814.08 \$70,497,831.01

Summary of Expenditures in 1929

UNIVERSITIES AND OTHER EDUCATIONAL INSTITUTIONS

Medical Science Education

Albany Medical College, Albany, New York.....	\$20,000.00
American University of Beirut, Syria.....	750,000.00
China Medical Board, Inc., New York City.....	557,334.00
Chulalongkorn University, Bangkok, Siam.....	44,205.37
National Central University, Shanghai, China..	12,538.23
Peiping Union Medical College, China.....	308,011.76
Shanghai Union Medical College, China....	13,389.83
University of Cambridge, England.....	54,157.39
University of Edinburgh, Scotland.....	52,766.24
University of Montreal, Canada.....	25,000.00
Miscellaneous.....	16,392.46

\$1,853,795.28

Public Health Education

All-India School of Hygiene and Public Health, Calcutta.....	\$22,000.00
Dalhousie University, Halifax, Nova Scotia.....	7,197.50
Harvard University, Cambridge, Massachusetts..	990,000.00
University of the Philippines, Manila.....	10,108.27
University of Zagreb, Yugoslavia.....	26,000.00

\$1,055,305.77

Nursing Education

St. Luke's International Hospital, Tokyo, Japan..	\$12,500.00
University of Lyon, France.....	12,000.00
Vanderbilt University, Nashville, Tennessee ..	27,000.00

Yale University, New Haven, Connecticut.....	\$1,010,204.11
Miscellaneous.....	25,213.10
	<u>\$1,086,917.21</u>

Social Science Education

Atlanta School of Social Work, Georgia.....	\$10,180.06
Children's Village, Inc., Dobbs Ferry, New York.	26,949.27
National Catholic School of Social Service, Washington, D. C.....	11,250.00
Tulane University of Louisiana, New Orleans....	25,500.00
University of Chicago, Illinois.....	41,300.00
Western Reserve University, Cleveland, Ohio ..	25,000.00
Yenching University, Peiping, China.....	20,000.00
Miscellaneous.....	19,179.39
	<u>\$179,358.72</u>

Natural Science Education

Yenching University.....	\$250,000.00
Other Institutions in China.....	22,801.56
	<u>\$272,801.56</u>

Departmental Development

Harvard University.....	\$25,649.52
London School of Economics and Political Science, England.....	15,594.69
New York School of Social Work, New York City..	25,000.00
Northwestern University, Evanston, Illinois....	30,000.00
Syracuse University, Syracuse, New York.....	10,000.00
University of California, Berkeley.....	32,870.22
Yale University.....	72,500.00
Miscellaneous.....	18,043.66
	<u>\$229,658.09</u>

Research Programs

Columbia University, New York City.....	\$46,341.06
Harvard University.....	68,114.65
Harvard University and Radcliffe College.....	43,095.29
Johns Hopkins University, Baltimore, Maryland..	57,000.00
London School of Economics and Political Science, England.....	20,000.00
McGill University, Montreal, Canada.....	15,000.00
Peiping Union Medical College.....	11,090.72
Stanford University, California.....	50,500.00
University of Chicago.....	104,885.88
University of Hawaii, Honolulu.....	20,000.00
University of Liverpool, England.....	15,000.00

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University of North Carolina, Chapel Hill.....	\$45,000.00
University of Pennsylvania, Philadelphia.....	40,000.00
University of Rochester, Rochester, New York.....	20,875.00
University of Stockholm, Sweden.....	15,000.00
University of Texas, Austin.....	40,000.00
University of Vermont, Burlington.....	20,029.95
University of Virginia, Charlottesville.....	23,106.61
Yale University.....	128,478.53
	<hr/>
	\$783,517.69

Land and Buildings

All-India School of Hygiene and Public Health...	\$350,000.00
American University of Beirut.....	120,000.00
Faculty of Medicine, São Paulo, Brazil.....	47,815.46
Keio Gijuku University College of Medicine, Tokyo, Japan.....	75,000.00
National Central University, Shanghai, China....	22,372.91
Peiping Union Medical College.....	176,857.36
State Central School of Nursing, Budapest, Hun- gary.....	30,000.00
University College Hospital, London, England ..	105,000.00
University of Cracow, Poland.....	40,428.59
University of Chicago.....	319,252.00
University of Edinburgh.....	169,708.13
University of Lyon.....	617,881.95
University of Utrecht, Netherlands.....	160,060.00
Warsaw State School of Nursing, Poland.....	77,573.95
Yale University.....	160,000.00
Miscellaneous.....	26,010.32
	<hr/>
	\$2,497,960.67

RESEARCH INSTITUTIONS AND ORGANIZATIONS

Medical Science Education	
China Medical Association.....	\$4,179.41

Social Science Education

Laboratory of Anthropology, Santa Fe, New Mexico.....	\$15,000.00
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General Development

American Institute of Cooperation, Washington, D. C.....	\$10,707.00
Australian National Research Council, Sydney...	10,837.31
Brookings Institution, Inc., Washington, D. C.	56,250.00
Institute of Pacific Relations, Honolulu, Hawaii...	35,000.00
Marine biological stations, France.....	11,741.68

National Bureau of Economic Research, New York City.....	\$37,500.00
National Institute of Industrial Psychology, London, England.....	10,000.00
National Institute of Public Administration, New York City.....	.20,000.00
Postgraduate Institute of International Studies, Department of Public Instruction of the Canton of Geneva, Switzerland.....	30,759.89
Social Science Research Council, New York City..	42,500.00
Miscellaneous.....	24,753.67
	<hr/>
	\$290,049.55

Research Programs

American Law Institute, Philadelphia	\$27,593.53
Bernice P. Bishop Museum, Honolulu, Hawaii	10,000.00
Canadian National Committee for Mental Hygiene, Toronto.....	29,700.00
Council on Foreign Relations, New York City....	30,000.00
Detroit Bureau of Governmental Research, Inc., Michigan.....	26,609.24
Institute of Pacific Relations.....	50,000.00
Massachusetts Department of Mental Diseases, Boston.....	40,749.07
Massachusetts Society for Mental Hygiene, Boston	20,000.00
Social Science Research Council.....	172,960.11
Welfare Council of New York City.....	62,500.00
Miscellaneous.....	52,980.55
	<hr/>
	\$523,092.50

Land and Buildings

Kaiser Wilhelm Society for the Promotion of Science, Berlin, Germany.....	\$315,685.25
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SPECIAL COMMITTEES AND COMMISSIONS

Committee on Cost of Medical Care, Washington, D. C.....	\$40,000.00
Committee on Grading of Nursing Schools, New York City.....	5,000.00
President's Conference on Unemployment, Washington, D. C.....	25,803.64
	<hr/>
	\$70,803.64

FELLOWSHIPS AND GRANTS IN AID

Developmental and laboratory aid, Europe.....	\$90,811.43
Fellowships administered by the Foundation.....	494,486.78

Medical Research Council, Great Britain.....	\$18,678.22
National Research Council, Washington, D. C.	
Fellowships.....	245,210.10
Research aid fund.....	25,000.00
Notgemeinschaft der Deutschen Wissenschaft, Berlin, Germany.....	16,950.46
Peiping Union Medical College.....	23,734.75
Research aid funds, medical and natural sciences.....	12,890.22
Social Science Research Council.....	105,745.23
Visits of commissions and individuals.....	30,359.21
Miscellaneous.....	24,456.02
	<hr/>
	\$1,088,322.42

MISCELLANEOUS

Bulletins and reprints.....	\$27,034.82
Encyclopaedia of the Social Sciences.....	86,127.59
Hospital and clinic service.....	29,838.23
Hospitals in China.....	59,902.86
Humanistic studies in Europe.....	16,232.86
National Research Council.....	88,710.68
New York Academy of Medicine, New York City.....	512,500.00
Social Science Research Council.....	74,635.30
United Hospital Fund, New York City.....	15,750.00
Miscellaneous.....	27,439.35
	<hr/>
	\$938,171.69

PUBLIC HEALTH

Regular program in control of hookworm infection, malaria, yellow fever, and in local health work; aid to state health services and bureaus for study and reform of health activities.....	\$1,918,139.93
Health Organization of the League of Nations.....	149,753.34
Public Health Education	
Fellowships.....	205,366.53
Study and training courses and travel of visiting health officials.....	57,170.62
Schools and institutes of hygiene and public health	78,148.63
	<hr/>
	\$2,408,579.05

GENERAL *

Agricultural club work in Sweden and Finland.....	\$10,937.91
American Association for Adult Education, New York City.....	20,277.28

*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.

American Association of Museums, Washington, D. C.	\$41,051.61
American College for Girls at Constantinople, Turkey	750,000.00
American Council on Education, Washington, D. C.	60,674.06
American Home Economics Association, Washington, D. C.	28,921.98
American Library Association, Chicago, Illinois	12,787.32
Association for Improving the Condition of the Poor, New York City.....	16,666.68
Association for the Study of Negro Life and History, Washington, D.C.	10,000.00
Boy Scouts of America, New York City.....	31,902.69
Child Study Association of America, New York City.....	45,000.00
Child study fellowship program.....	38,954.94
Cleveland Community Fund, Cleveland, Ohio.....	18,750.00
Commission on Interracial Cooperation, Atlanta, Georgia.....	33,977.75
Coordinating Council on Nature Activities, New York City.....	10,248.01
Cornell University, Ithaca, New York.....	49,250.00
East Harlem Health Center, Inc., New York City..	44,800.00
Foreign Language Information Service, New York City.....	16,149.83
Georgia State College of Agriculture and Mechanic Arts, Athens.....	15,280.15
Henry Street Settlement, New York City.....	18,750.00
Howard University, Washington, D. C.	13,200.76
Institute of International Education, New York City	46,000.00
International Migration Service, Geneva, Switzer- land.....	13,852.62
Jean Jacques Rousseau Institute, Geneva, Switzer- land.....	11,077.66
League of Red Cross Societies, Paris, France.....	15,000.00
Mills College, Oakland, California.....	12,200.00
Monmouth County (New Jersey) Organization for Social Service, Inc.....	12,305.90
National Municipal League, New York City.....	10,385.88
National Urban League, New York City.....	12,424.16
Neighborhood Teacher Association, New York City	17,747.96
Peiping Union Medical College.....	10,325.00
Playground and Recreation Association of America, Inc., New York City.....	24,771.89
Russian Student Fund, Inc., New York City.....	13,786.00
Russian Zemstvos and Towns Relief Committee, Paris, France.....	10,000.00
Salvation Army, Inc., New York City.....	12,500.00

20 THE ROCKEFELLER FOUNDATION

Scholarships in the social sciences and social work for American negroes.....	\$10,247.15
Spelman College, Atlanta, Georgia.....	1,000,000.00
State Charities Aid Association, New York City.....	33,240.29
State University of Iowa, Iowa City.....	70,635.99
Teachers College, Columbia University, New York City.....	97,500.00
University of California	90,054.16
University of Chicago	55,040.82
University of Minnesota, Minneapolis.....	75,846.82
University of North Carolina.....	22,000.00
University of Toronto, Canada.....	10,000.00
Woman's American Baptist Foreign Mission Society, New York City.....	1,000,000.00
Young Men's Christian Association, New York City	367,575.96
Young Women's Christian Association, New York City.....	65,000.00
Y. M. C. A. and Y. W. C. A. International Survey Committee, New York City.....	49,668.69
Miscellaneous.....	121,158.12
	<hr/>
	\$4,577,926.04

ADMINISTRATION

Maintenance of New York, European, and Peiping offices.....	\$348,002.69
	<hr/>
	\$19,039,127.23

Funds and Property

As of December 31, 1929

PRINCIPAL FUND

Balance in the Rockefeller Foundation Principal Fund on January 2, 1929.....	\$150,291,624.50
Balance in the Laura Spelman Rockefeller Memorial Principal Fund on January 2, 1929.....	53,006,878.84
Appropriated principal received from the Laura Spelman Rockefeller Memorial.....	5,750,000.00
	<hr/>
Total Principal Fund, January 3, 1929.....	\$209,048,503.34

Amounts transferred from Princi-
pal Fund in accordance with
resolutions of the Members:

To provide for an accumulation
of obligations originally
chargeable against income of
future years, January 3, 1929 \$34,924,581.66

To provide for current appropriations

January 3, 1929.....	\$15,000,000.00
November 13, 1929.....	6,000,000.00
	<hr/>
	\$55,924,581.66

Unpaid appropriations from principal of the Laura Spelman Rockefeller Memorial transferred to Prior Obligations Account.....

5,750,000.00	\$61,674,581.66
<hr/>	<hr/>

Balance, December 31, 1929.....	\$147,373,921.68
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LAND, BUILDINGS, EQUIPMENT

In China:

Shanghai Medical School. Land	\$298,331.95
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In New York:

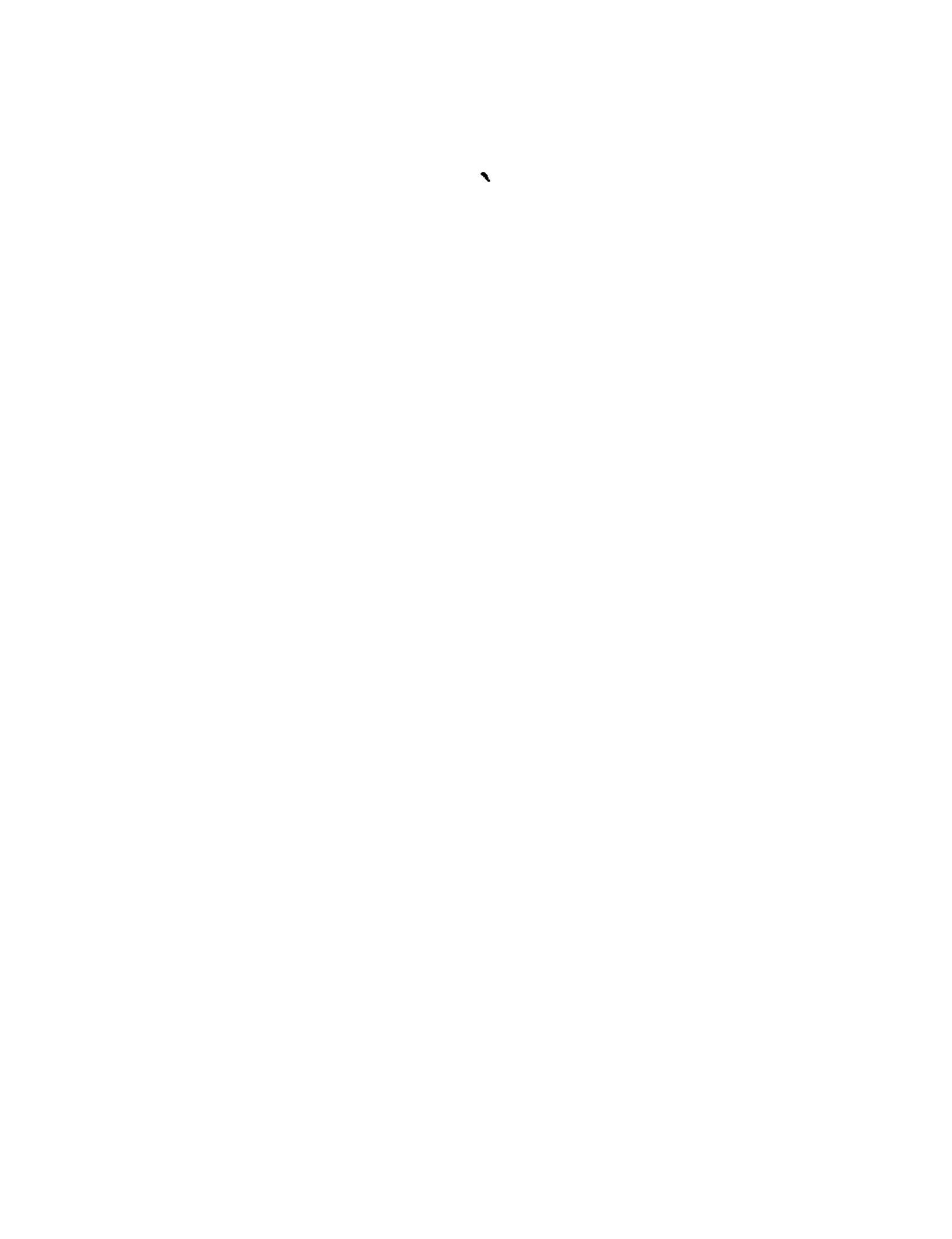
Furniture and equipment of offices.....	52,187.98
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In Paris:

Part interest in building occupied by Paris Office.....	68,000.00	418,519.93
	<hr/>	<hr/>

\$147,792,441.61	<hr/>
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INTERNATIONAL HEALTH DIVISION



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INTERNATIONAL HEALTH DIVISION

Scientific Knowledge and Public Health

Every major step forward in public health is based upon some fundamental advance in scientific knowledge. Barring general work in quarantine, sanitation, pure water and food supply, and the more or less accidental discovery of smallpox vaccine made by Jenner in 1796, there was little practical progress in the public control of specific diseases until Pasteur, who died in 1895, initiated a series of brilliant scientific discoveries, chiefly in the field of bacteriology.

Broadening out the antiseptic principle introduced into surgery by Lister in 1867, Pasteur less than twenty years later discovered in bacteria the principle and true origin of certain heretofore puzzling diseases. It has been said that whereas Lister revolutionized surgery, Pasteur revolutionized all of medicine. This discovery of the specific cause of certain communicable diseases, and along with it the method by which these diseases are spread and can be prevented, is an outstanding example of the application of the scientific method in medicine.

The first human disease for which Pasteur worked out a method of control was rabies. By

injecting the attenuated virus of rabies into human patients he was able to save them from the hitherto fatal effect of this disease. The same principle has since been applied to typhoid fever, diphtheria, and scarlet fever. It should be noted that as soon as the basic scientific facts about a disease become clear, the road to the control of that disease is in the majority of cases opened up.

For centuries diphtheria was a fatal disease of childhood. In 1895, 50 per cent of the children who developed diphtheria died from the disease. Five years after the introduction of antitoxin the mortality fell to 12 per cent, and it has been diminishing ever since, until now a single death from diphtheria in a city is considered a serious matter. Similarly, there was developed an antitoxic serum for the cure of scarlet fever as well as a toxin for its prevention and a skin test (the Dick test) which makes it easy to determine whether a person is susceptible or immune to the disease. Investigations of typhoid fever among soldiers during the Spanish-American War led to new knowledge of this disease and the introduction of antityphoid vaccination, as a result of which typhoid fever ceased to be the dread of armies.

Sometimes research leads to the discovery of a chemical remedy rather than a vaccine. Quinine

as a specific against malaria has long been known, but salvarsan for syphilis is a modern remedy. Of equal importance in connection with syphilis has been the discovery of a test by which the disease can be diagnosed in its early as well as its late stages.

One entire class of diseases has been traced to faulty dietetics. Ergotism, beriberi, scurvy, rickets, and pellagra are now considered deficiency diseases (avitaminoses), caused by an attempt to sustain life by food deficient in some specific vitamin. They can be alleviated and prevented by proper diet.

In a long list of diseases, insects or other animals which carry the infective organism or principle have been found to play an important rôle. Plague is carried by fleas, sleeping sickness by the tsetse fly, and African relapsing fever by a species of tick. The familiar stories of malaria and yellow fever, in connection with which the Rockefeller Foundation has been active, will be touched upon in separate sections of this report. There are many other diseases in which the accusing finger of scientific research points to certain insect vectors, and thus gives public health authorities more than a hint as to ways and means of combating these maladies. Within recent years there has arisen a new branch of science known as medical entomology, or the

study of insects that play some rôle in the carrying of disease.

Public health is to a certain extent synonymous with preventive medicine; and preventive medicine, of course, deals with diseases which can be prevented or at least partially controlled, chiefly by group action, taken on government initiative. The work of the Rockefeller Foundation in the field of public health, although intimately connected with control efforts in behalf of certain diseases, has throughout been directed toward the acquisition of new scientific knowledge, by which the principles of control are definitely established. Even when pioneer scientific research has stippled out the main lines of control, there still remains a considerable amount of experimental and other research work to be done before detailed control work, carried out under a variety of conditions and in different parts of the world, can become more and more effective.

In the following pages are discussed briefly the activities through which the Foundation in 1929 endeavored to contribute to the advancement of knowledge in public health. An account is also given of its assistance to public health education and to centers of research in public health. References cited throughout the report relate to work done under Rockefeller Founda-

tion auspices or by members of the Foundation staff.

Public Health Education

London School of Hygiene and Tropical Medicine

The Rockefeller Foundation has given support to the cause of research and education in public health by aiding in the establishment of important schools of hygiene. Hygiene has long been a part of the curriculum in medical schools, receiving as the years went by an increasing amount of attention. After the World War, hygiene entered a stage where the body of knowledge of public health had become so vast that nothing less than independent schools well equipped with a diversity of departments could do justice to the subject and afford the extensive training required by future leaders and investigators in this field. The first school of this sort that the Rockefeller Foundation helped to found was at the Johns Hopkins University. The most recent one to be completed with its aid is the London School of Hygiene and Tropical Medicine, which forms a part of the University of London.

The annual maintenance of the London School of Hygiene and Tropical Medicine is provided for by the British Government. The new building in which it is housed, erected with

the assistance of the Foundation, was opened with appropriate ceremonies on July 18, 1929. This handsome and well-equipped structure represents the final product of years of planning and execution.' The new school includes the former London School of Tropical Medicine, which was founded in 1899 on the initiative of Sir Patrick Manson, who has been termed the father of modern tropical medicine, just as Great Britain itself has been called the cradle of modern hygiene.

London, as a great metropolis and the political, economic, and intellectual center of the British Empire, can muster a not inconsiderable wealth of experience in tropical medicine and practical health administration. The new School of Hygiene and Tropical Medicine is near the University College Hospital and Medical School. It is in the immediate vicinity of the new site for the University of London. Just across the street are the Wellcome Research Laboratories and not far away is the British Museum. London and the counties of London offer unsurpassed opportunities for field training and public health work. The school starts under the most favorable auspices.

In the construction of the building, the proportion of parts was carefully related to the function of the school as a whole. The school

has six departments, all fully equipped for both teaching and research purposes. There is a large lecture-hall, as well as an ample library and a museum of hygiene. The museum covers the three fields of sanitary engineering, hygiene, and tropical medicine. Special care was taken to provide every facility for postgraduate instruction.

Awareness of high traditions is indicated by the names of twenty-one pioneers in public health engraved around the frieze of the new building. Further decorative motifs are large gilded insects on the balconies, representing the parasitic enemies against which public health scientists are continually campaigning. The aim is to make this an international as well as a national center of public health. Present policy is to establish a chain of research stations throughout the Empire and also to send out expeditions to the tropics from time to time. The completed school will give Great Britain an institution of the first rank for the promotion of preventive medicine.

Central Institutes of Hygiene

Various European countries have, since the war, made a determined effort to radiate countrywide public health efforts from a single central organization serving as a teaching and research center and also as a state public health laboratory

for diagnostic purposes and the preparation of biological products used in health work. We shall mention here a number of these central institutes of hygiene in process of development, to which the Rockefeller Foundation was still contributing support in 1929.

One of these institutes, consisting of a group of buildings, has been established at Prague in Czechoslovakia. Negotiations for Rockefeller Foundation aid were begun in 1921, and since that time the Foundation has made extensive contributions. The last building of the group is now under construction, and it is planned to have this completed and equipped some time in 1930. Work is already proceeding in various divisions of the institute. A campaign against smallpox was undertaken some years ago. In 1923 a law was passed making vaccination compulsory during the first, seventh, and fourteenth years of life. Since 1926 Czechoslovakia has had no smallpox. During 1929 one of the divisions of the institute published a report on health conditions in the Czechoslovakian Republic during the period 1918-1928.

A somewhat similar central institute toward which the Rockefeller Foundation has made contributions is in process of construction at Budapest, Hungary. The plans include a main building and certain subsidiary structures. In

connection with this institution there is a school for public health officers at which physicians in, or entering, the public health service are given the training obligatory by law. There is a division for field work which has been active in improving the water-supply, and a school for nurses is under construction. The public health work and public health research carried out at this institute now influence all sections of Hungary.

The most recent institute of this type to be established is the Central Institute of Hygiene at Angora, Turkey. Land was bought in 1927, and Foundation aid was obtained in equipping and furnishing the first unit, the laboratory building. This was completed in 1928. Early in 1929 construction was begun on three other buildings, which are now far advanced. Toward the completion of one of these, the Service School, the Foundation is cooperating with the Turkish Government. This Central Institute of Hygiene is national in character. It will provide sera and vaccines for the whole country and also give training facilities for the public health personnel. There are four branch laboratories. The Service School is a direct branch of the government, intended first of all to fill the needs of the Ministry of Health. The government plans to make this school the center for a vigorous attack on

the health and sanitation problems confronting the country. The Minister of Public Health and the Director of Hygiene in the Ministry of Health have visited the United States and other countries as guests of the Rockefeller Foundation, in order to study various aspects of public health administration. In all, there will be eight buildings in this central institute. The ultimate intention is to make it a complete medical and public health center to include a school of medicine and a hospital.

Public Health Training in Other Centers

The institutes and schools of hygiene that have just been mentioned are all large and central organizations. Most of them are at the initial stages of their career. They look to the future. Their first care will be to provide highly trained experts capable of doing research work and occupying the more important administrative posts from which the health activities of the nation are directed. Meanwhile, local public health work of all kinds is going on in many parts of the world, and there is a genuine demand for well-trained local health officers as well as for other personnel who know something about how to deal with public health problems although they may not have taken a full postgraduate course in this subject.

One way in which the Rockefeller Foundation has tried to be of help in supplying this need is by giving limited support to the public health curriculum of local medical schools or institutions. Thus, in Trinidad, the Foundation has contributed to the support of a chair of sanitation and tropical hygiene in the Imperial College of Tropical Agriculture at St. Augustine. This support is given over a limited period of time during which the professor in charge is carrying out an extended program of research, using the facilities of the department of sanitation and hygiene at the school.

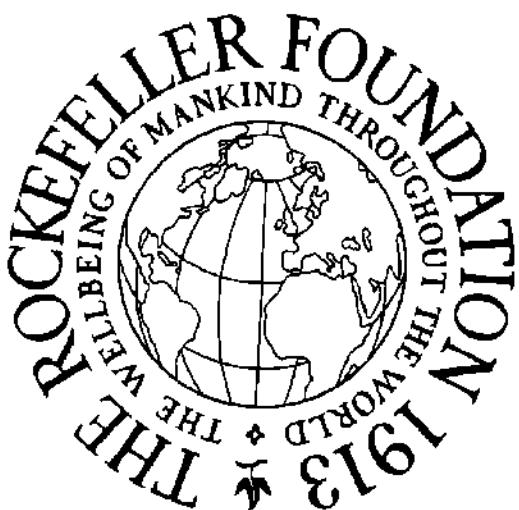
Similarly, at the Peiping Union Medical College, in China, an institution founded, and for several years supported, by the Rockefeller Foundation, but now maintaining an independent status, the professor in charge of the department of hygiene and public health is a representative of the Foundation, which continues to lend his services in guiding this important work in preventive medicine in China.

There are over twelve million births a year in China. One of the pressing problems there, as elsewhere, has to do with infant and maternal welfare. In the city of Peiping there has been established the First Midwifery School, an enterprise in which the Rockefeller Foundation is co-operating. The government has given the land

and the building and shares the cost of maintenance; after the close of the cooperative period it will carry on the work. This school represents the initial step in a program to develop a similar high grade government school of this sort in each of the provinces. There is close cooperation with the department of obstetrics of Peiping Union Medical College. The school offers a standard two-year course and also a shorter course of training, of which Chinese midwives are taking advantage. Thus in dealing with a special problem, such as that of infant welfare in China, the Foundation gives support to a special institution.

In the islands of the South Pacific, a school has been established for native students who will later on be active in public health work. This school is located at Suva, Fiji. The Foundation is lending its support, and one of the Foundation representatives serves on the faculty. Teaching facilities of this school have recently been expanded, and a number of island groups are cooperating in the support of the enlarged project, namely, Fiji, Tonga, Gilbert and Ellice Islands, British Solomon Islands, the New Hebrides, the Cook Islands, and Western Samoa.

Other units of real importance in affording practical health officers a chance to do field work



Photograph Excised Here

The new building of the London School of Hygiene and Tropical Medicine, erected with the aid of the Rockefeller Foundation.



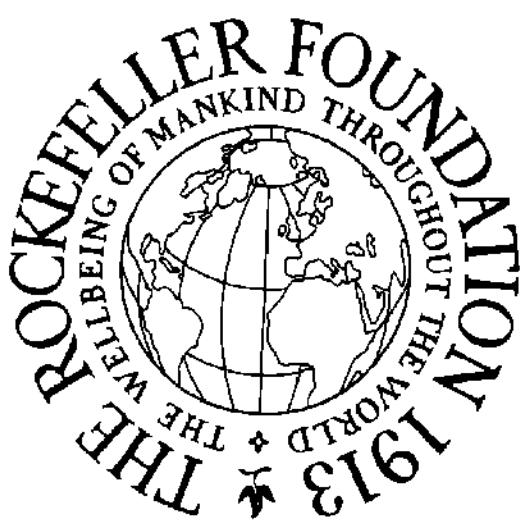
Photograph Excised Here

Two of the gilded bronze motifs, representing insect carriers of disease, which adorn the balconies of the building.

and observe public health activities, as carried out *in situ*, are the local units known as health demonstrations. More will be said of these health demonstrations in another section of the report. It is sufficient to mention here that a number of these stations not only offer opportunities for observation but also give short courses, lasting a number of weeks or months, by which ambitious health officers and others engaged in public health activities can further fit themselves for the work in hand. In the United States, at the end of 1929, there were two such stations, one at Indianola, Mississippi, and another at Lansing, Michigan, opened during the year. There is a similar station in Beauce County, Quebec; and in Europe certain malaria stations in Corsica, Italy, and Spain are used for a like purpose, that is, for the training of health officers for practical malaria work. Health centers and demonstrations in various other parts of the world, to which the Foundation is contributing, in addition to promoting the health of the community also serve as stations which health workers in training can visit and at which they can observe actual projects in operation.

Fellowships and Visiting Professors

Schools for public health education, whether central or local, can accomplish little unless the



Photograph Excised Here

A lecture period at the First Midwifery School, Peiping.



Photograph Excised Here

Class in public health of the Central Medical School for Native Medical Students, Suva, Fiji, observing the construction of a bored-hole latrine.

supply of young men who make use of them is kept up. In addition, therefore, to aiding education, training, and research centers, the Foundation also conducts a fellowship program by which medical graduates are given an opportunity to specialize in the field of public health. The demand for qualified personnel in this field continues to exceed the supply. Not only the medically trained man but also the nurse and the sanitary inspector have proved indispensable for the usual routine of field activities. Since the scope of public health embraces many branches of science requiring workers of various types, there is here a distinct professional sphere with large opportunities for research work in field and laboratory by which our present knowledge of public health procedures can be enlarged. The best practice in public health is always that based upon facts scientifically demonstrated.¹

In the field of public health during 1929 the Rockefeller Foundation offered and administered a total of 187 fellowships, divided into 44 resident fellowships, chiefly limited to Central Europe, and 143 traveling fellowships, held by men from many parts of the world. There were 66 fellows who came from countries in Europe, 24 from the

¹Ferrell, John A. Basic Principles in the Public Health Field. *Southern Medical Journal*, Birmingham, Ala., 22: 651-654 (July) 1929.

United States, 37 from other parts of North and South America and from the West Indies, and 16 from the Far East, including the Philippines, Ceylon, China, and India. According to specialties, these fellowships were grouped as follows: maternity welfare, 1; school and child hygiene, 2; tuberculosis, 3; industrial hygiene, 3; epidemiology, 4; malaria, 8; sanitary engineering, 11; statistics, 12; public health laboratory service, 17; public health nursing, 26; public health administration, 56. The countries in which these men studied were: the United States, 120; Canada, 9; England and other European countries, 14. The holders of these fellowships are carefully selected men and women, students of public health, who, upon the termination of their fellowships, engage to go back to their own countries to occupy posts in the public health service.

In addition to the fellowships provided, an opportunity to visit the United States and other countries was given to a number of important health officials in various parts of the world. These include, besides the two officials from Turkey already mentioned, two professors from the London School of Hygiene and Tropical Medicine, the Director of the National Department of Health in Norway, the Director of Health of Mexico, the Director of the National Institute

of Hygiene, Alfonso XIII in Spain, the Director of Health of the Philippines, two health officials from Porto Rico and one from Jamaica. There were eleven such visitors in all.

Further, health officials and chiefs of divisions in the health services of Denmark, France, Hungary, Poland, Rumania, Spain, Turkey, and Yugoslavia, to the number of sixteen, were given an opportunity to visit other centers of health interest and public health training in Europe.

Interchanges of this sort, by which the health workers of one country are given a chance to observe the work, methods, procedures, and accomplishments of another country, are of the greatest stimulative and educational value. The League of Nations, through its Health Organization, has for some years, with Rockefeller Foundation support, carried on similar work. To continue such international interchanges of public health personnel under League of Nations auspices, the Rockefeller Foundation has pledged an annual sum extending over a three-year period, beginning January 1, 1929, and ending December 31, 1931.

Yellow Fever

Present Status

It is not necessary at this time to recall the day when yellow fever was one of the plagues of the

Western Hemisphere. A generation ago, seaport communities in South America, in the West Indies, and even on the North American continent as far north as New York, still lived in dread of periodic and deadly yellow fever visitations. The problem was partly solved in 1900, when an American Army Board, under Colonel Walter Reed, definitely demonstrated that yellow fever is carried by a certain mosquito, the *Aedes aegypti*, and that the disease is caused by a virus so small that it can pass through a fine filter capable of holding back bacteria. Walter Reed could not pursue his investigations further because he did not know of any susceptible laboratory animal; but his work made possible the sanitation of Havana and the building of the Panama Canal.

Yellow fever, however, has persisted in many other regions. The Rockefeller Foundation has been active from year to year in helping to combat its epidemic and endemic manifestations in various parts of the American continent. Since 1923 the Brazilian Government has been assisted in reducing *Aedes aegypti* breeding. Activities have been chiefly concentrated in the large coastal cities of the north in the belief that these are the most probable foci of the disease; but the work has been extended to the smaller towns from time to time as outbreaks of yellow

fever have indicated a need for it. During 1929 the Foundation helped to conduct preventive work in the states of Bahia, Sergipe, Alagoas, Pernambuco, Parahyba, Rio Grande do Norte, Ceará, Maranhão, and Pará.

In 1929 an epidemic of yellow fever occurred in the city and state of Rio de Janeiro and in neighboring states to the north. According to the League of Nations' figures, the number of yellow fever cases occurring in all Brazil in 1929 was 651, with 382 fatalities. Of these, 580 cases and 365 deaths occurred in the city of Rio de Janeiro. In the north, cases were reported from Belém in the state of Pará, and Recife in Pernambuco. There were rumors of outbreaks in certain towns in the interior of Pernambuco and of a few sporadic cases elsewhere.

A small amount of yellow fever was reported from Africa. Official reports of the League of Nations give the number of cases as twenty-two, with ten deaths; all the cases occurred in Liberia. Previous experience with the disease in West Africa, however, leads us to believe that it is always present somewhere in Nigeria and the neighboring colonies, among the indigenous population, even though no cases come to the attention of the health departments. It is difficult to obtain complete reports of illnesses and deaths in any country, and the difficulties in West



Photograph Excised Here

A Hausa resident of Nigeria, West Africa, where representatives of the Foundation are engaged in yellow fever studies.



Photograph Excised Here

Glimpse of a Nigerian home.
A young member of the family is
preparing a meal.

One of the native scouts who
assist in locating cases of yellow
fever in Nigeria.

Africa are practically insuperable at the present time.

A special study was made of an epidemic of yellow fever occurring in the Department of Santander, Colombia, during the first half of 1929. It centered about the town of Socorro where approximately 150 cases developed, of which 50 were of a serious type with 34 deaths. Yellow fever disappeared from the Caribbean coast of Colombia when Havana and Panama were cleaned up, and from the Pacific coast when Guayaquil was sanitized. There is a probability, however, that in the interior the disease has been kept alive by means of mild and unrecognized cases, from which the flareup of 1929 developed. Intensive antimosquito measures were instituted in Socorro by the government.

A part of the difficulty in entirely controlling or extirpating yellow fever is that knowledge of this disease is still incomplete. It is known that yellow fever is carried by mosquitoes. The same is true of malaria. But in the case of malaria the definite organism within the mosquito which is responsible for carrying the disease has likewise been ascertained. Malaria is caused by a plasmodium, a species of one-celled animal, whose cycle of life within the mosquito has been closely studied. And this organism, which invades the human blood stream, can be



Photograph Excised Here

Members of the Foundation's yellow fever staff in West Africa, with their car, being ferried across a river in interior Nigeria.



Photograph Excised Here

In these concrete rain-water tanks of a native Nigerian village many larvae of the yellow fever mosquito were found

killed by quinine. In the case of yellow fever no corresponding organism within the mosquito has been found. It is on the unsolved aspects of the yellow fever problem involving research work, chiefly of a laboratory nature, that the Rockefeller Foundation has in recent years been concentrating its efforts, but without interruption of the control work, which is steadily going forward, especially in Northern Brazil.

About four years ago the Rockefeller Foundation established scientific personnel equipped with adequate laboratory facilities at Lagos, Nigeria, in West Africa. This move was equivalent to bearding the lion in its den, for Africa is thought to be the original home of yellow fever. Here the disease is still a standing menace to Europeans and here it can be studied, as it occurs often in mild form among natives. The men in the laboratories and on the field in Africa, in collaboration with scientific workers on the same subject in other parts of the world, are year by year pushing forward the frontiers of our knowledge about yellow fever. In the year 1929 an encouraging amount of new domain was thoroughly explored.

Research work in yellow fever, both in Africa and in Brazil, is fraught with great danger to those who undertake it. All honor is due to the scientists engaged in this important but perilous

task. To the list of eminent men working under Rockefeller Foundation auspices who gave their lives to this work, beginning with Dr. Cross in 1921, and including Dr. Stokes in 1927 and Dr. Noguchi in 1928, must now be added the name of Dr. Paul Lewis, an eminent pathologist and a zealous and enthusiastic worker, who died June 30, 1929, of yellow fever, in Bahia, Brazil.

Chavarria, A. P., Serpa, R., and Bevier, G.

Yellow Fever in Colombia with Special Reference to the Epidemic in Socorro in 1929. *Journal of Preventive Medicine*, Chicago, November, 1930.

Hudson, N. P., and Kitchen, S. F.

Postepidemic Diagnosis of Yellow Fever by the Passive Immunity Test. *Journal of Preventive Medicine*, November, 1930.

Importance of Virus Diseases

Yellow fever is one of a number of diseases in man, animals, and even plants caused by so-called viruses. Scientists in many parts of the world are making an effort to solve some of the scientific puzzles connected with virus diseases. A recent report (1928-1929) of the British Medical Research Council states:

Our present almost complete impotence in face of such deadly diseases as measles, yellow fever, and encephalitis, among many others, and of such ruinous plagues among live stock as foot-and-mouth disease, swine fever, and rinderpest—and to these may be added destructive diseases affecting potato, tobacco, and banana crops—is such as to justify and indeed to demand an army of skilled workers. . . . The reward for the solution of the present mysteries will certainly be immense in the new control it will bring over diseases that kill by the million; and another kind of reward will almost certainly be found in the new illumination that discovery of the laws governing the

structure and behavior of these virus bodies will give within the unknown territory between living and non-living matter.

They (viruses) are concerned with an invisible underworld of bodies that in size stand somewhere between the largest known molecules of dead organic matter and the smallest microscopic bacteria. These cannot be seen as definite structures by ordinary microscopic means, and the relation to them of certain objects made visible by special optical methods is still a matter of discussion. They are called "filter-passing" because many of them will traverse a filter fine enough to hold back and strain off ordinary bacteria from a fluid containing them. Whether these "viruses" are organized as minute, ultra-microscopic bodies is still an open question; in any case, they are presumably too small to have an organization similar to that of such cells as have hitherto been regarded as primary units of living matter. Nobody has yet succeeded in preparing an artificial fluid which will, by itself, provide conditions in which these viruses will reproduce themselves and multiply; some of them, however, will grow in artificial conditions if a piece of surviving tissue, taken from a freshly killed animal, is added to a suitable medium. It seems to be characteristic of a virus that it can multiply only in the presence of living cells which it can infect. . . .

When the appropriate virus in minute quantity is introduced into the animal, or the plant, which it can infect, then there may occur with almost incredible rapidity an unseen and unexplained multiplication of it throughout all the parts of the organism attacked.

A considerable portion of the yellow fever research work done by the field staff of the Rockefeller Foundation and reported on in 1929 concerned studies of yellow fever virus. Some of the questions propounded were whether there is present in the virus any particular organism cultivable on ordinary media; whether the virus will develop and persist in living bacteria; whether

it is inactivated by disinfectants, what exposure to heat is necessary to render it inactive; whether virus inactivated by heat is capable of producing immunity; in what direction the virus travels in an electrical field, and whether the presence of virus or a substance resulting from its presence can be detected by laboratory or skin reactions. Most of the answers thus far obtained have been negative or inconclusive.

Yellow fever virus was studied in the mosquito. Its presence has been demonstrated in the head, thorax, and abdomen of mosquitoes before the bites have become infective. It appears probable that the entire body is infected. There is no conclusive evidence that virus passes from one generation of mosquitoes to the next through the eggs. Hereditary transmission of yellow fever by *Aedes aegypti* is therefore highly improbable.

It is not easy to determine whether the virus is in the circulating blood of a human being before the onset of the fever. In monkeys it was found that the virus was circulating in the blood one or two days after infection and the same interval before the onset of fever. Twelve hours after inoculation, monkeys became capable of transmitting the infection when their blood was injected into a susceptible animal. These results point to a remarkably rapid multiplication of the virus in the animal host. Indications

point to the infectivity of human cases before the appearance of clinical symptoms. This offers one explanation for the insidious propagation of epidemics of yellow fever and is of importance in instituting control activities.

The virus of yellow fever may be preserved for at least one year in the blood or liver tissues of infected monkeys, if the material is dried in frozen state under vacuum and stored in sealed glass tubes.

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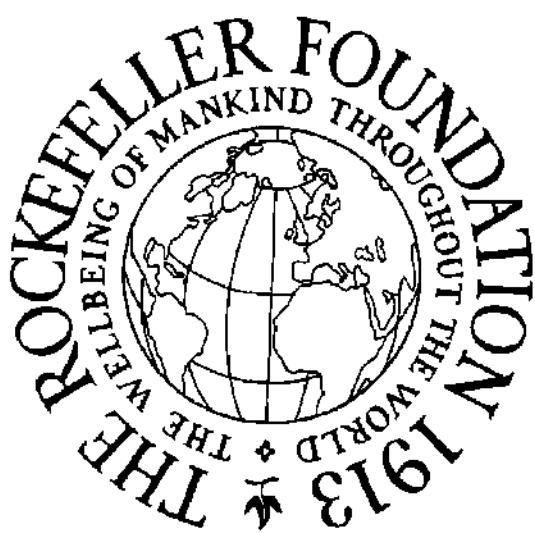
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Old and New World Yellow Fever

To settle the question as to whether there is any difference between yellow fever as it occurs in West Africa and as it has occurred in South America and even North America, the Rockefeller Foundation undertook to bring together



Photograph Excised Here

Yellow fever staff of the State of Pernambuco, Brazil



Photograph Excised Here

Member of the Pernambuco yellow fever staff inspecting water containers for evidences of mosquito breeding.

yellow fever viruses of both hemispheres and to determine their relationship. It was found that the yellow fever now in South America, the present yellow fever of Africa, and the historical yellow fever of Panama and other American countries are the same disease. The conclusion is based upon extensive cross immunity tests in monkeys with strains of yellow fever virus from Africa and Brazil and on tests of sera from persons who had recovered from yellow fever in various places and at various times. This clears up the question as to whether or not Old World yellow fever and New World yellow fever are identical.

Another obscurity surrounding yellow fever has been the difficulty in differentiating it from closely similar diseases. The isolation, by Noguchi and other investigators, of an organism known as *Leptospira icteroides* from the blood of occasional patients in past epidemics of yellow fever in a number of American countries, indicates that leptospiral jaundice as well as yellow fever was present and that this jaundice was diagnosed clinically as yellow fever. Brazilian sera which protected against yellow fever were tested and were found to have no protective power against the leptospirae. It seems unlikely that American yellow fever is the combined effect of leptospirae and yellow fever virus.



Photograph Excised Here

Brazilian sanitary inspectors examining a roof gutter of a factory where, in water which had collected after a heavy rain, larvae of the yellow fever mosquito were found.



Photograph Excised Here

Depositories half buried in the ground to obtain delivery of water from low-pressure pipes, are a troublesome factor in anti-mosquito work in certain sections of Brazil.

The position of *Leptospira icteroides*, isolated by Noguchi during yellow fever epidemics, appears to be not that of a secondary invading micro-organism in yellow fever, but rather the incitant of a form of infectious jaundice sometimes fatal and often coincident in its appearance with outbreaks of typical yellow fever.

This leptospiral disease has not hitherto been differentiated from true yellow fever. Noguchi's discoveries, therefore, become of the greatest significance in respect to the epidemiology and causation of yellow fever and of infectious jaundice, previously confused one with the other. Hereafter, in outbreaks of supposed yellow fever, the possibility of the presence of two kinds of jaundice, one due to yellow fever virus and the other due to leptospirae, will have to be taken into account.

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Diagnosis, Early and Late

Another problem in connection with yellow fever is the difficulty of making a diagnosis in early cases in which the clinical symptoms are not clear. Laboratory methods here offer a possible solution. The inoculation of a susceptible monkey with blood taken from the patient during the first two or three days of illness will often produce recognizable yellow fever. It is possible to determine definitely whether an illness in the past was or was not yellow fever by taking blood from the patient and injecting the serum into a monkey together with yellow fever virus. If the patient has had yellow fever his serum will protect the monkey against illness and death, whereas if he has not had yellow fever the monkey will show evidence of the disease. This laboratory method, known as the protection test in monkeys, has also been used in obtaining evidence as to the identity of yellow fever in various parts of the world. The method, although it does give information, is cumbersome and expensive because it involves maintaining many laboratory animals and observing them closely. The search is now on for a simpler,

inexpensive laboratory method, making use of other laboratory procedures.

Much work has also been done in connection with the pathology of yellow fever, involving a close examination of both human and animal tissues after death in order to determine and describe the outstanding characteristic lesions important in differential diagnosis.

In common with other diseases caused by filtrable viruses, yellow fever seems to cause certain cellular changes known as inclusion bodies. In yellow fever these occur in the nuclei of the liver cells.

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Intranuclear Inclusions in Yellow Fever. *The American Journal of Hygiene*, 11: 227-299 (March) 1930.

Mosquitoes and Monkeys

Before the present research work began it was the accepted theory that *Aedes aegypti* was the only mosquito that carried yellow fever. Since that time further experiments have indicated that other, chiefly closely related, species may also transmit yellow fever. The Western Hemisphere contains no close relatives of the yellow fever mosquito, *Aedes aegypti*, but a number of

species belonging to other groups common in the American tropics may become a factor in yellow fever transmission. There is evidence against two additional species of *Aedes*, *Aedes (Ochlerotatus) scapularis* and *Aedes (Ochlerotatus) serratus*. Experiments with *Taeniorhynchus (Mansonioides) africanus* show it is capable of acting in the capacity of insect host for yellow fever. This is an important domestic mosquito of West Africa, which readily bites human beings. In addition to *Aedes africanus*, *Aedes vittatus* and *Aedes simpsoni* were found to transmit yellow fever to experimental monkeys.

The work of controlling yellow fever may therefore have to take all these mosquitoes into account. The exact rôle played by each in actual transmission is by no means determined, and can be determined only through extensive field work.

Walter Reed in his epoch-making discoveries in 1900 had to ask for human volunteers to carry on his yellow fever experiments. This necessity was obviated and the way was opened to attack a large variety of unsolved questions in regard to this disease when a laboratory animal susceptible to yellow fever was discovered in *Macacus rhesus*, an Indian monkey. The search for additional laboratory animals that may be of use in this work is, however, going on. Definite

researches have been made in connection with *Cebus* monkeys from Brazil.

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Malaria

The Malaria Problem

Unlike yellow fever, malaria is not a swift and deadly disease; but what it lacks in suddenness and dramatic quality it makes up for by its enormous prevalence and by the way it repeatedly attacks and incapacitates large sections of the population. In one form or another it occurs throughout the tropics and in many warm and even temperate countries. It has been said that in the tropics about one-third of the entire population suffers from malaria every year. Although only about one victim in 700 dies, the disease is so widespread that the aggregate of the deaths directly and indirectly due to it is colossal.

It has been estimated that in India alone somewhat over a million deaths annually have been caused by malaria in years when the disease has not been exceptionally prevalent. What it can do when sanitary conditions are relaxed and there is no quinine at hand is indicated by conditions in Russia, during the post-war period, when it spread over the entire country. In 1923, at the peak of the epidemic, over 6,000,000 cases were registered, representing probably about one-third of the total number of cases; the mortality in some places amounted to 40 per cent.

At this point the mosquito enters the story; and not a single mosquito, but an entire subfamily of mosquitoes, the Anophelinae, of which at least twenty-five species, varying greatly in habitat, general demeanor, and the way in which they attack man, have at one place or another been found to be transmitters of malaria. In any given locality a particular species or a small number of species may be chiefly responsible. The problem, then, becomes one of studying this species and determining by what methods it can best be controlled.

Antimalaria work therefore involves, first of all, complete studies of the amount, kind, and distribution of malaria among the population, the species of anopheline mosquitoes present, their importance as vectors, and the habits of

those which have been proved dangerous to man. The health of the people must also be studied, in relation to the habits of the mosquito, since close association is necessary to transmission of the disease by the mosquito from man to man. The conditions that favor the spread of the disease must be carefully investigated and all results correlated, with the aim of formulating a precise and practicable plan of action, based also on the financial and other circumstances of the community under consideration. In the tropics such a survey really becomes a detailed social, sanitary, and economic census rather than an exclusively malarial investigation. Even after it is known in a general way how malaria can be overcome, it is a large task to outline and carry through a campaign adapted to a specific area. However, this has been done, and campaigns based entirely upon cooperation between the government and the people of the district concerned have been brought to successful fruition. Success, however, comes only as a result of careful scientific research taking into account every aspect of the local problem.

A female mosquito lays about 250 eggs, and seven to ten days bring them to maturity. The young aquatic forms may be destroyed by larvicides such as kerosene, cresol, or Paris green, or under some conditions by certain minnows and

other small surface-feeding fish. Anopheline mosquitoes, as a rule, do not bite except at dawn or sunset, times at which the populace may remain indoors and resort to screening to keep the mosquitoes out. Methods of controlling surface waters by ditching, tiling, or flooding, and thus doing away with the mosquito, are frequently practicable. In and around cities and towns, storm sewers and drainage schemes are usually possible, because of the high value of the land. In purely rural regions it is rarely practicable to drain extensive regions solely with the idea of preventing malaria. However, this objective is often achieved by the extensive subsoil and surface drainage installed for agricultural purposes. The value of agricultural drainage is well established. The results are permanent. Large areas are improved yearly, and the well-drained soil produces larger crops which pay back the cost of drainage in a few years. And the resulting reduction of malaria is a by-product of better agriculture. House-screening is always an important protective measure against malaria. This is used extensively in Italy and in the United States and to a less extent in other countries. It is often, especially in rural regions, the only anti-mosquito measure which can be applied. The use of bednets in some form is almost universal among people of all nations, but since these are made of

fabric they cut down the air circulation, raise the temperature, and give much less satisfactory protection than metallic house screens.

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Malaria Surveys

During 1929 the Rockefeller Foundation provided funds and the services of field representatives to aid antimalaria activities in eighteen foreign countries and in the United States. It is not possible, for reasons of space, to give in this report a detailed account of all the Foundation's malaria work. Only certain typical activities will be described. It is a settled policy of the Foundation that no malaria control work is undertaken except in cooperation with government health authorities, and then only after a careful preliminary survey has been made. And it is in the making of such antecedent surveys and studies that most effort has been expended.

Malaria studies conducted in Grenada in 1929 are typical of a number of similar surveys which the Rockefeller Foundation has aided in making. In this island, 20 miles long and 12 miles wide, malaria ranks high as a cause of death. In 1926, 5.7 per cent of the total deaths were from this disease. At the request of the government, aid was extended in making a malaria survey. The



Photograph Excised Here

Searching for anopheline larvae in a typical mosquito breeding-place
in Java.



Photograph Excised Here

In the course of a recent anopheline survey of Colombia, South America,
inspectors found large numbers of larvae in the water which had collected
in this abandoned truck body.

high frequency of the disease was verified. In malarious regions the rate of infection was found to be 20 per cent; but these regions were found to be confined chiefly to the coast, where malaria is endemic at certain focal points. There is every possibility that when these are controlled, malaria will cease to rank third as a cause of death in Grenada. Three species of *Anopheles* are suspected of having a part in the spread of malaria in this island, but the principal vector seems to be *A. tarsimaculatus*, which is found in great abundance. Eventually control should become a routine matter of the health department, and the experience gained can be used in controlling malaria in other islands of the Windward group also.

A similar and extensive survey of malaria in Jamaica was reported upon in 1928. The report was published in 1929.

A survey of another kind was conducted in certain counties in Mississippi, one of the heavily infected malaria sections of the United States. There are large parts of the state from which malaria is seldom reported; but the Mississippi Delta, where 25 per cent of the population of the state resides, furnishes more than 50 per cent of all the cases reported. Some of the first work undertaken in malaria observation and control in the United States was conducted in Sunflower



Dusting a mangrove swamp with Paris green mixture, by hand, to prevent anopheline breeding, Fajardo, Porto Rico.

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In Corsica, paraffine oil is sometimes used to destroy the larvae of the malaria mosquito. With the apparatus here pictured a jet of fluid can be sprayed for a distance of 10 meters.



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Photograph Excised Here

Motor boat equipped with an electric blower, used by the Malaria Experiment Station in Italy for distributing Paris green mixture over mosquito breeding-areas.



Photograph Excised Here

The Malaria Experiment Station in Italy also utilizes the aeroplane to distribute Paris green mixture.

County, Mississippi, during 1916 and 1918. The present work represents a highly specific resurvey, carried out after ten years, which shows that an enormous decrease in malaria has taken place during this interval.

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Field Studies

In addition to complete surveys involving a study of all the factors which will enter into a control campaign, the Rockefeller Foundation has aided in a number of field studies, in which the emphasis has been more particularly on a study of the malaria mosquito. This, in any malaria work, is the first point of attack. Unless we know which mosquitoes are responsible it is not possible to plan an effective campaign.

An extensive *Anopheles* survey was made in Colombia from June to October, 1929. Special attention was given to a study of breeding-places. Much detailed information on mosquitoes and also on the drainage and sanitary conditions of the country was obtained. The incidence of malaria was determined by the examination of blood films and by spleen palpations. Colombia has sharply differing climates. Eight tropical re-

gions were surveyed, and all the results were carefully enumerated. Some nine types of anopheline mosquitoes were found. The entire area was surveyed with the idea of finding a suitable place at which to institute a malaria control demonstration.

A similar survey dealing with malaria mosquitoes was made in Ceylon. Observations were published in 1929. At various times during the past two and a half years, studies have been made of indigenous species of *Anopheles* with a view toward determining their rôle in the dissemination of malaria. Investigations were carried out in villages and estates in five separate localities, situated in highly endemic areas in Ceylon. *Anopheles culifacies* was the species most commonly examined and most prevalent.

An extensive study of North American *Anopheles* and of the physical and chemical factors in relation to the distribution of larvae was also published in 1929. It was found that in the United States the temperature of the water in any locality exerts an important influence on the distribution of the breeding of malaria mosquitoes. Temperature probably exerts its effect by controlling the rate of speed at which the larval cycle is passed. *Anopheles quadrimaculatus* develops most rapidly during warm weather and *Anopheles punctipennis* during the cooler

weather of the fall. This accounts for the way in which these two mosquitoes alternately lead in density of numbers. The reaction of the water, and its contents of dissolved oxygen and carbon dioxide were also found to be important factors in determining the distribution of the breeding-places of local species of *Anopheles*. This connects with the subject of the supply of plankton for larval nutrition. Further studies were made of the hibernation habits of anophelines.

A subject to which a great deal of attention was given is the flight of anophelines. In Argentina, studies have been published from which it may be concluded that the flight of these mosquitoes is greater in that region than was supposed. Further studies of the dispersion of anophelines were made in North Carolina by the method of releasing stained mosquitoes. It was found that very few mosquitoes remained for more than twenty-four hours in places where they had obtained a blood meal. The influence of the wind in the spread of anophelines has been the subject of study in malaria work carried on in the Netherlands. These studies are of importance in indicating the width of the zone which must be protected in antimosquito work.

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Swellengrebel, N. H.

On the Influence of the Wind in the Spread of *Anopheles maculipennis*. *American Journal of Hygiene*, 10: 419-434 (Sept.) 1929.

Malaria Demonstrations

With Foundation cooperation there have been established, especially in Europe, centers from which carefully conducted antimalaria work is carried out over the surrounding area. Statistics are kept to show the amount and type of work done, the amount of money expended, and the results obtained. A nearby section in which no intensive antimalaria work is conducted generally serves as a control area by which to measure the success attained. In each case such thoroughly planned experiments in malaria control have been successful.

One such experimental malaria station at Rome, through its central office and through certain district branches, has been carrying on extensive work to test the validity of a variety of procedures. In some cases antilarval measures alone are used; in others such measures are com-

bined with the assiduous administration of quinine; and in still others intensive quininization alone is used. In every case the antilarval measures were relatively less expensive and, in the space of a number of years, resulted in an almost complete disappearance of endemic malaria. On the other hand, intensive administration of quinine alone did not produce any diminution in the parasite or the spleen indices, although it did reduce the malaria mortality and the size of the largest spleens, and somewhat reduced the amount of malignant tertian and quartan fevers.

It was found that the intensity of malaria in any locality bears a definite relationship to the density of anophelines around human dwellings and responds rapidly to changes in this density. The contact between mosquitoes and man is a factor which varies widely in different regions even with the same species of mosquito or with different species in the same region. Extensive use was made of larvicides, especially Paris green. These, however, should not take the place of permanent measures to prevent anopheline breeding. Larvicides are useful in holding malaria in check until definite measures can be applied. Where drainage and other expensive operations have to be put off for an indefinite time, an annual campaign against mosquitoes by means of larvicides is of great value.

The town of Fiumicino, Italy, and the adjacent areas of Ostia on the south and Maccarese on the north, constitute one of the impressive demonstrations in Europe of the effect of antilarval work on malaria incidence. All three areas had been under observation since 1889. Classical methods of malaria control—major drainage and the use of quinine—had been tried for a long time. In 1926 the central Malaria Station at Rome took over the work at Fiumicino, and malaria at once fell to a new low level which has been further decreased each succeeding year. Only when the mosquito density was brought down to a certain level did malaria start its final descent to the vanishing point. Here, then, is a picture of three typical areas in which major drainage, prophylactic quinine, and intensive treatment over a period of thirty years failed to cause any significant diminution in malaria. The disease began to disappear when an effective attack was made on the anopheline mosquito, either by cemented channels in the canals, Paris green, inspected screening of the dwellings, or a combination of all these measures. Three years of sustained attack on anopheline breeding has made malaria a sporadic and rare infection. It was shown that major drainage, though insufficient in itself, was the necessary basis of all antilarva work.

In addition to the central malaria station at Rome and five complete regional stations in other parts of Italy, through which similar demonstrations are conducted, there are about a dozen centers in the country at which special experiments and field studies are carried on. This work may vary all the way from purely observational studies, such as the study of spontaneous regression of malaria in Northern Italy or the effects of impounded water in Sardinia, to careful investigations of certain methods of attacking malaria, such as the exclusive use of fish, quinine, or larvicides. Experiments have also been conducted with the distribution of Paris green by aeroplane and by electric blowers operated by portable generators from row-boats.

Laboratory research carried on in Rome and elsewhere in Italy concerns therapeutic malaria, avian malaria, and anopheline entomology. Many members of the staff at the malaria experiment station are carrying out researches which are being published in scientific journals of the country. This work has included a study of the physical characteristics of mosquitoes to see whether the zoophylic and the anthropophilic strains of *A. maculipennis* could be differentiated; work on the transmission of bird malaria by *Culex* mosquitoes; investigations of the relation

between rice fields and anopheline production, the parasites of *A. maculipennis*, the use of plasmochin, a new technique for precipitation tests in diagnosing the blood meals of mosquitoes, the morphology of Italian species of anopheles; studies of new species of gambusia, the small fish that eats mosquito larvae; and therapeutic studies including treatment of chronic malaria.

The malaria work in Italy has demonstrated the advantage of having a small body of competent investigators spend all their time in research and field studies in malaria. The public health department possesses in its malaria experiment station a valuable instrument for instruction and research. During 1929, eighty-two fellows from thirty-one countries studied at the station, and thirty-two visitors from various parts of the world spent some time there observing the work.

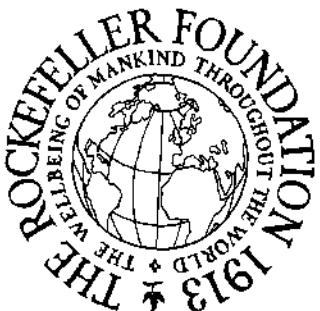
In Spain, too, malaria is one of the public health problems. It is endemic in ten or twelve provinces, and is closely connected with the rice and pepper cultivation as well as with the cattle industry. A Government Malaria Commission, under the chairmanship of the professor of parasitology at the University of Madrid, instituted a malaria campaign as far back as 1920. In the province of Cáceres a malaria laboratory and dispensary were established. Since 1923 the

Rockefeller Foundation has cooperated in certain aspects of health work in Spain, which by 1926 included malaria control work. In 1924 the Government Malaria Commission set up a permanent organization. During the next year the campaign was enlarged to engage the work of twenty-five trained physicians. Mosquito studies were made. Larva-eating fish were distributed; oiling and drainage projects were undertaken; and surveys were made. A research laboratory was established and, in connection with it, a school for training malaria workers. Results point to a marked reduction in the general death-rate in every area where the work has been in progress for at least two years. The malaria service has established a central technical bureau in Madrid. With government cooperation, epidemiological studies have been made in malarious areas, experiments in malaria control have been conducted, and intensive treatment campaigns have been carried on. A mobile laboratory visits the mountainous areas. It is expected that within a few years this malaria work will be carried on entirely by the Spanish Government.

Malaria Control Work

Typical malaria control efforts, limited to definite demonstrations, have been described

In mats of algae of the type here shown anopheline mosquitoes often breed prolifically. The algae protects the mosquito larvae against fish.



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The antimalaria program which is being developed in the plain of Catania calls for an adequate drainage system, work on which is now under way.

Spring rains create favorable conditions for mosquito breeding in the plain of Catania, Italy.



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Laying a tile drain near Concepcion, Argentina, in connection with antimalaria work.

above. As a general rule, however, when malaria work is actively undertaken by the health authorities of any country, it is merged with the rest of the health program. It has been found impracticable to stress any single health activity at the expense of others. A well-rounded health department carries on malaria work as one of its regular routine activities. As an illustration of a country where the antimalaria campaign has reached the stage of being merged with general health work, Porto Rico is of interest.

In Porto Rico active and strenuous antimalaria work is going forward in many centers; and in all cases this work forms a part of the local health organization, for it has been found impossible to control malaria when other health conditions are allowed to remain bad. The emphasis has been on drainage and on the choosing of healthful locations for dwellings. The Health Department has been active in suggesting model mosquito-proof houses. In regions where malaria is endemic the problem of its control is a long and arduous one with final results dependent on good drainage, which is of importance also from the standpoint of agriculture. The country has always had to contend with cyclonic storms, which are a severe test of antimalaria measures; but the work has come through with flying colors. In general, malaria campaigns have been success-



Photograph Excised Here

Members of the malaria staff at Jujuy, Argentina, dissecting and studying local mosquitoes.



Photograph Excised Here

Model screen door used by the Mississippi State Board of Health for demonstration purposes in its antimalaria campaign

One method employed by the Mississippi State Board of Health to interest the public in anti-mosquito measures

ful in bringing down malaria rates and in keeping them low.

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Research Work

Some of the earliest scientific results in the investigation of malaria were obtained by the study of this disease in birds. Such studies, especially on acquired immunity in avian malaria, are still going forward under Rockefeller Foundation auspices. This work is of value in elucidating conditions occurring in human malaria, because of the great similarity between the malaria parasite in birds and in man. Present studies have to do with the rapidity and extent to which malaria parasites introduced into the blood stream of birds with a latent malaria infection, are destroyed. This will throw light on the mechanism of the process of immunity.

In connection with blackwater fever, a serious form of malaria, biochemical studies have been made. The absence of acidosis, the cause of anuria, and the evidence of severe toxic injury to the kidney have been investigated by laboratory methods. An attempt has been made to find out just what harm the parasite does to the blood. Studies on necrosis of the liver in malaria have also been conducted.

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Hookworm Disease

Increase of Knowledge about Hookworm Disease

In the case of public health menaces such as yellow fever and malaria, it is immediately obvious that progress in control has depended upon progress in our knowledge about the diseases. The same is true of hookworm disease, a more unobtrusive menace, which has nothing to do with the insect world. The danger here comes up from below, from microscopic larvae which are found in the soil and which can burrow through the skin and, within the human body, grow to adult, blood-sucking, parasitic worms.

The hookworm was not discovered until 1838. For fifty years thereafter its significance as a cause of disease was not grasped; it was thought of merely as a curious parasite occasionally found in human necropsies. In 1880, during the digging of the St. Gotthard tunnel in Europe, a violent epidemic of anemia developed among the tunnel-

ers. This presented a baffling problem until it was traced to the hookworm. Even then no method was known for killing, rendering inactive, or eliminating the hookworms. All known anthelmintic remedies were tried without success. Scientists set to work, and very soon thereafter certain vermifuges were found that were at least partly successful in expelling the worms.

For a long time hookworm was considered merely a disease of tunnelers, miners, and brick-makers. Then it became clear that the extensive anemia found in tropical and semitropical lands could also be traced to this parasite. An increasing study was made of the subject, culminating in 1911 in the publication of an extensive monograph by Arthur Looss, professor of parasitology at the Government Medical School at Cairo, in which it was shown that the hookworm enters the body directly through the skin and not through the mouth as was supposed. This discovery revolutionized methods of control.

In 1902 Dr. C. W. Stiles, of the United States Bureau of Animal Industry, discovered a new species of hookworm in the Western Hemisphere, finding it very prevalent in Porto Rico and the Southern United States. The original habitat of this so-called New World hookworm was probably Africa, and it may have been carried to the Americas by the importation of negro slaves, if

it was not already established there. A gradual awakening to the importance of hookworm disease in the United States followed the 1902 discoveries. A campaign to control the infection was carried on in Porto Rico by the United States Army Medical Service immediately after the Spanish-American War. It was reported that over 30 per cent of the deaths in Porto Rico were due to hookworm anemia. Soon after the Porto Rico campaign got under way preparations began to be made for coping with the same problem in the United States.

With the scientific groundwork for a campaign against hookworm firmly laid, the period between 1910 and 1913 marked the entrance into this fight of various state boards of health, assisted by voluntary health organizations, one of the first of which was the Rockefeller Sanitary Commission, established in 1909 for the purpose of combating hookworm disease.

In the beginning little public support could be found for the belief that hookworm disease was a reality in the Southern United States and a serious menace to health and prosperity. As the importance of this neglected disease was incontrovertibly demonstrated, the public attitude changed. Press and health workers united in the task of educating the people. By 1914 the campaign was receiving wholehearted support.

Invitations for the cooperation of the Rockefeller Foundation were received from many quarters. Before the World War, the work had been extended to eleven foreign countries. The war caused some interruption, but by the end of 1921 the work had been resumed on a larger scale than before. Nearly 4,000,000 people had been examined for hookworm disease in various regions, and over 2,000,000 had been found infected and given treatment, with the result that they were either greatly benefited or entirely cured. The work gave rise to a great impulse toward better sanitary regulations and an increase of general health activities.

Recent Advances

In 1922 the Rockefeller Foundation published a bibliography on hookworm disease, containing a fairly complete list of all the articles on the subject appearing in the medical literature of the world up to that time. The number of entries was 5,680. No attempt has been made to compile a list of technical literature on hookworm disease since that time; but the researches on the disease conducted since 1922, either by members of the staff of the Foundation or under Foundation auspices, have been published in about 200 articles appearing in journals of the medical press.

Even though the main facts about hookworm

disease were clear long before the major campaigns mentioned above were begun, this disease offers a good illustration of the many refinements and further advances necessary before individual treatment can be expanded into campaigns involving millions. The advances come under four heads:

1. *Diagnosis.*—Hookworm eggs are easily recognized under a microscope as they occur in the stools. This primitive form of diagnosis is certain but slow. To abbreviate the laborious task of microscopic examination various devices were early resorted to. One of the first of these was centrifuging. This somewhat increases both speed and accuracy; but in the course of time dozens of new methods involving the aid of various chemicals have been evolved. By adding certain substances to diluted stools the eggs can be made to sink to the bottom or rise to the surface. In the latter case a concentrated sample can easily be obtained and examined. The so-called salt-flotation method has come into wide use.

However, it is not enough to know whether individuals are infested with hookworms. Infestation statistics may give a distorted picture, because nothing is said of the degree of the infestation. Simple, swift, and fairly accurate methods which come under the head of "egg

counts" have been devised, by which a clear picture of the degree of infestation may be obtained. In this way it may be ascertained whether hookworms are present in sufficient numbers to be damaging to health and to constitute a genuine problem for control. By a series of advances from the simple smear method of individual microscopic examination, there has been evolved a rapid and efficient laboratory technique by which the amount of hookworm disease in any population can be quickly and accurately determined.

2. *Larval Cycle*.—It is not sufficient to know that the hookworm spends a part of its life cycle in the human intestine and another part as a microscopic boring larva in the soil. At the beginning of the campaigns mentioned above, little was actually known of the life of the larva in the soil. Since then, methods have been devised and improved by which the larvae may be easily segregated from any sample of soil. It became possible, therefore, to sample the ground at various intervals and to find out exactly where the focus of infestation was. The road was opened to valuable additional data, such as, how far the larvae travel in the soil, how easily they die, what degree of moisture they need, and other crucial facts which permit a rational sizing up of the situation. A hookworm expert with practical experience can, by observing the nature of the



Photograph Excised Here

From hookworm eggs deposited in moist shaded corners develop larvae which enter the body through the skin of the feet.



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Physician administering treatment at a hookworm clinic of the local health department which is being organized in the municipality of Vera Cruz, Mexico with the assistance of the Rockefeller Foundation.

soil, determine whether or not a genuine hook-worm problem is possible in a region. Soil examination for hookworm larvae and sampling of a population for the degree of infestation, constitute the basis of accurate epidemiological surveys with regard to hookworm disease in any given area.

3. *Treatment.*—Some of the earliest experiments in regard to vermifuges for hookworm disease led to the discovery of extract of male fern as a drug by which hookworms could be expelled. The search for an even better vermicide has never ceased. Extractum filicis maris, thymol, betanaphthol, oil of chenopodium, carbon tetrachloride, and recently tetrachlorethylene have all been given extensive trials, largely in the order named. Carbon tetrachloride in combination with oil of chenopodium is still in extensive use. However, all vermifuges that are effective are also in a small degree poisonous. When millions are treated, there are apt to be among them a few individuals with special susceptibility to the drug in question, and therefore much effort has been spent on making the various vermifuges absolutely safe. Ease of administration, procurability, and palatability are also factors. From the days when almost any vermicide would do for individual treatment, to the large scientifically controlled campaigns in



Photograph Excised Here

Member of the staff of the Division of Public Health Education of the Health Service of the Netherlands East Indies giving a talk on hookworm disease to a Javanese family.



Photograph Excised Here

Microscopic demonstrations of hookworm eggs and larvae are a feature of public health education in Java.

which thousands of individuals of all ages and conditions must be safely treated, there has been a slow and steady advance. Additional studies are in progress.

4. *Prophylaxis.*—The prevention of hookworm disease also is theoretically very simple and can be summed up in a single phrase—the avoidance of soil pollution. An additional measure is the protection of the feet by the wearing of shoes. These measures present little difficulty in modern, highly developed communities; but when the campaign is extended to the corners of the earth among poverty-stricken rural populations, where the disease is most apt to occur, new problems arise. Age-long habits and customs, prejudices, and religious rites, woven into the texture of the life of a conservative people, may be an obstacle to the ready adoption of new sanitary habits. Sometimes the economic status of the people is so low that the purchase of the few simple materials necessary to construct a sanitary latrine is almost an impossibility. The use of adequate footwear to protect the feet may be absolutely out of the question from the economic point of view, granted that the people could be induced to wear shoes. The essential factor in control is an educational campaign by experts thoroughly familiar with the traditions, customs, prejudices, and mode of thought of the people. Methods

used in one country cannot always be followed in another, although the ends to be attained may be the same. Much thought has therefore been given to the problem of latrine designs suitable to different people and to the varied conditions encountered in different parts of the globe.

Educational Aspects

The Rockefeller Foundation has since its inception been engaged in the work of combating hookworm disease. In most countries campaigns against this disease have reached the stage where they have merged with health activities of a more general nature. However, in many parts of the world hookworm disease is still an outstanding problem and definite attention must be paid to it. During 1929 the Rockefeller Foundation was active in assisting in anti-hookworm programs in the United States and in fourteen foreign countries, by providing financial aid and the services of field representatives to supervise the work.

Typical of the hookworm program in many countries are the activities carried on in the Netherlands East Indies. Here, in the island of Java, is a dense native population, among which the government has for many years been promoting health work. The Rockefeller Foundation lends the services of a representative

who is active in directing the work. In the anti-hookworm program, as in other health work, the stress is entirely upon educational methods. Education, rather than compulsion of any kind, even among primitive peoples, is considered the sure way of achieving permanent results. Elaborate educational exhibits have been prepared and, with the aid of photographs, slides, and films, native educators carry on the work of bringing home to the people the necessity of precautions against the ravages of hookworm disease. Much work is done in the schools in connection with textbooks on hygiene. Among those who are illiterate, careful explanations by natives, aided by wall-charts, were found efficacious. Next in importance to educational material is the matter of obtaining enthusiastic propagandists. The success of any method is determined by the energy of the hygienists employing it. Recently much attention has been given to the use of a simplified type of latrine.

Another country in which hookworm disease is a genuine problem is Egypt. During 1929 a cooperative arrangement was made between the Rockefeller Foundation and the Egyptian Government for the control of soil pollution. A medical survey of certain villages was undertaken, and a high rate of infection with hookworm was found. Clear plans for control are being for-

mulated, again with emphasis on the employment of elementary latrines. It is in countries like Egypt, India, and Java that pioneer work in hookworm control is still required. In many other countries control work is also needed, but it can be taken care of as one element in the general health program.

Research Work in 1929

The surveys in Egypt, referred to above, have recently been discussed in a published article. Results of a similar survey in Venezuela have also been published. Here a careful study was made of the influence of climate, especially rain precipitation. Egg counts were made and an accurate picture of the intensity and distribution of hookworm disease in Venezuela was obtained.

An interesting problem in connection with hookworm disease is the amount of reinfection that occurs in an area after a treatment campaign. Surveys of reinfection were recently carried out in Porto Rico where, since 1928, laboratory and field studies on this problem have been going forward. Owing to the steady application of control measures a diminution has been apparent, not so much in the number of people infested as in the severity of infestation. Broadly speaking, the severity has declined to one-sixth of its intensity less than ten years ago. Two vil-

lages in Panama were subjected to similar studies. Groups with good sanitation showed much less reinestation with hookworm six months after treatment than people living in houses without latrines or where latrines were only partly in use. The value of the egg-count method of determining severity of infestation is especially apparent in resurveys such as those mentioned above. These studies applied not only to hookworm but to other parasites also.

The importance in antihookworm work of continuing the search for an entirely efficient and entirely safe vermifuge has already been referred to. In this connection a number of new remedies have been carefully studied with an eye especially to their toxicity. In hookworm disease large numbers of people must be dealt with. A great deal of research work has been done, with a view to rendering treatment efficacious, safe, and well within the economic means of the community.

That hookworm disease is largely an economic problem is brought out by the importance of foot-wear in preventing its spread. Studies have been made of the protective value of the canvas shoes much used in certain sections of the tropics, and it has been found that these do not prevent penetration of infective hookworm larvae.

The most important problem of all, however,

is to find the type of latrine that suits each community. Here the habits of the people, the nature of the soil, the cost of materials, and the efficient disposal of waste so as to prevent fly breeding and avoid danger to health, are all involved. Each locality presents its own problems. Recently experiments have been carried on with a simple type of bored-hole latrine.

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Local and National Health Work

Central and Peripheral Health Agencies

Within the framework of all modern governments there is a central agency for administering public health work. It may be a ministry, a department, a bureau, or it may be called simply the public health service. Its work is as varied, many-sided, and active as the work attached to other major portfolios. In some ways the health department is like the war department, for its function is to protect the population, the protection in this case being against disease. Quarantine officers and immigration officials, with the apparatus at their disposal, guard against introduction of the enemy from without,

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but the major effort is always directed against the enemy within the gates! There are extensive interior fortifications (water-works, sewage disposal); there is a large standing army of both regulars and volunteers (public health officers and physicians); there are the military colleges (schools of hygiene) in which future strategists are trained; and always there are campaigns against definite diseases going forward, for the enemy is never entirely inactive.

In general the duties of the central health organization in any country are directive and supervisory in nature. The work is that of regulation, coordination, and the enforcement of rules. In times of epidemics the central agency must be able to supply leadership and, above all, technical direction. It must have the proper knowledge of up-to-date procedure, adequate laboratory facilities or products, and well-trained experts to aid in applying this knowledge. The activities of the central department are necessarily of a highly scientific and technical nature. To it are attached the central public health laboratories; and through affiliation with university centers, there is generally at its disposal advice from the leading teachers and experts in public health in the land.

However, no central public health service, no matter how perfect, is complete in itself. Sur-

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rounding the central agency there should be local posts to constitute the eyes, the ears, and the hands of the central health organization. In every country there are such local boards of health or health authorities attached to the local administrative unit whether this be a department, a county, a community, or a city. These local or peripheral agencies vary greatly in form and organization in different countries, but always the aim is the same, namely, to bring the public health work into actual contact with the people. Peripheral activities are generalized, less highly technical, and nearly always of a strictly practical nature. Nevertheless it is to the local departments that we must look for studies from which improvements in public health practice will emerge.

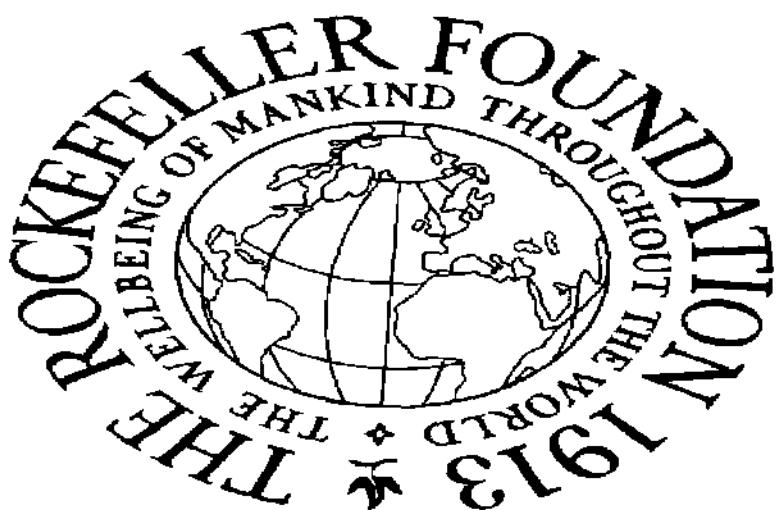
No country can carry on effective health work without maintaining in some way this immediate contact with its citizens. Whatever the form of organization the peripheral health services take, there are always certain essential fundamentals. These include well-trained and capable personnel, proper transportation facilities, and adequate budget.

The Rockefeller Foundation has been active in supporting both the central and peripheral aspects of public health work in many countries. Support of local health work frequently takes the



Photograph Excised Here

Graduates of the D. Anna Nery Training School for Nurses, Rio de Janeiro, Brazil, receiving their diplomas and pins, December, 1929. This school is being developed by the National Department of Health of Brazil with the assistance of the Foundation.



Photograph Excised Here

Brazilian public health nurse visiting a rural home.

form of inaugurating carefully planned health demonstrations.

Aid to National Health Services

An important branch of the central health organization is the public health laboratory service, which in many countries functions through a central institute of hygiene. These institutes have already been mentioned in connection with their offices as training centers. They do much more, however, than merely afford opportunities for training in public health laboratory work. In a sense they supply or at least supervise the ammunition needed in the event of an epidemic, or even the ammunition used in ordinary everyday preventive work. In the State Institute of Public Health at Prague, Czechoslovakia, the Division of Pasteur and Smallpox Vaccines is cooperating in an effort to keep up the record of no smallpox in the country since 1926. Vaccination is compulsory during the first, seventh, and fourteenth years of life. Vaccine is provided without cost to indigent persons and to all government employees. The State Hygienic Institute at Budapest, Hungary, in 1929 aided the district health officers in vigorous measures against diphtheria. From one district, 12,162 throat swabs were examined, revealing 283 diphtheria carriers. Anatoxin for the im-



Photograph Excised Here

Health films are an important feature of the intensive program which the Division of Public Health Education is conducting in rural areas of Java.



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Posters drawn by the school children of Batavia, Java, to illustrate the role of rats in the dissemination of plague and the methods of protecting houses against the entrance of these animals.

munization of 20,000 children between the ages of 5 and 12 against diphtheria was dispensed.

One of the tasks of the public health laboratory is to watch over the purity of the water, food, and drug supplies of the country. In Hungary during 1929 water from 1,594 wells, springs, and other private sources was examined and 60 per cent were condemned as unfit for drinking. The same procedure of chemical examination with possible condemnation is applied to foods, drugs, and patent medicines. Another important feature of a public health laboratory is the diagnostic service. If an epidemic is suspected, the necessary samples are sent to the government for analysis.

A number of countries in Central and South America have been active in establishing public health laboratories. In these and other countries Rockefeller Foundation aid generally takes the form of lending the services of a representative to assist in developing the service, and of granting fellowships for advanced study to young physicians who will occupy future posts in these laboratories.

In Denmark, the Central Health Administration was assisted by a grant of funds to the Bureau of Epidemiology to enable it to secure the services of expert personnel. Support was also continued to the Bureau of Statistics, which

has published a report on causes of death in the kingdom of Denmark, containing considerable analyzed statistical data. To facilitate international comparisons, work was begun in connection with the new Scandinavian nomenclature of causes of death.

In Ceylon, the services of a sanitary engineer were provided whose efforts were directed toward organizing a Division of Sanitary Engineering. Departments of sanitary engineering in certain countries of Central America also made use of the services of a Foundation representative in planning and carrying out projects in sanitary engineering and antimalaria drainage.

Certain countries are making a determined effort to increase their public health nursing services. In Brazil, the Foundation is assisting the National Department of Health in developing a service which comprises a division of nursing education and a division of public health nursing. In France, for a number of years aid has been given to a Central Bureau of Nurses, attached to the Ministry of Labori Hygiene, and Social Welfare.

In the Netherlands East Indies, the Division of Public Health Education is receiving financial aid toward its budget. The object is to develop a system of health education which can be permanently integrated with the Health Depart-

ment. A Foundation representative is director of the division. During 1929 a program of intensive health education prepared for the schools of Java was initiated in three residencies of the island. A small health museum was opened in Batavia in the enlarged quarters of the central office.

In Jamaica, Foundation aid was given to the central health administration to provide for the supervision of antihookworm activities and for the extension of health education. The Foundation also continued to aid the central administration in an epidemiological study of tuberculosis, which was begun in 1928 under a tuberculosis expert provided by the Foundation. The aim is to make a careful study of the distribution, method of spread, and types of tuberculosis met with in Jamaica. Support to a tuberculosis study clinic in Kingston was continued.

Health Demonstrations

What is a public health demonstration? This can best be answered by going a little more fully into what constitutes good local health work. The prime requisite is organization. Every army needs well-organized central headquarters, but unless this organization extends down into the ranks there can be no effective campaign. The platoons out in the field, where actual contact is made with the problems in hand, must be well

drilled and capably handled. They must know their business.

We have already stressed certain fundamentals essential to the efficiency of any local health unit. These include capable leadership under a properly trained health officer who gives all his time to the work. This health officer must have available a full-time staff including one or more nurses and sanitary inspectors. This staff must be able to get about among the people to educate them and urge them to come forward with their problems. Hence transportation facilities are a necessity. And last but not least an adequate and carefully planned budget to pay for this service must be provided.

To experienced health officers these requirements may appear to be entirely self-evident. But every local health organization is a part or branch of a government dealing with many problems other than health, and the local government or even the central parliament must be convinced before proper health laws and adequate budgets can be obtained. The public health demonstration provides a simple and direct means of supplying evidence that such budgets are needed and can be put to good use. One aim of a public health demonstration is to prove that requirements such as those enumerated above are fundamental to peripheral health work.

A public health demonstration is usually small, circumscribed, and easily comprehended even by those who know little of public health work. It is important in demonstration work to start on a modest scale. The health officer in charge should have an intimate knowledge of the local problems and of the customs of the community in which he will work. But he should also be familiar with similar types of health work in other countries. In the last analysis, a public health demonstration is simply a model health organization working in a limited area, such as a county or a commune, in a systematic attempt to solve the local health problems. Its executive or administrator is the health officer, who is usually aided by one or more public health nurses, a sanitary inspector, and a clerk. The program should eventually include the gathering and the analysis of vital statistics; sanitation; protection of water-supplies; the proper disposal of sewage and the correction of housing defects; communicable disease control, with attention to the special problems of tuberculosis and venereal diseases; protection of maternal and infant welfare; school hygiene; safeguarding of milk and food supplies; facilities for laboratory diagnosis and analysis; and a campaign of public health education and propaganda.

There is no more effective way of securing



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An open well of the type formerly common in rural areas of Hungary.

Model wells of this type are being installed in sections of Hungary where rural health demonstrations are being conducted.



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Scene at a child welfare station which is maintained in connection with the health demonstration in Vysocina District, Greater Prague, Czechoslovakia.

health appropriations than to provide the people direct with a service of this sort which increases their health and well-being. If the people demand health work, the legislators will provide the funds. The well-conceived and well-administered demonstration will create such a popular demand.

In 1929 the Rockefeller Foundation, through provision of funds, supervision, and training opportunities, aided in developing local health work in eighteen foreign countries and in the United States. As an illustration of a cooperative local health demonstration now well established, the work in Mokotow, a district of Warsaw, Poland, may be cited. Mokotow has a population of 53,606. During the five-year period 1925-1929, 18,456 different persons, or 34 per cent of the total population of the district, visited the center for advice. In 1925 there were nine physicians in the district; in 1929 there were sixteen practising in the same area. In 1925 there were five public health nurses who made 1,246 visits; in 1929 there were thirteen who made 13,407 visits. There has been an improvement in the milk supply, an extension of water and sewage facilities, and an increase in the building of latrines. Protective inoculations have been given on an extensive scale for smallpox, scarlet fever, and typhoid fever. There have been no cases of



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Registration office of the demonstration health center which is being operated in the Mokotow District of the city of Warsaw, Poland, with the assistance of the Rockefeller Foundation.



Photograph Excised Here

Lunch hour at the children's day camp conducted in connection with the Mokotow health demonstration.

smallpox or typhus fever in the district during the past five years. The typhoid death-rate has fallen from 20 to 13 per 100,000. Ten clinics, covering the fields of maternal and infant welfare, tuberculosis, malaria, dentistry, trachoma, venereal diseases, alcoholism, abnormal children, laryngology, and epilepsy are in operation.

The year 1929 represented the fifth and last year of Rockefeller Foundation cooperation with the Mokotow health demonstration. This demonstration has clarified in the minds of the medical profession and the general public the distinction between medical relief and prophylactic public health work. The station continues to have a tremendous influence on the population of the district, who have come to look to the public health nurse and to the local medical practitioner for advice on many details of their lives. It has been largely responsible for the acceptance of the trained public health nurse in Poland. It has been singularly successful in fulfilling its mission as a pioneer in modern methods of preventive medicine in Poland. As a direct outgrowth of the work at Mokotow, six additional centers have been established in the city of Warsaw.

That the demonstrations are fulfilling their purpose is shown by the general demand for similar health centers throughout the country.

Already 140 such centers have been established, and modern methods of disease prevention have spread to all parts of Poland. The minimum requirements for a health center in Poland are the full-time services of a nurse with public health training, the full- or part-time services of a physician, and at least two clinics—tuberculosis and maternity. The extension of rural health work through the organization of health centers has grown apace. Social insurance organizations are also entering the field of preventive medicine. The Mokotow demonstration has admirably served another of its main purposes, which was to provide training in public health work for nurses and students of the Central Institute of Hygiene.

Health Work in Many Lands

In a sense, the successful operation of a local health unit administering to every aspect of the health welfare of a circumscribed community is the crowning effort of all public health work. To limited but efficient health centers of this sort that may serve as models to large surrounding areas and at the same time fulfil the function of field laboratories for demonstrating sound public health procedure and for unearthing new and stimulating points of view, the Rockefeller Foundation is lending its support in many parts

of the world. There is space in this report to mention only one or two of the efforts of this sort initiated in 1929, and to give a brief account of other public health researches to which assistance was given during the year.

In China, a new health demonstration was started in the district of Kao-Chiao, in the rural section of the municipality of Greater Shanghai, bordering on the Whangpoo river. The district selected represents an average Chinese rural county and has a population of 33,900 persons, who live in approximately 200 villages and in the town of Kao-Chiao, where a health center was established in July, 1929. This demonstration represents the first attempt in China to develop organized rural health work under Chinese auspices. Improved health conditions will be sought through a program comprising sanitation, child welfare work, communicable disease control, medical service, health education, laboratory diagnostic service, industrial hygiene, and the collection and compilation of vital statistics.

Although too recently organized to have produced startling results, the work of the health center has already gained popular appreciation. An artesian well has been sunk in the town of Kao-Chiao, thus providing pure water. Vaccination against smallpox has been extended by a traveling clinic. Intensive efforts to control an

outbreak of cholera undoubtedly played a part in securing comparative immunity for Kao-Chiao, while other districts in the municipality suffered severely from this disease. Experience has confirmed the fact that malaria is a serious health problem in the Yangtze valley. During the last six months of 1929 the public health nurses made more than 500 home visits; of these, 46 per cent were in the interest of infants and cases of communicable disease.

The Kao-Chiao demonstration is the direct outcome of a more elaborate health center established in 1925 in Peiping, the old capital of China, and operating in close conjunction with the Department of Hygiene and Public Health of the Peiping Union Medical College and the Chinese National Epidemic Prevention Bureau.

In the state of Mysore, India, an experimental health unit began its work on March 1, 1929, in an area situated about 26 miles from the city of Mysore and including the town of Mandya, with a surrounding rural area of 152 villages. Besides the medical officer in charge, who was a former Foundation fellow, the personnel of the demonstration includes an assistant medical officer, sanitary inspectors, a vaccinator, and a midwife. A house-to-house survey was conducted in Mandya, and visits were made to all the villages to arouse and stimulate popular in-

terest in improving health conditions. Efforts were directed toward securing better reporting of births and deaths, vaccination against smallpox, attendance at the village clinics, sanitary improvements, and the investigation of epidemic diseases. Smallpox is prevalent, and 95 per cent of the population under fifteen years of age in forty-three of the 152 villages were vaccinated. The government provided a special subsidy for experimental work in latrine construction. Attempts to provide a cheap but effective bored-hole latrine have thus far proved unsuccessful because of the rocky soil, but improved boring methods making use of a small quantity of dynamite, as developed by field experiments in the Philippine Islands, will probably provide a solution. A qualified midwife made a total of 1,576 home visits. Experience of the first ten months of the demonstration indicates that organized local health work will undoubtedly prove the most feasible method of securing a measurable improvement in public health conditions in the state of Mysore.

During 1929, demonstrations in modern local health organization were also initiated in Spain, the Philippine Islands, and the province of Burma in India; work was extended in Canada, Mexico, Jamaica, Porto Rico, Brazil, Austria, France, Hungary, Poland, and to the New Hebrides



Photograph Excised Here

A meeting of the Preschool Club of the Peiping Health Center. Among the health habits which the nurses endeavor to inculcate in their charges is that of washing the hands before meals.



Photograph Excised Here

Vaccinating school children at the Peiping Health Center.

Condominium in the South Pacific. In the Irish Free State and Czechoslovakia, demonstrations were continued.

New field stations, where emphasis was laid on training of health workers, were established in 1929 in Beauce County, Quebec, Canada, and at Lansing, Michigan. A new demonstration, stressing public health nursing, was developed in Denmark. Here the program was initiated, April 1, 1929. Three demonstration areas were selected, two in rural communities in Zealand and Jutland, and one in a district of the city of Copenhagen. The first step was an intensive study of infant mortality in these three areas. A nurse under proper supervision visits every family where there is a new-born infant, for the purpose of giving advice on general hygiene. A careful and accurate record is kept of the causes of any infant deaths occurring in the district. This continues for a year, when a comparison is made with similar statistics from a comparable control area in which no nurse supervision has been provided. Such a control area is an important feature of a health demonstration in which a particular problem is being investigated.

For example, in connection with the investigations of hookworm disease in Egypt, which have already been mentioned, a demonstration area comprising two villages near the city of Cairo



Photograph Excised Here

Traveling vaccination clinic maintained in connection with the health demonstration in the district of Kao-Chiao in the Municipality of Greater Shanghai. The clinic reaches rural groups that are unable to visit the health center in the town of Kao-Chiao.



Photograph Excised Here

School children of a rural community of Sian parade in the interests of the sanitation campaign which is being conducted throughout the country.

was selected. In one village, Bahtim, which has a population of approximately 3,300, effort was made to secure adequate sanitation; no sanitation was attempted in the nearby village of Musturud, with a population of about 1,700, which was used as a control for Bahtim. It was planned, for the time being, to give no treatment for hookworm disease and bilharziasis in either village except that which would be administered under normal conditions. In this way the results of the campaign could be accurately and scientifically gauged.

The population of Egypt numbers about 15,-000,000, the majority of whom live in towns and villages. Although the rainfall is slight as compared with that of other countries where hookworm disease is prevalent, the soil is kept constantly moist by the high level of subsoil water due to continued irrigation. Surveys have already shown that approximately 60 per cent of the population suffer from hookworm disease and bilharziasis, the outstanding endemic diseases of the country. The Department of Public Health of Egypt studied the factors contributing to the spread of these diseases and requested the aid of the Foundation in developing a practical program of control.

Accordingly, a cooperative agreement was entered into during 1929 by the Government of

Egypt and the Foundation, in order to test, by means of a demonstration, the effect upon hook-worm and Bilharzia infestation of thoroughgoing measures against soil pollution. In addition to lending the services of a sanitary engineer over a two-year period to direct the work, the Foundation contributed funds toward the budget of the first year of the demonstration. Work was begun early in 1929 by the Field Sanitary Engineering Section, a permanent bureau of the Department of Public Health in Egypt. To supplement the work of the demonstration, special field studies and research under the direction of two parasitologists were made possible by the Foundation.

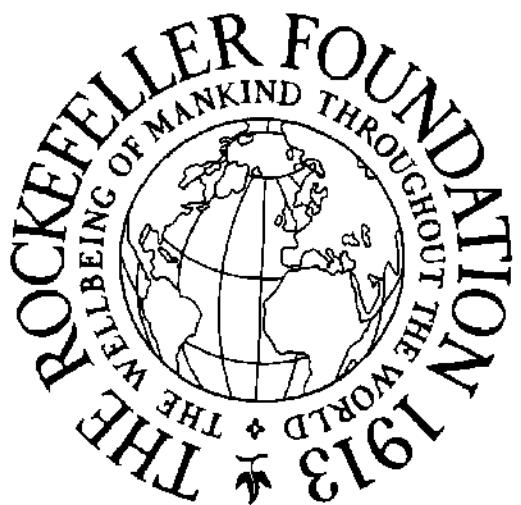
A new health center opened at Sofia, Bulgaria, began to function at the beginning of 1929. The work done here is a model for similar programs to be developed in various parts of the country. A special aim of this center is to provide a training area for public health nurses. According to a new government regulation, all public health nurses in the state health service must complete a nine-months' course in hygiene and public health nursing under the auspices of the Red Cross School of Nursing in Sofia and the Sofia Health Center.

New field studies in malaria control in Southern Yugoslavia were undertaken in cooperation

with the Ministry of Health in 1929. The extensive malaria surveys made in Grenada, Jamaica, and Colombia have already been mentioned.

A public health survey of the state of Savantwadi, India, made early in 1929 by a member of the Foundation's field staff in India, at the request of the government, showed malaria to be an outstanding public health problem in the state. Subsequently the Foundation approved a proposal to assist the government during a period of eighteen months, with a view to placing malaria control operations on a sound basis. The funds provided by the Foundation will be used to defray the cost of special training for the medical officer in charge of the antimalaria work, to equip a malaria laboratory, and to furnish an automobile and its maintenance, as well as a contingent fund. During 1929 the medical officer completed a short course in malariology at the Ross Field Experiment Station for Malaria at Karnal, followed by field observations, prior to undertaking a comprehensive study of rural malaria on the basis of which an effective antimalaria program will be developed. A suitable malaria laboratory was also established at Savantwadi.

Carrying out a pledge made in January, 1929, the Rockefeller Foundation has appropriated for the Health Organization of the League of Na-



Photograph Excised Here

Gathering of mothers and children at one of the government health centers of Ceylon.



Photograph Excised Here

The model baby of a Ceylon health center.

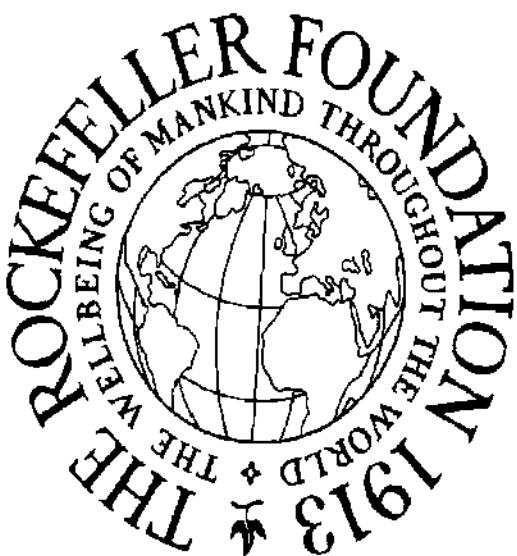
tions \$723,975, covering the period January 1, 1930, to December 31, 1934. This will make possible the extension of present programs in which the Foundation is now participating and new projects of a similar character. Of the total sum appropriated, \$287,680 is to be used for advancing the Health Organization's present programs in epidemiological intelligence and public health statistics, for the work of its Center of Public Health Documentation, and for the international exchange of public health personnel. The remainder will be available for the extension of such of these programs as may require it, or for the initiation of new projects of similar character.

The Quest for New Knowledge

A uniting thread which runs through the preceding chapters, in which a brief account has been given of Foundation work in public health, is the quest for such sound scientific knowledge as can be made a basis for advances in public health procedure. To discover the kind of campaign that will be well within the resources of the average community, to work out procedures that can be taken over by local personnel and local facilities, and to help establish all this on a permanent and scientific basis, with growth assured, has been the aim.



Photograph Excised Here



Photograph Excised Here

Exhibit of the work of the Public Health Service of the Netherlands East Indies to be displayed at the World Exposition in Antwerp in 1930. The exhibit was prepared by the Division of Public Health Education.

The Foundation enters upon public health work only on invitation of the governmental authorities of the country in which the work is to be done, or, in the case of certain health education projects, in cooperation with established university centers. The authorities undertake to bear an increasing share of the cost of the work and at the end of a specified period to take it over and carry it on.

The Foundation is not committed to any one government or locality. It can cooperate in different parts of the world on the same problem under widely varying conditions, so that as the years go on valuable information as to methods, procedures, and results can be obtained. It is the search for basic and scientifically established information of this sort that characterizes Foundation efforts no matter what particular disease happens to be under consideration. The seeking out of such knowledge is not necessarily limited to the three main diseases, yellow fever, malaria, and hookworm, with which the Foundation has up to the present been chiefly concerned.

During and immediately after the World War considerable tuberculosis work, chiefly in the nature of educational effort, was done in France. In 1928 there was begun a scientific study of the epidemiology of tuberculosis in Jamaica. A tuberculosis study clinic was established in the

city of Kingston. This was open daily for the treatment of indigent patients and the examination of all persons referred to it for diagnosis. A branch dispensary was established in the adjacent parish of St. Andrew. Information was gathered on the types of tuberculosis in Jamaica and on the habits and housing of families in which there were cases of this disease. A study was also made of people intimately exposed to the disease and of the progress of the infection among them. An attempt was made to gain an intimate knowledge of the epidemiology of the acute tuberculosis which ranks high as a cause of death among native Jamaicans.

Opie, E. L., and Isaacs, E. J.

Tuberculosis in Jamaica. *American Journal of Hygiene*, 12: 1-61 (July) 1930.

In connection with a program of field research in respiratory diseases, which was undertaken with the cooperation of the Rockefeller Institute for Medical Research, studies of the bacterial flora of the nasopharynx were made in isolated communities in southern Alabama and Labrador, and a study of pneumonia was conducted in a rural area in southern Alabama. Early in 1929 the field laboratory was transferred to the Virgin Islands, where work was continued. Recently an article was published recounting a study of an epidemic of influenza occurring in 1928 in Northwest River, an isolated community

in Labrador. This constitutes a contribution to the study of the epidemiology of respiratory diseases in the Arctic.

Burky, E. L., and Smillie, W. G.

Nasopharyngeal Flora in Health and during Respiratory Disease, in Isolated Communities in Alabama and Labrador. *The Journal of Experimental Medicine*, 50: 643-663 (Nov.) 1929.

Smillie, W. G., and Caldwell, E. L.

A Study of Pneumonia in a Rural Area in Southern Alabama. *The Journal of Experimental Medicine*, 50: 233-244 (Aug.) 1929.

Smillie, W. G.

An Epidemic of Influenza in an Isolated Community—Northwest River, Labrador. *The American Journal of Hygiene*, 11: 392-398 (March) 1930.

An article embodying the results of a study of yaws in the South Pacific was published during 1929. Survey of a typical South Pacific island indicated that the reservoir of yaws infection was to be found in persons up to the age of seventeen, who showed no present symptoms but gave a yaws history. Eradication of the disease seems possible only by mass treatment of this age group, with symptomatic treatment of other persons.

Lambert, S. M.

Yaws in the South Pacific. *American Journal of Tropical Medicine*, 9: 429-473 (Nov.) 1929.

Studies of Carrion's disease, likewise called Oroya fever and verruga peruana, which were carried out in collaboration with the Rockefeller Institute for Medical Research, were published in 1929. Much light was shed on this disease by experimental studies conducted by Noguchi between 1925 and 1928. The work now published represents a continuation and completion

of these studies after Noguchi's death. The purpose of the researches was to find the insect carriers of this malady. The material collected and studied included ticks, mites, midges, lice, fleas, bedbugs, mosquitoes, buffalo gnats, horse flies, and sheep ticks, as well as species of Streblidae and of Phlebotomi. Evidence points definitely to certain Phlebotomi as the carriers of the disease, and more particularly to a species which has been named *Phlebotomus noguchii*. The Phlebotomi are well known to natives because of the great annoyance they sometimes cause. They can be distinguished from mosquitoes by their smaller size, more slender appearance, and their hopping flight.

Shannon, R. C.

Entomological Investigations in Connection with Carrion's Disease. *American Journal of Hygiene*, 10: 78-111 (July) 1929.

Noguchi, Hideyo, Shannon, R. C., Tilden, E. B., and Tyler, J. R.
Etiology of Oroya Fever. XIV. The Insect Vectors of Carrion's Disease. *Journal of Experimental Medicine*, 49: 993-1008 (June) 1929.

During 1929 there was also published a monograph of 215 pages on studies of hookworm, *Ascaris*, and *Trichuris*, conducted in Panama by Drs. Cort, Stoll, Sweet, Riley, and Schapiro. The major part of this work constitutes a careful appraisal and intensive study of the hookworm control work that has been going on in Panama since 1914. A section of it, however, deals with an investigation of the distribution of *Ascaris lumbricoides* a human parasite sometimes re-

ferred, to as the roundworm and capable of producing a combination of symptoms known as ascariasis. Of this section of the report a brief account will be given, since it serves as a concrete example of the way in which scientific method can come to the aid of practical public health work.

In the course of statistical studies of hook-worm infestation in Panama note was incidentally made of the extent of infestation with other intestinal parasites, including the one in question, *Ascaris lumbricoides*. In a series of egg counts covering 2,247 cases, 51 per cent of the cases were found positive for *Ascaris lumbricoides*. A careful study by sex and age groups disclosed the interesting fact that in the younger age groups the average infestation both of males and females was very much higher than in the older groups. It also appeared that the higher average in children under ten was influenced to an extraordinary degree by the concentration in children of the heavy cases, since 75 out of a total of 99 cases with over 100,000 eggs per cc. were in the age group 9 years and under. Moreover the concentration of heavy infestation was shown to occur in a few families and, what was even more remarkable, in districts where hookworm control work had been going on for a long time and where families had been provided with latrines and trained in habits of using them.

The finding of ascarid-infested families in highly sanitized communities, together with the concentration of infestation in young children, pointed to a single conclusion. Special investigation of sanitation and personal hygiene within and around the houses in question bore out the supposition that in each case culpability could be traced to young children, for whom no accommodation had been provided in the latrines. In one particular case it was found that two young children were contaminating the soil at a rate of 23,000,000 *Ascaris* eggs a day. The conclusion is obvious that the health authorities in working out their sanitation program, by failing to provide for the special needs of very young children, had unconsciously brought about conditions which failed to check the spread of ascariasis. The proper corrective procedure is simple enough, but would probably not have occurred to practical health workers unless careful scientific investigations had made clear the exact source of infestation and suggested the remedy.

Cort, W. W., Stoll, N. R., Sweet, W. C., Riley, W. A., and Schapiro, Louis.

Studies on Hookworm, Ascaris, and Trichuris in Panama. *American Journal of Hygiene*, 10: 614-625 (Nov.) 1929.

THE INTERNATIONAL HEALTH DIVISION
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Claude H. Barlow, M.D.	Joseph C. Carter

¹Resigned.

²Died July 11, 1930.

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Paul A. Lewis, M.D. ²	A. Maurice Wakeman, M.D. ³
Estus H. Magoon	Allen M. Walcott, M.D.

¹ Resigned.

² Died June 30, 1929.

³ Died March 2, 1929.

Table of Expenditures for Public Health Work for the Years

ACTIVITY, STATE, AND COUNTRY	July 1, 1913-Dec. 31, 1922	1923	1924	1925
<i>Grand Total.....</i>	\$16,959,179.75	\$2,838,485.17	\$2,887,783.83	\$3,329,117.21
GENERAL BUDGET				
Local Health Departments.....	396,151.19	230,829.08	236,507.33	235,736.71
State Health Services..	95,020.96	105,666.21	97,976.79	133,234.68
Sanitary engineering	1,686.33	7,659.89	4,032.74	4,225.00
Public health laboratories.....	22,296.10	27,958.03	41,767.89	39,723.37
Epidemiology.....	3,687.95	5,529.62	10,414.62
Vital statistics	400.00	1,706.66	4,938.09
Public health nursing	14,630.10	25,654.17	22,701.51	52,236.15
Other services.....	32,046.83	40,306.17	22,238.37	11,552.74
Administration	24,361.60	10,144.71
Bureaus for study and reform of public health activities	38,979.59	7,720.00	17,720.00	32,540.99
Health Organization of League of Nations ..	15,020.00	98,940.89	151,400.60	178,405.98
Public Health Education.....	381,076.85	200,701.38	253,843.25	301,052.09
Control of Specific Diseases; Investigations	7,160,596.61	1,013,089.51	1,361,952.66	1,173,574.56
Hookworm.....	3,544,634.27	433,043.69	460,674.93	412,492.39
Malaria.....	601,605.42	163,400.50	195,120.63	203,808.19
Yellow fever.....	780,866.16	334,603.80	639,063.50	545,626.37
Respiratory diseases
Verruga peruana
Tuberculosis.....	2,233,490.76	82,041.52	67,093.60	11,647.61
Sanitation.....
Public health surveys
Field Service				
Expenses not pro-rated to specific budgets.....	195,989.62	*247,734.39	121,101.32	157,662.13
Miscellaneous.....	303,327.18	11,065.32	10,171.07	9,905.54
BUILDINGS, EQUIPMENT, AND ENDOWMENT				
Schools and Institutes of Hygiene and Public Health.....	8,373,017.75	922,738.39	637,110.81	1,107,004.53
Schools of Nursing.....

* Includes initial deposit under retirement plan.

1913-1929, Inclusive, Covering All Activities

1926	1927	1928	1929	Total
\$3,608,126.03	\$3,839,233.64	\$3,070,301.93	\$3,283,193.94	\$39,815,421.50
278,494.98	414,692.41	553,121.97	531,389.91	2,876,923.58
105,616.86	149,615.37	201,663.21	221,574.20	1,110,368.28
5,374.33	19,197.98	22,322.72	20,277.76	84,776.75
38,009.37	42,772.99	46,506.65	37,262.16	296,296.56
11,053.47	18,913.30	22,802.67	32,214.60	104,616.23
11,447.75	12,842.73	19,257.68	43,771.96	94,364.87
24,609.36	28,119.68	19,525.09	20,729.55	208,205.61
7,230.65	1,454.41	41,628.54	33,456.93	189,914.64
7,891.93	26,314.28	29,619.86	33,861.24	132,193.62
30,644.22	34,390.90	26,654.59	1,500.00	190,150.29
126,942.14	124,321.20	120,296.29	815,327.10
372,804.69	414,023.44	366,901.46	447,131.12	2,737,534.28
1,207,159.85	1,097,906.72	932,008.61	939,396.20	14,885,684.72
353,701.75	324,091.27	211,440.91	145,407.26	5,885,486.47
262,320.19	308,036.36	277,910.06	261,324.39	2,273,525.74
591,137.91	461,248.29	415,011.74	498,066.09	4,265,623.86
.....	4,530.80	13,971.21	12,059.86	30,561.87
.....	6,908.42	6,908.42
.....	6,361.26	7,418.17	2,408,052.92
.....	405.01	7,057.64	7,462.65
.....	8,062.79	8,062.79
183,319.68	75,402.51	115,857.98	103,949.54	1,201,017.17
10,418.44	15,135.52	19,282.37	11,431.01	390,736.45
1,262,514.32	1,414,262.06	734,515.45	1,026,821.96	15,477,985.27
30,210.85	99,483.51	129,694.36

Table of Expenditures for Public Health Work for the Years

ACTIVITY, STATE, AND COUNTRY	July 1, 1913–Dec. 31, 1922	1923	1924	1925
GENERAL BUDGET				
Local Health Departments.....	\$396,151.19	\$230,829.08	\$236,507.33	\$235,736.71
United States.....	374,637.27	199,468.01	192,847.09	180,754.78
Alabama.....	40,147.32	19,966.46	10,580.09	6,111.06
Arkansas.....	1,335.10
California.....	607.22	6,250.00	7,187.49	7,500.00
Colorado.....	1,875.00
Florida.....	1,009.83	750.00
Georgia.....	7,128.85	1,537.72	1,588.63	1,518.08
Illinois.....	1,927.94	1,849.99	1,725.00	1,650.00
Indiana.....	1,641.66	2,250.00
Iowa.....	954.18	181.33	2,361.76	1,625.90
Kansas.....	23,906.37	7,349.13	6,648.29	2,908.36
Kentucky.....	32,374.25	16,802.48	15,631.73	11,321.01
Louisiana.....	21,015.92	14,184.73	10,984.34	6,009.57
Maryland.....	13,925.27	3,720.00
Michigan.....
Minnesota.....	2,585.53	2,789.44	625.00
Mississippi.....	27,366.19	20,238.91	12,252.91	11,081.99
Missouri.....	9,991.41	9,575.00	7,350.00	5,155.00
Montana.....
New Mexico.....	19,348.25	6,879.86	11,240.19	6,516.00
North Carolina.....	22,540.20	9,041.86	10,836.22	8,981.33
Oklahoma.....	3,283.96	10,782.94
Oregon.....	4,441.17	6,138.42	8,116.42	10,307.79
South Carolina.....	29,954.15	13,929.78	13,489.00	12,848.94
South Dakota.....	3,645.82	5,000.00
Tennessee.....	29,107.93	10,950.54	11,507.59	9,126.74
Texas.....	26,710.13	11,386.40	8,636.57	10,514.57
Utah.....	1,066.83	2,553.75
Virginia.....	25,292.18	11,710.39	8,687.40	9,456.96
Washington.....	2,500.00	2,291.66
West Virginia.....	12,160.44	8,223.28	8,606.13	9,719.05
Wyoming.....	399.75	2,462.51	2,498.63
Administration, United States....	23,086.41	14,316.45	18,918.77	21,440.35
Mississippi flood area
Arkansas.....
Illinois.....
Kentucky.....
Louisiana.....
Mississippi.....
Missouri.....
Tennessee.....
Training station

* Reports incomplete.

INTERNATIONAL HEALTH DIVISION

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1913-1929, Inclusive, Covering All Activities—Continued

1926	1927	1928	1929	Total
\$278,494.98	\$414,692.41	\$553,121.97	\$531,389.91	\$2,876,923.58
176,271.33	249,678.93	342,209.65	334,214.41	2,050,081.47
8,276.84	5,969.07	7,337.80	*24,423.32	122,811.96
2,967.78	2,038.45	1,771.20	1,800.00	9,912.53
5,249.98	6,291.67	*5,833.33	7,250.00	46,169.69
2,500.00	2,000.00	2,000.00	1,000.00	9,375.00
3,447.57	3,961.03	5,924.57	10,067.57	1,759.83
750.00	35,174.02
3,600.00	3,100.00	3,300.00	2,150.00	7,902.93
3,747.28	2,525.00	2,343.76	3,125.00	3,891.66
11,710.60	11,892.46	11,744.10	10,737.22	52,553.19
5,499.61	7,464.69	7,979.57	4,841.94	122,213.85
.....	6,605.13	10,010.02	77,980.37
.....	17,645.27
8,256.25	13,389.00	14,220.05	22,858.05	16,615.15
7,322.13	5,195.00	5,064.00	4,637.50	5,999.97
5,691.68	3,179.07	1,283.34	129,663.35
7,500.00	5,000.00	2,795.26	54,290.04
12,995.48	11,786.18	12,245.81	8,546.11	1,283.34
9,396.77	9,077.41	5,795.18	4,350.00	55,650.31
10,191.39	9,802.26	11,108.94	14,700.00	63,899.61
2,702.77	1,312.50	1,698.25	16,093.75	59,640.48
12,555.63	12,565.67	16,595.12	16,093.75	57,623.16
8,793.02	3,245.23	1,150.00	116,024.46
3,678.47	4,434.80	3,687.50	750.00	14,359.34
7,943.43	14,583.15	16,326.00	14,805.88	118,502.97
9,819.24	15,258.61	16,374.38	15,274.47	70,435.92
922.54	856.80	890.73	16,171.35
20,752.87	17,902.43	20,582.42	12,405.88	108,805.39
.....	7,443.28	*37,186.11	35,601.84	4,791.66
.....	1,750.84	1,273.63	95,435.60
6,404.93	19,414.39	19,965.14	8,030.96
6,623.11	41,198.13	44,755.59	80,231.23
6,639.55	13,969.72	17,385.55	3,024.47
1,354.86	4,198.28	1,960.00	45,784.46
1,574.86	2,307.36	2,465.06	92,576.83
41,953.04	31,118.21	12,321.51	37,994.82
.....	7,513.14
.....	6,347.28
.....	85,392.76

Table of Expenditures for Public Health Work for the Years

ACTIVITY, STATE, AND COUNTRY	July 1, 1913-Dec. 31, 1922	1923	1924	1925
GENERAL BUDGET—				
<i>Continued</i>				
Local Health Departments— <i>Continued</i>				
United States—				
<i>Continued</i>				
Mississippi flood area— <i>Continued</i>				
Trainers' expenses.....	\$.....	\$.....	\$.....	\$.....
Administration, flood area.....
Foreign countries...	21,513.92	31,361.07	43,660.24	54,981.93
Canada.....	9,000.00	20,652.83	24,347.17
Mexico.....
Europe.....	20,326.08
Austria.....	2,823.85
Bulgaria.....
Czechoslovakia.....
France.....	3,441.75
Hungary.....
Ireland.....
Poland.....	14,060.48
Spain.....
Yugoslavia
West Indies.....
Porto Rico.....
Jamaica.....
South America ...	12,513.92	10,708.24	19,313.07	29,240.11
Brazil.....	12,513.92	10,708.24	19,313.07	29,240.11
Paraguay.....
The East.....	5,415.74
Ceylon.....
Fiji.....
India.....
Philippine Islands.....	5,415.74
Shanghai, China.....
Siam.....
Administration, foreign countries.....

* Reports incomplete.

INTERNATIONAL HEALTH DIVISION

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1913-1929, Inclusive, Covering All Activities—Continued

1926	1927	1928	1929	Total
\$.....	\$.....	\$.....	\$1,528.76	\$1,528.76
	4,854.82	6,410.17	7,130.62	18,395.61
102,223.65	165,013.48	210,912.32	197,175.50	826,842.11
6,875.36	15,199.57	27,655.66	*40,533.18	144,263.77
		11,738.64	15,445.72	27,184.36
				271,000.01
36,818.70	78,362.35	82,042.85	53,450.03	19,232.85
4,678.31	4,136.98	3,631.88	*3,961.83	5,228.09
	3,007.46	1,374.91	*845.72	25,142.29
297.62	4,318.76	10,730.74	9,795.17	70,389.35
18,657.19	24,486.47	19,383.04	*4,420.90	2,333.00
498.52	500.00	1,334.48	*4,378.44	10,054.24
		5,675.80	*12,258.54	86,830.76
12,687.06	27,912.68	19,912.00	17,789.43	17,789.43
	14,000.00	20,000.00		34,000.00
				34,825.85
5,157.80	4,495.10	9,588.27	15,584.68	26,343.44
5,157.80	4,495.10	8,239.76	8,450.78	8,482.41
		1,348.51	7,133.90	
				231,226.24
53,371.79	47,600.51	35,714.81	22,763.79	229,158.33
53,371.79	47,600.51	35,714.81	20,695.88	2,067.91
			2,067.91	
				59,214.75
	2,632.23	22,914.22	28,252.56	10,556.03
	2,582.21	7,973.82		9,047.90
		9,047.90	*11,475.21	14,011.63
		2,536.42		
				15,373.43
	50.02		9,907.67	6,869.68
			*6,869.68	3,356.08
		3,356.08		
				59,127.13
	16,723.72	21,257.87	21,145.54	

Table of Expenditures for Public Health Work for the Years

ACTIVITY, STATE, AND COUNTRY	July 1, 1913-Dec. 31, 1922	1923	1924	1925
GENERAL BUDGET—				
<i>Continued</i>				
State Health Services..	\$95,020.96	\$105,666.21	\$97,976.79	\$133,234.68
Sanitary Engineering..				
United States..	1,686.33	7,659.89	4,032.74	4,225.00
Alabama ..	1,686.33	7,659.89	4,032.74	4,225.00
Colorado ..			1,200.00	800.00
Connecticut ..				375.00
Idaho ..				1,600.00
Indiana ..				
Iowa ..		3,495.12		
Louisiana ..		457.72		
Maine ..				350.00
Missouri ..	1,050.00	368.43		
Montana ..		927.57	1,855.01	950.00
North Dakota ..			477.73	
Oregon ..				
South Carolina ..				
South Dakota ..				
Tennessee ..		642.55		
Texas ..		1,423.50		
Utah ..	636.33	345.00	500.00	150.00
Foreign countries..				
Ceylon ..				
Costa Rica ..				
India, Mysore State..				
Panama ..				
Poland ..				
Venezuela ..				
Public Health Laboratories..	22,296.10	27,958.03	41,767.89	39,723.37
United States..	12,394.04	19,708.21	30,248.64	21,657.65
Alabama ..	3,261.03	9,973.47	12,560.85	7,479.00
Arkansas ..		1,676.16	3,836.39	1,195.41
Connecticut ..			375.00	1,800.00
Delaware ..			1,500.00	
Kansas ..	8,008.02	2,693.88		
Louisiana ..				
Maine ..				600.00
Mississippi ..				
Missouri ..	874.99		2,067.41	1,771.48
Montana ..		676.74	2,100.00	1,050.00
Oregon ..		900.00	2,688.37	1,120.32
South Carolina ..				498.92

* Reports incomplete.

1913—1929, Inclusive, Covering All Activities—Continued

1926	1927	1928	1929	Total
\$105,616.86	\$149,615.37	\$201,663.21	\$221,574.20	\$1,110,368.28
5,374.33	19,197.98	22,322.72	20,277.76	84,776.75
5,374.33	5,510.53	8,242.06	5,687.64	42,418.52
1,447.85	1,334.12	2,781.97
.....	2,000.00
1,578.67	1,600.00	1,599.89	800.00	375.00
.....	2,756.15	2,756.15
58.33	349.98	3,903.43
.....	350.00	457.72
700.00	1,400.00
.....	1,418.43
.....	536.02	1,500.00	3,732.58
1,214.30	733.10	2,500.00	2,513.75
.....	3,350.00	887.64	5,850.00
375.18	1,143.33	887.64
.....	2,161.06
.....	1,423.50
.....	1,631.33
.....	13,687.45	14,080.66	14,590.12	42,358.23
.....	2,564.60	7,096.56	6,620.66	16,281.82
.....	3,492.05	3,102.93	6,594.98
.....	3,471.79	1,763.60	1,763.60
.....	3,492.05	3,102.93	10,066.77
.....	7,651.06	*	7,651.06
38,009.37	42,772.99	46,506.65	37,262.16	296,296.56
18,331.20	16,387.39	12,757.31	9,456.49	140,940.93
7,494.53	5,403.75	46,172.63
.....	6,707.96
.....	2,175.00
.....	1,500.00
.....	444.43	10,701.90
1,300.00	780.00	444.43
.....	3,753.99	2,680.00
2,049.17	3,600.00	4,350.00	1,800.00	3,753.99
.....	16,513.05
340.98	1,000.00	1,000.00	3,826.74
300.00	1,000.00	1,000.00	5,049.67
				2,798.92

Table of Expenditures for Public Health Work for the Years

ACTIVITY, STATE, AND COUNTRY	July 1, 1913-Dec. 31, 1922	1923	1924	1925
GENERAL BUDGET—				
<i>Continued</i>				
State Health Services—				
<i>Continued</i>				
Public Health Laboratories— <i>Continued</i>				
United States—				
<i>Continued</i>				
Tennessee	\$250.00	\$2,888.45	\$2,166.66	\$2,301.16
Texas	70.83
Utah	1,900.00	2,775.00
Virginia	899.51	1,053.96	995.53
Foreign countries	9,902.06	8,249.82	11,519.25	18,065.72
Colombia
Costa Rica	303.14	2,994.39	3,636.12
Guatemala	929.25	1,581.36	1,715.94	1,546.64
Honduras	4,222.71
Hungary
Nicaragua	2,530.71	3,271.69	6,808.92	12,882.96
Philippine Islands
Salvador	2,013.06	3,093.63
Demonstrations	206.33
Epidemiology	3,687.95	5,529.62	10,414.62
United States	3,687.95	5,529.62	10,414.62
Alabama	2,229.04	5,049.68
Georgia
Kansas	236.62
Kentucky
Louisiana
Mississippi
Montana
North Carolina
North Dakota
Rhode Island	537.68
South Carolina
South Dakota
Tennessee	924.33
Utah	151.14	2,550.58	2,735.35
Virginia	3,536.81	750.00	930.96
Conference of epidemiologists
Foreign countries
Denmark
Spain

* Reports incomplete.

1913-1929, Inclusive, Covering All Activities—Continued

1926	1927	1928	1929	Total
\$938.13	\$985.00	\$1,754.36	\$2,902.50	\$14,186.26
2,789.82	2,992.40	650.00	6,503.05
2,868.92	2,626.24	3,058.52	13,228.68
249.65	1,500.00	4,698.65
19,678.17	26,385.60	33,749.34	27,805.67	155,355.63
410.50	4,896.99	7,357.68	7,650.28	20,315.45
2,757.05	194.81	9,885.51
3,894.27	3,835.45	9,391.10	7,980.44	30,874.45
.....	1,000.00	5,222.71
.....	1,870.00	1,870.00
12,616.35	9,492.35	9,847.05	9,304.95	66,754.98
.....	7,966.00	7,153.51	15,119.51
.....	5,106.69
.....	206.33
11,053.47	18,913.30	22,802.67	32,214.60	104,616.23
11,053.47	16,772.78	17,925.40	21,214.33	86,598.17
2,277.26	3,977.77	13,533.75
.....	812.50	812.50
406.72	228.96	872.30
.....	1,930.25	1,788.28	3,500.00	5,288.28
1,819.08	3,337.50	1,490.92	5,172.50	11,820.00
.....	2,625.00	3,500.00	6,125.00
.....	3,543.75	3,543.75
.....	1,108.74	2,700.00	3,808.74
1,653.79	854.58	3,046.05
193.75	775.00	3,175.00	2,500.00	6,643.75
1,142.32	1,275.00	1,004.33	3,421.65
2,701.05	2,453.23	2,250.00	2,025.00	10,353.61
859.50	600.00	1,943.71	8,840.28
.....	5,217.77
.....	1,340.49	1,340.49
.....	2,140.52	4,877.27	11,000.27	18,018.06
.....	2,140.52	4,877.27	6,896.44	13,914.23
.....	*	4,103.83	4,103.83

Table of Expenditures for Public Health Work for the Years

ACTIVITY, STATE, AND COUNTRY	July 1, 1913-Dec. 31, 1922	1923	1924	1925
GENERAL BUDGET—				
<i>Continued</i>				
State Health Services—				
<i>Continued</i>				
Vital Statistics.....	\$.....	\$400.00	\$1,706.66	\$4,938.09
United States.....	400.00	1,706.66	4,938.09
Alabama.....	665.00
Arkansas.....	400.00
Georgia.....
Iowa.....
Mississippi.....	700.00
Montana.....	1,250.00
New Mexico.....
Oklahoma.....
South Carolina.....
Tennessee.....	1,273.09
Texas.....
West Virginia.....	1,706.66	1,050.00
Foreign countries.....
Bulgaria.....
Colombia.....
Denmark.....
France.....
Spain.....
Yugoslavia.....
Public Health Nursing.....	14,630.10	25,654.17	22,701.51	52,236.15
Brazil.....	14,630.10	25,654.17	22,701.51	26,497.42
Denmark.....
France.....	25,738.73
Poland.....
Yugoslavia.....
Other State Health Services.....	32,046.83	40,306.17	22,238.37	11,552.74
United States.....
Illinois.....
Iowa.....
North Carolina.....
South Carolina.....
Foreign countries.....	32,046.83	40,306.17	22,238.37	11,552.74
Australia.....	20,000.00	21,432.73	9,715.68
Bulgaria.....
Canada.....	577.93

* Reports incomplete.

INTERNATIONAL HEALTH DIVISION

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1913-1929, Inclusive, Covering All Activities—Continued

1926	1927	1928	1929	Total
\$11,447.75	\$12,842.73	\$19,257.68	\$43,771.96	\$94,364.87
9,866.56	9,234.97	7,656.16	16,593.29	50,395.73
847.50	990.00	2,502.50
1,350.00	750.00	2,100.00
.....	1,200.00	1,200.00	2,800.00
2,100.00	1,500.00	3,600.00
882.38	2,204.97	902.73	3,270.50	7,960.58
2,500.00	1,250.00	5,000.00
.....	600.00	2,400.00	3,000.00
686.68	500.00	1,186.68
.....	290.00	1,250.00	1,540.00
1,500.00	1,750.00	1,000.00	1,050.00	6,573.09
.....	2,703.43	8,672.79	11,376.22
.....	2,756.66
1,581.19	3,607.76	11,601.52	27,178.67	43,969.14
.....	1,139.50	1,139.50
.....	863.67	863.67
1,581.19	1,604.59	1,608.31	2,401.95	7,196.04
.....	4,111.51	4,111.51
.....	9,330.53	9,330.53
.....	*9,993.21	11,334.68	21,327.89
24,609.36	28,119.68	19,525.09	20,729.55	208,205.61
21,010.29	24,557.62	17,041.93	11,952.13	164,045.17
.....	4,678.35	4,678.35
3,599.07	3,562.06	2,483.16	3,599.07	38,982.09
.....	500.00	500.00
7,230.65	1,454.41	41,628.54	33,456.93	189,914.64
.....	900.00	7,742.22	1,883.33	10,525.55
.....	100.00	236.67	50.00	386.67
.....	800.00	1,600.00	1,833.33	4,233.33
.....	4,805.55	*.....	4,805.55
.....	1,100.00	1,100.00
7,230.65	554.41	33,886.32	31,573.60	179,389.09
.....	704.69	51,148.41
.....	704.69
.....	577.93

Table of Expenditures for Public Health Work for the Years

ACTIVITY, STATE, AND COUNTRY	July 1, 1913-Dec. 31, 1922	1923	1924	1925
GENERAL BUDGET—				
<i>Continued</i>				
State Health Services—				
<i>Continued</i>				
Other State Health Services— <i>Continued</i>				
Foreign countries—				
<i>Continued</i>				
Honduras.....	\$.....	\$.....	\$.....	\$5,740.85
Hungary
Jamaica.....
Netherlands.....
East Indies....
Norway.....
Philippine Islands.....	12,046.83	18,873.44	11,944.76	5,811.89
Poland.....
Administration.....	24,361.60	10,144.71
Bureaus for Study and Reform of Public Health Activities....	38,979.59	7,720.00	17,720.00	32,540.99
Czechoslovakia.....	38,979.59	7,720.00	12,720.00	7,720.00
France.....	5,000.00	13,638.69
Hungary.....	4,987.67
✓ Poland.....	6,194.63
Health Organization of League of Nations ..	15,020.00	98,940.89	151,400.60	178,405.98
Interchange of public health personnel..	15,020.00	63,080.00	91,353.22	99,176.33
Epidemiological Intelligence and Public Health Statistics Service, and Center of Public Health Documentation.....	35,860.89	53,508.91	52,427.38
Epidemiological Intelligence Bureau, Far East.....	26,802.27
Travel expenses of delegate to public health conference.	3,087.38
Conference in Singapore.....	3,451.09

* Reports incomplete.

1913-1929, Inclusive, Covering All Activities—Continued

1926	1927	1928	1929	Total
\$6,876.19	\$.....	\$.....	\$.....	\$12,617.04
354.46	554.41	9,206.71 1,397.51	1,973.19 *691.87	11,179.90 2,998.25
.....	22,239.26	27,460.18	49,699.44
.....	1,448.36	1,448.36
.....	338.15	48,676.92
7,891.93	26,314.28	29,619.86	33,861.24	338.15 132,193.62
30,644.22	34,390.90	26,654.59	1,500.00	190,150.29
7,720.00	7,594.47	82,454.06
10,614.56	12,212.76	11,932.79	*.....	53,398.80
5,000.00	4,991.74	4,993.83	1,500.00	21,473.24
7,309.66	9,591.93	9,727.97	*.....	32,824.19
126,942.14	124,321.20	120,296.29	*.....	815,327.10
73,484.58	49,817.98	51,206.90	*.....	443,139.01
40,810.43	49,503.22	55,385.83	*.....	287,496.66
12,647.13	25,000.00	13,703.56	*.....	78,152.96
.....	3,087.38
.....	3,451.09

Table of Expenditures for Public Health Work for the Years

ACTIVITY, STATE, AND COUNTRY	July 1, 1913-Dec. 31, 1922	1923	1924	1925
GENERAL BUDGET—				
<i>Continued</i>				
Public Health Education.....	\$381,076.85	\$200,701.38	\$253,843.25	\$301,052.09
Fellowships.....	230,187.51	186,519.93	182,427.80	230,028.32
Study and training courses and travel of health workers.....	19,087.76	6,577.26	36,088.04	25,469.45
Training stations.....	5,160.06	18,480.38
United States				
Alabama.....	5,160.06	18,480.38
Michigan.....
Ohio.....
Europe				
Italy.....
Teaching of hygiene in medical schools.....
Harvard Medical School.....
Rio de Janeiro Faculty of Medicine.....
Study of teaching hygiene and public health in medical schools.....	34.69
Central Medical School for Native Medical Students, Suva, Fiji.....
First Midwifery School, Peiping, China.....
Schools of hygiene and public health Maintenance.....	131,766.89	7,604.19	30,167.35	27,073.94
Brazil, São Paulo.....	131,766.89	5,404.19	7,613.95	4,065.22
England, London.....	15,953.40	20,008.72
Hungary, Budapest.....
Poland, Warsaw.....	2,200.00	6,600.00	3,000.00

* Reports incomplete.

1913-1929, Inclusive, Covering All Activities—Continued

1926	1927	1928	1929	Total
\$372,804.69 270,174.77	\$414,023.44 267,981.60	\$366,901.46 218,981.17	\$447,131.12 288,332.07	\$2,737,534.28 1,874,633.17
48,661.21 11,585.62	87,765.00 12,702.46	74,480.16 22,774.60	87,691.77 8,769.60	385,820.65 79,472.72
11,585.62	6,024.80	11,795.11	53,045.97
.....	6,677.66	10,979.49	3,238.55 5,531.05	3,238.55 23,188.20
.....	5,429.81	5,198.92	10,628.73
17,414.89	8,500.00	25,914.89
5,500.00	8,500.00	*.....	14,000.00
11,914.89	11,914.89
.....	34.69
.....	9,660.00	25,752.59	30,860.42	66,273.01
.....	1,982.51	1,982.51
24,968.20 25.95 20,262.25	27,414.38	19,483.13	24,295.83	292,773.91 148,876.20 119,417.71
..... 4,680.00	3,680.00 4,320.00	*.....	3,680.00 20,800.00

Table of Expenditures for Public Health Work for the Years

ACTIVITY, STATE, AND COUNTRY	July 1, 1913-Dec. 31, 1922	1923	1924	1925
GENERAL BUDGET—				
<i>Continued</i>				
Control of Specific Diseases; Investigations				
Hookworm	\$3,544,634.27	\$433,043.69	\$460,674.93	\$412,492.39
Control	3,417,070.77	394,708.94	432,972.03	396,403.92
United States*..	524,740.65	25.00	197.01	25.00
Alabama	34,041.84	25.00	25.00
Arkansas	5,247.00
Georgia	39,808.09	197.01
Kentucky	37,475.52
Louisiana	6,309.34
Mississippi	75,639.72
North Carolina	55,020.97
South Carolina	65,318.91
Tennessee	54,649.32
Texas	69,784.43
Virginia	51,289.28
Administration, United States	25,359.31
County Dispensary Work in the South	4,796.92
West Indies	625,637.73	114,749.88	126,434.61	99,101.14
Antigua	22,146.51
British Guiana †	89,301.25
Dutch Guiana †	70,378.77	19,416.68
Grenada	37,364.32
Haiti	10,762.12	18,605.84
Jamaica	72,361.22	21,280.54	27,742.83	36,056.49
Porto Rico	54,565.19	30,395.06	36,417.62	33,311.12
St. Lucia	69,582.71	9,182.04	11,625.68
St. Vincent	31,761.76
Trinidad	121,898.09	23,460.87	29,200.94
Administration, West Indies	56,277.91	11,014.69	10,685.42	11,127.69

* 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 the responsibility for all efforts directed toward the relief and control of hookworm and other soil-borne

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

INTERNATIONAL HEALTH DIVISION

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1913-1929, Inclusive, Covering All Activities—Continued

1926	1927	1928	1929	Total
\$353,701.75	\$324,091.27	\$211,440.91	\$145,407.26	\$5,885,486.47
320,440.09	287,178.31	178,001.75	97,500.62	5,524,276.43
.....	524,987.66
.....	34,091.84
.....	5,247.00
.....	40,005.10
.....	37,475.52
.....	6,309.34
.....	75,639.72
.....	55,020.97
.....	65,318.91
.....	54,649.32
.....	69,784.43
.....	51,289.28
.....	25,359.31
.....	4,796.92
49,211.72	40,542.18	36,328.07	34,633.21	1,126,638.54
.....	22,146.51
.....	89,301.25
.....	89,795.45
.....	37,364.32
.....	29,367.96
.....	226,150.93
26,983.36	19,397.92	12,461.97	9,866.60	211,608.62
11,114.76	11,944.57	15,912.27	17,948.03	90,390.43
.....	31,761.76
.....	174,559.90
11,113.60	9,199.69	7,953.83	6,818.58	124,191.41

programs of the rapidly developing county departments of health. The period of transition being states the county health departments would henceforth assume, as one of their regular functions, re-diseases. are listed with the West Indies.

Table of Expenditures for Public Health Work for the Years

ACTIVITY, STATE, AND COUNTRY	July 1, 1913-Dec. 31, 1922	1923	1924	1925
GENERAL BUDGET—				
<i>Continued</i>				
Control of Specific Diseases; Investigations				
<i>Continued</i>				
Hookworm—				
<i>Continued</i>				
Control—				
<i>Continued</i>				
Central America	\$749,537.03	\$90,714.46	\$81,299.80	\$54,147.75
Costa Rica	147,400.78	4,979.63	4,877.16	9,875.42
Guatemala	127,187.23	16,246.60	16,532.26	15,820.13
Honduras	10,802.41	14,286.73	12,902.91
Nicaragua	150,405.68	12,980.46	12,017.01
Panama	180,029.53	29,407.59	26,938.47	22,398.17
Salvador	93,523.42	5,271.68
Administration, Central America	40,187.98	7,541.77	8,031.99	6,054.03
Mexico	36,284.08	30,525.22
South America	827,406.54	69,597.17	79,793.56	78,048.90
Brazil	772,024.61	45,827.49	47,338.46	24,134.26
Colombia	55,382.03	22,217.48	16,241.47	27,575.99
Paraguay	1,552.20	16,213.63	26,338.65
Venezuela
Europe	4,012.42	14,260.57
Spain	4,012.42	14,260.57
The East	689,748.72	119,622.43	104,950.55	120,295.34
Australia	149,316.56	33,745.09	18,710.79
British North Borneo	16,187.33	3,101.75
Ceylon	195,048.41	9,252.78	7,520.64	16,639.14
China	28,570.03
Egypt	26,074.78	8,952.64
Fiji Islands	25,895.32	7,431.02	7,282.03	201.37
India	30,189.83	10,275.40	8,307.39	20,140.47
Java	327.66	22,752.97	21,446.09
Mauritius	13,044.99	12,235.10	3,987.01	90.16
Sarawak
Seychelles Islands	32,956.03	487.82
Siam	91,435.39	27,086.88	25,844.05	26,671.78

INTERNATIONAL HEALTH DIVISION

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1913-1929, Inclusive, Covering All Activities—Continued

1926	1927	1928	1929	Total
\$36,652.93	\$38,274.13	\$28,346.94	\$13,794.67	\$1,092,767.71
759.03				167,892.02
6,796.56	9,421.62	7,516.20		199,520.60
.....				37,992.05
21,128.74	5,211.18	4,259.39		184,873.72
	17,298.83	14,900.28	12,616.33	324,717.94
.....				98,795.10
7,968.60	6,342.50	1,671.07	1,178.34	78,976.28
24,457.28	15,442.82	106,709.40
76,341.35	69,279.47	48,931.32	27,705.73	1,277,104.14
43,956.49	39,869.25	22,193.89	21,668.38	889,324.82
32,384.86	21,575.93	19,515.26	273.89	249,104.98
.....	7,834.29	7,222.17	5,763.46	117,854.42
1,500.88	3,847.88	3,155.86	3,202.83	20,819.92
1,500.88	3,847.88	3,155.86	3,202.83	29,980.44
132,275.93	119,791.83	61,239.56	18,164.18	1,366,088.54
.....				201,772.44
13,610.22	4,873.96	19,289.08
.....	246,945.15
.....	10,931.05	28,570.03
6,571.49	21,085.22	14,711.93	45,958.47
15,647.83	21,710.60	47,381.23
22,031.82	10,083.19	120,358.07
.....				88,269.14
229.38				29,357.26
45,834.11	24,381.15	13,262.74	4,729.19	10,083.19
				33,673.23
				259,245.29

Table of Expenditures for Public Health Work for the Years

ACTIVITY, STATE, AND COUNTRY	July 1, 1913-Dec. 31, 1922	1923	1924	1925
GENERAL BUDGET—				
<i>Continued</i>				
Control of Specific Diseases; Investigations—				
<i>Continued</i>				
Hookworm—				
<i>Continued</i>				
Control—				
<i>Continued</i>				
The East—				
<i>Continued</i>				
South Pacific Islands....	\$.....	\$.....	\$2,513.68	\$2,874.19
Straits Settlements....	19,980.01
Administration, The East....	80,702.39	7,541.77	8,031.99	11,764.31
Investigations....	97,839.45	39,734.75	27,668.24	16,088.47
Alabama	14,524.06	4,869.46	4,784.17
Brazil....	1,006.35	220.96
Ceylon....	356.35	85.09
Egypt....
Research in life history of hook worm eggs and larvae....	8,976.59	7,434.94	10,634.98	9,231.02
Research in carbon tetrachloride....	9,455.85	5,852.36	1,900.00
Study of methods of diagnosing hook-worm disease	1,302.52
Study of hook-worm in the pig....	515.93
Uncinariasis Commission to Orient	51,483.31
Surveys				
United States...	23,240.65	5,935.29
West Indies....	5,595.76	2,078.56	5,795.51	173.28
Barbadoes ...	1,651.31

1913-1929, Inclusive, Covering All Activities—Continued

1926	1927	1928	1929	Total
\$.....	\$10,062.68	\$.....	\$.....	\$15,450.55
20,382.49	21,252.53	23,078.88	84,693.91
7,968.59	6,342.50	10,186.01	2,503.94	135,041.50
33,153.17	36,881.55	33,375.05	47,906.64	332,647.32
7,630.34	5,839.46	6,226.18	8,021.32	51,894.99
.....	1,227.31
.....	441.44
.....	5,236.79	13,970.55	19,207.34
21,234.26	7,876.34	7,152.85	6,817.13	79,358.11
4,288.57	17,928.96	19,996.02	19,097.64	78,519.40
.....	1,302.52
.....	515.93
.....	51,483.31
.....	29,175.94
.....	13,643.11
.....	1,651.31

Table of Expenditures for Public Health Work for the Years

ACTIVITY, STATE, AND COUNTRY	July 1, 1913-Dec. 31, 1922	1923	1924	1925
GENERAL BUDGET—				
<i>Continued</i>				
Control of Specific Diseases; Investigations				
<i>—Continued</i>				
Hookworm— <i>Cont'd</i>				
Surveys— <i>Cont'd</i>				
Cayman Islands.....	\$1,795.16	\$.....	\$.....	\$.....
Dominica.....	89.32	2,659.78
Montserrat-Nevis.....	511.06	173.28
Santo Domingo.....	1,077.07	1,989.24	2,624.67
St. Kitts
Tobago.....	1,072.22
Central America				
British Honduras	4,273.47
The East				
British Solomon Islands	1,604.45
Miscellaneous....	29,724.05	Cr. 1,400.00	34.66
Conferences of health officers	7,552.87
Motion picture film on hook-worm disease	4,402.47	34.66
Thymol.....	15,476.21
Salvador Portable house and office.....	1,523.04	Cr. 1,400.00
Loss from earthquake	406.46
Dutch Guiana				
Care and storage of motor boat ...	363.00
Malaria.....	601,605.42	163,400.50	195,120.63	203,808.19
Control.....	503,887.86	92,981.97	113,943.55	116,915.26
United States...	484,113.10	79,280.50	76,351.81	69,093.51
Alabama	31,973.91	8,232.07	5,936.26	5,239.56
Arkansas	51,849.65	4,274.13	4,263.40	1,954.16

1913-1929, Inclusive, Covering All Activities—Continued

1926	1927	1928	1929	Total
\$.....	\$.....	\$.....	\$.....	\$1,795.16
.....	2,749.10
.....	684.34
.....	1,077.07
.....	4,613.91
.....	1,072.22
.....	4,273.47
.....	1,604.45
108.49	31.41	64.11	28,562.72
.....	7,552.87
108.49	31.41	64.11	4,641.14
.....	15,476.21
.....	123.04
.....	406.46
.....	363.00
262,320.19	308,036.36	277,910.06	261,324.39	2,273,525.74
182,972.21	207,289.71	206,375.01	198,126.48	1,622,492.05
69,724.66	63,053.04	36,596.87	30,676.04	908,889.53
6,306.38	7,540.95	65,229.13
.....	62,341.34

Table of Expenditures for Public Health Work for the Years

ACTIVITY, STATE, AND COUNTRY	July 1, 1913-Dec. 31, 1922	1923	1924	1925
GENERAL BUDGET—				
<i>Continued</i>				
Control of Specific Diseases; Investigations—				
<i>Continued</i>				
Malaria— <i>Cont'd</i>				
Control— <i>Cont'd</i>				
United States—				
<i>Continued</i>				
California	\$3,111.12	\$.....	\$.....	\$.....
Florida	1,125.00
Georgia	3,247.94	3,756.74	5,298.38	3,634.40
Illinois	422.80	1,006.84	827.68	3,214.92
Louisiana	71,161.23	4,519.76	4,745.81	4,643.77
Mississippi	179,626.48	12,692.71	7,539.29	10,639.39
Missouri	4,371.37	3,200.00	3,000.00	1,911.67
North Carolina	34,989.34	9,292.94	15,644.96	7,401.41
South Carolina	38,156.95	7,556.95	7,196.81	9,035.86
Tennessee	7,142.15	1,963.50	5,516.22	4,541.63
Texas	24,127.41	5,213.64	5,007.00	1,151.09
Virginia	12,178.57	8,981.35	10,251.00	9,818.61
Administration, United States	21,754.18	8,589.87	5,907.04
South America	4,595.59	31,176.69	40,486.28
Argentina	7,944.75
Brazil	31,176.69	32,541.53
Ecuador	4,595.59
Venezuela
Europe
Bulgaria
Italy
Spain
Central America	15,179.17	13,701.47	6,415.05	7,335.47
Nicaragua	15,179.17	13,701.47	6,415.05	7,335.47
Panama
West Indies
Jamaica
Porto Rico

* Reports incomplete.

1913-1929, Inclusive, Covering All Activities—Continued

1926	1927	1928	1929	Total
\$.....	\$.....	\$.....	\$.....	\$3,111.12
2,841.52	2,755.04	5,443.28	6,675.00	1,125.00
4,383.12	3,642.04	2,860.36	33,652.30
12,983.13	14,000.24	12,232.64	13,592.08	5,472.24
1,361.75	95,956.09
4,404.42	*7,542.30	263,305.96
9,700.00	10,800.00	5,800.00	4,200.00	13,850.79
5,978.95	4,108.34	1,500.00	79,275.37
10,349.17	9,445.36	6,698.55	4,896.02	92,446.57
11,410.22	3,218.77	2,062.04	1,312.94	30,750.79
38,262.29	39,941.49	36,712.11	26,551.25	35,499.14
25,655.58	30,878.94	19,497.06	13,506.61	72,618.63
12,606.71	9,062.55	12,706.97	6,818.36	104,912.81
.....	4,595.59
.....	4,508.08	6,226.28	10,734.36
62,952.88	89,675.64	104,931.26	127,641.85	385,201.63
62,952.88	89,675.64	7,239.57	13,710.55	20,950.12
.....	91,318.31	107,422.23	351,369.06
4,215.02	3,471.80	6,373.38	6,509.07	12,882.45
4,215.02	3,471.80	50,317.98
7,817.36	11,147.74	28,134.77	13,257.34	46,846.18
7,817.36	11,147.74	9,417.24	2,453.23	3,471.80
7,817.36	11,147.74	18,717.53	10,804.11	11,870.47
				48,486.74

Table of Expenditures for Public Health Work for the Years

ACTIVITY, STATE, AND COUNTRY	July 1, 1913-Dec. 31, 1922	1923	1924	1925
GENERAL BUDGET—				
<i>Continued</i>				
Control of Specific Diseases; Investigations				
<i>—Continued</i>				
Malaria— <i>Cont'd</i>				
Investigations and Surveys.....	\$95,662.21	\$64,276.24	\$76,119.87	\$84,249.09
United States.....	17,991.48	25,455.38	13,473.26
Alabama
Georgia	15,182.09	19,299.29	9,662.91
Louisiana.....	205.17
Maryland	2,447.88	1,432.43
Mississippi.....	156.34	2,719.10
North Carolina.....
Studies at Johns Hopkins School of Hygiene and Public Health	2,004.56	3,037.54
Studies at University of Chicago	772.81
West Indies.....	54,338.44	6,532.42	6,200.31	13,104.14
Porto Rico.....	54,338.44	6,532.42	6,200.31	13,104.14
Grenada—Anopheline Survey.....
South America.....	27,996.16	20,429.27
Argentina	5,661.02
Brazil.....	22,335.14	20,429.27
Colombia—Anopheline Survey.....
Venezuela
Europe.....	127.24	17,345.89	42,250.44
Austria.....	2,102.00	2,381.99
France, Corsica.....	3,363.52
Italy.....	127.24	15,243.89	36,504.93
Netherlands.....
Spain.....
Yugoslavia

INTERNATIONAL HEALTH DIVISION

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1913-1929, Inclusive, Covering All Activities—Continued

1926	1927	1928	1929	Total
\$78,054.38	\$92,094.30	\$56,018.74	\$52,597.79	\$599,072.62
32,044.75	28,803.91	17,822.92	8,130.95	144,722.65
.....	214.31	378.52	592.83
.....	23,031.17	67,175.46
.....	205.17
.....	3,880.31
.....	2,875.44
26,079.53	12,523.91	4,257.97	42,861.41
4,240.22	4,061.55	3,670.49	2,623.39	19,637.75
1,725.00	2,496.88	1,250.00	1,249.59	7,494.28
.....	4,990.13	85,165.44
.....	80,175.31
.....	4,990.13	4,990.13
.....	2,975.57	68,326.96
9,092.53	7,833.43	5,661.02
.....	42,764.41
.....	2,975.57	2,975.57
9,092.53	7,833.43	16,925.96
17,802.05	24,976.15	12,241.93	12,664.52	127,408.22
.....	4,483.99
5,280.38	5,267.94	5,374.70	5,594.28	24,880.82
.....	5,092.20	6,867.23	4,912.43	51,876.06
12,521.67	14,616.01	2,157.81	16,871.86
.....	27,137.68
.....	2,157.81

Table of Expenditures for Public Health Work for the Years

ACTIVITY, STATE, AND COUNTRY	July 1, 1913—Dec. 31, 1922	1923	1924	1925
GENERAL BUDGET— <i>Continued</i>				
Control of Specific Diseases; Investigations <i>Continued</i>				
Malaria— <i>Cont'd</i>				
Investigations and Surveys— <i>Cont'd</i>				
The East.....	\$13,327.61	\$19,195.83	\$27,118.29	\$15,421.25
Ceylon.....
India.....
Palestine.....	7,250.11	10,572.80	12,369.77	4,756.34
Philippine Islands.....	6,077.50	8,623.03	14,748.52	10,664.91
Miscellaneous....	2,055.35	6,142.29	5,057.21	2,643.84
Conference of malaria workers.....	2,055.35	375.98
Motion picture film.....	5,766.31	4,756.46
Entomological studies in the field.....	300.75	2,643.84
Administration, for- eign coun- tries.....
Yellow Fever.....	780,866.16	334,603.80	639,063.50	545,626.37
Control.....	594,054.81	315,221.28	622,719.20	432,882.20
Brazil.....	930.98	107,856.91	515,421.42	370,391.59
Colombia and Venezuela*...	42,000.47	62,252.23	9,723.35
Countries bor- dering on Car- ibbean littoral and Amazon valley.....	4,514.26	6,332.05	4,123.33
Ecuador.....	111,160.84
Mexico and Cen- tral America.....	361,071.42	159,031.85	40,922.22	52,767.26
Peru.....	116,377.31
Investigations and Surveys.....	186,579.16	12,901.07	11,000.00	108,802.84
West Africa.....	93,546.08
Yellow fever commissions.....	177,579.16	239.97

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

INTERNATIONAL HEALTH DIVISION

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1913-1929, Inclusive, Covering All Activities—Continued

1926	1927	1928	1929	Total
819,115.05	\$29,480.81	\$25,953.89	\$23,836.62	3173,449.35
.....	4,548.41	9,126.17	4,548.41
.....	4,341.95	3,606.75	17,074.87
3,384.48	6,727.54	6,428.65	51,489.69
15,730.57	13,862.91	15,918.49	14,710.45	100,336.38
1,293.60	8,652.35	15,516.31	10,600.12	51,961.07
.....	2,431.33
.....	10,522.77
.....	4,701.05
1,293.60	462.86
.....	8,189.49	15,516.31	10,600.12	34,305.92
591,137.91	461,248.29	415,011.74	498,066.09	4,265,623.86
454,374.01	205,825.73	137,669.08	204,016.90	2,966,763.21
444,068.97	205,825.73	137,669.08	204,016.90	1,986,181.58
.....	113,976.05
.....	14,969.64
.....	111,160.84
10,305.04	624,097.79
.....	116,377.31
134,513.90	253,095.96	275,337.66	292,108.57	1,274,339.16
124,498.03	238,563.09	227,594.16	182,834.97	867,036.33
.....	177,819.13

Table of Expenditures for Public Health Work for the Years

ACTIVITY, STATE, AND COUNTRY	July 1, 1913-Dec. 31, 1922	1923	1924	1925
GENERAL BUDGET— <i>Continued</i>				
Control of Specific Diseases; Investigations — <i>Continued</i>				
Yellow Fever— <i>Cont'd</i>				
Investigations and Surveys— <i>Cont'd</i>				
Vaccine and serum	\$6,000.00	\$3,786.06	\$6,000.00	\$6,000.00
Research and training	3,000.00	8,875.04	5,000.00	9,256.76
Laboratory at Bahia, Brazil
Miscellaneous				
History of yellow fever	232.19	6,481.45	5,344.30	3,941.33
Respiratory Diseases
Verruga peruana
Tuberculosis	2,233,490.76	82,041.52	67,093.60	11,647.61
France	2,233,490.76	82,041.52	67,093.60	11,647.61
Inauguration of work	18,671.74
Departmental organization	210,690.31
Public health visiting	277,189.84	54,759.09	37,371.65
Educational division	510,308.01
Medical division	786,989.01
Contingent fund	3,240.94	4,766.70	4,420.94
Postgraduate tuberculosis courses	5,044.15
National committee	22,515.73	10,472.28	11,647.61
Central administration	421,356.76	14,828.73
Jamaica
Study clinic
Survey
Sanitation
Field research in bored-hole latrine

* Reports incomplete.

1913-1929, Inclusive, Covering All Activities—Continued

1926	1927	1928	1929	Total
\$5,867.94	\$5,142.89	\$2,141.08	\$.....	\$34,937.97
4,147.93	9,389.98	23,494.30	41,920.88	105,084.89
.....	22,108.12	67,352.72	89,460.84
2,250.00	2,326.60	2,005.00	1,940.62	24,521.49
.....	4,530.80	13,971.21	12,059.86	30,561.87
.....	6,908.42	6,908.42
.....	6,361.26	7,418.17	2,408,052.92
.....	2,394,273.49
.....	18,671.74
.....	210,690.31
.....	369,320.58
.....	510,308.01
.....	786,989.01
.....	12,428.58
.....	5,044.15
.....	44,635.62
.....	436,185.49
.....	6,361.26	7,418.17	13,779.43
.....	6,361.26	7,295.40	13,656.66
.....	122.77	122.77
.....	405.01	7,057.64	7,462.65
.....	405.01	7,057.64	7,462.65

Table of Expenditures for Public Health Work for the Years

ACTIVITY, STATE, AND COUNTRY	July 1, 1913-Dec. 31, 1922	1923	1924	1925
GENERAL BUDGET—				
<i>Continued</i>				
Control of Specific Diseases; Investigations				
<i>Continued</i>				
Public Health Surveys	\$.....	\$.....	\$.....	\$.....
Travancore.....
Miscellaneous.....	303,327.18	11,065.32	10,171.07	9,905.54
Surveys and exhibits	129,006.46
Library.....	1,844.12
Philippine Hospital Ship.....	37,500.00
Investigation of sewage disposal in rural homes.....	11,090.11
Investigation of powdered milk.....	500.00
Paris conference on International Nomenclature of Causes of Death..	615.30
Compilation of Mining Sanitary Code	203.18
Smallpox vaccine for Vera Cruz, Mexico	165.62
Plans for laboratory at Nictheroy, Brazil	429.98
Field equipment and supplies.....	45,811.33	6,688.08	6,949.08	6,689.78
Pamphlets, charts, and films.....	36,596.11	3,057.48	2,389.95	2,884.85
Hookworm and malaria films donated or lent.....	40.00
Express, freight, and exchange.....	7,255.24	724.16	832.04	290.91
Medical Commission to Brazil.....	18,513.47
Adviser in medical education.....	14,391.86
BUILDINGS, EQUIPMENT, AND ENDOWMENT				
Schools and Institutes of Hygiene and Public Health	8,373,017.75	922,738.39	637,110.81	1,107,004.53
Brazil				
Bahia.....	3,595.40
São Paulo

INTERNATIONAL HEALTH DIVISION

167

1913-1929, Inclusive, Covering All Activities—Continued

1926	1927	1928	1929	Total
\$.....	\$.....	\$.....	\$8,062.79 8,062.79	\$8,062.79 8,062.79
10,418.44	15,135.52	19,282.37	11,431.01	390,736.45
.....	129,006.46
.....	1,844.12
.....	37,500.00
.....	11,090.11
.....	500.00
.....	615.30
.....	203.18
.....	165.62
.....	429.98
.....	12,890.35	14,715.53	6,202.02	105,248.98
5,302.81	61,379.65
6,290.94	1,406.92	4,053.97	4,699.43
99.12	429.90	Cr. 62.57	74.33	580.78
Cr. 1,274.43	408.35	575.44	455.23	9,266.94
.....	18,513.47
.....	14,391.86
1,262,514.32	1,414,262.06	734,515.45	1,026,821.96	15,477,985.27
46,900.00	23,987.00	117,264.88	3,595.40
			188,151.88

Table of Expenditures for Public Health Work for the Years

ACTIVITY, STATE, AND COUNTRY	July 1, 1913-Dec. 31, 1922	1923	1924	1925
GENERAL BUDGET—				
<i>Continued</i>				
BUILDINGS, EQUIPMENT, AND ENDOWMENT—				
<i>Continued</i>				
Schools and Institutes of Hygiene and Public Health— <i>Continued</i>				
Canada, Toronto . . .	\$.....	\$.....	\$.....	\$262,500.00
Czechoslovakia, Prague . . .	3,620.92	4,964.84	9,610.81	202,886.77
Denmark, Copenhagen . . .	22,774.78	209,023.55	198,833.61
England, London	205,000.00
Hungary, Budapest	40,000.00
Norway, Oslo	90,000.00	202,500.00
Poland, Warsaw
Trinidad	4,851.25
Turkey
United States				
Harvard University * . . .	1,250,534.25	618,750.00	425,000.00	31,250.00
The Johns Hopkins University * . . .	7,096,087.80
Yugoslavia				
Belgrade	33,950.00
Zagreb	124,137.50
Schools of Nursing
D. Anna Nery School of Nursing, Brazil

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

INTERNATIONAL HEALTH DIVISION

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1913-1929, Inclusive, Covering All Activities—Continued

1926	1927	1928	1929	Total
\$162,500.00	\$12,500.00	\$250,000.00	\$.....	\$687,500.00
160,475.99	95,054.50	189,212.08	31,192.90	697,018.81
689,628.33	969,783.48	198,833.61
	60,297.54	43,648.49	757.06	2,096,210.14
86,050.00	100,626.54	144,703.09
4,885.00	4,872.00	4,890.00	4,872.00	186,676.54
.....	80,000.00	292,500.00
25,000.00	137,250.00	49,500.00	990,000.00	24,370.25
.....	80,000.00
87,075.00	9,891.00	3,527,284.25
30,210.85	90,483.51	7,096,087.80
30,210.85	99,483.51	33,950.00
				221,103.50
				129,694.36
				129,694.36

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

THE MEDICAL SCIENCES

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THE MEDICAL SCIENCES

With the year 1929 there began a transition in the policy of the Rockefeller Foundation in connection with teaching and investigation in medicine. During the years 1920-1928, inclusive, the activities of the Foundation in this field, through its then existing Division of Medical Education, were in large part based upon a policy of attempting to aid, in several countries, the teaching functions of institutions of medical education. Requests in behalf of research as such, often unrelated to the training of medical students or future teachers of medicine, were deferred or declined in favor of the claims for the development and improvement of schools or faculties in their function as teaching agencies.

The year 1929 marks the initiation of a policy under which research and the advancement of knowledge in the medical sciences may be considered as the principal interest, thus taking the place of a previously predominating interest in the welfare of schools or faculties of medicine as institutions. Naturally both types of program may be observed in force during a transitional period. Although the distinction between research as a means of advancing knowledge, and research as a method of teaching, may be

debatable, the general bearing of the policy now adopted is clear.

Summary of Activities in 1929

I. Medical Sciences

1. Visits and Surveys by Staff

Austria	Hungary
Belgium	Ireland
Canada	Italy
Cuba	Latvia
Czechoslovakia	Netherlands
Denmark	Norway
England	Poland
Estonia	Russia
Finland	Sweden
France	Switzerland
Germany	United States
Yugoslavia	

2. International Exchange of Information

a. Visits of teachers or administrators from

England	Netherlands
France	Siam
Ireland	United States
Japan	Yugoslavia

b. Publications

"Methods and Problems of Medical Education"
Series 12, 13, 14, 15 (see Appendix, page 205 for
tables of contents).

3. Assistance in Improvement of Teaching and Research

a. Support of 108 fellows from 33 countries as follows:

Argentina	2	Brazil	2
Australia	2	Bulgaria	2
Austria	2	Canada	3
Belgium	3	China	3

Czechoslovakia	1	New Zealand	3
England.....	2	Norway.....	2
Estonia.....	1	Peru.....	1
Finland.....	1	Philippine	
France.....	4	Islands....	3
Haiti.....	12	Poland.....	1
Hungary.....	3	Rumania.....	2
India.....	3	Russia.....	3
Ireland.....	2	Siam.....	11
Italy.....	4	Sweden.....	3
Japan.....	14	Switzerland...	1
Mexico.....	1	Syria.....	8
Netherlands...	2	United States.	1*

- b. Support of 13 fellows appointed by the Medical Research Council, Great Britain
- c. Support of 11 fellows appointed by the Notgemeinschaft der Deutschen Wissenschaft
- d. Support of 35 fellows appointed by the National Research Council, Washington, D. C.
- e. Support of 110 fellows appointed by Peiping Union Medical College for study in China or abroad
- f. Support of 5 fellows appointed by the National Committee for Mental Hygiene
- g. Temporary aid to departments of medical schools

France	Italy
Lyon	Bologna
Paris	Florence
Strasbourg	Genoa
	Milan
Ireland	Naples
Queen's University, Belfast	Pavia
National University, Dublin	Rome
Trinity College, Dublin	Turin

* All other fellows from the United States were appointed by the National Research Council.

h. Laboratory supplies

Austria	Hungary
Brazil	Latvia
France	Russia
Germany	Yugoslavia

i. Medical literature

France	Portugal
Hungary	Russia
Italy	Yugoslavia

4. Cooperative Aid to Medical Institutions

Albany Medical College, Albany, New York
 American University of Beirut, Syria
 University of Cambridge, England
 Chulalongkorn University, Bangkok, Siam
 Dalhousie University, Halifax, Nova Scotia
 University of Edinburgh, Scotland
 All-India School of Hygiene and Public Health, Calcutta
 Kaiser Wilhelm Institute for Brain Research, Berlin,
 Germany
 University of Lyon, France
 University of Montreal, Canada
 University of Nancy, France
 National Central University, Shanghai, China
 National School of Medicine and Pharmacy, Port au
 Prince, Haiti
 Peiping Union Medical College, China
 University of the Philippines, Graduate School of Hygiene
 and Public Health, Manila
 Faculty of Medicine, São Paulo, Brazil
 Shantung Christian University, Tsinan, China
 University of Utrecht, Netherlands
 University of Zagreb, Yugoslavia

5. Aid for Research Projects

University of California, Berkeley
Columbia University, New York City
University of Graz, Austria
The Johns Hopkins University, Baltimore, Maryland
University of Leiden, Netherlands
London Hospital Medical School, England
McGill University, Montreal, Canada
University of Oxford, England
University of Pennsylvania, Philadelphia
University of Rochester, Rochester, New York
St. Bartholomew's Hospital Medical College, London,
England
Stanford University Medical School, San Francisco,
California
University of Toronto, Canada
University of Vienna, Austria
Yale University, New Haven, Connecticut
National Research Council, Washington, D. C., for
minor grants in aid of research in Canada and the United
States

II. Nursing Education**1. Surveys and Visits**

Austria	Germany
Belgium	Hungary
Bulgaria	Italy
Canada	Poland
Czechoslovakia	Rumania
England	Turkey
France	United States
Yugoslavia	

2. Visits of Teachers and Administrators from

Belgium	England
China	France

Greece	Philippine Islands
Hungary	Poland
Japan	Rumania
United States	

3. Support of Fellows from

Bulgaria	Hungary
Canada	Poland
China	Rumania
England	Siam
France	Yugoslavia

4. Aid to Schools of Nursing

Yale University School of Nursing, New Haven, Connecticut

D. Ogden Mills Training School for Nurses, Trudeau Sanatorium, Saranac Lake, New York

School of Nursing, Vanderbilt University, Nashville, Tennessee

George Peabody College for Teachers, Nashville, Tennessee

College of Nursing, St. Luke's International Hospital, Tokyo, Japan

School of Midwifery and Nursing, Siriraj Hospital, Bangkok, Siam

School for Nurses, University of Lyon, France

School for Public Health Nurses, Cluj, Rumania

School of Public Health and Bedside Nursing, University of Cracow, Poland

State School of Nursing, Warsaw, Poland

School of Nursing, University of Debreczen, Hungary

State Central School of Nursing, Budapest, Hungary

University College Hospital Nurses' Home and School, London, England

**5. Aid to Committee on Grading of Nursing Schools,
New York City**

III. Miscellaneous Activities

American Type Culture Collection
Canadian National Committee for Mental Hygiene
National Committee for Mental Hygiene, New York
Aid to 19 hospitals in China continued under old appropriations
China Medical Association
National Medical Association of China
Commission on Medical Education (United States)
New York Academy of Medicine
United Hospital Fund
Research and Teaching in Hospital and Clinic Service

Medical Sciences

Visits and Surveys

Visits in connection with projects already under way were made to medical schools of twenty-two countries as follows: Austria, Belgium, Canada, Czechoslovakia, Denmark, England, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, Netherlands, Norway, Poland, Russia, Sweden, Switzerland, the United States, and Yugoslavia. In two of these countries, Finland and Sweden, surveys of medical institutions were made during the year by a member of the staff, in connection with the collection of information on conditions in medical education in various parts of the world. A similar survey was made in Cuba.

In addition, a study was begun of veterinary education and research in Canada and the

United States, with preliminary visits to all of the thirteen veterinary schools in these countries and to six research stations. This study will supplement a survey of veterinary medicine in Europe, made under the auspices of the General Education Board. The interest of the Rockefeller Foundation in this field is based on the importance of comparative pathology in the advancement of knowledge of human medicine.

International Exchange of Information

Visits of Teachers and Administrators.—During 1929 prominent teachers and administrators in the field of medicine in England, France, Ireland, Japan, Netherlands, Siam, and Yugoslavia were enabled to visit institutions in Canada and the United States on invitation of the Rockefeller Foundation: Dr. F. J. Browne, professor of obstetrics, University College Hospital Medical School, London, studied methods of teaching, general organization of clinics, equipment, and conduct of work in gynecology and obstetrics. Mr. André Gouachon, general secretary of hospitals of Lyon, who is in close touch with developments in the medical and nursing schools of the University of Lyon, visited hospitals. Dr. J. W. Bigger, professor of bacteriology and hygiene, Trinity College, Dublin, visited medical schools and schools of public

health. Dr. Genichi Kato, professor of physiology, Keio Gijuku University Medical College, Tokyo, attending the International Congress of Physiologists in the United States, extended his trip to visit institutions of medical education and research. Dr. J. J. van Loghem, professor of bacteriology and hygiene, University of Amsterdam, visited public health institutions and field stations.

Dr. Emil Prasek, professor of hygiene in the Medical School of the University of Zagreb, studied methods of teaching hygiene in Norway, Sweden, Denmark, and Germany. Dr. E. D. Congdon, professor of anatomy, Medical School, Chulalongkorn University, Bangkok, while on leave in Europe, visited anatomical institutes in Austria, Germany, Italy, Netherlands, and Switzerland.

Dr. Robert Chambers, professor of biology, New York University, and Dr. C. R. Stockard, professor of anatomy, Cornell University Medical College, received assistance for travel in Europe, Dr. Chambers in connection with his method of microdissection, and Dr. Stockard in connection with his studies of growth and inheritance, with special reference to the influence of internal secretions.

Publications.—Four volumes of "Methods and Problems of Medical Education" were published

by the Foundation in 1929, the twelfth, thirteenth, fourteenth, and fifteenth series.

The Twelfth Series is devoted entirely to departments and institutes of roentgenology and radiumtherapy and contains thirty-nine articles from schools and hospitals in thirteen countries. The Thirteenth Series describes Vanderbilt University School of Medicine at Nashville, Tennessee. In the Fourteenth Series are published a reproduction of the record forms in the fracture service of the Massachusetts General Hospital in Boston, and a description of the records and record system in use at the Children's Hospital in Cincinnati, Ohio. This volume also contains a description of the department of public health and preventive medicine at Peiping Union Medical College, China. The Fifteenth Series is a description of the Albany Medical College at Albany, New York. The tables of contents of these volumes will be found in the Appendix, p. 205.

Fellowships

Grant of fellowships was continued for supplementary training of young graduate physicians in preparation for specified positions as teachers or investigators to which they would return on completion of their studies. In keeping with the Foundation's new policy, increasing emphasis

was placed on training for investigation. The fellowships were granted on application through the authorities of the institutions to which the fellows were to return, and chiefly for institutions with which the Foundation was otherwise co-operating. Of the fellowships in medicine, 108 were administered directly by the Foundation. Of these fellows, fourteen were from Japan; twelve from Haiti; eleven from Siam; eight from Syria; four each from France and Italy; three each from Belgium, Canada, China, Hungary, India, New Zealand, the Philippine Islands, Russia, and Sweden; two each from Argentina, Australia, Austria, Brazil, Bulgaria, England, Ireland, Netherlands, Norway, and Rumania; and one each from Czechoslovakia, Estonia, Finland, Mexico, Peru, Poland, Switzerland, and the United States.¹ Some of these fellows studied more than one subject: twenty studied anatomy, histology, embryology, or cytology; eighteen, chemistry; fifteen, pathology, bacteriology, immunology, or parasitology; thirteen, physiology; eleven, surgery or surgical specialties; nine, medicine; eight, pharmacology; seven, hygiene; four each, neurology and psychiatry, and physics; three each, biology and pediatrics; two, obstetrics and gynecology; and one each, dermatology, ophthalmology, radiology, sanitary engineering,

¹ See footnote page 177.

and serology. The studies were carried on in Austria, Canada, Czechoslovakia, Denmark, England, France, Germany, India, Ireland, Netherlands, Norway, Scotland, Sweden, Switzerland, Tunis, and the United States.

In addition, the Foundation supplied funds to the Medical Research Council of Great Britain and to the Notgemeinschaft der Deutschen Wissenschaft of Germany to support British and German fellows, respectively, for work in countries other than their own. During the year thirteen fellowships were in force under the British Medical Research Council: four in physiology, three in medicine, two each in biochemistry and pediatrics, and one each in study of the central nervous system and in surgery. Under the Notgemeinschaft der Deutschen Wissenschaft eleven fellows were supported: two each in pathology and physiology, and one each in anatomy, chemistry, internal medicine, obstetrics, pharmacology, psychiatry and psychology, and surgery. Arrangements were made for similar support of fellows from Hungary under the Hungarian Scholarship Council, to begin in 1930.

Support of fellowships for postgraduate study in medicine was continued under the National Research Council, Washington, D. C., for physicians of Canada and the United States. During the year 1929 thirty-five fellowships were in

force. Some of these fellows studied more than one subject: nine studied biochemistry; nine physiology; five pathology; four neurology; three internal medicine; two surgery, including surgical pathology and experimental surgery; and one each, anatomy, bacteriology and serology, neuroanatomy and neurophysiology, obstetrics, parasitology, pharmacology, and psychiatry. Though most of these fellowships were granted for work in the United States, ten of the fellows pursued studies in other countries (Austria, Canada, England, France, Germany, the Netherlands, and Scotland).

Funds were also granted to the Peiping Union Medical College, China, under which ninety-one fellows were supported for study in that college, and nineteen staff members of the college were supported for study outside of China. Aid was also given to the National Committee for Mental Hygiene through which five fellows in psychiatry and clinical psychology were supported.

Developmental Aid

Aid in the development of future teachers and investigators, through assistance to medical school departments which are especially active in attracting and training younger men, was extended in 1929 to the School of Anatomy of the National University of Ireland, in Dublin.

In all, seven departments in three schools of France; three departments in three schools of Ireland; and twelve departments in eight schools of Italy received such aid in 1929.

Laboratory Supplies

Assistance in the form of laboratory supplies was again furnished to former Foundation fellows and other selected persons: one in Austria, one in Brazil, one in France, one in Germany, two in Hungary, one in Latvia, one in Russia, and one in Yugoslavia.

Medical Literature

The provision of medical literature in European countries, begun as a post-war relief measure and being gradually brought to an end, was in 1929 continued to eighteen medical institutes or departments in France, one in Hungary, nine in Italy, three in Portugal, ninety-nine in Russia, and thirteen in Yugoslavia.

Aid to Medical Institutions

New Undertakings

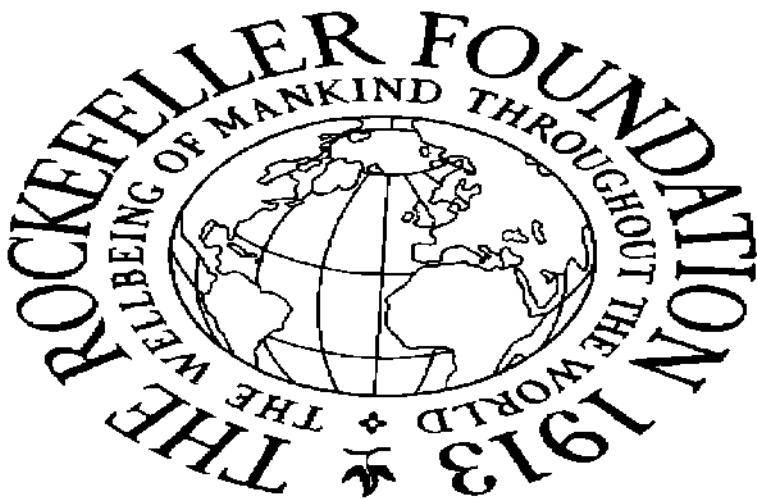
Albany Medical College, Albany, New York.—

In connection with the plans of the Albany Medical College for further development of its work, a program was proposed for an experiment in university extension teaching in medicine



Photograph Excised Here

Aeroplane view of the Albany Medical College, with which the Foundation is cooperating in a program of extension teaching in medicine.



Photograph Excised Here

Model of the new plant of the Medical School of the University of Montreal. The Foundation is assisting this school in the development of its laboratories.

to be carried on in cooperation with the New York State Department of Health, whose offices and laboratories are in Albany. The program includes (1) postgraduate courses for physicians, designed especially for practitioners isolated in rural districts; (2) surveys of the need for physicians in particular sections; and (3) careful study of the most economical methods for meeting such need. To this program the Foundation pledged contributions for a five-year period beginning in 1929.

Kaiser Wilhelm Institute for Brain Research, Berlin, Germany.—This institution, which is one of the main centers of investigation in the field of neurology and psychiatry in Europe, and which is affiliated with the University of Berlin, occupies at present inadequate quarters in Berlin. The Foundation has augmented the funds set aside by the Kaiser Wilhelm Society for the Promotion of Science to enable the institute to move to a new site at Buch, a suburb of Berlin, where it can have its own research laboratory and small research hospital, adjacent to a hospital maintained by the city of Berlin for nervous and mental diseases.

Yale Institute of Human Relations, New Haven, Connecticut.—Another instance of aid in the field of neurology and psychiatry was an appropriation for the development of psychiatry, over



Photograph Excised Here

Recently completed building of the Faculty of Medicine of São Paulo, Brazil, toward the erection of which the Foundation has contributed.



Photograph Excised Here

Queen Elisabeth laying the cornerstone of the new hospital building which forms a part of the Medical Center of the Free University of Brussels. The Foundation has assisted in the development of this center by contributions toward the cost of laboratory buildings.

a ten-year period beginning in 1929, in the Yale Institute of Human Relations. This new institute is more completely described in the Social Sciences section of this report.

University of Rochester, Rochester, New York.—Grant was made to the University of Rochester for use in the development, over a period of five years, of a habit-training clinic. The undertaking involves the cooperation of the University of Rochester, and particularly of its departments of psychiatry and pediatrics, with the Health Bureau and the Board of Education of the city of Rochester. The Spelman Fund of New York is associated with the Foundation in extending aid to Rochester for its program of child study and parental education, of which this experimental clinic is a part.

Fluid Research Funds.—A new form of assistance in the medical sciences was the grant, to the Yale University School of Medicine, over a period of eight years, and to the University of Rochester School of Medicine, over a five-year period, of fluid research funds, which are unassigned sums for allocation by the authorities of the respective schools for use in research. It is hoped that in providing for the establishment of such funds over a limited period, research may be so stimulated that the demonstration will enable the school to secure from its supporters

adequate permanent maintenance for investigative work.

Research in Dental Pathology.—With the object of advancing knowledge of the causes of dental diseases and the relation of these diseases to general health, aid was given for furthering research in dental pathology in several cooperating departments in two institutions, namely Yale University School of Medicine and the School of Medicine and Dentistry of the University of Rochester.

Aid for Other Research Projects.—Aid for specific research projects was given to departments in the following institutions: University of California, for study of the chemical aspects of vitamines and hormones, by Dr. Herbert M. Evans, over a five-year period beginning in 1929; Columbia University, New York City, for cooperative research in medical mycology, by Dr. J. Gardner Hopkins and associates, over a five-year period beginning in 1929; the Johns Hopkins University, Baltimore, Maryland, for study under Dr. J. Whitridge Williams of obstetrical records, over a seven-year period, with a view to discovering the causes of the high maternal mortality rate in the United States; McGill University, Montreal, Canada, for development of research in surgery over a four-year period; the University of Pennsylvania, Philadelphia, for the investigations of Dr.

Eliot R. Clark in connection with his new method of studying living tissues; Stanford University Medical School, San Francisco, California, for the continuance for one year of research in diseases of the kidney, by Dr. Thomas Addis; the University of Toronto, Canada, for research in its department of pediatrics over a five-year period.

Minor grants for assistance to research in Europe were made by the officers of the Foundation in Paris to two departments of medical schools in Austria, three in England, and one in the Netherlands. These departments are listed below:

Austria

University of Vienna, Dr. Hugo Rösler
Heart Station
University of Graz, Insti- Dr. Richard Wagner
tute of Physiology

England

University of Oxford, Professor Charles Sherrington
Laboratory of Phys-
iology
St. Bartholomew's Hos- Dr. C. F. Harris
pital Medical Col-
lege, Pediatrics
London Hospital Medi- Dr. Hugh Cairns
cal School, Neuro-
surgery

Netherlands

University of Leiden, Professor E. Gorter
Clinic of Pediatrics

In the United States, from funds supplied by the Foundation, the National Research Council made grants for research in the medical sciences to individuals in the following universities: California, Illinois, Minnesota, Missouri, North Carolina, St. Louis, Stanford, Vanderbilt, Western Reserve, and Yale.

Continuation of Earlier Undertakings

Aid was given to the Peiping Union Medical College, Peiping, China, in connection with the expenses of visiting professors to the college under temporary appointment. Cooperation with the medical and premedical departments of Chulalongkorn University, Bangkok, Siam, was continued through payments for supplementary salaries, travel expenses, additional scientific equipment, and medical literature for foreign professors of anatomy, physiology, medicine, surgery, obstetrics, biology, chemistry, and physics, and for aid to the medical school library. Fellowships were continued for the training of Siamese to succeed the present visiting professors. Aid was continued to the Graduate School of Hygiene and Public Health of the University of the Philippines at Manila for salary and travel expenses of two visiting professors in parasitology and bacteriology, and also for equipment, supplies,

and medical literature. Payment was made on pledges to the All-India School of Hygiene and Public Health in Calcutta for land, buildings, and equipment, and for salary and expenses of a director and an assistant director during a period of development. Work on the new building for the Faculty of Medicine of the University of Lyon, France, continued, and payment was made by the Foundation on its pledge toward this undertaking.

Annual payment was continued to the Faculty of Medicine of the University of Montreal, Canada, for the development of its laboratories. Aid was given to the National School of Medicine and Pharmacy of Port au Prince, Haiti, for teaching equipment and fellowships for the additional training of its staff. Payments on previous pledges were made to the Medical School of the National Central University, Shanghai, China, for its general expenses, and to the Shantung Christian University School of Medicine at Tsinan, China, for maintenance. To the University of Edinburgh, the Foundation contributed funds toward the cost of reconstructing the medical school buildings needed for laboratory, library, and research space, and to round out aid formerly given; it also made annual payment on its five-year pledge of aid to the chair of therapeutics, for the development of clinical

teaching, and final payment for the capitalization of annual aid previously given for surgical teaching and research. Payments were also made on previous pledges to the American University of Beirut, Syria, for maintenance, for endowment of teaching, and for buildings and equipment; to the University of Cambridge, England, for its laboratory of pathology; to Dalhousie University, Halifax, Nova Scotia, for its Department of Hygiene; to the University of Nancy, France, for addition to its Institute of Hygiene; to the Faculty of Medicine of São Paulo, Brazil, for its new buildings, in addition to continued aid in the form of scientific equipment for its returned fellows; to the University of Utrecht, Netherlands, for erecting a new laboratory of physiology; and to the University of Zagreb, Yugoslavia, for the provision of facilities for teaching and research in the School of Public Health of the Ministry of Health, and also for the second and final year of support for a new method of teaching hygiene to medical students.

Nursing Education

Aid to Schools of Nursing

Aid in nursing education was given in 1929 toward the maintenance of the educational activities of the following institutions: the

D. Ogden Mills Training School for Nurses, Trudeau Sanatorium, Saranac Lake, New York; the Yale University School of Nursing; the George Peabody College for Teachers and the Vanderbilt University School of Nursing, both at Nashville, Tennessee; the School of Midwifery and Nursing, Siriraj Hospital, Bangkok, Siam; and the College of Nursing, St. Luke's International Hospital, Tokyo, Japan. In Europe, to improve teaching and as a contribution toward maintenance, aid was given to the School of Nurses, University of Lyon, France; the School of Public Health and Bedside Nursing, University of Cracow, Poland; the School of Nursing, University of Debreczen, Hungary; and the School for Public Health Nurses, Cluj, Rumania. Capital aid was given to the State School of Nursing, Warsaw, Poland; to the State Central School of Nursing, Budapest, Hungary; the School of Public Health and Bedside Nursing, University of Cracow, for building and equipment; to University College Hospital, London, for its nurses' residence and school; and to Yale University School of Nursing for endowment of teaching.

Committee on Grading of Nursing Schools

Aid was continued to the Committee on Grading of Nursing Schools, in accordance with a



Photograph Excised Here

Class in bacteriology, Yale University School of Nursing.



Photograph Excised Here

View of Vanderbilt University, showing the School of Nursing at the right.

pledge to assist this committee for the five-year period 1927-1931 in its study of the problems of nursing in the United States.

Surveys and Visits by Staff Members

Surveys of conditions in nursing education and visits to nursing schools or public health nursing organizations were made by members of the staff in Austria, Belgium, Bulgaria, Canada, Czechoslovakia, England, France, Germany, Hungary, Italy, Poland, Rumania, Turkey, the United States, and Yugoslavia.

Visits of Teachers and Administrators

Nurse leaders of Belgium, China, England, France, Greece, Hungary, Japan, the Philippine Islands, Poland, Rumania, and the United States were given opportunity as guests of the Foundation to visit nursing centers other than their own, in most cases in other countries.

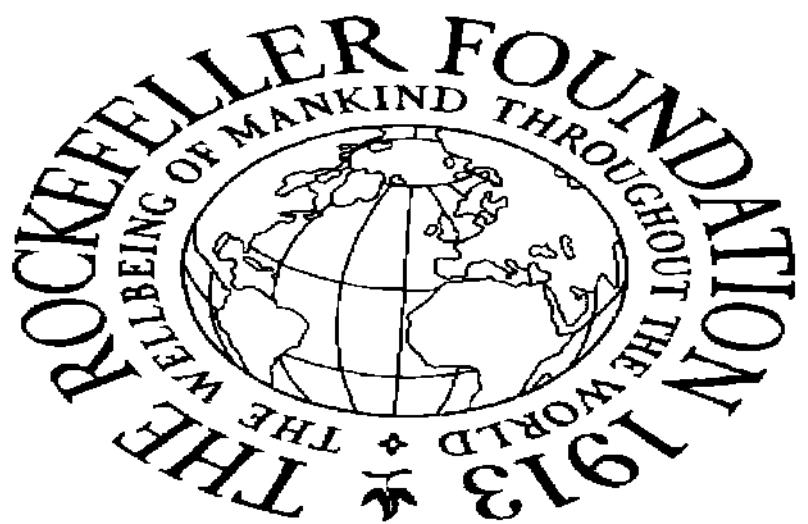
Fellowships in Nursing

Fellowships in nursing, awarded for training for supervisory and administrative positions in connection with projects to which the Foundation has already given assistance, were held by thirty-six fellows from ten countries: nine came from Siam, six from Yugoslavia, five each from Hungary and Rumania, four from Poland, three



Photograph Excised Here

Clinic scene at St. Luke's International Hospital and College of Nursing, Tokyo, Japan



Photograph Excised Here

A class of the School for Public Health Nurses, Cluj, Romania.

from England, and one each from Bulgaria, Canada, China, and France.

Miscellaneous Activities

Payment was made on the Foundation's pledge of 1924 to the New York Academy of Medicine for endowment of its educational services.

Under old appropriations of the former China Medical Board, aid was continued to nineteen 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*.

Following aid over a period of years by the General Education Board, an appropriation was made by the Foundation to the American Type Culture Collection in Chicago, an important bacteriological service bureau, toward maintenance through a short period of readjustment, during which it is anticipated that adequate endowment can be obtained.

Payments were made for studies of hospital and clinic service in the United States and the training of executives for such service; to the National Committee for Mental Hygiene of New York, for surveys in the care and treatment of mental diseases and for the committee's general

expenses; to the Canadian National Committee for Mental Hygiene for studies of school children; and to the Commission on Medical Education (United States), for study of the medical curriculum. Contribution on an old appropriation was made to the United Hospital Fund in connection with transferring to permanent agencies activities formerly carried on by the Committee on Dispensary Development.

THE MEDICAL SCIENCES STAFF DURING 1929

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¹Died February 16, 1930

²Resigned during 1929.

APPENDIX

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of

Methods and Problems of Medical Education

Twelfth Series

- Roentgenology in Practise, Research, and Teaching; and Education, Training, and Specialization of Physicians in Roentgenology, by GUNDO HOLZKNECHT (Vienna, Austria)
- The Organization and Equipment of an X-Ray Department, Manchester, England, by A. E. BARCLAY
- The Departments of Radiophysiology and Medicine of the Radium Institute of the University of Paris, France, by CLAUDE REGAUD
- Problems in the Planning of Radiologic Laboratories (Philadelphia, Pennsylvania), by HENRY K. PANCOAST
- Department of Roentgenology, Boston City Hospital, Boston, Massachusetts, by P. F. BUTLER
- Department of Roentgenology, Massachusetts General Hospital, Boston, Massachusetts, by GEORGE W. HOLMES
- X-Ray Department of the Hospital of the University of Michigan, Ann Arbor, Michigan, by P. M. HICKEY
- Department of Radiology, Harper Hospital, Detroit, Michigan, by WILLIAM A. EVANS
- Department of Roentgenology, The Reconstruction Hospital, New York, N. Y., by José CARVAJAL-FORERO
- Department of Radiology, Mt. Sinai Hospital, New York, N. Y., by LEOPOLD JACBES
- Department of Radiotherapy, Montefiore Hospital, New York, N. Y., by MAURICE LENZ
- Outline of Course of Instruction in X-Ray and X-Ray Apparatus at the College of the City of New York, New York, N. Y., by ALEXANDER MARCUS
- Department of Roentgenology, New York Post-Graduate Medical School and Hospital, New York, N. Y., by WILLIAM H. MEYER
- The Roentgen-Ray Laboratory, Lenox Hill Hospital, New York, N. Y., by WILLIAM H. STEWART and H. EARL ILLICK
- Department of Radiology, University of Rochester, School of Medicine and Dentistry and the Strong Memorial Hospital, Rochester, New York, by STAFFORD L. WARREN

- Department of Roentgenology, St. Mary's Hospital, Madison, Wisconsin,
by FRED JENNER HODGES
- Anticancer Center of the University and of the Public Welfare Commission of Brussels, by A. P. DUSTIN
- Department of Radiology, Montreal General Hospital, Montreal, Canada, by W. L. RITCHIE
- Department of Radiology, Toronto General Hospital, Toronto, Canada, by G. E. RICHARDS
- The Finsen Medical Light Institute, Copenhagen, Denmark, by AXEL REYN
- The Radium Station, Copenhagen, Denmark, by OLE CHIEVITZ
- X-Ray Department, Liverpool Royal Infirmary, Liverpool, England, by C. THURSTAN HOLLAND and R. E. ROBERTS
- Radiological Department, Cancer Hospital (Free), London, England, by ROBERT KNOX
- The Radiographic and Radiotherapeutic Department, Guy's Hospital, London, England, by J. MAGNUS REDDING
- Le Service d'Électro-Radiologie de l'Hôpital de la Pitié, Paris, France, par L. DELHERM et MOREL-KHAN
- Clinique Chirurgicale de l'Hôtel-Dieu, Paris, France, par HENRI HARTMANN
- Le Centre Anticancéreux de la Banlieue Parisienne, Institut du Cancer de la Faculté de Médecine de Paris, France, par SIMONE LABORDE
- Le Centre Régional de Lutte Anticancéreuse de Strasbourg, Strasbourg, France, par A. GUNSETT
- Der Umbau der Roentgenabteilung in der Medizinischen Universitätsklinik zu Breslau, Breslau, Germany, von KURT GUTZEIT
- Die Bedeutung der Roentgenstrahlen für den Lehr- und Forschungsbetrieb am Anatomischen Institut zu Erlangen, Erlangen, Germany, von ALBERT HASSELWANDER
- Institute for Physical Elements of Medicine, Frankfort University, Frankfort, Germany, by FRIEDRICH DESSAUER
- Das Roentgeninstitut des Allgemeinen Krankenhauses, St. Georg, Hamburg, Germany, von H. HOLTHUSEN
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THE NATURAL SCIENCES

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THE NATURAL SCIENCES

Program

The activities of the Rockefeller Foundation in the natural sciences are in keeping with its present program of aid in the advancement of knowledge. While it is unquestionably true that the pure scientific research of one decade becomes of the greatest practical economic importance in succeeding decades, nevertheless the support by the Foundation of efforts in behalf of the physical and the biological sciences is not dictated primarily by such considerations. The whole thinking of mankind was vastly altered through the conceptions of man's place in the universe which were gained as a result of advances in scientific knowledge following the Renaissance. There is every reason for believing that new understandings lie in the future, which will prove of as great importance as those obtained in that age of scientific awakening. In fact, mathematicians, physicists, biologists, chemists are all working, whether conscious of their aim or not, in a vast cooperative effort toward the understanding of the mystery of existence.

On the reorganization of the Rockefeller boards in 1929, the Foundation took over that

part of the program of the General Education Board which was concerned with the promotion of scientific research in the United States, as well as the activities of the International Education Board, which was interested in the promotion of scientific research outside of this country. The grants which have been made for this work have varied in type from locality to locality in accordance with the needs of the situation. In Europe a financial stringency following the war has resulted in the inability of many countries and organizations to provide proper physical facilities for their scientific workers. Aid was given by the International Education Board, and is being continued by the Foundation, in support of universities, research institutes, and other agencies, often through assisting in a building program in instances where the agencies originally supporting the enterprise have made an effort to increase budgets because of enlarged programs of scientific research. Assistance in providing funds to meet increased budgets has been given, and interest has been continued in a fundamental problem—that of selecting and training adequate scientific personnel.

Fellowships, Grants in Aid, Visiting Professors

The Foundation maintains a rather extensive fellowship program in the natural sciences.

During 1929 it supported, and administered directly, eighty-nine fellowships in these sciences. In addition, it provided funds for two fellowships in anthropology administered by the Australian National Research Council and continued support of the National Research Council fellowships in the physical and the biological sciences. The latter are postgraduate fellowships which offer opportunities for outstanding younger men to obtain further research experience unimpeded by the instructional duties which accompany the normal position in a university. A Foundation appropriation of \$212,500 provided for the support of 138 of these fellowships in 1929. An additional appropriation of \$75,000, covering a period of three years, was made over that obtaining in the past, in order that the scope of the council's fellowships in the biological sciences might be extended to include grants for investigators with sound training in the sciences underlying forestry and agriculture.

In Europe, the Foundation supports international fellowships in the natural sciences, which are administered through its Paris office. During 1929 sixty-seven fellows coming under this heading were aided, only two of whom were from countries outside of Europe. The past interest of the Foundation in medical education in China led to an understanding of the need for aiding in

the training of Chinese students in the fundamental sciences necessary for medical education. Assistance to Chinese universities, and fellowships to enable Chinese to study abroad, were given to this end. This assistance is now being continued also outside of the premedical field and for the sake of scientific education in China in itself. Grants of this kind to students from China, in 1929 numbering thirteen visiting and nine local fellowships, are the only ones of predoctorate grade which the Foundation has supported. With the aid of these grants, advanced students in China, who as a rule have already received a master's degree, are able to go to America or to some other country for further study, and in most cases obtain the doctorate. They then return to China, to positions assured to them, to devote their lives to scientific education in the Chinese universities.

Grants in Aid of Research

In the field of scientific research there is genuine need for relatively small grants to individuals for research projects and to groups for conferences and for other work limited in scope and dealing with definite tasks. In 1929 the Rockefeller Foundation appropriated \$100,000 to the National Research Council for a research aid fund of this kind to be administered by that

organization. During the year, \$25,000 of this fund was paid to the National Research Council, and up to September 24, grants had been made to eighteen applicants. The program consists of giving small grants in aid, generally under \$1,000, to scholars who are carrying on definite pieces of work.

During 1929 a small subvention was granted to Professor Othenio Abel of Vienna to permit him to make studies of African fauna during the summer of 1929. This grant was made in connection with studies in the field of biology and paleobiology carried on in South Africa.

Visiting Professorships

In 1927 an appropriation was made by the Foundation to finance visiting professorships in biology at two Japanese universities, the Tohoku Imperial University at Sendai and Keio Gijuku University at Tokyo. The appropriation was on the basis of a schedule running from 1927 to 1932. The present holder of the visiting professorship at Tohoku Imperial University is Dr. C. M. Child, of the University of Chicago, who will take up his work in the fall of 1930. At Keio Gijuku University Dr. A. S. Pearse has been serving as visiting professor in biology since February, 1929. To the latter university, the Rockefeller Foundation has made extensive

contributions in connection with the medical school.

Chulalongkorn University, in Bangkok, Siam, has been assisted in securing the services of visiting professors in biology, chemistry, physics, and English. The first appropriation by the Foundation in this connection was made in 1924. The original program terminated in 1928, but it was extended to 1931. Up to the end of 1929, six men had held visiting professorships at this university in the subjects mentioned above.

Capital Aid in Marine Biology and Oceanography

The Bermuda Biological Station

The Rockefeller Foundation has appropriated £50,000 toward the development of the Bermuda Biological Station for Research. This sum will be used toward endowment, the erecting of a building, modern equipment, and the maintenance of a highly specific and detailed program for the next five years.

For twenty-five years this station has been doing scientific work on a modest scale in marine biology and in certain phases of oceanography. Bermuda offers unique advantages for this work, first, because it is near large cities of the Atlantic coast and, second, because it is located on the peak of a submerged mountain rising out of the deep sea, where water two miles in depth can be

reached with less than an hour's steaming from shore. About two hundred and seventy-five investigators have worked at this station, and about one hundred and fifty contributions have been published.

Recently the station has been reorganized on a larger and more permanent basis. Seven universities and research institutes of the United States have agreed to pay the expenses of at least one staff member each while he is engaged in research work at the Bermuda station. Seventy investigators have indicated their desire to conduct studies at the station. The Bermuda Government is contributing land for the proposed new building and also an annual subsidy for ten years.

Woods Hole Oceanographic Institution

In 1928 the General Education Board appropriated \$75,000 to the National Academy of Sciences for a study of oceanography. The academy appointed a commission, which in 1929 brought out an extensive report dealing with the scope and aims of oceanography, the scientific value of oceanographic investigations, and the present situation in oceanography in America and Europe. It was stressed that a study of the ocean involves the cooperation of workers in a number of branches of the natural sciences, including geology, physics, chemistry, and biology.

Plans were formulated for the establishment of an institute of oceanography on the Atlantic shore of North America. It was pointed out that such a station would be a valuable agency for the utilization and integration of individual studies both past and present. There was agreement that Woods Hole, Massachusetts, offered a suitable site for the station, where a permanent staff and adequate facilities providing opportunities for visiting scientists to work on oceanographic problems, could be located; existing agencies at Woods Hole as well as other marine biological stations could cooperate in the work of this station. It was estimated that the cost of initiating this enterprise would be about \$1,000,-000 for building, endowment, and maintenance, with an equal or greater sum for endowment of the scientific work.

Plans for the establishment of such an oceanic research center were matured, and in 1929 the Foundation made an appropriation for the formation of a central Atlantic oceanographic station.

Developmental Aid to Various Sciences

Biological Abstracts

— In 1923 plans were proposed by the Union of American Biological Societies for the establishment of a single international abstracting and indexing service designed to furnish a master

key to the world's biological literature. The Rockefeller Foundation, in 1924, appropriated a small sum for the traveling expenses of representatives of the Union of American Biological Societies, who visited Europe for reconnaissance work in connection with the proposed service. Later on in the same year the Foundation pledged \$350,000 to be expended over a period of ten (later amended to six) years in support of this undertaking. As finally developed, the publication of *Biological Abstracts* is being carried out at the University of Pennsylvania under the auspices of the National Research Council.

This publication is a widely cooperative enterprise in which biologists throughout the world participate on a non-honorarium basis in promoting access to the enormous number of scientific papers published in the field of biology. Three volumes have already appeared, totaling 5,361 pages and containing abstracts of 57,669 articles. A payment by the Rockefeller Foundation in fulfilment of the appropriations mentioned above was made in 1929.

Institute for Biological Research of the
Johns Hopkins University

In 1925 the Foundation pledged a contribution of \$175,000 to the Johns Hopkins University toward the support of biological research

for a five-year period ending June 30, 1930, and has since then made annual payments and an additional appropriation for building alterations. By action of the trustees of the university, the Institute for Biological Research was established as a separate division of the Johns Hopkins University on July 1, 1925. Research is conducted along broad lines and includes investigation of such problems as experimental study in duration of life, statistical study of inheritance of duration of life in man, pathology and the life duration, constitutional or hereditary factors of disease, and senescence. The ultimate goal of all biological studies is held to be a sound and comprehensive understanding of human life, with the basis for such an understanding built upon biology.

In the development of this work there has been close cooperation with the executive authorities of the Johns Hopkins University, and especially with the School of Medicine. During 1929, conferences between Foundation officers and the university authorities were under way looking toward further endowment of the biological sciences in the Johns Hopkins University.

University of Chicago

Research Work in the Biological Sciences

— In 1929 the Rockefeller Foundation began contributions toward a five-year program in sup-

port of research work in the biological sciences at the University of Chicago. The total amount pledged was \$150,000. The immediate aim is the synthesis of biological effort at this institution and support in bringing productive scholars in biology to their highest efficiency. The aid is for supplying laboratory equipment, research assistants, and technical assistants. Extensive plans have been made for the integration of all the biological sciences with work of biological import in the medical sciences.

The General Education Board has given substantial support to the physical sciences at this university. This support has included a grant of \$1,500,000 in 1927 to improve existing facilities for graduate instruction and research in the physical and biological sciences, and a grant of \$1,200,000 in 1928 to develop teaching and research in the physical sciences. The Foundation's present support in the biological sciences therefore further strengthens the natural science program.

University of Paris
Marine Biological Stations —

The University of Paris is greatly interested in promoting marine biological research. A Council for the Improvement of the National Institute of Marine Biology was organized in 1926. It includes professors of biology both

from the Sorbonne and from the provinces. One of the aims has been to develop certain marine biological stations. Request for cooperation was made to the Rockefeller Foundation.

In 1929 the Foundation appropriated 600,000 francs as a contribution to the support of two French marine biological research stations. One of these is at Roscoff in Brittany, on the Channel side of France, and the other is at Banyuls on the Mediterranean Sea. The stations constitute a single administrative unit in that they are under the control of the University of Paris. At Banyuls, winter is the season of activity; Roscoff is an all-year-round station, but its principal period of activity is in the summer months. Both stations are excellently situated and have been made, by the government, national institutions at the disposal of all French universities. Facilities are also extended to workers from other nations. The chairman of the council mentioned above is the Dean of the Faculty of Sciences of the University of Paris. The French Government has undertaken support of the stations on an increasing scale.

The Johns Hopkins University, Chemistry Department
· Research and Graduate Work

~ The Rockefeller Foundation in 1929 made an appropriation of \$40,000 for the development of

research and graduate work in chemistry at the Johns Hopkins University. The Department of Chemistry at this University is undertaking a nation-wide program of selection and education of prospective leaders in the field of chemistry. The ultimate aim in this extensive educational experiment is the establishment of a series of four-year fellowships distributed among candidates from all the states. Provision for the support of these fellowships is being made through the cooperation of chemical industries or individuals in the various states. Arrangements have been made for lectures by a large number of outstanding chemists in Europe and America. The Rockefeller Foundation's contribution provides for small annual grants over a four-year period for the purchase of special equipment and the employment of research assistants. The university has a new well-housed chemistry laboratory.

University of North Carolina
Research in the Natural Sciences —

An appropriation of \$15,000, available at the discretion of the university authorities, was made to the University of North Carolina in 1929, for aiding faculty members in research in the natural sciences over a period of three years. The grant will permit the purchase of research apparatus and will cover certain stipends for research

assistants. The aim is to provide a small fluid fund for aid in developing a research program.

Aid to the Natural Science Departments of
Chinese Universities

The most important item in the Foundation's program of assistance to natural science departments of Chinese universities is the aid given to Yenching University in Peiping. In 1929 the sum of \$250,000 was pledged for endowment of the departments of biology, chemistry, and physics, payment being conditional on a similar grant from local sources. A Chinese donor met this condition by matching the Foundation gift, and the payment was accordingly made. Yenching University now has a plant worth over \$2,000,-000. It includes Yenching College for Women and aims to unite all the higher educational work in or near Peiping that is under Christian auspices. Fukien Christian University, at Foo-chow, in continuance of aid started by the China Medical Board in 1918, received \$16,500 toward salaries and maintenance of its science departments from 1929 to 1932. To Tsing Hua University, Peiping, \$41,250 was appropriated for one half the cost of a biology building and necessary equipment.

Small sums have for several years been allocated annually to assist certain universities

in China toward their general budgets for the departments of physics, chemistry, and biology. The original aim was to strengthen the medical sciences in certain schools from which the Peiping Union Medical College, long supported by the Rockefeller Foundation, received its students. The total amount given in 1929 was \$22,801. The schools thus aided in 1929 were Ginling College, Nanking; Lingnan University, Canton; Nankai University, Tientsin; St. John's University, Shanghai; Shantung Christian University, Tsinan; Shanghai College, Shanghai; Soochow University, Soochow; and the National Central University, Nanking.

Research Projects

Paleontological Research in Asia

In 1929 the Foundation appropriated \$80,000 toward human paleontological research in Asia, to be expended over a period from April 1, 1929, to September 30, 1932. This work is entrusted to the Department of Anatomy of the Peiping Union Medical College, under the direction of Professor Davidson Black, and is conducted in cooperation with the Geological Survey of China, which has been active for many years and which has published many volumes of a high scientific standard. The Foundation has made annual contributions toward this research work since 1926.

The work that proved most fruitful was the excavation conducted in the vicinity of a small village, Chou K'ou Tien, within 40 miles of Peiping. At this place, in 1926, a fossil bone of apparently human origin was discovered, a single tooth. This discovery was soon followed by the finding of two fragmentary skeletons without skulls. Much other fossil material of interest to students of paleontology was likewise unearthed. On December 2, 1929, during the excavation of a sheltered recess of the main deposit at Chou K'ou Tien, there was found the greater part of an uncrushed adult skull, provisionally identified as belonging to a prehistoric type of man to which the name *Sinanthropus pekinensis* has been given. No skeletal parts other than the skull and numerous isolated teeth were recovered during the 1929 excavations. The skull has been recognized as a typical true fossil, highly mineralized and found perfectly *in situ*. Owing to the perfection of the preservation of this brain-case it is thought that it will offer a distinct contribution to knowledge of the head region in early man.

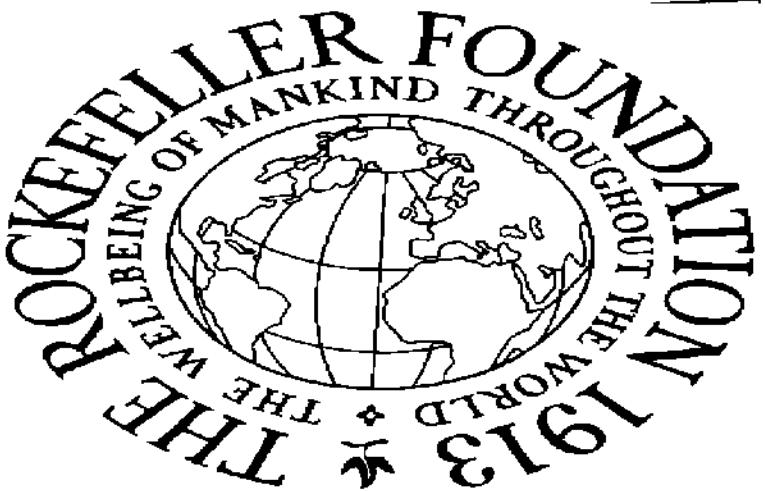
Study of the Aurora Borealis

The Foundation is contributing \$10,000, payable over a five-year period beginning in 1930, to the Alaska Agricultural College and School



Photograph Excised Here

Quarries at Chou K'ou Tien, near Peiping, China, where excavations conducted under the auspices of the Department of Anatomy of the Peiping Union Medical College and the Geological Survey of China, with assistance from the Rockefeller Foundation, have resulted in the recovery of many fossil bones of apparently human origin.



Photograph Excised Here

Adult skull recovered at Chou K'ou Tien in December, 1929. It has been provisionally identified as belonging to a prehistoric type of man to which the name *Sinanthropus pekinensis* has been given.

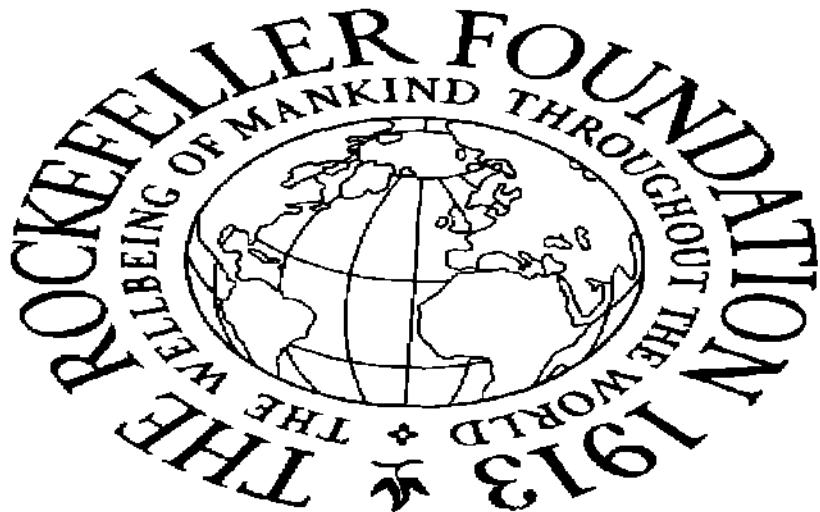
of Mines at Fairbanks, Alaska, as aid in the establishment of a station for the study of the aurora. The Alaska College will provide for the housing of the station. Foundation funds will be used for equipment, supplies, partial support of personnel, and publication of investigations. The professor of physics of the college will act as director. Many questions concerning the aurora cannot be solved until there are a series of observation stations along the entire extent of the auroral belt. Magicians consider one observation station on this continent most essential. Fairbanks offers favorable location and conditions for such a station.

This undertaking is part of a program for research in connection with aurora phenomena and terrestrial magnetism, toward which the International Education Board in 1926 made a donation of \$75,000 for the establishment at Tromsö, in Northern Norway, of a Norwegian Institute for Cosmical Physics in which this work could be carried out. All computations of results obtained are made in collaboration with the staff of the Geophysical Institute at Bergen. The work in these institutes is sponsored by a group of eminent Norwegian scientists and receives government support.



Photograph Excised Here

A section of one of the plates in the collection of photographic prints of tropical North American and South American plants which is being prepared by the Field Museum of Natural History, Chicago. Sets of these prints are to be distributed to the main herbaria of North and South America.



Photograph Excised Here

Marine biological research station (right) at Banyuls, France toward the support of which the Foundation is contributing.

Miscellaneous Projects**Field Museum of Natural History, Chicago**

To this important museum the Rockefeller Foundation has made a grant of \$15,000 for aid in securing photographs of types of botanical specimens. Photography is playing an increasingly significant rôle in classification problems. The Field Museum has been active in distributing sets of photographic prints of Yucatan and Peruvian plants. At scattered places negatives are available of many types of tropical American and South American plants not accessible in the United States. These the museum is collecting, with the aim of distributing prints to the main herbaria of North and South America. In a good photograph the finest details of such matters as leaf contour, inflorescence, venation, and the like come out with surprising clearness. It is said that one can get from photographs even a certain feeling for texture of leaves. The work will be of especial advantage to students of taxonomy.

University of Minnesota**Laboratory for Rock Analysis**

Certain aspects of the earth's crust can be comprehended only by searching chemical tests that will lay bare the influences that have been at work in the formation of the particular kind of rock under consideration. Such work has

now become an exact quantitative science. In order to describe and classify rocks and to compare specimens scientifically, special geological work is required. The Rockefeller Foundation has contributed \$15,000 to the University of Minnesota toward the establishment of laboratories for rock analysis. The money contributed will finance a five-year program. It is expected that the laboratory will eventually be on a self-supporting basis.

University of Chicago
Experiment in Light Velocity

The University of Chicago has obtained from other sources half the cost of concluding an important experiment in determining light velocity. Funds to meet the other half of the cost of this experiment, amounting to \$15,000, have been appropriated by the Rockefeller Foundation. The work is under the direction of Professor A. A. Michelson, an international figure, whose past experiments in this field have been of the highest accuracy. The new method aims to serve as a check on former work and involves measurements *in vacuo* through a pipe line, three feet in diameter and one mile long.

**THE NATURAL SCIENCES
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THE SOCIAL SCIENCES

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THE SOCIAL SCIENCES

When the Laura Spelman Rockefeller Memorial was amalgamated with the Rockefeller Foundation in January, 1929, the work of the Memorial in the social sciences, which had been developed as a major interest during a ten-year period, was taken over by the Foundation. In the following review of the year's appropriations for activities in this field, specific items have been grouped under several heads, with a view to simplification and in order to emphasize the purpose for which appropriations have been made.

General Social Science Projects

Cooperative Undertakings

For a number of years many of the more thoughtful students of social science have held that the social sciences will make a real contribution to the understanding of social phenomena only as, and when, they view "total situations" and cooperate in analyzing them. As a former president of the American Political Science Association said in 1925, "The problem of social behavior is essentially one problem, and while the angles of approach may, and should, be different, the scientific result will be imperfect unless these points of view are at times brought together in

some effective way so that the full benefit of the multiple analysis may be realized." The Memorial sought to develop cooperative research among social scientists in appropriations made both to universities and to other research organizations.

The Social Science Research Council

The Social Science Research Council has, from its organization in 1923, played an important part in bringing about cooperative studies in social science. It is an advisory and administrative body of great assistance to the Rockefeller Foundation on all matters pertaining to advancement of research in this field. As its name implies, it represents all the social sciences. Each of the following societies appoints three members of the council: the American Political Science Association, the American Economic Association, the American Sociological Society, the American Historical Association, the American Statistical Association, the American Psychological Association, and the American Anthropological Association. The council concerns itself primarily with research projects which cut across two or more fields of knowledge, leaving largely to other auspices the support of projects which fall entirely within a single discipline. Nor are projects limited in scope to the fields

commonly termed the social sciences; enterprises which require assistance from legal science or from the medical or natural sciences are also supported.

The Foundation has continued the aid to the council formerly given by the Memorial: funds for specific purposes have been appropriated to be administered by the council, and contributions have been made to its general budget. An office with a small permanent staff is maintained by the council in New York to coordinate the work of its various advisory committees, to plan the programs of its meetings, and to handle an extensive correspondence with regard to research fellowships and projects.

Social Science Abstracts

Social Science Abstracts is the title of a monthly publication produced under the auspices of the Social Science Research Council. Its first issue appeared in March, 1929, and the journal became at once a valuable tool for social scientists. It presents analyses of all the more important articles dealing with social science in the periodical literature of twenty-four languages. The first twelve numbers carried more than eleven thousand abstracts based upon an examination of over three thousand journals. The advisory editorial board is made up of eminent social

scientists from all over the world, and fourteen hundred abstracters are working in twenty or more countries. A cumulative index of authors and a systematic and alphabetic subject index enhance the usefulness of the *Abstracts*. The Memorial made the original grant for this publication in 1927, and the Foundation is continuing to give assistance.

The Encyclopaedia of the Social Sciences

The Encyclopaedia of the Social Sciences is a cooperative enterprise of leading social scientists the world over, but it was initiated within the United States, where the central responsibility for its production now rests. The Memorial, in 1927, made an appropriation which launched the undertaking, and the Foundation has increased this support. It is estimated that seven years will be necessary for the production of fifteen volumes, which will contain brief treatises on every significant topic of those disciplines which treat of man and his social relationships, namely, economics, sociology, history, political science, anthropology, ethics, philosophy, law, education, psychology, and the arts. The first volume appeared in the spring of 1930 and contains a detailed history of the social sciences from the time of the Greeks to the present, and an account of the social sciences as disciplines, in their historical development

throughout the world. Seventeen Americans and eleven representatives of foreign countries constitute a board of advisory editors.

**Yale University
Institute of Human Relations**

The Institute of Human Relations of Yale University is an attempt to coordinate and invest with certain physical unity a number of programs which have been in progress for some time. Plans for the institute contemplate a generalized research program bringing together (a) the activities of the university's Institute of Psychology and its Psycho-Clinic for child study; (b) the present work in mental hygiene at Yale; (c) the proposed new developments of psychiatry in the School of Medicine; and (d) related contributions from the social sciences as these are now being fostered in the School of Law and the Graduate School. The idea is to provide the necessary mechanisms for bridging the gap which heretofore has separated the consideration of intellectual, emotional, and personality aspects of the individual from the purely medical on the one side, and from the social on the other. The normal individual is to be studied with the same care as has been commonly applied to the abnormal; group, as well as individual, behavior is to be recognized as significant. A building is

being erected to give physical entity to the new alignment of resources for correlated studies. This building will provide psychological and other laboratories, a library, an auditorium, and facilities for the staff of the institute. It will be in close proximity to the School of Medicine and the New Haven Hospital and Dispensary. Closely allied to the work of the Institute of Human Relations will be Dr. Yerkes' research with anthropoids. The anthropoid laboratory at Yale and the breeding station at Orange Park, Florida, have also received support from the Foundation, as part of the general research plans of the institute.

Research in Fundamental Disciplines

A number of universities were assisted by the Memorial in effecting research organizations, with the various social science departments cooperating. Also, institutes dealing with particular fields were held of importance in developing a research program. In 1929 the Foundation made several appropriations with the idea of furthering fundamental research in single disciplines.

National Bureau of Economic Research

The National Bureau of Economic Research is an important research organization operating in



Photograph Excised Here

New building which will house the Institute of Human Relations of
Yale University.



Photograph Excised Here

Anthropoid Laboratory, Yale University

the social science field. It carries on extensive studies of the economic factors shaping contemporary society. It has received financial assistance from the Memorial since 1922. An additional appropriation for use over a five-year period was made by the Foundation in 1929 to permit the bureau to equip its research laboratory adequately for statistical work and to provide the requisite number of research assistants for an expanding program.

During the past seven years the bureau has published reports which have had a wide circulation and influence; those on the distribution of wealth and income in the United States, on business cycles, on unemployment, and on interest rates may be mentioned. It has conducted two investigations for the President's Conference on Unemployment, one of them a study published under the title *Recent Economic Changes*. The bureau is an impartial scientific organization which will undoubtedly play a rôle of increasing importance as fact-finding is recognized as an essential part of intelligent action in public affairs.

Harvard University

Committee on Economic Research

The Harvard University Committee on Economic Research was organized shortly after the



Photograph Excised Here

New Social Sciences Building of the University of Chicago, opened in November, 1929, which brings together under one roof and furnishes facilities for the close cooperation of the departments of political science, economics, sociology, anthropology, psychology, history, and philosophy. The building was erected with funds provided by the former Laura Spelman Rockefeller Memorial.

war. It now includes all the full professors of the Economics Department as well as a number of recognized outside authorities. This committee developed the Harvard Economic Service which has now been placed under an independent corporation, the Harvard Economic Society. The committee has had a large experience in initiating important researches and will continue to organize and support economic studies under the appropriation of \$150,000 recently made by the Foundation for its use over a five-year period.

University of Chicago
Department of Anthropology

The Department of Anthropology of the University of Chicago has received aid from the Foundation which will permit the development, over a five-year period, of a more extended research program. The chief objective of the department is the study of aboriginal America, including archeology in North America, Mexican ethnology, Indian philology, aboriginal African and Malaysian civilization, and the bearing of all these subjects on current immigration problems. Anthropology is one of the newer subjects in our American universities, and its importance in revealing our modern civilization through the interpretation of past and existing

primitive societies is only now gaining recognition.

Laboratory of Anthropology at Sante Fe

The Laboratory of Anthropology at Santa Fe, New Mexico, represents a cooperative undertaking in research. It was founded in 1927 by a group of representatives from universities maintaining departments of anthropology, from museums and research institutions carrying on anthropological investigations, and from agencies interested in scientific studies looking toward the welfare of native races in America. It will have as its primary objective the advancement of the general program of research in anthropology. The Memorial made an appropriation to the laboratory in 1928, and the first field courses for promising graduate students in anthropology were opened in the summer of 1929. The area selected for studies was the southwestern part of the United States. Training was offered in ethnology, linguistics, and archeology. The Foundation is making it possible for the laboratory to continue for five years this summer program of practical work in the field.

Interracial and International Studies

The Foundation recognizes the importance of research in those questions and in those areas

which seem to be sources of difficulty in inter-racial and international relations. An understanding of the underlying social phenomena may point the way to the elimination of points of friction.

**University of Hawaii
Sociological Studies**

Sociological Studies at the University of Hawaii are producing, with regard to the different races in Hawaii, significant anthropological and social data which may be of importance in clarifying complicated questions of race relationships in the entire Pacific area. The research is closely connected with work of the Bernice P. Bishop Museum. Polynesian anthropology is the specific interest of the museum, and Hawaii is an excellent center for study of the fast disappearing primitive cultural materials. The population of Hawaii is varied and provides unusual opportunity for observing racial admixtures in an environment where there is little race bitterness. The Foundation appropriation provides for the continuance of the university sociological studies for two years more.

Association for the Study of Negro Life and History

Since 1922 the Association for the Study of Negro Life and History has been conducting, with the assistance of the Memorial and, later, of

the Foundation, studies of social and economic conditions among American Negroes since the Civil War. A number of monographs have been published. The association is an independent organization but maintains close connections with various Negro universities and trains personnel for their social science faculties.

**Geneva Postgraduate Institute
of International Studies**

In 1927 the Geneva Postgraduate Institute of International Studies was established under the government of an executive council consisting of the Minister of the Interior of the Swiss Confederation, the President of the Department of Public Education of the Canton of Geneva, the Rector of the University of Geneva, and two members at large. The Memorial gave financial support to the institute in recognition of the exceptional opportunities for advanced research in international relations afforded by close proximity to the Secretariat of the League of Nations and to the International Labor Office. In 1929 the Foundation voted \$850,000 for the use of the institute over a ten-year period.

The institute has a small permanent staff which is supplemented by visiting lecturers from academic institutions all over the world and by arrangements with permanent officials whose

headquarters are in Geneva. Students of international relations go first or last to Geneva, and the institute both serves and is served by them.

Institute of Pacific Relations

Though quite a different kind of organization from the institute in Geneva, the Institute of Pacific Relations also has as its purpose the study of international relations. It was established by the peoples of the Pacific area to promote co-operative study of their mutual relations and is an unofficial body centering its activities in biennial conferences. An International Secretariat is maintained at Honolulu to coordinate studies and researches undertaken by the various national groups in preparation for the conferences. The governing body, called the Pacific Council, consists of one representative from each national organization or council. A monthly journal, *Pacific Affairs*, is published in addition to the proceedings of the conferences. Though the institute operates entirely in an unofficial capacity, it has become an effective mechanism for promoting international understanding by competent public and expert discussion. The 1929 conference in Kyoto was attended by two hundred representatives from eight countries. The research work carried on under the stimulus of the institute is steadily increasing. From

1926 to 1928 the institute received assistance from the Memorial; in 1929 the Foundation continued and expanded this support.

**League of Nations
Study of Monetary and Banking Laws**

Among the projects recently approved and supported by the League of Nations is one calling for the publication of the monetary and banking laws of all the nations of the world having stabilized monetary systems. Provisional plans covered thirty-five countries. The Foundation has appropriated \$40,000 for the original compilation of laws; thereafter, the League will undertake to keep the publication up to date.

**Harvard University
Research in International Law**

The Memorial, in 1928, provided support over a ten-year period for studies in international affairs at Harvard University. The program of research in international law under the auspices of the Harvard Law School is a closely related project, though its purpose, specifically, is to prepare materials for a series of international conferences called by the League of Nations on the codification of international law. Plans for the first conference were made in 1927. The Harvard Law School invited various legal

authorities on international law to serve as an advisory research committee. Specialists from a number of universities assumed responsibility for the reporting of particular subjects, such as, diplomatic privileges and immunities, the legal status of consuls, piracy, and the position of states before foreign courts. The Foundation has appropriated \$60,000 for this program over a three-year period. Final reports are to be published by the Carnegie Endowment for International Peace.

Current Social Studies

Several undertakings which involve study of current social phenomena received support from the Foundation during 1929. Three of these studies are being conducted under university auspices and two by independent research organizations. Two will carry on investigations of a range of social questions; three are concerned with a specific situation.

President's Research Committee on Social Trends

The Research Committee on Social Trends was organized by President Hoover in 1929 to direct a comprehensive survey measuring recent social changes in the United States. The Foundation has appropriated the funds necessary for carrying on such a survey over a three-year

period. The direction of this study is in the hands of a committee of six, who represent the various approaches of social science to contemporary problems and who are experienced in social research.

The study will deal with more than a score of subjects which bear upon the various aspects of modern living. There will be monographs upon many of these subjects and a general summary in one volume. A number of persons will cooperate in carrying on the research and in writing on specialized topics, such as the composition and distribution of the population of the United States, food and natural resources, immigration, racial composition, old age problems, shifting occupations, unemployment, the changing status of women and the family, the problems of education, recreation, the maladjusted.

**Research Bureau of the Welfare Council
of New York City**

Though in existence only a little more than three years, the Research Bureau of the Welfare Council of New York City has become an effective body with a substantial record of accomplishment. In addition to carrying on research projects, the bureau acts as consultant and source of information upon research carried on by other agencies, and also arranges conferences among

agencies and with individuals. Though the Research Bureau is primarily concerned with the problems of New York City's social organizations, a number of its projects touch national agencies and national situations. For instance, an analysis of methods and costs of raising money by individual charitable enterprises, together with an evaluation of the experience of a few large cities with community chests, is one of the studies now in progress. A descriptive analysis of many aspects of the work of New York settlement houses has been prepared, which is of interest to cities having similar organizations.

The bureau has a small permanent staff and a changing auxiliary staff of specialists engaged in particular projects. Its program is determined by a Research Committee, made up of representatives of social and health agencies, of statisticians, and of university specialists. The Memorial and, subsequently, the Foundation have lent financial support to the bureau's activities.

Cooperative Research of Columbia University and Greenwich House

Cooperative research with Greenwich House has been arranged by Columbia University during the past year and promises to lead to a modified program in Greenwich House, as well as to fruitful contacts with practical situations for

research workers in the social sciences. Greenwich House comes in touch with the lives of some two thousand persons daily and amasses a wealth of social data which, up to the present time, has been little used by the scientist. Columbia University is taking advantage of this social laboratory and in return expects to give Greenwich House a report of the results of its activities which will be of a constructive nature. The Foundation has assisted Columbia by providing a small working fund.

Study of Compensation for Automobile Accidents

A study of automobile accidents is being carried on by Columbia University with emphasis upon the legal and social aspects of compensation for such accidents. The adjustment of compensation is still an uncharted field, presenting many aspects similar to those in the industrial situation before the enactment of workmen's compensation. Owing to congestion of court calendars, action is attended by delay, and not much opportunity is given for constructive judicial analysis. A nation-wide survey has been planned.

The Harvard University Survey of Crime and Criminal Justice

The survey of crime and criminal justice which is being carried on by Harvard University

promises to yield important results with respect to administrative action. The Memorial assisted in financing this study from the time when it was initiated in 1926. As the program expanded, additional funds were furnished; the Foundation's most recent appropriation was made in November, 1929. A comprehensive report upon criminology in its application to the conditions of crime and criminal justice in Greater Boston was the original plan; in addition, there has been undertaken a study of juvenile court systems, an investigation of the causes of crime, a study of the relation of the press to crime, a study of the Bar and crime, and an appraisal of the work of penal institutions. The survey is rapidly nearing completion, and a final report should be ready for the press in May, 1930. The administration of funds has been in the hands of a committee consisting of the deans of the Law School, the Medical School, and the Faculty of Arts and Sciences.

Research in the Field of Public Administration

From research in the social sciences there should result modifications in governmental organization, in business practices, in social activities of all kinds which may further general well-being. As numerous functions of great social

significance are being assumed by governmental bodies through federal, state, county, and municipal organization, the development of effective techniques becomes a necessity. Research which is closely tied up with practical activities is expected to furnish the basis of sound governmental policy.

**Harvard University
School of City Planning**

The question of city planning is basic in many programs of social progress in urban areas. The Russell Sage Foundation has supported an important survey of New York City and its environs, which has led to a careful forecast of future trends and suggestions as to directing them constructively. The need of research in this field and of training for those who may become consultants in city planning has been discussed for some time by representatives of universities. Harvard is the first of the universities to establish a graduate school offering a two-and-one-half-year course leading to the degree of Master in City Planning.

Harvard has offered courses in city planning since 1909 and has built the new school upon these courses, as well as upon those in the schools of Architecture, Landscape Architecture, Engineering, Business, Law, Arts and Sciences.

Certain supplementary courses in other schools will be required of students in the new school. In addition to making the city planner a man who understands something of architecture, engineering, municipal government, and the social sciences, it is the intention to give the rudiments of city planning to students specifically trained for engineering, architecture, landscape architecture, and public administration. The Foundation is giving financial support to this undertaking for seven years.

**University of California
Institute of Public Administration**

The Institute of Public Administration of the University of California is being established with the aid of the Foundation to carry on research and graduate training in public administration. The institute will become a permanent part of the university, preparing students for positions in all branches of state, municipal, colonial, and national administration and in diplomatic and consular services. The Pacific coast, particularly the San Francisco Bay region, offers unusual opportunities for the study of varied experiments in municipal and county government and for a variety of contacts with public bodies and officials, which not only present valuable material for research, but are essential for the field

training of students. The Foundation will contribute to the institute for six years.

Syracuse University
School of Citizenship and Public Affairs

The School of Citizenship and Public Affairs of Syracuse University seeks to prepare students to assume a vital rôle in civic life, regardless of the vocation chosen. The school was the outcome of a gift of a million dollars made to the university by an alumnus to establish a group of courses developed around the subject of intelligent citizenship, disregarding interdepartmental lines in the social sciences. Both graduate and undergraduate instruction is given, and a research program has been developed. The Memorial contributed to the latter from 1926, and the Foundation is continuing this support until 1932.

**Fundamental Research and Promotion
of Certain Types of Organization**

The interest of the Foundation in promoting fundamental research programs in the various social disciplines has already been mentioned. A closely allied interest is the advancement of specific research projects which are of importance both because they yield valuable data and because they bring about a cooperative relationship favorable to later undertakings.

International Study of the History of Prices

The international study of the history of prices, now being carried on by the Economic Foundation, with the assistance of an international committee, is a research project which will certainly yield interesting data and, at the same time, promote a desirable working relationship among social scientists of six or seven countries. No comprehensive history of prices and wages now exists, though there is a wealth of unworked material in both American and European archives. Such a history should provide the essential framework on which to build an interpretation of social and economic development. The Economic Foundation will disburse the funds made available by the Rockefeller Foundation for this project and will have the responsibility of collating into a summary volume the main findings of the price and wage histories of the individual countries. Probably five years will be needed for the completion of this project, during which time the international committee will organize and coordinate the studies to be carried on in various countries.

**Notgemeinschaft der Deutschen Wissenschaft
Anthropological Study in Germany**

The Notgemeinschaft der Deutschen Wissenschaft has undertaken an anthropological study

of the population of Germany. The project is receiving assistance from the Foundation both because it promises to uncover interesting material and because it is a cooperative enterprise of the universities of Germany. The objective is an analysis of the population of Germany as to anthropological composition and social-economic relationships. Through the choice of sixty typical regions, the entire area of the country will be studied; the nearest university having an anthropological institute will be responsible for supervising and directing the regional studies. The work was begun prior to the time when the Foundation made its appropriation, and data of psychiatric and biological value are already accumulating. The project is of undoubted importance in securing interuniversity cooperation in research.

National Bureau of Economic Research

The National Bureau of Economic Research, mentioned on a preceding page, must be specifically recognized as an important research body organized on a cooperative basis. The following organizations and universities each contribute a member to the board of directors: the American Economic Association, the American Statistical Association, the American Bankers Association, the American Federation of Labor, the National

Publishers' Association, the American Farm Bureau Federation, the American Management Association, the American Engineering Council, Yale University, the University of Wisconsin, Harvard University, Columbia University, the University of Chicago, and the University of Pennsylvania. All manuscripts prepared in the bureau are submitted to each member of the board for criticism and comment, and no manuscript is published until it has either been approved by each member of the board or is accompanied by such reservations as any board member wishes to insert as expressing his own ideas. The bureau is making a notable contribution to the development of social science, since its set-up is such that investigations and subjects, commonly regarded as controversial, can be handled without insuperable difficulties.

Fellowships in the Social Sciences

The Rockefeller Foundation regards the provision of fellowships for research as an effective method of supplying the need for future workers in the social sciences. The fellowship program now operating offers opportunities for advanced study to both American and European students. The awarding of fellowships to Americans is in the hands of a special committee of the Social Science Research Council, which is given funds

for this specific purpose by the Foundation. These appointments are confined to citizens of the United States and Canada and are on the postdoctorate level. There is a growing tendency to require, for American fellows, two or three years of successful academic experience after the doctor's degree has been obtained. The council has a full-time fellowship secretary who makes personal contacts with candidates throughout the country, visits the leading universities to explain the council's fellowship program, and supervises those fellows who are in the field. During 1929 forty-six fellowships were administered by the council. The fellows were distributed as follows:

<i>Place of Study</i>	<i>Full Time</i>	<i>Half Time</i>	<i>Less than Half Time</i>	<i>Total</i>
Austria	1	..	4	5
Baltic States	1	1
Canada	..	1	..	1
China	..	1	..	1
England	8	3	6	17
Europe in general	1	1	..	2
Finland	1	1
France	3	3	5	11
Germany	1	..	5	6
Italy	2	2
Japan	1	1
Melanesia	1	1
Netherlands	1	1
Netherlands East Indies	1	1
Russia	..	1	1	2
Sicily	1	1
Spain	1	..	1	2
Switzerland	1	1
United States	12	6	2	20

The awarding of fellowships to European students is handled somewhat differently. A group of thirteen advisers in Europe and Australia is assisting the Foundation in the selection of candidates. The candidates are nominated by an adviser, or by a committee, in the country of origin, and the Foundation makes the decision as to an award. A representative of the Foundation's program in social science has his headquarters in Paris and is in personal contact with the advisers and with the candidates themselves.

One hundred and thirty fellowships were administered directly by the Foundation in 1929. These were held by men and women from twenty-two countries. The distribution of the fellows by country of origin and by country where research studies were carried on, is given in the table on page 266.

FELLOWSHIPS IN THE SOCIAL SCIENCES ADMINISTERED BY THE FOUNDATION DURING 1929

Country of Origin	Studies Carried on in								Total Fellows	266
	United States	Great Britain	Germany	France	Switzerland	Austria	Netherlands	Other Countries		
Australasia	7	5	1	1	1	1	1	1	10*	10*
Austria	3	3	1	1	1	1	1	1	7*	7*
Bulgaria	1	1	1	1	1	1	1	1	1	1
China	1	1	1	1	1	1	1	1	1	1
Czechoslovakia	6	1	1	1	1	1	1	1	7	7
Denmark	1	1	1	1	1	1	1	1	3	3
France	5	4	2	1	1	1	1	1	10*	10*
Germany	14	8	1	2	1	1	1	1	23*	23*
Great Britain	18	1	4	2	2	1	1	1	29*	29*
Greece	1	1	1	1	1	1	1	1	1	1
Hungary	3	1	1	1	1	1	1	1	4	4
Italy	3	7	3	1	1	1	1	1	11*	11*
Netherlands	3	3	1	1	1	1	1	1	6*	6*
Norway	2	1	1	1	1	1	1	1	4*	4*
Poland	1	1	1	1	1	1	1	1	1	1
Rumania	1	1	1	1	1	1	1	1	1	1
Sweden	3	1	1	1	1	1	1	1	3	3
Switzerland	1	1	1	1	1	1	1	1	1	1
Syria	1	1	1	1	1	1	1	1	1	1
Turkey	1	1	1	1	1	1	1	1	1	1
United States	..	1	1	1	1	1	1	1	1	1
Yugoslavia	2	1	1	1	1	1	3	3
									2*	2*
									130	130

* Some fellows studied in more than one country.

THE SOCIAL SCIENCES
STAFF DURING 1929

DIRECTOR

Edmund E. Day

ASSISTANT DIRECTOR

Sydnor Walker

ASSISTANT DIRECTOR IN EUROPE

John V. Van Sickle

THE HUMANITIES

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THE HUMANITIES

Scope of Activities

Outside of the natural, medical, and social sciences lies a large field of educational and cultural endeavor which has been traditionally described as the humanities. The Foundation has made no attempt to cover the entire field, or even to touch all of the many representative subjects and disciplines which it contains. In 1929 support was given to a limited number of enterprises dealing with the historical arts and sciences, including archeology, paleography, comparative philology, and bibliography. Here, as in the other branches of work to which it has given assistance, the primary aim of the Foundation has been the advancement of knowledge.

Here, also, as in all fields except public health, the Foundation has carried on no work of its own. It has been active only in the support of certain agencies already engaged in research work or in the training of men, or the provision of facilities for future research work. Aid was given, first, in support of certain historical and archeological projects undertaken by existent institutions. Secondly, in cooperation with the American Council of Learned Societies, a program of fellowships and of grants in aid of

research workers has been launched. This covers a broad field, as the council includes societies representing all aspects of the humanities. Thirdly, assistance has been given to a few outstanding libraries, especially in connection with bibliographical work which will render vast storehouses of information more accessible to scholars throughout the world.

Historical and Archeological Projects

American Schools of Oriental Research

Two American schools of Oriental research, one at Jerusalem, founded in 1900, and another at Bagdad, opened in 1923, were incorporated under one American board of trustees in 1921. These schools derive their income from annual contributions of universities, colleges, and theological seminaries, fifty-three in number, and from subscriptions from individual donors, a small endowment, and occasional gifts. The building for the school at Jerusalem was the gift of an individual and is located north of the Damascus gate. The work of the school consists of lectures to advanced students and research work by the staff. The school at Bagdad occupies a room in the Iraq Museum, placed at its disposal by the Government of Iraq. This government has also recently made a grant of land for a future building. Plans

for the development of activities, with special emphasis on research work, are under way and can be realized with a proposed seven-year period of special support from the Foundation.

For this purpose the Rockefeller Foundation has made an appropriation of \$250,000 to be paid according to a fixed schedule ending in 1936. An appropriation, also of \$250,000, has been made for endowment, conditional upon an equal amount being obtained from other sources.

American School of Classical Studies

The American School of Classical Studies is engaged in important excavations in the ancient Athenian market-place. To this school the Rockefeller Foundation has made an appropriation of \$20,200 for fellowships over a three-year period; the money will be administered by the trustees of the school. The aim is to provide competent and well-trained classical archeologists who will eventually fill positions in universities and conduct further important excavations.

Assistance to Historical Studies

In order to aid certain scholars in France in completing important historical researches, the Foundation has supplied special assistance. Eight French historians were given small grants which would relieve them of teaching for brief

periods. Assistance of this sort has now been replaced by a larger program of fellowships and grants in aid of research.

**University of Chicago
Studies in Comparative Philology**

Support to studies in comparative philology at the University of Chicago has been guaranteed over a five-year period, at the rate of \$10,000 a year, beginning in 1930. These studies deal with the organization and classification of a large amount of Greek lexical material shedding light on language formation. They represent a continuation of a large-scale project inaugurated over thirty years ago at the Johns Hopkins University. The source material in hand has been supplemented by collections derived from inscriptions and papyri supplied by volunteer workers. The scholars competent to organize and publish it are widely scattered, but the work is to be concentrated at the University of Chicago, according to a definite program calling for the completion and publication of the studies within the next five years.

**The American Council of Learned Societies
Fellowships in the Humanities**

The American Council of Learned Societies was organized in 1919 for the advancement of humanistic studies in the United States. It

has seventeen constituent societies, with a combined membership of 22,300. Its scope includes such subjects as ancient and modern languages, literature, fine arts, archeology, philology, comparative religion, and certain aspects of history. During the first nine years of its existence it has received funds from various sources, amounting to almost \$1,000,000, for the support of scientific activities under its direction. It has carried on important publication activities.

The Rockefeller Foundation has appropriated \$370,000 for a three-year period to enable the council to develop a system of grants in aid of research in the field of humanistic studies, and also to inaugurate and administer a system of advanced fellowships. The assistance will be offered in the fields of philosophy, philology, linguistics, literature, art, archeology, musicology; in Oriental studies including Sinology, Indology, Semitics, Assyriology, and Egyptology; in history and auxiliary sciences, such as history of religion, thought, science, learning, except those branches of history that are essentially economic, social, or political; and in the fine arts, paleography, diplomatics, and chronology.

Grants in Aid of Research

The grants in aid of research which this same council is supplying are available to scholars of

all ages who are citizens of the United States or Canada engaged in specific investigations for which aid is actually needed and not obtainable from any other source. Grants ranging in amount from \$750 to \$2,000 are reserved for mature scholars of demonstrated ability who are engaged in important enterprises of research to which they are able to devote at least six months without interruption. The object of the larger grants is to render assistance in the advancement of knowledge through aiding individual undertakings of fundamental importance.

Researches in Paleography

A grant has been made to the American Council of Learned Societies for use over a five-year period, beginning in 1930, for promoting certain researches in paleography, conducted by a leading American authority in this field. The manuscripts required to carry on this work are scattered over Europe and America and in many cases are difficult of access. The work when completed will be of basic value to students of paleography. It will be published by the Clarendon Press at its own expense. The Library of Congress has also agreed to cooperate by purchasing collections of photographic material originating in connection with this study.

and by making these collections available to scholars.

Library Resources and Bibliography

British Museum

The American scholar who must look to European libraries for material for his work goes first and naturally to the catalogue of one of the great national depositories, such as the library of the British Museum in London and the Bibliothèque Nationale in Paris. European libraries do not use the card catalogue which is so characteristic of American libraries, but have developed the book catalogue, which usually consists of folio volumes in which the printed slips are pasted. The publication of these immense catalogues places the bibliographical resources of these libraries at the command of the scholars of the world — an invaluable assistance to research; but the great cost of such an undertaking has resulted in limited editions, which must naturally be sold at prices beyond the reach of any but the largest libraries. Copies of the Catalogue of Printed Books in the British Museum and of the General Catalogue of the Bibliothèque Nationale now in course of publication, are to be found in very few libraries in the United States.

The present Catalogue of Printed Books in the

British Museum, although it is still recognized to be the most valuable bibliographical tool in existence, has been so overlaid with supplements and additions as seriously to impair its usefulness. Furthermore, certain volumes are out of print. The libraries of the world have consequently been urgently advocating the printing of a new edition. Recognizing the importance of such a catalogue to American libraries, the Bibliographical Society of America, with the co-operation of the Rockefeller Foundation, has made arrangements to facilitate the publication of this work. The publication of a new edition under conditions which will provide for its production at a satisfactory rate of speed is now assured. The complete set will comprise 160 to 165 volumes, and these sets will be widely distributed.

Bibliothèque Nationale, Paris

The General Catalogue of the Bibliothèque Nationale had advanced as far as the letter "L", in ninety volumes, when the war interrupted its publication. Ninety-six volumes still remain to be published, and as this catalogue, when finished, will be of incalculable value to scholars and to library administrators, its speedy completion is a matter of first importance to the world of letters. In spite of the straitened

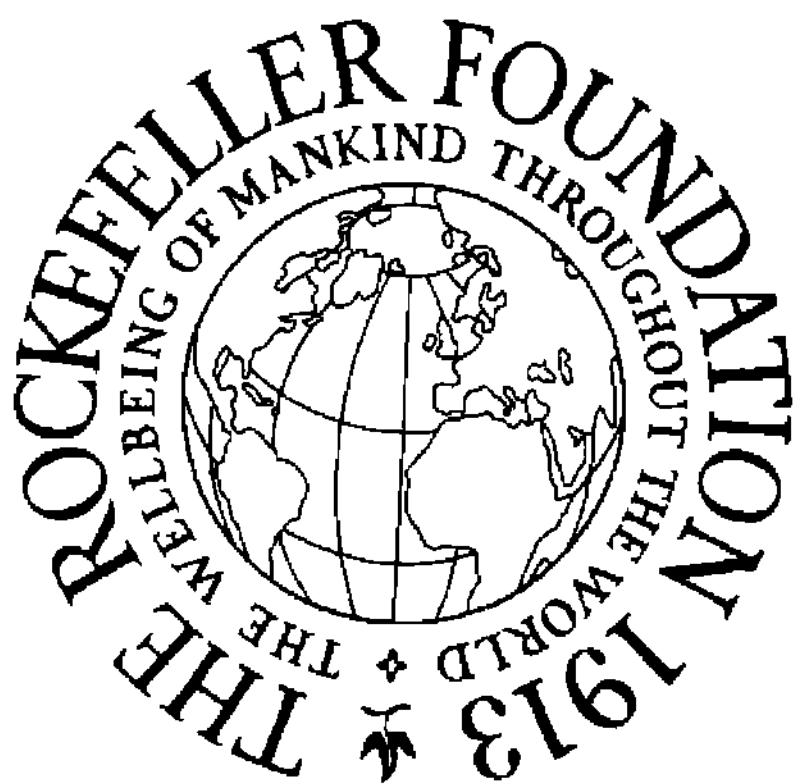


Photograph Excised Here

Aeroplane view of London, showing the British Museum.

budget of the Bibliothèque Nationale, publication has been going forward slowly but steadily.

With a view to furnishing the Bibliothèque Nationale with sufficient funds to advance publication at the rate of eight volumes a year, the Conference of Eastern College Librarians instituted a canvass of American libraries, which resulted in the sale of the forty-five existing sets of the catalogue and subscriptions from more than one hundred libraries for the volumes remaining to be published. Sufficient orders were received to cover the estimated cost of publication, but it was discovered later that the undertaking would require more funds than was estimated. In order that publication might proceed at the proposed rate of progress, the Rockefeller Foundation has granted the Bibliothèque Nationale a subvention of \$1,000 a year for twelve years. This will insure completion of the catalogue within twelve years.



Photograph Excised Here

Memorial tablet in the main entrance vestibule of the American Academy in Rome, erected in honor of the founders and dedicated May 14, 1929. The Foundation contributed over a ten-year period toward the development of the academy.

THE HUMANITIES
STAFF DURING 1929

DIRECTOR

Edward Capps

CONSULTANT

Geoffrey W. Young

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 period beginning January 3, 1929, and ending December 31, 1929.

The tabulation below summarizes the Prior Obligations and Appropriations Accounts:

Appropriated income as of January 3, 1929.....	\$13,722,427.39
Principal appropriated by Laura Spelman Rockefeller Memorial before consolida- tion.....	5,750,000.00
Amount set aside from Principal Fund during the period January 3 to Decem- ber 31, 1929.....	55,924,581.66
Income and refunds received from Janu- ary 3 to December 31, 1929.....	14,139,949.19
	<hr/>
	\$89,536,958.24
Disbursements.....	\$19,039,127.23
Appropriations, obliga- tions, and contingent obligations not yet paid.....	67,402,016.93
	<hr/>
Balance available for appropriation.....	\$ 3,095,814.08
	<hr/>

This available balance occurs because of the transfer from Principal Fund to Appropriations Account of the full amount of an authorization of

\$6,000,000, which, under the terms of the resolution approving it, is payable from principal only to the extent that income is insufficient to meet it when it is needed.

As this is the first report of the new corporation formed by the consolidation of the Laura Spelman Rockefeller Memorial and the original Rockefeller Foundation, mention of the changes which resulted in the present amount of its Principal Fund may not be amiss.

On January 3, 1929, the date of the consolidation, principal funds were as follows:

The Rockefeller Foundation	\$150,291,624.50
The Laura Spelman Rockefeller Memo- rial (unappropriated)	53,006,878.84
The Laura Spelman Rockefeller Memo- rial (appropriated).....	5,750,000.00
<hr/>	
Total	\$209,048,503.34

Deductions from this sum have been as follows:

Transferred to Prior Obligations Ac- count to provide for: Memorial's principal appropriations...	\$ 5,750,000.00
Memorial's appro- priations in excess of available in- come	20,518,921.34

Foundation's ap-	
propriations in	
excess of available	
income \$14,405,660.32	
	<hr/>
	\$40,674,581.66
Transferred to Ap-	
propriations Ac-	
count for current	
needs..... 21,000,000.00 \$ 61,674,581.66	
	<hr/>
Balance in Principal Fund..... \$147,373,921.68	<hr/>

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 Squires and Company, Accountants, 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 Moneys Available for Appropriation and Disbursement	Exhibit B
Appropriations Made During the Year 1929..	Exhibit C
Appropriations and Payments.....	Exhibit D
Designations and Payments by the Interna- tional Health Division	Exhibit E
Summary of Appropriations Account.....	Exhibit F
Summary of Prior Obligations Account.....	Exhibit G
Statement of Principal Fund	Exhibit H
Land, Buildings, and Equipment Fund.....	Exhibit I
Schedule of Securities	Exhibit J

EXHIBIT A
BALANCE SHEET—DECEMBER 31, 1929

ASSETS

I. PRINCIPAL FUND INVESTMENTS	
Ledger valuation of all securities.....	\$176,807,903.41
Less amount belonging to Appropriation Funds (see below)	<u>29,433,981.73</u>
	<u><u>\$147,373,921.68</u></u>
II. LAND, BUILDINGS, AND EQUIPMENT	
In New York.....	\$52,187.98
In Paris.....	68,000.00
In China.....	<u>298,331.95</u>
	<u><u>\$418,519.93</u></u>
III. APPROPRIATION FUNDS	
Ledger valuation of securities.....	\$29,433,981.73
Secured demand loans.....	37,650,000.00
Cash on deposit.....	<u>27,086.89</u>
	<u><u>\$67,111,068.62</u></u>
Foreign currency	
The Equitable Trust Co. of N. Y. (London)	
Sterling.....	400.16
Funds in hands of agents to be accounted for, and sundry accounts receivable.....	\$3,415,937.35
Less accounts payable.....	<u>29,575.12</u>
	<u><u>3,386,362.23</u></u>
	<u><u>\$70,497,831.01</u></u>
GRAND TOTAL.....	<u><u>\$218,290,272.62</u></u>

TREASURER'S REPORT

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EXHIBIT A
BALANCE SHEET—DECEMBER 31, 1929
FUNDS AND OBLIGATIONS

I. PRINCIPAL FUND	\$147,373,921.68
II. LAND, BUILDINGS, AND EQUIPMENT FUND Appropriations from income.....	<u>\$418,519.93</u>
III. APPROPRIATION FUNDS Prior Obligations Unpaid appropriations.....	<u>\$25,877,557.57</u>
Unpaid pledges and authorizations.....	<u>9,848,356.45</u>
Appropriations Account Unpaid appropriations.....	<u>\$16,258,102.91</u>
Unpaid pledges and authorizations.....	<u>12,718,000.00</u>
Contingent obligations.....	<u>2,700,000.00</u>
Total obligations.....	<u>31,676,102.91</u>
Unappropriated balance of Appropriations Account	<u>\$67,402,016.93</u>
GRAND TOTAL.....	<u>\$70,497,831.01</u>
	<u>\$218,290,272.62</u>

*This available balance exists only because of the transfer from Principal Fund to Appropriations Account of the full amount of an authorization of \$6,000,000, which, under the terms of the resolution approving it, is payable from principal only to the extent that income is insufficient to meet it when it becomes needed.

EXHIBIT B

CONSOLIDATED STATEMENT OF MONEYS AVAILABLE
FOR APPROPRIATION AND DISBURSEMENT

AMOUNTS AVAILABLE

PRIOR OBLIGATIONS ACCOUNT

Amount of Principal Fund transferred to Prior Obligations Account on January 3, 1929	\$34,924,581.66
Amount set aside from principal by the Laura Spelman Rockefeller Memorial before consolidation, transferred to Prior Obligations Account on January 3, 1929	5,750,000.00
Undisbursed income of Memorial and Foundation as of December 31, 1928, transferred to Prior Obligations Account, January 3, 1929	12,849,296.26
Income received by the two corporations in 1929 before consolidation, transferred to Prior Obligations Account, January 3, 1929.....	873,131.13
Less unused balances of appropriations allowed to lapse.....	\$54,397,009.05 1,216,713.49
	<hr/>
	\$53,180,295.56

APPROPRIATIONS ACCOUNT

Amounts transferred from Principal Fund to Appropriations Account, in accordance with resolutions of the Members dated	
January 3, 1929	\$15,000,000.00
November 13, 1929	6,000,000.00
Income and refunds from January 3 to December 31, 1929, added to Appropriations Account	14,139,949.19
Unused balances of Prior Obligations allowed to lapse.....	1,216,713.49
	<hr/>
Total.....	36,356,662.68
	<hr/>
	\$89,536,958.24

DISBURSEMENTS

Universities and other educational institutions		
Medical science education.....	\$1,853,795.28	
Public health education.....	1,055,305.77	
Nursing education.....	1,086,917.21	
Social science education.....	179,358.72	
Natural science education.....	272,801.56	
Departmental development.....	229,658.09	
Research programs.....	783,517.69	
Land and buildings.....	2,497,960.67	
		\$7,959,314.99
Research institutions and organizations		
Medical science education.....	\$4,179.41	
Social science education.....	15,000.00	
General development.....	290,049.55	
Research programs.....	523,092.50	
Land and buildings.....	315,685.25	
		1,148,006.71
Special committees and commissions.....		70,803.64
Fellowships and grants in aid.....		1,088,322.42
Miscellaneous.....		938,171.69
Public health.....		2,408,579.05
General.....		4,577,926.04
Administration.....		848,002.69
		\$19,039,127.23
Balance, December 31, 1929.....		\$70,497,831.01
<hr/>		
This balance is available for the following purposes:		
Amount due on prior obligations.....	\$35,725,914.02	
Amount due on 1929 appropriations.....	31,676,102.91	
Amount available for appropriation.....	3,095,814.08	
		\$70,497,831.01
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EXHIBIT C

APPROPRIATIONS MADE DURING THE YEAR 1929

	THE ROCKEFELLER FOUNDATION
Agricultural club work in Sweden and Finland.....	\$56,100.00
Alaska Agricultural College and School of Mines, Fairbanks.....	10,000.00
Albany Medical College, Albany, New York.....	20,000.00
- American Council of Learned Societies, Washington, D. C.....	445,000.00
- American Library in Paris, France.....	35,000.00
- American School of Classical Studies, Athens, Greece.....	20,200.00
- American Schools of Oriental Research, Bagdad and Jerusalem.....	500,000.00
American Type Culture Collection, Chicago, Illinois.....	10,000.00
American University of Beirut, Syria.....	750,000.00
- Association for the Study of Negro Life and History, Washington, D. C.....	10,000.00
Bermuda Biological Station for Research, Inc.....	245,000.00
- Bibliographical Society of America, Washington, D. C.....	1,000.00
Biological and paleobiological studies in Africa.....	1,000.00
- British Museum, London, England.....	89,900.00
Bulletins and reprints.....	37,000.00
China Medical Board, Inc., New York City.....	283,334.00
Chulalongkorn University, Bangkok, Siam.....	35,000.00
Cities Census Committee, Inc., New York City.....	10,000.00
- Columbia University, New York City.....	135,000.00
Connecticut College for Women, New London.....	8,700.00
East Harlem Nursing and Health Service, New York City.....	36,500.00
Economic Foundation, New York City.....	250,000.00
Encyclopaedia of the Social Sciences.....	100,000.00
Fellowships	
- Humanities.....	80,000.00
Medical sciences.....	400,000.00
Natural sciences.....	360,000.00
Nursing education and travel of nurse leaders.....	76,500.00
Social sciences.....	200,000.00

Field Museum of Natural History, Chicago, Illinois	\$15,000.00
Fukien Christian University, Foochow, China	16,500.00
- Harvard University, Cambridge, Massachusetts	967,250.00
Hospital and clinic service, Studies of	6,500.00
Humanistic studies in France	6,360.00
Hungarian Scholarship Council, Budapest	18,000.00
International Health Division, Rockefeller Foundation	4,210,678.71
Institute of Pacific Relations, Honolulu, Hawaii	35,000.00
Johns Hopkins University, Baltimore, Maryland	100,100.00
- Kaiser Wilhelm Society for the Promotion of Science, Berlin, Germany	317,000.00
Laboratory of Anthropology, Santa Fe, New Mexico	60,000.00
League of Nations, Geneva, Switzerland	763,975.00
Marine biological stations, France	24,000.00
McGill University, Montreal, Canada	85,000.00
National Bureau of Economic Research, New York City	375,000.00
National Central University, Nanking, China	143,000.00
National Committee for Mental Hygiene, New York City	15,000.00
National Research Council, Washington, D. C.	941,000.00
New York Academy of Medicine, New York City	290,000.00
New York School of Social Work, New York City	30,000.00
Northwestern University, Evanston, Illinois	20,000.00
- Notgemeinschaft der Deutschen Wissenschaft, Berlin, Germany	125,000.00
Peiping Union Medical College, China	333,392.00
Postgraduate Institute of International Studies, Canton of Geneva, Switzerland	850,000.00
President's Research Committee on Social Trends, Washington, D. C.	560,000.00
Princeton University, New Jersey	100,000.00
Research aid funds	
Medical sciences	205,000.00
Natural sciences	32,500.00
Russian Zemstvos and Towns Relief Committee, Paris, France	25,000.00
School for Public Health Nurses, Cluj, Rumania	10,000.00

EXHIBIT C—*Continued*

Service School of Hygiene of the Central Institute of Hygiene of the Turkish Republic, Angora	\$200,000.00
Shantung Christian University, Tsinan, China	20,000.00
Smithsonian Institution, Washington, D. C.	1,500.00
Social Science Research Council, New York City	180,000.00
Society of the Friends of the Bibliothèque Nationale, Paris, France	12,000.00
Stanford University, California	3,000.00
State Charities Aid Association, New York	673.24
Surveys by others than officers	25,000.00
Syracuse University, Syracuse, New York	30,000.00
Travel of individuals and commissions	25,000.00
Tsing Hua University, Peiping, China	41,250.00
United States Public Health Service Development of child health measures in county health programs	100,000.00
University of California, Berkeley	232,000.00
University of Chicago, Illinois	290,000.00
University of Edinburgh, Scotland	170,800.00
University of Hawaii, Honolulu	25,000.00
University of Lyon, France	314,000.00
University of Minnesota, Minneapolis	15,000.00
University of North Carolina, Chapel Hill	35,000.00
University of Oxford, England	25,000.00
University of Pennsylvania, Philadelphia	75,000.00
University of Rochester, Rochester, New York	251,700.00
University of Toronto, Canada	40,000.00
Vanderbilt University, Nashville, Tennessee	105,000.00
Welfare Council of New York City	112,500.00
Yale University, New Haven, Connecticut	4,672,500.00
Yenching University, Peiping, China	250,000.00

Y. M. C. A. International College, Springfield, Massachusetts.....	\$1,926.00
Y. M. C. A. and Y. W. C. A. International Survey Committee.....	230,000.00
Administration	
Year 1929	221,725.36
Year 1930	897,070.00
	<hr/>
	\$23,488,134.31

TREASURER'S REPORT

EXHIBIT D

1929 APPROPRIATIONS, BALANCES OF PRIOR YEAR APPROPRIATIONS, AND PAYMENTS THEREON DURING THE YEAR

THE ROCKEFELLER FOUNDATION

		APPROPRIA-TIONS	1929 PAYMENTS
UNIVERSITIES AND OTHER EDUCATIONAL INSTITUTIONS			
Medical Science Education			
Albany Medical College			
Organization of extension in medical education (RF 29056)	\$20,000.00	\$20,000.00	
American University of Beirut			
Endowment (RF 29029)	750,000.00	750,000.00	
Maintenance and equipment (CA 21088)	4,200.00	
China Medical Board, Inc.			
General purposes (RF 28134, 29020, 29036)	534,000.00	534,000.00	
Salary and expenses of director (RF 29067)	83,334.00	23,334.00	
Chulalongkorn University			
Library aid (ME 21148)	545.52	545.52	
Equipment and supplies for medical, premedical, and nursing schools (ME 21059, 21093, 21148)	5,810.41	734.08	
Visiting professors and nurse leaders (RF 28039, 29110)	181,679.20	42,925.77	
Faculty of Medicine, São Paulo, Brazil			
Laboratory aid (ME 21092)	5,000.00	598.11	
National Central University			
Medical School, Shanghai. Maintenance (RF 29039)	143,000.00	12,538.23	
National School of Medicine and Pharmacy, Port au Prince, Haiti			
Teaching equipment (ME 21164)	15,000.00	7,806.85	
Peiping Union Medical College			
Maintenance in China			
Year 1927-28 (ME 21222)	113,841.49	876.62	
Year 1928-29 (ME 28041)	220,646.95	220,646.95	
Expenses in the United States			
Year 1928-29 (ME 28042)	30,000.00	30,000.00	

TREASURER'S REPORT

Commutation and excess salaries of foreign and visiting professors and travel of visiting professors (ME 28121, 28122, 29038)	\$125,892.00	\$11,770.09
Library (CM 2624)	287.34	45.77
Movable equipment (CM 2614, 2746, CA 28136, ME 21246)	38,294.27	21,864.99
Accessories (CM 2529, 2783, ME 21247)	30,544.26	5,502.12
Depreciation, Peiping stores (CM 2760)	115,637.23	16,762.72
Honor scholarships (ME 21224)	1,000.00	542.50
Shanghai Union Medical College, China		
In recognition of services in completing the education of former Hunan-Yale students (ME 28067)	24,000.00	13,389.83
Shantung Christian University School of Medicine		
Maintenance (ME 21220, 28125, 29119)	69,000.00	7,987.50
University of Cambridge, England		
Toward endowment of School of Pathology (ME 21103)	65,131.06	54,157.39
University of Edinburgh		
Toward development of clinical teaching in its Medical School (ME 21056, 21085)	9,295.51	4,273.11
Department of surgery. Endowment (ME 28129)	50,000.00	48,493.13
University of Lyon, Faculty of Medicine and Pharmacy		
Interest on endowment (ME 21252, 28139), (RF 29153)	12,635.00
University of Montreal, Canada, Faculty of Medicine		
Development of laboratories (ME 21236, 28140)	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)	44,000.00	22,000.00
Dalhousie University, Halifax, Nova Scotia		
Department of Hygiene (ME 21173)	8,000.00	7,197.50
Harvard University School of Public Health. Endowment (ME 28145)	990,000.00	990,000.00
University of the Philippines, Manila		
Graduate School of Hygiene and Public Health		
Equipment, supplies, and journals (ME 28090)	10,000.00	10,000.00
Salary and travel of two visiting professors (ME 28091)	37,200.00	108.27

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EXHIBIT D—Continued

UNIVERSITIES AND OTHER EDUCATIONAL INSTITUTIONS—Continued

Public Health Education—Continued

University of Zagreb, Yugoslavia, Department of Hygiene Equipment and maintenance (ME 21198).....	\$20,000.00	\$16,000.00	THE
Field training in hygiene (ME 28092).....	15,000.00	10,000.00	ROCKEFELLER FOUNDATION

Nursing Education

Belgrade School of Nursing, Yugoslavia Resident scholarships and development of teaching facilities (ME 2908).....	1,089.37	
D. Ogden Mills Training School for Nurses, Saranac Lake, New York Maintenance (ME 21126).....	5,000.00	3,000.00	
George Peabody College for Teachers, Nashville, Tennessee Education in public health nursing (ME 21125).....	12,000.00	8,000.00	
Sleeper Davis Hospital, Peiping School of Nursing. Maintenance (CM 2786).....	1,160.38	402.76	
Nursing centers at Paris, Lyon, and Nancy, France Salaries of instructors (DS 21119).....	1,952.47	
St. Luke's International Hospital and College of Nursing, Tokyo, Japan Educational features of the School of Nursing (ME 21129).....	35,000.00	12,500.00	
School of Public Health and Bedside Nursing, Zagreb Scholarships and salary of an assistant (RF 2913).....	1,765.54	1,765.54	
School for Public Health Nurses, Cluj, Rumania (RF 29112).....	10,000.00	
Secrétan Dispensary, Paris, France Maintenance of training center (DS 21122).....	397.32	
State Central School of Nursing, Budapest, Hungary Maintenance (ME 28089).....	8,000.00	
University of Cracow, Poland, School of Public Health and Bedside Nursing Salaries and scholarships (ME 2927).....	18,648.01	6,044.80	
University of Debreczen, Hungary, School of Nursing. Maintenance (ME 21197).....	7,000.00	6,000.00	

University of Lyon School of Nursing			
Health center for the field training of nurses (ME 29027)	\$50,000.00	\$12,000.00	
Vanderbilt University, Nashville, Tennessee			
Educational features of the School of Nursing (ME 21123, RF 29121)	135,000.00	20,000.00	
Nurse training courses (ME 21124)	10,500.00	7,000.00	
Warsaw State School of Nursing, Poland			
Improvement of its teaching service (ME 28128)	5,000.00		
Yale University School of Nursing			
Endowment (ME 28386)	1,000,000.00	1,000,000.00	
Maintenance of educational features (ME 21225)	42,500.00	472.22	
Equipment, supplies, and incidentals (ME 21174)	21,180.05	9,731.89	
Social Science Education			
American University of Beirut			
For work in social science and commercial education (LS 734, 735)	16,800.00	8,456.65	
Atlanta School of Social Work, Georgia			
Toward its general budget (LS 697)	15,618.88	10,180.06	
Children's Village, Inc., Dobbs Ferry, New York			
Toward support of national training school for institution executives and workers (LS 745)	26,949.27	26,949.27	
- German Institute for Political Science, Berlin. Toward its general budget (LS 923)	5,722.74	5,722.74	
National Catholic School of Social Service, Washington, D. C.			
Toward its budget for instruction (LS 794)	18,750.00	11,250.00	
New York School of Social Work			
Courses for institution workers (RF 29053)	30,000.00	5,000.00	
Tulane University of Louisiana, New Orleans			
Toward expansion program of its training course in social work (LS 821,822)	57,000.00	25,500.00	
University of Chicago, Graduate School of Social Service Administration			
General endowment (LS 708, 809)	1,000,000.00		
Toward current expenses (LS 709)	126,250.00	41,300.00	
Western Reserve University, Cleveland, Ohio			
Toward expansion program of its School of Applied Social Sciences (LS 783,784)	80,000.00	25,000.00	

EXHIBIT D—Continued

UNIVERSITIES AND OTHER EDUCATIONAL INSTITUTIONS—Continued

Social Science Education—Continued

Yenching University, Peiping, China

Strengthening work of its College of Applied Social Sciences (LS 946).....

	APPROPRIA-TIONS	1929 PAYMENTS	302
Yenching University, Peiping, China Strengthening work of its College of Applied Social Sciences (LS 946).....	\$140,000.00	\$20,000.00	THE ROCKEFELLER FOUNDATION
Natural Science Education			
China			
Fukien Christian University, Foochow Maintenance of science departments (CM 2373, RF 29030).....	25,817.41	9,317.41	
Ginling College, Nanking Maintenance of science departments (CM 2721).....	2,672.72	
Lingnan University, Canton Maintenance of science departments (CM 2761).....	15,105.00	
Nankai University, Tientsin Maintenance of science departments (CM 2734).....	3,683.43	1,050.85	
National Central University, Nanking Maintenance of science departments (CM 2762).....	9,900.00	4,974.87	
St. John's University, Shanghai Maintenance of science departments (CM 2679).....	3,506.25	915.00	
Shanghai College Maintenance of science departments (CM 2688).....	1,733.75	
Shantung Christian University, Tsinan Maintenance of science departments (CM 2729).....	12,157.31	5,162.62	
Soochow University Maintenance of science departments (CM 2674).....	2,035.00	920.00	
Tsing Hua University, Peiping Maintenance of science departments (CM 2749).....	1,800.00	460.81	
Yenching University, Peiping Maintenance of science departments (CM 2717).....	38,657.54	
Toward endowment of science departments (RF 29078).....	250,000.00	250,000.00	

Departmental Development				
Harvard University				
Aid to library of the Graduate School of Business Administration (LS 819).....	\$100,445.64	\$25,649.52		
Buildings, equipment, and endowment of research in astronomy (RF 29130).....	500,000.00		
Toward support of School of City Planning (RF 29072).....	240,000.00		
Keio Gijuku University, Tokyo, Japan				
Salary and expenses of visiting professors in the biological sciences (ME 21168).....	66,500.00	8,196.76		
London School of Economics and Political Science				
Building extension, library aid, and maintenance (LS 627).....	23,326.25	15,594.69		
New York School of Social Work				
Toward development of faculty and research program (LS 752).....	100,000.00	25,000.00		
Northwestern University				
Toward support of the Institute for Research in Land Economics and Public Utilities (LS 661, RF 29074).....	50,000.00	30,000.00		
Syracuse University				
Aid to research work of School of Citizenship and Public Affairs (RF 29049, 29050)	30,000.00	10,000.00		
Tohoku Imperial University, Sendai, Japan				
Salary and expenses of visiting professors in the biological sciences (ME 21167).....	54,751.73	6,846.90		
University of California				
Toward a program for graduate training and research in public administration (RF 29108).....	182,000.00		
University of Chicago				
Assistance in connection with research program in the social sciences (LS 813)....	148,382.94	32,870.22		
University of Minnesota				
Toward establishment of a laboratory for rock analysis (RF 29058).....	15,000.00	3,000.00		
University of North Carolina				
Research professor in economic theory (LS 974).....	20,000.00		
Yale University Institute of Human Relations				
Development of psychiatry and care of individuals under observation (RF 29002)	1,000,000.00	50,000.00		
Expenses of Institute of Psychology (LS 456).....	10,000.00	10,000.00		
Maintenance of an anthropoid breeding station (RF 29090).....	385,000.00	12,500.00		303

EXHIBIT D—Continued

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UNIVERSITIES AND OTHER EDUCATIONAL INSTITUTIONS—Continued

Research Programs

Alaska Agricultural College and School of Mines

Study of the aurora (RF 29118)

APPROPRIA-TIONS 1929 PAYMENTS

\$10,000.00 \$.

Columbia University

Research in medical mycology (RF 29027)

50,000.00

Research in the social sciences (LS 574, 575, 678, 949, 950)

207,701.08 25,499.27

Research and field work with Greenwich House (RF 29070)

15,000.00 2,500.00

Study of familial law (LS 917)

19,855.84 18,341.79

Study of compensation for automobile accidents (RF 29071)

70,000.00

Harvard University

Toward its survey of crime and criminal justice (LS 688, 758, 890, RF 29117)

28,482.21 17,543.65

Research in the field of business (LS 807)

87,014.49 22,841.74

Work in industrial psychology (LS 684)

32,777.09 12,729.26

Research in international law (RF 29048)

60,000.00

Research in economics (RF 29068)

150,000.00 15,000.00

Studies in kala-azar (RF 29043)

2,250.00

Harvard University and Radcliffe College

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

557,252.04 43,095.29

Johns Hopkins University, The

Biological research (RF 28135, 29155)

71,500.00 47,000.00

Research and graduate work in its Department of Chemistry (RF 29101)

40,000.00 10,000.00

Study of obstetrical records (RF 29041)

35,600.00

London School of Economics and Political Science

Research Fund (LS 956, 994)

100,000.00 20,000.00

McGill University

Development of research in surgery (RF 29003)

85,000.00 15,000.00

THE ROCKEFELLER FOUNDATION

Peiping Union Medical College			
Diet investigations (CM 2539)	\$981.09	Cr. \$25.69	
Field study in anthropology (RF 28035)	5,885.79	4,315.87	
Field studies in kala-azar (CM 2733)	1,491.89	99.57	
Human paleontological research in Asia (RF 29047)	80,000.00	6,700.97	
Princeton University			
Support of research work of the Department of Geology (RF 29079)	100,000.00	
Stanford University			
For development of program in the social sciences (LS 786, 787)	180,000.00	47,500.00	
Research in diseases of the kidney (RF 29042)	3,000.00	3,000.00	
University of California			
Study of chemical aspects of vitamins and hormones (RF 29099)	50,000.00	
University of Chicago			
Aid to social science facilities (LS 810)	114,308.16	
Determination of velocity of light in vacuo (RF 29031)	15,000.00	
Program of local community research (LS 811, 812)	295,000.00	72,483.40	
Publication of volumes on comparative civic education (LS 959)	10,000.00	4,192.56	
Research work in the biological sciences (RF 29083)	150,000.00	15,000.00	
Studies in comparative philology (RF 29135)	50,000.00	
Study of methods of civic education (LS 624)	13,258.31	5,709.92	
Toward research program of its Department of Anthropology (RF 29069)	75,000.00	7,500.00	
University of Denver, Colorado			
Toward support of Bureau of Statistical Research (LS 610)	17,500.00	
University of Hawaii			
Sociological research (RF 29051)	25,000.00	
Study of biological, mental, and social conditions of people of Hawaii (ME 21231)	60,000.00	20,000.00	
University of Liverpool, England			
Social survey of the Liverpool district (LS 987)	25,000.00	15,000.00	
University of North Carolina			
Program in the social sciences (LS 792)	135,000.00	40,000.00	
	15,000.00	5,000.00	

EXHIBIT D—*Continued*

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UNIVERSITIES AND OTHER EDUCATIONAL INSTITUTIONS—*Continued***Research Programs—*Continued*****University of Pennsylvania**

Development of work in the Department of Industrial Research in the Wharton School of Finance and Commerce (LS 839)

\$100,000.00
75,000.00

1929
PAYMENTS

Study of living tissues (RF 29064)

.....

University of Rochester School of Medicine and Dentistry

Development of a habit training clinic in the Department of Psychiatry (RF 29063)

124,000.00

5,875.00

Fluid research fund (RF 29026)

100,000.00

15,000.00

Special research in dental pathology (RF 29040, 29123)

27,700.00

.....

University of Stockholm, Sweden

Aid to research in the social sciences (LS 614)

26,250.00

15,000.00

University of Texas, Austin

Development of program in the social sciences (LS 790, 791)

175,000.00

40,000.00

University of Toronto

For research in its Department of Pediatrics (RF 29028)

40,000.00

.....

University of Vermont, Burlington

Survey of rural life in Vermont (LS 942)

78,014.08

20,029.95

University of Virginia, Charlottesville

Toward program of research in the social sciences (LS 707)

125,188.54

23,106.61

Yale University

Assistance for investigations to be conducted by the School of Law (LS 900)

55,000.00

22,000.00

Research in psychology, child development, and social science (LS 710, RF 29008)

1,560,017.02

95,001.74

Experiments in photographic work with children (LS 711)

18,284.77

2,533.49

Promotion of anthropoid research (ME 21114)

5,000.00

5,000.00

School of Medicine

Fluid research fund (RF 29147)

147,500.00

.....

Special research in dental pathology (CA 28383, RF 29120)

45,000.00

3,943.30

THE ROCKEFELLER FOUNDATION

Land and Buildings

All-India School of Hygiene and Public Health Buildings and equipment (ME 28381)	\$604,000 00	\$350,000.00
American University of Beirut Buildings and equipment for its Medical School (ME 21244)	250,000.00	120,000.00
Chulalongkorn University, Medical School building (ME 21149)	1,766.55	1,265.41
Faculty of Medicine, São Paulo, Brazil Buildings and equipment (ME 21239, 21240)	217,181.58	47,815.46
Keio Gijuku University College of Medicine Building and equipment (ME 28144)	75,000 00	75,000 00
National Central University, Nanking Construction and equipment of science building (CM 2587, 2588)	36,576.00	22,372 91
Peiping Union Medical College Purchase of land (CM 2381)	799 60	
Buildings and fixed equipment (CM 2646, 2782, 21248, ME 21245)	190,819.96	174,520 56
Insurance on buildings (CM 2684)	390 56	
Fundamental repairs, alterations, additions, and improvements to the buildings and equipment (ME 21172, 21249)	7,210 43	2,336 80
St. Thomas's Hospital, London Erection and equipment of diet kitchen (ME 21154)	10,000 00	9,495 39
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	
State Central School of Nursing, Budapest, Hungary Building and equipment (ME 28088)	80,000 00	30,000.00
Tsing Hua University Toward biology building and equipment (CM 2750, RF 29102)	43,018 58	1,152.02
University College Hospital, London Buildings and equipment (ME 28040)	105,000.00	105,000.00

EXHIBIT D—Continued

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UNIVERSITIES AND OTHER EDUCATIONAL INSTITUTIONS—Continued

Land and Buildings—Continued

	APPROPRIA-TIONS	1929 PAYMENTS	THE ROCKEFELLER FOUNDATION
University of Chicago Toward construction, equipment, and endowment of maintenance of a building for the social sciences (LS 808)	\$1,100,000.00	\$319,252.00	
University of Cracow, Poland School of Public Health and Bedside Nursing Buildings and equipment (ME 2833)	40,428.59	40,428.59	
University of Debreczen School of Nursing Buildings, equipment, and furnishings (ME 21195, 21196)	9,443.41	9,438.59	
University of Edinburgh Reconstruction of Medical School building (RF 29065)	170,800.00	169,708.13	
University of Lyon Toward land and building for Faculty of Medicine and Pharmacy (ME 21242, 28138, 29152)	1,540,418.27	617,881.95	
University of Nancy, France, Institute of Hygiene Building improvements (ME 29019)	25,000.00	4,658.91	
University of Utrecht, Netherlands Laboratory building for physiology (ME 28120)	165,000.00	160,060.00	
Warsaw State School of Nursing Building and equipment (ME 21166)	77,573.95	77,573.95	
Yale University Building and equipment of Institute of Human Relations (RF 29001) Establishment of an anthropoid breeding station (RF 29009, 29090)	1,500,000.00 115,000.00	150,000.00 10,000.00	
RESEARCH INSTITUTIONS AND ORGANIZATIONS			
Medical Science Education China Medical Association Toward general budget (CM 2770)	19,421.24	4,179.41	

Social Science Education			
Laboratory of Anthropology, Santa Fe			
Support of field training course in anthropology (LS 992, RF 29116).....	\$75,000.00	\$15,000.00	
General Development			
American Historical Association, Washington, D. C.			
Support of the International Committee of Historical Sciences (LS 564, 951).....	43,001.17	8,589.32	
American Institute of Cooperation, Washington, D. C.			
Toward its general budget (LS 901).....	11,672.87	10,707.00	
American Schools of Oriental Research, Bagdad and Jerusalem			
Toward current expenses (RF 29134).....	250,000.00	
Endowment (RF 29134).....	250,000.00	
Australian National Research Council, Sydney			
Visiting professors (ME 21203).....	42,422.03	10,837.31	
Bermuda Biological Station for Research, Inc.			
Toward development of station (RF 29129).....	245,000.00	
Brookings Institution, Inc., Washington, D. C.			
Toward its general endowment (LS 929).....	2,000,000.00	
Toward support of research (LS 886).....	206,250.00	56,250.00	
Economic Foundation, New York City			
Support of National Bureau of Economic Research (LS 930).....	125,000.00	
Institute of Comparative Research in Human Culture, Oslo, Norway			
Toward its general budget (LS 1006).....	20,000.00	
Institute of Economics and History, Copenhagen, Denmark			
Toward its general budget (LS 947).....	18,000.00	6,000.00	
Institute of International Affairs, Hamburg, Germany			
To provide research assistance and facilities (LS 615).....	8,000.00	
Institute of Pacific Relations, Honolulu			
Toward its general program (RF 29109).....	35,000.00	35,000.00	
International Institute for the Study of African Languages and Cultures, London			
Toward its general budget (LS 740).....	10,000.00	5,000.00	
Marine biological stations, France			
Support of stations at Roscoff and Banyuls (RF 29021).....	24,000.00	11,741.68	500

EXHIBIT D—Continued

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RESEARCH INSTITUTIONS AND ORGANIZATIONS—Continued

General Development—Continued

	APPROPRIA-TIONS	1929 PAYMENTS	THE ROCKEFELLER FOUNDATION
National Bureau of Economic Research, New York City Toward its general budget (RF 29073)	\$375,000.00	\$37,500.00	
National Institute of Industrial Psychology, London Toward its general budget (LS 612)	17,500.00	10,000.00	
National Institute of Public Administration, New York City Toward its general budget (LS 789)	20,000.00	20,000.00	
National Medical Association of China, Shanghai Toward current expenses (ME 28068)	5,675.50	1,664.35	
Postgraduate Institute of International Studies, Department of Public Instruction of the Canton of Geneva, Switzerland Maintenance (LS 724, RF 29136)	910,755.38	19,252.50	
Visiting professors (LS 945)	15,000.00	11,507.39	
Royal Anthropological Institute, London Toward its general budget (LS 603)	3,500.00	3,500.00	
Social Science Research Council, New York City Toward its general budget (LS 626, 875)	502,500.00	42,500.00	
Research Programs			
American Council of Learned Societies, Washington, D. C. Researches in paleography (RF 29133)	75,000.00	
American Law Institute, Philadelphia Toward preparation of a code of laws and court rules relating to criminal procedure (LS 889)	45,492.43	27,593.53	
Association of American Medical Colleges, Chicago Study of medical curriculum in America (CA 21101)	17,000.00	7,000.00	
Australian National Research Council Anthropological studies (DS 21111, 21229)	49,519.91	8,217.71	

Bernice P. Bishop Museum, Honolulu			
Research in Polynesian anthropology (ME 21116).....	\$32,600.00	\$10,000.00	
Biological studies in South Africa (RF 29007).....	1,000.00	1,000.00	
Bureau of Social Hygiene, New York City			
For the Crime Commission Study (LS 887).....	9,220.67	6,098.49	
Canadian National Committee for Mental Hygiene, Toronto			
Toward program of mental hygiene and social science research in Canadian universities (LS 943).....	135,000.00	22,200.00	
Studies in the application of mental hygiene to school children (ME 21108).....	7,500.00	7,500.00	
Cities Census Committee, Inc., New York City			
Toward its general budget (RF 29052).....	10,000.00	5,000.00	
Council on Foreign Relations, New York City			
Research on American foreign policy (LS 850).....	120,000.00	30,000.00	
Detroit Bureau of Governmental Research, Inc.			
Preparation of uniform system of crime accounting (LS 864).....	35,643.42	26,609.24	
Economic Foundation, New York City			
International study of the history of prices (RF 29138).....	250,000.00	
Field Museum of Natural History, Chicago			
Aid in securing photographs of types of botanical specimens (RF 29006).....	15,000.00	5,000.00	
Institute for Social and Political Sciences, University of Heidelberg, Germany			
Research in the social sciences (LS 984).....	60,000.00	9,367.11	
Institute of Comparative Research in Human Culture, Oslo, Norway			
Toward expenses of expedition to Kola Peninsula (LS 721)	35,000.00	
Institute of Pacific Relations, Honolulu			
Toward program of research in the social sciences (LS 773, 995, 996).....	125,000.00	50,000.00	
Massachusetts Department of Mental Diseases, Boston			
Study of the insane and the mentally defective (LS 957)	84,576.93	40,749.07	
Massachusetts Society for Mental Hygiene, Boston			
Work in field of mental disorders (LS 944).....	40,000.00	20,000.00	
National Committee for Mental Hygiene, New York City			
Surveys in the care and treatment of mental diseases (ME 21105).....	9,923.08	4,743.86	311
General expenses (DS 21106).....	2,500.00	2,500.00	

EXHIBIT D—Continued

	APPROPRIA- TIONS	1929 PAYMENTS
RESEARCH INSTITUTIONS AND ORGANIZATIONS—Continued		
Research Programs—Continued		
National Research Council, Washington, D. C.		
Study of physical causes of deafness (LS 647, 988).....	\$9,626.53	\$4,053.38
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
Smithsonian Institution		
Research in radiation (RF 29022).....	1,500.00
Social Science Research Council, New York City		
Toward research work (LS 876).....	708,925.52	124,081.92
Toward project budget (LS 751, 832).....	63,683.03	45,460.13
Projects in the field of human migration (LS 548, 670).....	2,508.03	2,465.54
Conferences of social scientists (LS 878, 985).....	18,909.97	952.52
Welfare Council of New York City		
Support of its Research Bureau (LS 736, RF 29075).....	212,500.00	62,500.00
Land and Buildings		
Kaiser Wilhelm Society for the Promotion of Science		
Building program in connection with Institute for Brain Research (RF 29062).....	317,000.00	315,685.25
SPECIAL COMMITTEES AND COMMISSIONS		
Committee on Cost of Medical Care, Washington, D. C.		
General budget (CA 28380).....	80,000.00	40,000.00
Committee on Grading of Nursing Schools, New York City		
General expenses (ME 21226).....	15,000.00	5,000.00
President's Conference on Unemployment, Washington, D. C.		
Study of economic changes (LS 881).....	61,806.09	25,803.64
President's Research Committee on Social Trends, Washington, D. C.		
Research on recent social changes (RF 29154).....	560,000.00

FELLOWSHIPS AND GRANTS IN AID

American Council of Learned Societies

Fellowships in field of humanistic studies (RF 29084).....	\$90,000.00	\$.....
Grants in aid, support of projects and administration (RF 29085).....	280,000.00	4,153.56
Researches in the humanistic sciences by American scholars (LS 972).....	15,000.00	5,000.00

American School of Classical Studies, Athens

Fellowships in archeology in connection with the excavation of the Athenian Agora (RF 29019).....	20,200.00	9,600.00
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Australian National Research Council

Fellowships in anthropology (ME 21184).....	11,327.03	2,160.83
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Developmental Aid. Europe

Constructive program of aid to medical education without capital expenditure (ME 21094, 28369, 21207).....	166,108.01	79,362.20
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Fellowships Administered by Foundation

Human biology (DS 21081, ME 21217).....	10,959.25	2,626.81
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Humanities (RF 29105, 29142).....	80,000.00	3,000.00
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Medical sciences

Foreign fellowships (ME 21212, 28375, 29140).....	666,893.57	169,705.71
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Resident fellowships and scholarships in Germany (ME 21090).....	5,421.38	5,321.79
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Natural sciences (ME 28151, RF 29077, 29100).....	400,000.00	22,468.72
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Nursing (ME 21216, 28376, 29149).....	153,295.73	24,299.46
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Social sciences (LS 862, 964, 997, RF 29141).....	877,643.89	267,064.29
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Hungarian Scholarship Council

Foreign scholarships in medicine (RF 29111).....	18,000.00
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Laboratory Aid. Europe

Equipment and supplies for medical departments and returned foreign fellows in the medical sciences (ME 2974, 21091, 21206).....	42,363.96	11,449.23
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Medical Research Council, Great Britain

Fellowships in the medical sciences (ME 21046, 28126).....	54,951.46	18,678.22
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National Committee for Mental Hygiene, New York City

Fellowships in mental hygiene (ME 21107, 29148).....	30,804.03	3,541.63
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EXHIBIT D—Continued

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FELLOWSHIPS AND GRANTS IN AID—Continued

	APPROPRIA-TIONS	1929 PAYMENTS	THE ROCKEFELLER FOUNDATION
National Research Council, Washington, D. C.			
Fellowships			
Biological sciences (RF 21233, 29004, 29005, 29132).....	\$660,852.76	\$73,657.15	
Medical sciences (ME 21098, 21232, 29060).....	224,170.95	51,188.42	
Physical sciences (RF 21234, 29131).....	517,083.21	120,364.53	
Research aid fund (RF 29061).....	100,000.00	25,000.00	
Notgemeinschaft der Deutschen Wissenschaft			
Fellowships in the medical sciences (ME 21181, 28127).....	66,563.23	16,950.46	
Peiping Union Medical College			
Foreign fellowships for staff (RF 21214, 29123, 29128).....	113,777.27	18,849.00	
Fellowships in Peiping Union Medical College for residents of China, Japan, and Far East (RF 21215, 28124, 29128).....	50,409.59	4,885.75	
Research Aid Funds			
Medical sciences			
Europe (RF 29024, 29127).....	200,000.00	2,430.00	
China (ME 21221, 28370, RF 29150).....	17,123.87	5,072.87	
Natural sciences			
Europe (RF 29025).....	25,000.00	1,564.90	
China (RF 28150, 29046).....	10,000.00	3,822.45	
Social Science Research Council, New York City			
Graduate fellowships in agricultural economics and rural sociology (LS 910).....	150,000.00	29,564.95	
Fellowships in the social sciences (LS 500, RF 29139).....	426,660.57	76,180.28	
Travel of individuals and commissions (ME 21208, 28371, RF 29095).....	49,262.52	9,777.16	
Travel of nurse leaders (ME 21183, 21210, 28104, 28373, 29045).....	43,768.85	20,582.05	
MISCELLANEOUS			
American Library in Paris			
Toward support of a reference service on international affairs (LS 872)	12,500.00	6,250.00	

American Medical Association			
Toward loss in publishing a Spanish edition of its Journal (ME 21099, 21100).....	\$24,549.77	\$3,268.86	
American Psychological Association, Princeton, New Jersey			
<i>Psychological Abstracts</i> (LS 694)	57,783.31	8,755.47	
American Type Culture Collection			
Toward general budget (RF 29057).....	10,000.00	
Bibliographical Society of America			
Toward expenses in securing subscriptions to the Catalogue of the British Museum (RF 29088)	1,000.00	
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).....	80,500.00	
Toward additional service in connection with the new edition of the Catalogue of Printed Books (RF 29087)	9,400.00	
Bulletins and reprints			
(ME 21209, CA 28372, 29124, RF 29044).....	52,034.82	27,034.82	
Council on Adult Education for the Foreign Born, New York City			
Toward its general budget (LS 704).....	127.16	
Encyclopaedia of the Social Sciences			
Toward expenses of production and distribution (LS 814, RF 29059).....	152,706.00	86,127.59	
Hospital and clinic service			
Research and teaching (ME 21211, 29122).....	43,924.94	29,838.23	
Hospitals in China			
American Baptist Foreign Mission Society			
Ningpo. Maintenance (CM 276).....	8,250.00	
Shaohsing. Maintenance (CM 277)	6,000.00	
Board of Missions of the Methodist Episcopal Church, South			
Huchow. Maintenance (CM 2752).....	2,100.00	2,100.00	
American Board of Commissioners for Foreign Missions			
Fenchow. Maintenance (CM 2757).....	6,600.00	6,600.00	
Tehchow. Maintenance (CM 2784).....	7,000.00	2,252.53	

EXHIBIT D—Continued

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MISCELLANEOUS—Continued

Hospitals in China—Continued

		APPROPRIA-TIONS	1929 PAYMENTS	
Board of Foreign Missions of the Methodist Episcopal Church				
Peiping. Maintenance (CM 2675).....		\$3,000.00	\$3,000.00	
Wuhu. Maintenance (CM 2718).....		5,354.32	1,356.43	
Buildings and equipment (CM 2499).....		4,726.61	4,726.61	
Board of Foreign Missions of the Presbyterian Church in the United States				
Changteh. Maintenance (CM 2604, 2781).....		14,750.00	5,132.23	
Chefoo. Maintenance (CM 2603, 2780).....		13,750.00	6,750.00	
Hwaiyuen. Maintenance (CM 2699).....		8,602.28	5,371.36	
Paotengfu. Maintenance (CM 2572, 2779).....		13,500.00	7,500.00	
Board of Missions of the Methodist Episcopal Church, South				
Soochow. Maintenance (CM 2764).....		11,550.00	2,790.00	
Church of Scotland Foreign Mission Committee				
Ichang. Maintenance (CM 289, 2719).....		9,325.00	650.00	
Domestic and Foreign Missionary Society of the Protestant Episcopal Church in the United States				
Anking. Maintenance (CM 2701).....		3,000.00	2,000.00	
Foreign Mission Board of the Southern Baptist Convention				
Yangchow. Maintenance (CM 2765).....		1,865.00	
University of Nanking Hospital				
Maintenance (CM 2763).....		21,320.64	8,775.00	
United Christian Missionary Society				
Luchowfu. Maintenance (CM 2785).....		11,000.00	
Nantungchow. Maintenance (CM 2218).....		7,291.26	898.70	
Humanistic studies in Europe (LS 919, RF 29032).....		36,360.00	16,232.86	
Laboratory Course in Physiology				
Purchase and distribution of Spanish edition of text book (ME 28093).....		1,000.00	

League of Nations				
Publication of monetary and banking laws (RF 29076)	\$40,000.00	\$.		
Library of the Society of Physicians, Vienna, Austria				
Medical literature (ME 21153)	1,574.39	941.45		
Medical Literature. Aid in Europe (ME 21089, 28385)	9,168.41	7,223.57		
Missions institutions and medical schools in China				
Loss in exchange on Foundation appropriations (CM 2503)	15,000.00			
National Research Council, Washington, D. C.				
<i>Biological Abstracts</i> (ME 21110, 21228)	186,329.37	66,939.17		
Conference of its Division of Anthropology and Psychology (LS 952)	17,786.46	13,796.92		
Toward work of the Committee on Child Development (LS 656)	13,075.67	7,974.59		
New York Academy of Medicine				
Endowment (ME 28141, 28151)	750,000.00	500,000.00		
Interest on endowment (ME 28142)	12,500.00	12,500.00		
Social Science Research Council, New York City				
<i>Social Science Abstracts</i> (LS 877)	500,000.00	74,635.30		
Summer conference, 1928, Hanover, New Hampshire (LS 935)	7,206.12			
Society of the Friends of the Bibliothèque Nationale, Paris				
Toward expenses of printing its General Catalogue (RF 29089)	12,000.00	1,000.00		
United Hospital Fund, New York City				
For transferring to permanent agencies activities of the Committee on Dispensary Development (ME 21227)	24,000.00	15,750.00		
University of Oxford				
Preliminary studies in connection with the Bodleian Library (RF 29097)	25,000.00			
PUBLIC HEALTH				
International Health Division				
For work in prior years				
(See Exhibit E)	\$1,683,849.30			
For work in 1929				
(See Exhibit E)	3,690,025.00	\$5,373,874.30	\$2,408,579.05	

EXHIBIT D--Continued

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THE ROCKEFELLER FOUNDATION

PUBLIC HEALTH--Continued

International Health Division--Continued

Revolving fund

	APPROPRIA-TIONS	1929 PAYMENTS
To provide working capital for the International Health Division (RF 29093).....	\$200,000.00	\$.....
For work in 1930 (RF 29143)	2,930,820.00
Central Institute of Hygiene of the Turkish Republic, Angora		
Construction, installation, and equipment of a Service School of Hygiene (RF 29010)	200,000.00
League of Nations, Health Organization. Epidemiological intelligence, public health statistics, public health documentation, international interchange of public health personnel (RF 29092)	723,975.00
United States Public Health Service		
Development of child health measures in county health programs (RF 29107).....	100,000.00

GENERAL*

Agricultural club work

Sweden (RF 29081, 29082).....	39,100.00	7,328.88
Finland (RF 29080).....	17,000.00	3,609.03

American Association for Adult Education, New York City

Toward budget of the National Council of Parent Education (LS 927, 928).....	56,290.24	20,277.28
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American Association of Museums, Washington, D. C.

Survey of educational work (LS 913).....	8,182.48	6,258.86
Trailside museums in national parks (LS 685, 912).....	118,018.44	28,299.13
Toward general budget (LS 695).....	7,500.00	6,493.62

American Association of University Women, Washington, D. C.

Publication fund (LS 664)	657.13
Work of educational secretary (LS 663).....	18,504.30	6,004.30

* 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.

American College for Girls at Constantinople in Turkey For establishing memorial in name of Laura Spelman Rockefeller (LS 1012).....	\$750,000.00	\$750,000.00
American Council on Education, Washington, D. C. Toward development of Institute of International Education, New York City (LS 825)	60,935.52	60,674.06
American Home Economics Association, Washington, D. C. Child study and parent education center (LS 823).....	57,881.19	21,517.20
Maintenance of consulting service in field of child study and child care (LS 621).....	13,978.69	7,404.78
American Library Association, Chicago, Illinois Publication of list of foreign government serials (LS 756).....	24,702.46	12,787.32
American Library in Paris, France Toward general budget (LS 871, RF 29098).....	49,503.50	8,725.27
Association for Improving the Condition of the Poor, New York City Mulberry Health Center (LS 510).....	16,666.68	16,666.68
Association for the Study of Negro Life and History, Washington, D. C. Publication fund (LS 29103).....	10,000.00	10,000.00
Boy Scouts of America, New York City Development of younger boy program (LS 858).....	27,491.17	19,114.84
Work among special racial groups (LS 666, 970).....	38,707.33	12,787.85
Revolving fund for benefit of magazine Boys' Life (LS 560).....	49,001.00
Child Study Association of America, New York City Toward support of Extension Division (LS 779, 780).....	75,000.00	45,000.00
Child study fellowship program (LS 918).....	56,916.43	38,954.94
Children's Welfare Federation of New York City, Inc. Toward its general budget (LS 936).....	5,000.00	5,000.00
China emergency fund (CA 21169).....	13,242.69	Cr. 1,416.09
Cleveland Community Fund, Cleveland, Ohio Toward general budget (LS 989).....	18,750.00	18,750.00
Cleveland Foundation Child study and parental education center (LS 657, 1007, 1008).....	25,184.11	4,101.98
Commission on Interracial Cooperation, Atlanta, Georgia Toward general budget (LS 885, 999).....	414,889.25	33,977.75

EXHIBIT D—Continued

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THE ROCKEFELLER FOUNDATION

GENERAL—Continued

	AFFROPIRA- TIONS	1929 PAYMENTS
Conference expenses (LS 854).....	\$10,489.06	\$7,337.53
Connecticut College for Women, New London		
Study of ethnic factors of community life (LS 973, RF 29104).....	14,700.00	5,980.81
Coordinating Council on Nature Activities, New York City		
Toward its general budget (LS 805).....	15,734.04	10,248.01
Cornell University, Ithaca, New York		
Work in child study and parent education (LS 527, 654, 1009).....	58,000.00	49,250.00
Durham Fact Finding Conference, North Carolina		
Toward expense of 1929 conference (LS 983).....	1,500.00	1,500.00
East Harlem Health Center, Inc., New York City		
Toward its general budget (LS 937).....	20,200.00	8,300.00
Toward nursing and health demonstration (LS 1003, RF 29125).....	69,958.34	36,500.00
Federated Societies on Planning and Parks, Washington, D. C.		
Publicity work in connection with survey of state parks and forests (LS 772)	2,283.94	2,283.94
Fisk University, Nashville, Tennessee		
Teaching and equipment in field of the social sciences (LS 826).....	128,800.00
Research work in the social sciences (LS 827, 828).....	55,700.00
Foreign Language Information Service, New York City		
Toward its general budget (LS 497).....	72,596.30	16,149.83
Georgia State College of Agriculture and Mechanic Arts, Athens		
Child study and parent education center (LS 856, 857).....	30,687.50	15,280.15
Girl Scouts, Inc., New York City		
Toward its general budget (LS 671, 925).....	7,500.00	3,000.00
Research Bureau (LS 842).....	13,125.00
Great Smoky Mountains National Park. Memorial Fund		
Expense of Equitable Trust Company in administering fund (LS 922).....	2,500.00
Harvard University		
Purchase of Beyer collection of Philippiniana (LS 638).....	50,000.00

Henry Street Settlement, New York City			
Maintenance of visiting nurse service (LS 760).....	\$18,750.00	\$18,750.00	
Howard University, Washington, D. C.			
Subscription to publication (LS 899).....	1,000.00	374.35	
Library material in field of social science (LS 898).....	9,748.61	4,866.14	
Aid to law library (LS 896, 897).....	15,560.61	7,960.27	
Institute of International Education, New York City			
Toward its general budget (LS 911).....	240,000.00	46,000.00	
Institute of Social and Religious Research, New York City			
Toward survey of the educational conditions affecting American children in foreign countries (LS 371).....	4,766.97	
International Migration Service, Geneva, Switzerland			
Toward general budget (LS 960, 961).....	14,550.11	13,852.62	
Iowa State College of Agriculture and Mechanic Arts, Ames			
Work in child study and parent education (LS 906).....	26,547.38	6,473.34	
Iowa State Teachers' College, Cedar Falls			
Work in child study and parent education (LS 653).....	6,324.64	6,324.64	
Jean Jacques Rousseau Institute, Geneva, Switzerland			
Toward its general budget (LS 893).....	27,784.52	11,077.66	
Joint Vocational Service, Inc. (for social workers and public health nurses) New York City			
Toward administrative expenses (LS 742).....	10,800.00	
League of Red Cross Societies, Paris			
Toward budget of Junior Red Cross Division (LS 895).....	26,089.79	15,000.00	
McGill University, Montreal, Canada			
Research facilities and assistance in study of child life (LS 532).....	17,262.42	9,795.86	
Memorials for Dr. Adrian Stokes (CA 28011).....	302.93	
Mills College, Oakland, California			
Work in child study and parent education (LS 863).....	15,250.00	12,200.00	
Monmouth County (New Jersey) Organization for Social Service, Inc.			
Toward its general budget (LS 687).....	24,255.20	12,305.90	
National Association of Legal Aid Organizations, Philadelphia, Pennsylvania			
Toward its general budget (LS 651).....	2,000.00	2,000.00	

EXHIBIT D—Continued

GENERAL—Continued

	APPROPRIA-TIONS	1929 PAYMENTS	THE ROCKEFELLER FOUNDATION
National Conference on Outdoor Recreation, Washington, D. C. Toward its general budget (LS 643).....	\$3,342.50	\$712.50	
National Council on Religion in Higher Education, Ithaca Fellowship in religious education (LS 660).....	8,933.33	8,933.33	
National Municipal League, New York City For its administrative research department (LS 700).....	10,387.22	10,385.88	
National Negro Business League, Tuskegee Institute, Alabama Study of negro business in the United States (LS 855).....	2,431.33	2,431.33	
National Research Council, Washington, D. C. Toward expense of Committee for the Establishment of an International Union of Population (LS 874).....	444.33	
National Social Work Council, New York City Toward its general budget (LS 397).....	4,771.51	3,003.40	
National Society of Penal Information, Inc., New York City Survey of medical conditions in federal and state prisons (LS 969).....	5,620.55	
National Urban League, New York City Toward its general budget (LS 1005).....	45,000.00	12,424.16	
Neighborhood Teacher Association, New York City Toward its general budget (LS 938).....	37,128.46	17,747.96	
New York Community Trust, New York City Toward its general budget (LS 467).....	7,500.00	7,500.00	
New York Society for the Experimental Study of Education, New York City Research in primary adult education (LS 939).....	4,437.50	2,035.00	
North Carolina State Board of Charities and Public Welfare Study of school attendance in North Carolina (LS 892).....	8,630.18	3,452.63	
Toward program of negro welfare work (LS 820).....	7,800.00	3,900.00	
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	\$.....	
For recreational adviser to city administration of New York (LS 668).....	16,332.20	7,762.00	
Survey of county and municipal parks and playgrounds (LS 770).....	1,861.44	1,861.44	
Study of community music (LS 771).....	28,978.75	10,265.11	
Toward program of introducing music into small towns (LS 915).....	9,696.87	4,716.68	
Investigations in recreation and allied activities (LS 655).....	6,013.51	166.66	
Peiping Union Medical College			
Allowance for widow of Dr. C. W. Young (RF 29034).....	30,000.00	10,325.00	
Regents of the University of the State of New York			
Work in child study and parent education (LS 902).....	50,000.00	
Riverside Church, New York City			
For memorial in name of Laura Spelman Rockefeller (LS 977).....	1,000,000.00	
Russian Student Fund, Inc., New York City			
Loan fund for Russian students (LS 743, 1002).....	16,927.50	13,786.00	
Russian Zenstvos and Towns Relief Committee			
Toward general program of relief (LS 804, RF 29054).....	35,000.00	10,000.00	
Salvation Army, Inc., New York City			
Toward its home service program (LS 940).....	12,500.00	12,500.00	
Scholarships in the social sciences and social work, for American negroes (LS 713, 965).....	22,987.15	10,247.15	
Special payment in connection with Brazilian nurse (CA 28379).....	2,500.00	2,500.00	
Society of the New York Hospital			
Erection and maintenance of building for Lying-In Hospital (LS 966).....	2,000,000.00	
Special studies by divisional committee (CA 28025).....	9,531.27	31.92	
Spelman College, Atlanta, Georgia			
For establishing memorial in name of Laura Spelman Rockefeller (LS 976).....	1,000,000.00	1,000,000.00	
State Board of Public Welfare of the Commonwealth of Virginia			
Toward work of its Division of County and City Organization (LS 840).....	22,500.00	7,500.00	
State Charities Aid Association, New York			
For stabilizing its county child welfare service (LS 926, RF 29126).....	40,030.17	15,390.89	323
For study of mental disease in New York State (LS 958).....	55,430.77	17,849.40	

EXHIBIT D—Continued

	APPROPRIA- TIONS	1929 PAYMENTS
GENERAL—Continued		
State of California, Department of Education		
Work in child study and parent education (LS 712, 986).....	\$21,046.43	\$6,046.43
State University of Iowa, Iowa City		
Work in child study and parent education (LS 556, 904, 905, 907, 931, 932).....	813,604.94	70,635.99
Student Friendship Fund, National Council, Y. M. C. A., United States		
Toward medical relief of Russian professors and students (LS 879).....	5,500.00	3,500.00
Surveys by others than officers (RF 29096).....	25,000.00
Teachers College, Columbia University		
Maintenance of Child Development Institute (LS 454, 778, 998).....	522,500.00	97,500.00
Twenty-Third International Congress of Americanists, 1928, New York City		
Committee on Organization (LS 916).....	2,500.00	2,500.00
University of California		
Maintenance of Institute of Child Welfare (LS 829, 830).....	295,000.00	90,054.16
University of Chicago		
Toward budget of university press (LS 757).....	76,014.13	55,040.82
University of Cincinnati, Ohio		
Work in child care and parent education (LS 894).....	15,000.00
University of Minnesota		
Work in child study and parent education (LS 908, 909, 933, 934).....	639,410.93	75,846.82
University of North Carolina		
Toward budget of university press (LS 722, RF 29055)	28,000.00	22,000.00
University of Toronto		
Development of child research and parent education (LS 582).....	12,500.00	10,000.00
Vocational Service for Juniors, New York City		
Training program for counselors (LS 948).....	42,000.00
Woman's American Baptist Foreign Mission Society, New York City		
For establishing memorial in name of Laura Spelman Rockefeller (LS 979).....	1,000,000.00	1,000,000.00

Young Men's Christian Association			
General Board, New York City (LS 717).....	\$50,000.00	\$30,000.00	
General Board, Foreign Committee, New York City (LS 788).....	15,000.00	15,000.00	
Graduate School, Nashville, Tennessee, Annual Budget (LS 1001).....	250,000.00	250,000.00	
Southern College, Blue Ridge, North Carolina, Summer quarter (LS 474).....	6,250.00	6,250.00	
International Y. M. C. A. College, Springfield, Mass. (LS 309, RF 29018).....	40,446.52	40,446.52	
Y. M. C. A. College, Chicago, Ill. (LS 754).....	81,003.23	25,879.44	
Young Women's Christian Association, City of New York (LS 990).....	18,750.00	18,750.00	
National Board, New York City (LS 921, 991).....	46,250.00	46,250.00	
Y. M. C. A and Y. W. C. A. International Survey Committee (RF 29035).....	230,000.00	49,668.69	
ADMINISTRATION			
Executive Offices			
1928 (RF 28010, LS 861, ME 21218).....	145,609.81	21,616.81	
1929 (RF 2824, 28146, 28377, 29037, 29094, 29115).....	817,635.00	706,294.97	
1930 (RF 29144).....	785,670.00	
Treasurer's Office			
1928 (RF 28024, 28103).....	6,192.13	4,758.38	
1929 (RF 28149, 29023).....	32,887.79	24,903.93	
Paris Office			
1928 (RF 21175).....	35,782.72	14,664.22	
1929 (RF 28147, 29023).....	101,330.00	63,445.83	
1930 (RF 29145).....	98,400.00	
Printing Office			
1928 (RF 21176).....	5,203.00	1,797.53	
1929 (RF 28148).....	20,500.00	10,521.02	
1930 (RF 29146).....	13,000.00	
Land and building (CM 2671).....	7,190.75	
Total Appropriations	\$62,391,501.20		
Unused balances of appropriations allowed to lapse	1,216,713.49		
Total Net Appropriations and Expenditures	\$61,174,787.71	\$19,039,127.23	

EXHIBIT E
INTERNATIONAL HEALTH DIVISION
DESIGNATIONS AND PAYMENTS

	PRIOR APPROPRIA- TIONS	1929 DESIGNA- TIONS	1929 PAYMENTS
HOOKWORM WORK			
Mexico			
1927 (IH 23171).....	\$10.68	\$.....	\$.....
Central America			
Guatemala			
1928 (IH 23851).....	516.70	Cr. .59
Panama			
1928 (IH 23863).....	2,762.33	687.01
1929 (IH 28163).....	3,487.00	2,772.17
South America			
Colombia			
1928 (IH 23658).....	10,374.79	2,687.80
1929 (IH 28195).....	22,500.00	11,225.81
Paraguay			
1928 (IH 23658).....	4,874.60	1,419.32
1929 (IH 28197).....	13,000.00	273.89
Venezuela			
1928 (IH 23661).....	1,238.28
West Indies			
Jamaica			
1928 (IH 23616-18).....	885.79	869.86
1929 (IH 28164-65).....	3,580.00	3,236.32
Porto Rico			
1928 (IH 23622, 28117).....	3,608.55	2,813.15
1929 (IH 28172).....	13,310.00	7,516.42

The East				
Egypt				
1929 (IH 29020).....	\$.....	\$9,000.00	\$4,184.39	
India				
1928 (IH 23622, 28017).....	1,427.22	Cr. 371.98	
Siam				
1927-28 (IH 23504, 23685).....	745.49	484.94	
1929 (IH 29004).....	1,035.00	1,020.94	
Straits Settlements				
1928 (IH 23687, 28434).....	3,285.37	2,194.35	
Europe				
Spain				
1927, 1928 (IH 23191, 23671, 28003).....	2,480.57	1,373.82	
1929 (IH 28219, 28405).....	3,500.00	1,281.81	
Field Studies				
United States				
Alabama				
1928 (IH 23671, 28003).....	4,390.62	3,616.80	
1929 (IH 28228).....	8,045.00	4,592.68	
Studies by Dr. W. W. Cort				
1928 (IH 23688).....	2,183.04	1,835.89	
1929 (IH 28224).....	7,750.00	4,799.12	
Vanderbilt University				
Research in carbon tetrachloride				
1928 (IH 28004).....	2,682.38	2,678.40	
1929 (IH 28225).....	24,511.00	17,350.36	
Foreign Countries				
Egypt				
1929 (IH 29086).....	6,000.00	3,210.88	
Miscellaneous				
Motion picture film on hookworm disease (IH 22493, 23836, 28366).....	1,292.74	500.00	

EXHIBIT E—Continued

	PRIOR APPROPRIA-TIONS	1929 DESIGNA-TIONS	1929 PAYMENTS
LOCAL HEALTH WORK			
United States			
Alabama			
1928 (IH 23844-45).....	\$14,628.00	\$.....	\$5,865.80
1929 (IH 28110-12).....	19,600.00	5,002.52
1929 and 1930 Aid to unorganized counties (IH 28109).....	22,900.00	3,645.17
Arkansas			
1928 (IH 23690-92).....	1,336.65	1,307.85
1929 (IH 28229-31, 29051).....	2,700.00	900.00
California			
1928 (IH 23693-97, 28081).....	8,250.00	2,083.33
1929 (IH 28232-35, 29051).....	7,875.00	5,500.00
Colorado			
1928 (IH 23698).....	500.00	500.00
1929 (IH 28236).....	1,000.00	750.00
Georgia			
1928 (IH 23699, 23701, 28079-80).....	2,904.00	1,895.24
1929 (IH 28240, 28243, 28435-36).....	10,683.44	5,305.17
Idaho			
1929 (IH 29040, 29075).....	1,425.00
Iowa			
1928 (IH 23710).....	825.00	825.00
1929 (IH 28248, 29051, 29053).....	9,650.00	1,900.00
Kansas			
1928 (IH 23712, 28006, 28049, 28071, 28098, 28114).....	1,093.77	729.18
1929 (IH 28250-52, 29057, 29076).....	4,375.00	2,291.67

Kentucky		\$4,453.29	\$32,150.00	\$2,927.21
1928 (IH 23713-22)		5,260.13	
1929, 1930-33 (IH 28253-57, 29261)			5,260.13
Louisiana		7,659.02	7,500.00	7,638.59
1928 (IH 23881, 23884)			
1929 and 1931 (IH 28260, 28263, 28412-13, 30005)			
Michigan		2,106.45	70,366.67	1,899.08
1928 (IH 23888-89, 28378)			7,425.24
1929-1934 (IH 28266, 28278, 29039, 29045-49)			
Mississippi		14,629.37	21,125.00	6,933.55
1928 (IH 23724-40, 23890-91)			14,811.33
1929 (IH 28273-84, 29013)			
Missouri		2,580.42	5,300.00	1,924.42
1928 (IH 23739-41, 28084)			3,362.50
1929 (IH 28286, 28414-16, 29051, 29065)			
Montana		912.50	2,400.00	795.84
1928 (IH 28014)			133.33
1929 (IH 29054)			
New Mexico		888.09	803.35
1928 (IH 23744-45, 28072)			
Oklahoma		3,129.18	9,100.00	2,775.01
1928 (IH 23740-57, 23893, 28056-64)			7,621.11
1929 (IH 28297-305)			
Oregon		5,874.99	4,500.00	1,120.17
1928 (IH 23766-72, 28102)			3,375.00
1929 (IH 28306-13, 29051)			
South Carolina		7,377.23	31,050.00	4,127.23
1928 (IH 23784-94, 28065, 28069, 28099)			10,725.00
1929-33 (IH 28319-25, 29032, 30006)			
South Dakota		489.27	625.00	437.52
1928 (IH 23894)			
1929 (IH 28419)			

EXHIBIT E—Continued

LOCAL HEALTH WORK—Continued

United States—Continued

Tennessee

1928 (IH 23784-94, 28065, 28069, 28099)..... \$8,983.55 \$..... \$5,632.84
1929-1933 (IH 28330-38, 29051, 29072, 29099)..... 49,293.75 11,730.22

Texas

1928 (IH 23800-01)..... 225.00 225.00
1929 (IH 28341, 29073)..... 625.00

Utah

1925-28 (IH 22441-42, 22990-92, 23136, 23802-05, 23161, 23169,
22441-42)..... 16,750.00 2,750.00 12,092.02
1929 (IH 28344-47, 29051).....

Virginia

1928 (IH 23808-13, 28032)..... 8,283.39 7,884.75
1929-1932 (IH 29098)..... 32,258.34 11,680.51

West Virginia

1928 (IH 23818-27, 28085)..... 9,192.45 4,591.83
1929-33 (IH 28349, 28356, 29051, 29074, 30007)..... 34,500.00 10,748.62

Wyoming 1928 (IH 23828)

Continuation of aid to certain county budgets for last six months of
1929 (IH 29051)..... 326.02 3,625.00

Mississippi flood area

Balance of \$500,000 appropriated for country health work in Missis-
sippi flood area (IH 23521)..... 27,579.96

Funds allotted under IH 23521

Arkansas 1927-29..... 73,040.69 28,415.40
Illinois 1927-29..... 5,444.48 1,499.28

Kentucky 1927-29.....	\$49,232.24	\$.....	\$123.44
Louisiana 1927-29.....	97,066.37	33,449.03
Mississippi 1927-29.....	32,187.57	17,279.67
Missouri 1927-29.....	6,820.14	3,528.28
Tennessee 1927-29.....	3,370.72	2,549.80
Training Station 1927, 1928.....	30,125.05	2,025.14
1929.....	3,714.04	2,709.26
Persons in training. Stipend and travel, 1929.....	8,000.00	5,766.34
Foreign Countries			
Austria 1927-28 (IH 23410, 23860).....	1,044.52	918.38
1929-33 (IH 28391, 29069).....	17,450.00	2,352.59
Brazil 1928 (IH 23635-39, 23641-54, 23656-57, 28033).....	15,744.00	7,521.62
1929 (IH 28184-93, 28406-09).....	22,199.00	11,686.54
Bulgaria 1927-28 (IH 23517, 28130).....	3,246.17	2,878.54
1929 (IH 28131).....	1,375.00
Canada 1927-28 (IH 23328-29, 23465, 23498, 23519, 23586-88, 23600-602, 23606-15).....	25,436.13	13,953.13
1929-34 (IH 28152, 29078, 28154-62, 29037-38, 29052, 29063).....	144,418.44	14,357.38
Ceylon 1928 (IH 23680).....	243.86	40.42
China. Shanghai 1929-30 (IH 28388-89, 29249-50).....	29,305.00	6,148.50
Czechoslovakia 1927-28 (IH 23487, 23556, 23858-59).....	9,006.24	6,829.19
1929-32 (IH 28202-03, 29239-40).....	18,400.00
France 1927-28 (IH 23382, 23411-13, 23469, 23865-69, 28094, 28401).....	43,579.12	20,221.87
1929-31 (IH 28397-400, 29001, 29021, 29241-43).....	25,358.00

EXHIBIT E—Continued

	PRIOR APPROPRIA-TIONS	1929 DESIGNA-TIONS	1929 PAYMENTS
LOCAL HEALTH WORK—Continued			
Foreign Countries—Continued			
Hungary			
1927-28 (IH 23461, 23558, 28013, 28077-78).....	\$10,380.00	\$.....	\$4,163.04
1929-30 (IH 28403, 29002-003, 29068, 29244).....	20,810.00
India			
Burma 1929-32 (IH 29060).....	16,650.00
Mysore State 1929-30 (IH 28047, 29035).....	2,820.00
Travancore 1929 (IH 29012)	1,000.00	666.11
Ireland			
1928 (IH 28043-44).....	8,600.00	8,513.71
1929-34 (IH 28210-11, 29245-46).....	44,100.00
Jamaica			
1928 (IH 23621).....	697.04	376.31
1929-30 (IH 28167, 29080-81).....	4,902.50	2,391.80
Mexico			
1928 (IH 23897).....	658.69	452.84
1929-33 (IH 29007, 29030).....	14,945.00	3,840.89
Paraguay			
1929 (IH 29198-99).....	5,500.00	60.22
Philippine Islands			
1929-32 (IH 29062).....	8,750.00
✓ Poland			
1927-28 (IH 23414-16, 23470-71, 23873-76, 29067, 29070).....	29,662.03	11,626.72
1929-34 (IH 28215, 29010, 29025-26, 29247, 29248).....	56,238.33
Porto Rico			
1928 (IH 22623-24, 28030, 28116).....	3,359.18	1,195.84
1929 (IH 28174-77, 29036, 29055-56).....	8,740.00	3,196.57

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Siam 1928 (IH 23686).....	\$648.79	\$.....	\$627.70
Spain 1929-33 (IH 28133, 29251).....	46,130.00
MALARIA WORK			
Surveys and Demonstrations			
United States			
Georgia			
1928 (IH 23703-06).....	4,729.39	1,672.67
1929 (IH 28237-39).....	6,700.00	3,438.74
Louisiana			
1928 (IH 23885-86).....	2,265.59	2,225.95
1929 (IH 28259).....	2,400.00
Mississippi			
1928 (IH 23731-36, 28051-55).....	6,150.00	6,082.64
1929 (IH 28269-72).....	12,059.50	7,942.84
North Carolina			
1927 (IH 23204, 23405, 23449).....	2,224.40
South Carolina			
1928 (IH 23773-76, 23778-79).....	6,450.00	1,450.00
1929 (IH 28315-18).....	4,200.00	3,150.00
Tennessee 1928 (IH 23795).....	375.00	375.00
Virginia			
1928 (IH 23814-17).....	5,816.26	3,014.81
1929 (IH 28428-30).....	7,500.00	3,666.41
Foreign Countries			
Argentina			
1928 (IH 23626-29, 28118-19).....	6,415.10	130.00	1,975.47
1929 (IH 29015, 29083-85).....	8,650.00	6,933.88
Brazil			
1928 (IH 23631).....	2,177.88	1,004.46
1929 (IH 28183).....	10,000.00	4,825.81

EXHIBIT E—Continued

	PRIOR APPROPRIA-TIONS	1929 DESIGNA-TIONS	1929 PAYMENTS
MALARIA WORK—Continued			
<i>Surveys and Demonstrations—Continued</i>			
<i>Foreign Countries—Continued</i>			
Bulgaria			
1928 (IH 28015)	\$2,981.08	\$.....	\$2,120.65
1929-31 (IH 28393, 29252)	24,166.00	5,693.81
Colombia. Anopheline survey			
1929 (IH 29005)	3,750.00	2,118.60
Costa Rica			
1928 (IH 28101)	1,200.00
Grenada. Anopheline survey			
1929 (IH 29029)	5,000.00	3,034.10
India			
Mysore State			
1928 (IH 28046)	940.00
1929-30 (IH 28046, 29034)	2,820.00
Savantwadi			
1929-30 (IH 29033)	3,750.00	3,252.28
Italy			
1928 (IH 23669)	49,074.43	22,765.46
1929 (IH 28212)	105,000.00	65,471.69
Jamaica			
1928 (IH 23619)	513.85	Cr. 265.34
1929 (IH 28166)	1,470.00	765.73
Palestine 1928 (IH 23878)	680.98	101.14
Porto Rico			
1928 (IH 23625)	134.39	116.78
1929-30 (IH 28173, 29259)	4,430.00	3,480.96

Spain				
1927-28 (IH 23217, 23672).....	\$2,591.21	\$.....	\$883.39	
1929 (IH 28404).....	6,650.00	4,992.88	
Venezuela				
1928 (IH 23662).....	1,401.67	231.03	
1929 (IH 28201).....	760.00	462.68	
Field Studies and Experiments				
United States				
Alabama. 1928 (IH 28070).....	503.33	378.52	
Johns Hopkins University				
1928 (IH 23689, 28020).....	238.42	233.91	
1929-30 (IH 28226, 29031).....	3,575.00	2,623.39	
North Carolina, Edenton				
1928 (IH 23892).....	12,314.11	8,500.68	
1929 (IH 28291).....	2,180.00	1,894.78	
University of Chicago				
1929 (IH 28227).....	1,250.00	1,249.59	
Foreign Countries				
Netherlands, Amsterdam				
1928 (IH 28023).....	2,088.32	955.55	
1929-33 (IH 28402, 29091).....	30,750.00	3,865.83	
Philippine Islands				
1928 (IH 23853).....	2,632.70	1,567.02	
1929 (IH 28387).....	6,100.00	3,435.68	
Yugoslavia. 1929 (IH 28132).....	4,500.00	
Training of Malaria Personnel				
France				
1927-28 (IH 23219, 23859).....	10,291.79	5,334.43	
1929 (IH 28394).....	6,650.00	
Italy				
1928 (IH 23872).....	2,446.26	1,576.07	335
1929 (IH 28213).....	6,300.00	3,375.89	

EXHIBIT E—Continued

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THE ROCKEFELLER FOUNDATION

MALARIA WORK—Continued

Miscellaneous

Motion picture film on malaria
(IH 23477).....

	PRIOR APPROPRIATIONS	1929 DESIGNATIONS	1929 PAYMENTS
Motion picture film on malaria (IH 23477).....	\$500.00	\$.....	\$.....

YELLOW FEVER WORK

Brazil

1928 (IH 23632).....
1929 (IH 28367).....

1928 (IH 23632).....	38,205.74	287,000.00	33,430.81
1929 (IH 28367).....	133,178.39

West Africa

1928 (IH 23632).....
1929 (IH 28367).....

1928 (IH 23632).....	35,410.20	114,000.00	16,678.75
1929 (IH 28367).....	98,751.31

Research and training

1928 (IH 23837, 28045).....
1929 (IH 23867).....

1928 (IH 23837, 28045).....	8,827.31	30,000.00	3,720.07
1929 (IH 23867).....	20,150.11

Vaccine and serum

1928 (IH 23838).....

1928 (IH 23838).....	4,858.92
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History of yellow fever

1928 (IH 23839).....
1929 (IH 28367).....

1928 (IH 23839).....	245.00	4,000.00	1,790.62
1929 (IH 28367).....

STATE HEALTH SERVICES

Epidemiology

United States

Georgia
1928 (IH 23707).....
1929 (IH 28245).....

Georgia 1928 (IH 23707).....	4,000.00	2,000.00	812.50
1929 (IH 28245).....

Kentucky

1928 (IH 23723).....
1929 (IH 28258).....

1928 (IH 23723).....	2,530.76	3,500.00	819.04
1929 (IH 28258).....	2,771.86

Louisiana				
1928 (IH 23887).....	\$2,700.00	\$.....	\$.....	
Mississippi				
1928 (IH 23737, 28050).....	2,109.08	1,177.15	
1929 (IH 28285).....	4,200.00	2,851.42	
Montana				
1928 (IH 23743).....	3,224.80	2,199.80	
1929 (IH 28289, 29051).....	3,500.00	2,576.38	
North Carolina				
1928 (IH 23747).....	3,543.75	3,543.75	
1929 (IH 28292).....	4,725.00	
North Dakota				
1928 (IH 28073).....	1,000.00	758.74	
1929 (IH 28294).....	2,700.00	2,021.18	
South Carolina				
1928 (IH 23780).....	793.75	793.75	
1929 (IH 28326).....	2,500.00	1,875.00	
South Dakota				
1928 (IH 23895).....	2,700.00	
1929 (IH 28329).....	1,150.00	
Tennessee				
1928 (IH 23895).....	497.30	497.30	
1929 (IH 28340, 29051).....	2,025.00	1,539.77	
Utah				
1925-28 (IH 22466, 22667, 23014, 23447, 23533, 23806).....	9,982.35	4,040.91	
1929 (IH 28348, 29051).....	1,500.00	
Foreign Countries				
Canada				
1929-30 (IH 29079).....	3,300.00	
Denmark				
1927-28 (IH 23348, 23457, 23663, 23898).....	1,883.01	1,340.80	
1929 (IH 28204).....	5,400.00	4,019.01	

EXHIBIT E—Continued

	PRIOR APPROPRIA-TIONS	1929 DESIGNA-TIONS	1929 PAYMENTS
STATE HEALTH SERVICES—Continued			
Epidemiology—Continued			
Foreign Countries—Continued			
Spain			
1928 (IH 23673)	\$5,980.00	\$	\$
1929-31 (IH 28220, 29256)	8,100.00	3,604.53
Sanitary Engineering			
United States			
Idaho			
1928 (IH 23709)	181.61	181.50
1929 (IH 28246)	800.00	800.00
Indiana			
1928 (IH 28005)	3,050.00	2,756.15
1929 (IH 28247, 29041)	2,610.00
North Dakota			
1928 (IH 28074)	558.33	344.35
1929 (IH 28295)	1,500.00	1,125.00
South Carolina			
1928 (IH 23781)	837.50	837.50
1929 (IH 28327)	2,500.00	1,875.00
South Dakota, 1929-31 (IH 29077)	4,408.33
Foreign Countries			
India			
Mysore State			
1930-32 (IH 29061)	10,125.00	767.65
Field research on bored-hole latrines			
1928 (IH 28113)	657.60	12.61
1929 (IH 28223)	2,700.00	718.89

Poland 1929-30 (IH 29022).....	\$.....	\$3,000.00	\$.....
VITAL STATISTICS			
United States			
Georgia			
1928 (IH 23708).....	300.00	1,200.00	300.00
1929 (IH 28244, 29051).....	600.00	
Mississippi			
1928 (IH 23738).....	1,347.27	3,270.50	1,214.90
1929 (IH 29008).....		3,270.50
New Mexico			
1928 (IH 28096).....	1,200.00	2,400.00	600.00
1929 (IH 28290, 29051).....		1,200.00
Oklahoma			
1927 (IH 23603).....	500.00
Tennessee			
1928 (IH 23797).....	600.00	1,050.00	600.00
1929 (IH 28420, 29051).....		775.00
Texas			
1928 (IH 23862).....	3,450.00	9,300.00	2,703.43
1929 (IH 28342, 29014, 29028).....		6,697.70
Foreign countries			
Bulgaria			
1927 (IH 23557).....	95.50
Denmark			
1927-28 (IH 23456, 23664).....	687.88	3,699.00	660.78
1929-31 (IH 28395, 29253).....		2,139.88
France			
1929 (IH 28396).....	4,200.00	4,074.63
Paraguay			
1929 (IH 28200).....	2,090.00
Spain			
1929-33 (IH 29011, 29094).....	54,625.00	4,871.36

EXHIBIT E—Continued

	PRIOR APPROPRIA-TIONS	1929 DESIGNA-TIONS	1929 PAYMENTS
STATE HEALTH SERVICES—Continued			
<i>Vital Statistics—Continued</i>			
<i>Foreign Countries—Continued</i>			
Yugoslavia 1928 (IH 23674, 28007, 28097).....	\$13,127.74	\$.....	\$12,465.14
1929 (IH 28214).....	6,000.00	1,822.98
<i>Public Health Laboratory Service</i>			
United States			
Louisiana 1928 (IH 28031).....	500.00	444.43
Mississippi 1929 (IH 29009).....	3,755.00	2,597.00
Missouri 1928 (IH 23742, 28418).....	2,550.00	2,550.00
1929 (IH 28417, 29066).....	1,800.00	900.00
Oklahoma 1928 (IH 28086).....	125.00
South Carolina 1928 (IH 23782).....	250.00	250.00
1929 (IH 28328).....	1,000.00	750.00
Tennessee 1928 (IH 23798-99).....	825.34	604.70
1929 (IH 28339, 28441, 29051).....	2,950.00	2,260.29
Texas 1927-28 (IH 23334, 23570, 23896).....	407.60	Cr. 150.00
Utah 1927-28 (IH 23335, 23532, 23807).....	7,350.00	5,684.76
Virginia. 1928 (IH 28431).....	1,500.00	1,500.00

Foreign countries			
Colombia			
1928 (IH 23659).....	\$902.51	\$.....	\$813.00
1929 (IH 28196, 29258).....	10,000.00	4,044.29
Guatemala			
1928 (IH 28001, 28018).....	2,266.69	363.68
1929 (IH 29006).....	1,120.00	492.55
Honduras			
1929 (IH 29096).....	1,000.00	554.82
Hungary			
1929-30 (IH 28208, 29092).....	2,830.00	1,870.00
Nicaragua			
1928 (IH 23852).....	223.40	98.18
1929 (IH 28390).....	4,000.00	590.65
Public Health Nursing			
Brazil			
1928 (IH 23634).....	5,517.72	1,159.65
1929-31 (IH 28194, 29254).....	20,350.00	4,970.55
Denmark			
1929 (IH 28433).....	7,290.00	2,866.65
France			
1926-28 (IH 23482, 23871, 29058).....	7,500.00	3,599.07	9,644.29
1929-30 (IH 28206, 29255).....	4,375.00
Poland			
1928 (IH 28002).....	1,000.00
1929 (IH 29024).....	4,200.00
Yugoslavia			
1929-31 (IH 29071).....	1,550.00
Bureaus for Study and Reform of Public Health Activities			
For study of public health problems			
Czechoslovakia			
1927 (IH 23356, 23569).....	425.53

EXHIBIT E—Continued

	PRIOR APPROPRIATIONS	1929 DESIGNATIONS	1929 PAYMENTS	
STATE HEALTH SERVICES—Continued				
Bureaus for Study and Reform of Public Health Activities—Continued				
France				
1927-28 (IH 23474, 23870).....	\$30,000.00	\$.....	\$24,145.55	
1929 (IH 28207).....	12,000.00	
Hungary				
1927-28 (IH 23357, 23667).....	1,232.83	1,218.40	
1929 (IH 28209).....	1,500.00	1,013.92	
Poland				
1927-28 (IH 23358, 23877).....	6,927.48	6,247.38	
1929 (IH 28218).....	5,000.00	
General				
United States				
Iowa. Division of Communicable Diseases and Child Hygiene Work				
1928 (IH 23711).....	400.00	400.00	
1929 (IH 28249, 29051).....	1,900.00	1,283.32	
Illinois. Division of Public Health Education				
1927 (IH 23591).....	63.33	50.00	
Nevada				
1929 (IH 29042).....	1,593.75	
New York City Health Department. Study of child hygiene and tuberculosis divisions				
1929 (IH 29097).....	20,000.00	
North Carolina. Life Extension Unit				
1928 (IH 23746).....	5,000.00	4,805.55	
1929 (IH 28293).....	5,000.00	
South Carolina. Division of Oral Hygiene				
1928 (IH 23783).....	275.00	275.00	

THE ROCKEFELLER FOUNDATION

Continuation of aid to certain state budgets for last six months of 1929 (IH 29051)	\$.....	\$1,500.00	\$.....
Foreign Countries			
Bulgaria. National Office of the Direction of Public Health 1928 (IH 28076)	3,000.00	704.69
France. Travel of departmental instructor of health work 1928 (IH 23666)	500.00
Hungary. Institute of Social Hygiene 1928 (IH 23668, 28022)	9,276.08	4,998.49
Jamaica school hygiene units and dental clinics 1928 (IH 23620, 28095)	387.60	1,836.00	195.57
1929 (IH 28168-70)	634.03
Java. Division of Public Health Education 1928 (IH 23684)	18,499.06	23,400.00	4,548.48
1929 (IH 28222)	11,676.49
Norway. State Institute of Public Health 1929-34 (IH 29043)	47,250.00
Poland			
Travel of supervisor of district health work 1928 (IH 23670) ...	1,000.00
Bureau of District Health Work 1929-31 (IH 29023)	4,830.00
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)	\$1,515.42	51,206.90
1929 (IH 28108)	50,000.00
Toward development of epidemiological intelligence and public health statistics services and a center of public health documentation 1927 (IH 23359, 23360, 23516)	15,746.33	4,472.05
1928 (IH 23675, 23677)	60,335.00	55,385.83
1929 (IH 28106)	54,795.00

EXHIBIT E—Continued

	PRIOR APPROPRIATIONS	1929 DESIGNATIONS	1929 PAYMENTS	THE ROCKEFELLER FOUNDATION
LEAGUE OF NATIONS—Continued				
Epidemiological Intelligence Bureau in the Far East				
1927 (IH 23361).....	\$24,985.00	\$.....	\$24,985.00	
1928 (IH 23678).....	20,000.00	13,703.56	
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).....	132.53	7.00	
Building and equipment (IH 23141, 23380).....	36,653.15	Cr. 194.97	
Czechoslovakia. State Institute of Public Health, Prague				
Buildings and equipment (IH 21680, 22174, 22497).....	154,174.09	31,192.90	
England				
London School of Hygiene and Tropical Medicine				
Operation (IH 23363, 23379A, 23665)	19,202.35	25,000.00	19,415.69	
Hungary				
State Hygienic Institute, Budapest				
Buildings and equipment (IH 22639, 23472).....	1,053.97	Cr. 20.30	
School for public health officers				
1928 (IH 23848).....	3,600.00	
1929-32 (IH 28392, 29093).....	7,140.00	
Poland				
State Institute of Hygiene, Warsaw				
Support of biochemist (IH 23364).....	1,200.00	1,200.00	
Trinidad				
Imperial College of Tropical Agriculture				
Toward maintenance of chair of sanitation and tropical hygiene,				
1929-32 (IH 23843, 28105, 29082).....	110.00	20,000.00	4,872.00	

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, 29257).....	44,900.00
Study and training courses for health workers Health officers' institute, Kansas (IH 28021).....	38.72
Field training of health workers (III 23099, 23446, 23879, 28365).....	7,538.20	31,000.00	17,375.93
Travel of government health officials Travel of state health officials in United States and Canada (IH 22766, 23572, 28082, 28362).....	13,860.93	10,250.00	5,520.38
Travel of European health officials in Europe (IH 23371, 23834, 28363, 29090).....	2,906.72	6,000.00	5,249.04
Travel of visiting health officials (IH 23835, 28364).....	20,221.88	30,000.00	18,588.85
Training Stations United States Alabama 1928 (IH 23846, 28411).....	9,166.43	8,661.54
Michigan 1929-31 (IH 29050).....	28,800.00
Ohio 1928 (IH 23748-49).....	1,656.34	1,650.00
1929 (IH 28296, 29027).....	1,774.88
Canada Quebec 1929-30 (IH 29064).....	5,083.33
Central Medical School for Native Medical Students, Suva, Fiji Maintenance 1928 (IH 23681).....	9,308.78	8,461.37
1929-31 (IH 28221, 29095).....	47,719.00	13,214.94
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EXHIBIT E—Continued

	PRIOR APPROPRIA-TIONS	1929 DESIGNA-TIONS	1929 PAYMENTS
PUBLIC HEALTH EDUCATION—Continued			
Fellowships			
Grants to doctors for study of public health			
Foreign and United States (IH 28087, 28358, 29059, 29089)	\$60,273.01	\$334,500.00	\$199,686.04
Resident			
Hungary (IH 23367, 23830, 28359).....	802.57	1,500.00	2,109.05
Italy (IH 22866, 23468).....	23.86
Poland (IH 23368, 23831, 28361).....	1,194.89	3,000.00	2,687.10
Yugoslavia (IH 23369, 23832, 28360).....	1,296.28	2,500.00	884.34
MISCELLANEOUS			
Field research in respiratory diseases			
1928 (IH 28008).....	2,492.21	172.53
1929 (IH 28410).....	5,000.00	4,195.91
Tuberculosis survey in Jamaica, British West Indies (IH 23864).....	1,000.00	122.77
Tuberculosis study clinic, Jamaica			
1928 (IH 28029).....	2,544.78	1,395.75
1929 (IH 28171).....	5,880.00	5,141.24
Equipment and supplies in connection with studies in verruga peruana (IH 28036).....	4.18
Field equipment and supplies (IH 23840, 28368).....	1,538.01	10,000.00	5,123.11

Pamphlets and charts (IH 23840, 28368).....	\$1,596.74	\$5,500.00	\$4,989.87
Express, freight, and exchange (IH 23840, 28368).....	929.84	1,500.00	565.84
Hookworm and malaria films donated or lent (IH 23840, 28368).....	665.07	1,000.00	Cr. 160.67
Directors' fund for budget revision (IH 29019).....	3,635.00
FIELD SERVICE			
Salaries and expenses of staff			
Salaries (IH 23840, 28368).....	22,676.06	467,500.00	442,008.07
Traveling expenses (IH 23840, 28368).....	29,751.36	160,000.00	151,164.02
Commutation (IH 23840, 28368).....	20,097.16	60,000.00	45,893.31
Medical examinations (IH 23840, 28368).....	1,150.00	1,500.00	527.00
Drugs for conserving health (IH 23840, 28368).....	498.78	500.00	54.76
Bonding (IH 23840, 28368).....	2,626.25	5,500.00	2,511.14
Automobiles (IH 23840, 28368).....	3,000.00	3,000.00	216.95
Insurance and retirement allowances (IH 23840, 28368).....	19,294.16	51,000.00	48,865.50
Rio de Janeiro office. Administration (IH 23630, 28182).....	4,312.01	15,400.00	12,044.52
Totals.....	\$1,683,849.30	\$3,594,885.95*	\$2,408,579.05

* The Foundation appropriated during 1929 for work of the International Health Division \$3,690,025.00, the undesignated balance of \$95,139.05 being allowed to lapse as of January 1, 1930.

EXHIBIT F
SUMMARY OF APPROPRIATIONS ACCOUNT
(JANUARY 3 TO DECEMBER 31, 1929)

Current Appropriations Account	
Appropriations.....	\$17,842,848.60
Less 1929 payments.....	1,584,745.69
Unpaid appropriations.....	\$16,258,102.91
Pledges and authorizations for which appropriations have not been made.....	12,718,000.00
Contingent obligations.....	\$28,976,102.91
Balance payable on current obligations.....	2,700,000.00
	<u>\$31,676,102.91</u>

EXHIBIT G
SUMMARY OF PRIOR OBLIGATIONS ACCOUNT
(JANUARY 3 TO DECEMBER 31, 1929)

Prior Obligations Account	
Appropriations.....	\$44,548,652.60
Unused balances of appropriations allowed to lapse.....	1,216,713.49
	<hr/>
Less 1929 payments.....	\$43,331,939.11
	17,454,381.54
	<hr/>
Unpaid appropriations.....	\$25,877,557.57
Pledges and authorizations for which appropriations have not been made.....	9,848,356.45
	<hr/>
Balance payable on prior obligations.....	\$35,725,914.02
	<hr/>

EXHIBIT H
STATEMENT OF PRINCIPAL FUND

Balance in The Rockefeller Foundation Principal Fund on January 3, 1929.....	\$150,291,624.50
Balance in The Laura Spelman Rockefeller Memorial Principal Fund on January 3, 1929.....	53,006,878.84
Appropriated principal received from The Laura Spelman Rockefeller Memorial.....	5,750,000.00
Total Principal Fund, January 3, 1929.....	\$209,048,503.34
Amounts transferred from Principal Fund in accordance with resolutions of the Mem- bers, dated January 3, 1929.	
To Prior Obligations Account.....	\$34,924,581.66
To Appropriations Account.....	15,000,000.00
November 13, 1929	
To Appropriations Account.....	6,000,000.00
Unpaid appropriations from principal of The Laura Spelman Rockefeller Memorial transferred to Prior Obligations Account.....	\$55,924,581.66
5,750,000.00	61,674,581.66
Balance, December 31, 1929.....	<u>\$147,373,921.68</u>

This fund is accounted for in securities.

EXHIBIT I
LAND, BUILDINGS, AND EQUIPMENT FUND

	TOTAL Dec. 31, 1928	EXPENDI- TURES 1929	TOTAL Dec. 31, 1929
Home Office			
Library.....	\$ 8,806.39	\$1,547.00	\$ 10,353.48
Equipment.....	37,026.04	4,808.46	41,834.50
Paris Office			
Part interest in building occupied by Paris Office.....	68,000.00	68,000.00
Peiping Office			
Building.....	10,809.25
Land in Shanghai.....	298,331.95	298,331.95
	<hr/>	<hr/>	<hr/>
Less cost of land and building of the Peiping Office transferred to China Medical Board, Inc., under authorization of the Members, dated November 9, 1928.....	10,809.25
	<hr/>	<hr/>	<hr/>
Totals.....	\$422,973.63	\$412,164.38	\$418,519.93
	<hr/>	<hr/>	<hr/>

EXHIBIT J
SCHEDULE OF SECURITIES IN PRINCIPAL FUND ON DECEMBER 31, 1929
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
Armour & Co. (Illinois) Real Estate First Mortgage Gold	4½	June, 1939	1,142,000.00	87.	993,540.00
Atchison, Topeka, & Santa Fe Ry. One-Hundred-Year Adjustment Gold	4	July, 1995	420,000.00	75.	315,000.00
Atchison, Topeka, & Santa Fe Ry. Twenty-Year Convertible Debenture	4½	Dec., 1948	274,000.00	118.	323,320.00
Baltimore & Ohio R. R. Refunding & General Mortgage Gold Series "A"	5	Dec., 1995	1,750,000.00	80.	1,400,000.00
Calgary Protestant Public School District No. 19, Province of Alberta	5	Serially June 2, '30-48	194,500.00	85.	165,325.00
Canadian Northern Ry. First Mortgage Consolidated Debenture	4	June 30, 1930	£50,000.00	80.	200,000.00
Carolina, Clinchfield, & Ohio Ry. First Mortgage Gold	5	June, 1938	\$1,488,000.00	75.	1,116,000.00
Chesapeake & Ohio Ry. Twenty-Year Convertible Gold	4½	Feb., 1930	918,000.00	78.	716,040.00
Chicago & Alton Ry. First Lien (Certificates of Deposit) Gold	3½	July, 1950	854,000.00	53.	452,620.00

Chicago & Alton Ry. Refunding Mortgage Gold.....	3	Oct., 1949	\$551,000.00	65.	\$358,150.00
Chicago & Erie R.R. First Mortgage Gold.....	5	May, 1982	156,000.00	93.	145,080.00
Chicago & Northwestern Ry. General Mortgage	5	Nov., 1987	195,000.00	98.	191,100.00
Chicago City & Connecting Rys. Collateral Trust (Certificates of Deposit).....	5	Jan., 1927	1,305,000.00	52.	678,600.00
Chicago Junction Rys. & Union Stockyards Co. Forty-Year Mortgage and Collateral Refunding.....	5	Apr. 1940	500,000.00	93.	465,000.00
Chicago, Milwaukee, & St. Paul Ry. Receivers' Equipment Gold Series "D".....	5	\$133,000 due Aug. 1 each year, 1930-40	1,463,000.00	98.25	1,437,397.50
Chicago, Milwaukee, & St. Paul Ry. General Mortgage Gold Series "C".....	4½	May, 1989	500,000.00	103.	515,000.00
Chicago, Milwaukee, St. Paul, & Pacific R. R. Fifty-Year Mortgage Series "A".....	5	Feb., 1975	446,300.00	95.	423,985.00
Chicago, Milwaukee, St. Paul, & Pacific R. R. Convertible Adjustment Mortgage Series "A".....	5	Jan., 2000	1,785,200.00	62.50	1,115,750.00
Chicago Rys. Co. First Mortgage Gold (10% paid).....	5	Feb., 1927	500,000.00	87.	435,000.00
Chicago, Rock Island, & Pacific Ry. First and Refunding Mortgage Gold.....	4	Apr., 1934	300,000.00	73.	219,000.00
Chicago, St. Louis, & New Orleans R. R. Consolidated Mortgage Gold.....	3½	June 15, 1951	200,000.00	66.	132,000.00
Chicago, St. Paul, Minneapolis, & Omaha Ry. Debenture Gold.....	5	Mar., 1930	900,000.00	90.	810,000.00

EXHIBIT J—Continued

NAME	INTEREST RATE PER CENT	DATE OF MATURITY	AMOUNT	FOUNDATION'S LEDGER VALUE PER CENT	FOUNDATION'S TOTAL LEDGER VALUE
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 Extension Gold.....	4½	May, 1935	173,000.00	78.	134,940.00
Denver & Rio Grande Western R. R. Co. General Mortgage.....	5	Aug., 1955	574,000.00	59.	338,660.00
Dominion of Canada, Government of, Public Service Gold Loan of 1916.....	5	Apr., 1931	500,000.00	94.56	472,825.00
Edmonton Public School District No. 7 of the Province of Alberta, Debenture.....	5	Apr., 1953	350,000.00	81.	283,500.00
Erie R. R. General Mortgage Convertible Series "B".....	4	Apr., 1953	1,065,000.00	74.7175	795,742.30
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 Trust Series "M".....	4½	\$80,000 due May 1 each year, 1930-41	960,000.00	98.50	945,600.00
Illinois Central R. R. & Chicago, St. Louis, & New Orleans R. R. Joint First Refunding Mortgage Gold Series "A".....	5	Dec., 1963	1,000,000.00	90.	900,000.00

Imperial Chinese Government Hu Kuang Rys. Sinking Fund Loan of 1911.....	5	June 15, 1951	£189,000.00	34.	\$321,300.00
Interborough Rapid Transit Co. First & Refunding Mortgage (Stamped) Gold.....	5	Jan., 1966	\$1,750,000.00	96.85713	1,695,000.00
The 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
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	2,173,000.00	93.2649	2,026,647.20
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
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
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
Morris & Essex R. R. First Refunding Mortgage Gold.....	3½	Dec., 2000	175,000.00	82.75	144,812.50
Mutual Fuel Gas Co. First Mortgage Gold... National Rys. of Mexico Prior Lien Fifty- Year Sinking Fund	5	Nov., 1947	250,000.00	100.	250,000.00
Secured 6% Notes for coupon due January 1, 1914.....	4½	July, 1957	350,000.00	13.	45,500.00
		Jan., 1933	1,125.00	59.	663.75

EXHIBIT J—Continued

NAME	INTEREST RATE PER CENT	DATE OF MATURITY	AMOUNT	FOUNDATION'S LEDGER VALUE PER CENT	FOUNDATION'S TOTAL LEDGER VALUE
National Rys. of Mexico: Certificate Series "A" Interest in arrears.....			\$47,857.50	5.50	\$2,632.16
Certificate Series "B" Interest in arrears..			94,500.00	.50	472.50
New York Central & Hudson River R. R.					
Thirty-Year Debenture.....	4	May, 1934	330,000.00	88.45	291,885.00
New York, Chicago, & St. Louis R. R.					
Debenture Gold.....	4	May, 1931	1,303,000.00	87.	1,133,610.00
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 & Improve-					
ment Mortgage 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
Pacific Telephone & Telegraph Co. First &					
Collateral Mortgage Gold.....	5	Jan. 2, 1937	500,000.00	89.5	447,500.00
Pennsylvania R. R. Equipment Trust					
Certificates Series "D".....	4½	\$30,000 due May 15 each year, 1930-41	360,000.00	98.5	354,600.00
Pennsylvania R. R. General Mortgage					
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 Series "I"....	4½	Aug., 1963	500,000.00	103.	515,000.00
Public Service Corporation of New Jersey Perpetual Interest-Bearing Certificates....	6		550,000.00	84.	462,000.00
Raleigh & Gaston R. R. First Mortgage Fifty-Year.....	5	Jan., 1947	250,000.00	95.	237,500.00
Reading Co. General and Refunding Gold Series "A".....	4½	Jan., 1997	333,000.00	94.25	313,852.50
St. Louis, Iron Mountain, & Southern Ry. General Consolidated Land Grant Gold....	5	Apr., 1931	270,000.00	93.	251,100.00
St. Louis-San Francisco Ry. Co. Equipment Trust Certificates Series "CC".....	4	\$50,000 due May 15 each year, 1930-43	700,000.00	93.57529	655,027.42
St. Louis-San Francisco Ry. Prior Lien Series "A".....	4	July, 1950	1,500,000.00	72.75	1,091,250.00
St. Louis Southwestern Ry. First Consolidated Mortgage Gold.....	4	June, 1932	1,596,000.00	60.	957,600.00
Seaboard Air Line Ry. Adjustment (Certificates of Deposit)....	5	Oct., 1949	455,000.00	52.	236,600.00
Southern Pacific Co., Central Pacific Stock Collateral Gold.....	4	Aug., 1949	100,000.00	76.	76,000.00
Southern Pacific Co. Equipment Trust Certificates Series "I".....	4½	\$100,000 due June 1 each year, 1931-41	1,100,000.00	98.50	1,083,500.00

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 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
Tennessee Coal, Iron, & R. R. Co. General.....	5	July, 1951	400,000.00	92.	368,000.00
Union Tank Car Co. Equipment Trust Gold.....	4½	\$100,000 due Oct. 1 each year, 1930-36	700,000.00	98.54	689,780.00
United Electric Co. of New Jersey First Mortgage Gold.....	4	June, 1949	500,000.00	72.	360,000.00
United States Fourth Liberty Loan.....	4½	Oct. 15, 1938	4,161,000.00	94.16854	3,918,353.20
United States Rubber Co. First and Refunding Mortgage Gold Series "A".....	5	Jan., 1947	3,820,000.00	85.	3,247,000.00
Wabash R. R. Second Mortgage Gold.....	5	Feb., 1939	120,000.00	97.8	117,360.00
Washington Ry. & Electric Co. Consolidated Mortgage Gold.....	4	Dec., 1951	450,000.00	83.5	375,750.00
Western Maryland R. R. First Mortgage.....	4	Oct., 1952	4,130,000.00	59.	2,436,700.00
Western Pacific R. R. First Mortgage Series "A".....	5	Mar., 1946	200,800.00	83.	166,664.00
Western Pacific R. R. Corp. Ten-Year Secured Notes.....	4	Oct., 1930	1,227,000.00	51.	625,770.00
TOTAL BONDS.....					\$64,442,906.33

STOCKS

NAME	NUMBER OF SHARES	FOUNDATION'S LEDGER VALUE PER SHARE	FOUNDATION'S TOTAL LEDGER VALUE
Anglo-American Oil Co. Ltd. Voting (Par £1).....	366,517	\$18.874803	\$6,917,936.32
Anglo-American Oil Co. Ltd. Non-Voting (Par £1).....	122,172	18.874803	2,305,972.49
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
Buckeye Pipe Line Co. Capital (Par \$50).....	49,693	79.277299	3,939,526.82
Central United National Bank of Cleveland (and Central United Co.).....	8,104	34.50422	279,622.22
Chehalis & Pacific Land Co. Capital.....	220	3.3084	727.84
Chicago & Eastern Illinois Ry. 6% Cumulative Preferred.....	3,000	34.	102,000.00
Chicago City & Connecting Rys. Participation Certificates, Preferred (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
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	100.	587,500.00
Consolidation Coal Co. Common.....	23,500	22.	517,000.00
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
Galena-Signal Oil Co. Preferred (Certificates of Deposit).....	4,193	100.	419,300.00

TREASURER'S REPORT

EXHIBIT J—Continued

NAME	NUMBER OF SHARES	FOUNDATION'S LEDGER VALUE PER SHARE	FOUNDATION'S TOTAL LEDGER VALUE
Galena-Signal Oil Co. Common (Certificates of Deposit)	20,000	\$8.20	\$164,000.00
Illinois Pipe Line Co. Capital.....	5,000	157.	785,000.00
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.....	26,667	13.75016	366,675.50
Kanawha & Hocking Coal & Coke 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. Common (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	16.82913	417,093.26
Northern Pipe Line Co. Capital (Par \$50).....	9,000	45.	405,000.00
Ohio Oil Co. Capital (Par \$25).....	47,342	70.75	3,349,446.50
Pere Marquette Ry. Cumulative Preferred.....	5,740	54.56521	313,204.35
Provident Loan Society of New York Certificates.....	266	100.	266,000.00
Solar Refining Co. Capital (Par \$25).....	36,304	23.12587	839,561.76
Southern Pipe Line Co. Capital (Par \$10).....	24,845	16.25	403,731.25
South West Pennsylvania Pipe Lines, Capital (Par \$50).....	8,000	62.	496,000.00
Standard Oil Co. (Indiana) Capital (Par \$25).....	691,140	28.90	19,973,946.00
Standard Oil Co. (New Jersey) Capital (Par \$25).....	1,077,005	34.826401	37,508,208.80
The Standard Oil Co. (Ohio) Non-Voting Cumulative 7% Preferred....	17,088	106.	1,811,328.00

The Standard Oil Co. (Ohio) Common (Par \$25).....	135,648	\$25.50	\$3,459,024.00
Tilden Iron Mining Co. Capital.....	890	27.35	24,341.73
Underwood Elliot Fisher Co. 7% Cumulative Preferred.....	2,300	110.	253,000.00
Union Tank Car Co. Capital.....	60,000	26.768133	1,606,087.97
Western Pacific R. R. Corporation Preferred.....	28,609	30.705971	878,467.15
Wilson Realty Co. Capital.....	591	100.	59,100.00
Women's Hotel Co. Capital (In liquidation).....	300		
TOTAL STOCKS.....			\$112,364,997.08

SUMMARY

Bonds.....	\$64,442,906.33
Stocks.....	112,364,997.08
TOTAL LEDGER VALUE OF INVESTMENTS	\$176,807,903.41

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