1869 1919

THE AMERICAN MUSEUM OF NATURAL HISTORY

EDUCATION
EXPLORATION
RESEARCH and
PUBLICATION

FIFTY-FIRST ANNUAL REPORT

FOR THE YEAR 1919

THE CITY OF NEW YORK
ISSUED MAY 1, 1920

THE AMERICAN MUSEUM OF NATURAL HISTORY

INCORPORATED IN 1869

"For the purpose of establishing and maintaining in said city a Museum and Library of Natural History; of encouraging and developing the study of Natural Science; of advancing the general knowledge of kindred subjects, and to that end of furnishing popular instruction"

BY

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		Associate Benefactors	10,000
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ADDRESS

SECRETARY OF THE AMERICAN MUSEUM
OF NATURAL HISTORY
77th Street and Central Park West
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I do hereby give and bequeath to "THE AMERICAN MUSEUM OF NATURAL HISTORY" *of the City of New York,*.....

.....

.....

ENDOWMENT FUND

The Endowment Fund was established in 1884. It now amounts to $8,117,986.07. The Trustees especially desire to insure the permanent growth and welfare of the Museum through an increase of the General Endowment Fund. The additional sum of $2,000,000 is needed at present.

BUILDING FUND

The Building Fund was established in 1916. It now amounts to $112,728.82. The Trustees desire to celebrate the Fifty-fifth Anniversary of the Founding of the Museum, namely, 1924, through the Completion of the Southern Half of the great building, partly by the City, partly by gift. The estimated cost is $10,000,000.

GIFTS AND BEQUESTS EXEMPT FROM TAXATION

Gifts and Bequests to The American Museum of Natural History are exempt from federal taxation, under the Federal Revenue Act of 1918.

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FIFTY-FIRST ANNUAL REPORT

OF THE

TRUSTEES

OF

THE AMERICAN MUSEUM OF NATURAL HISTORY

FOR THE YEAR 1919

FOR THE FREE EDUCATION
OF THE PEOPLE
FOR EXPLORATION, RESEARCH, EXHIBITION
AND PUBLICATION

THE CITY OF NEW YORK
ISSUED MAY 1, 1920

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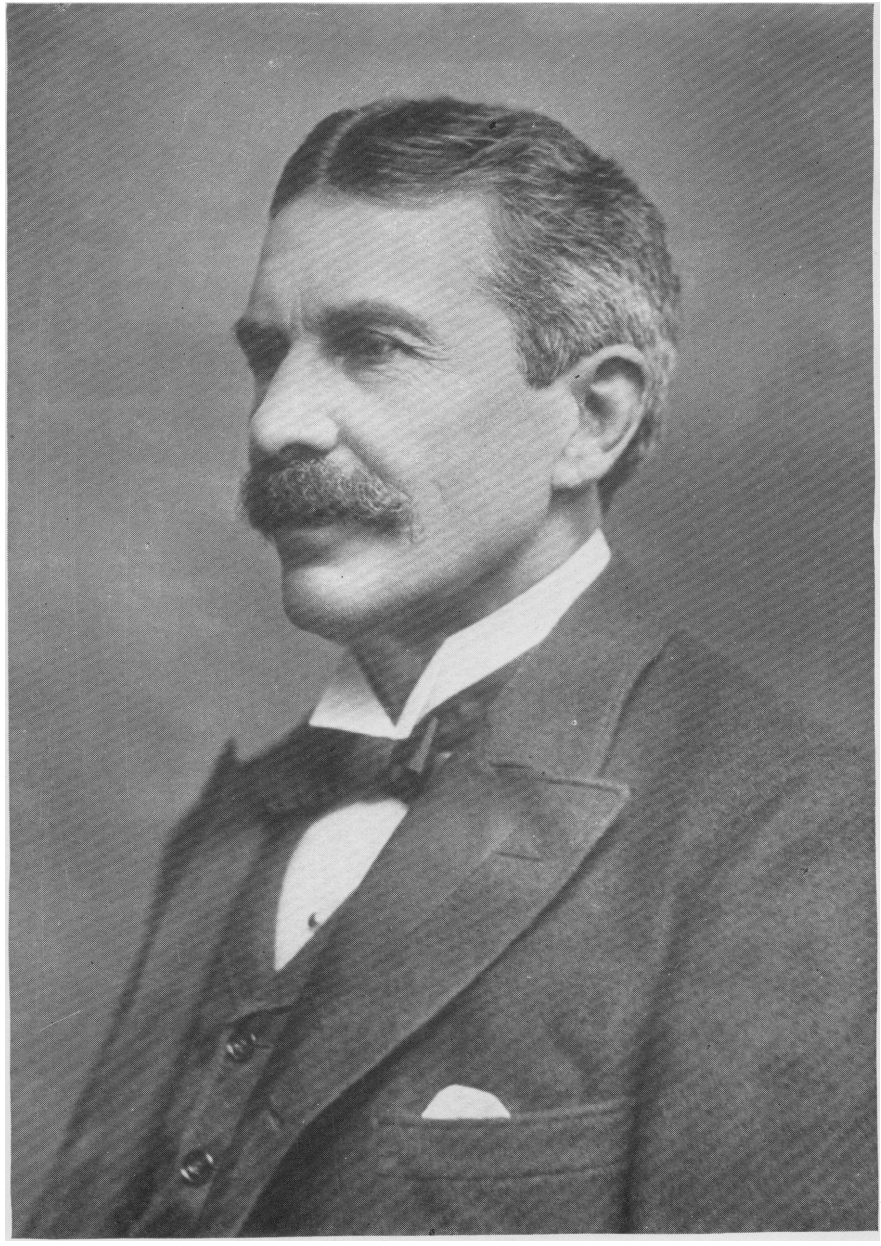

Augustus D. Juilliard

trustee 1898 to 1919

FIFTY-FIRST ANNUAL REPORT

To the Trustees of The American Museum of Natural History and to the City of New York

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THE COMING FIFTY YEARS

BY

President HENRY FAIRFIELD OSBORN

"Upon the subject of Education, not presuming to dictate any plans or system respecting it, I can only say that I view it as the most important subject which we, as a people, can be engaged in."
—*Lincoln's First Public Speech, March 9th, 1832.*

Our fiftieth annual report (1869-1918) was chiefly retrospective. The development of the Museum since its foundation was seen to coincide with the period in which man[1] has learned that he is a part of nature, that his spiritual, moral and physical welfare depends on obedience to natural laws; that from the religious point of view natural laws are divine laws. The American Museum was founded for an educational purpose clearly expressed in our Charter of 1869:

> "FOR THE PURPOSE OF ESTABLISHING AND MAINTAINING IN SAID CITY A MUSEUM AND LIBRARY OF NATURAL HISTORY; OF ENCOURAGING AND DEVELOPING THE STUDY OF NATURAL SCIENCE; OF ADVANCING THE GENERAL KNOWLEDGE OF KINDRED SUBJECTS, AND TO THAT END OF FURNISHING POPULAR INSTRUCTION."

We are developing this kind of education along many old and many new lines. Rather than theories or hypo-

[1] In 1863 was published Lyell's great work "The Geological Evidences of the Antiquity of Man." In 1871 appeared Darwin's "Descent of Man."

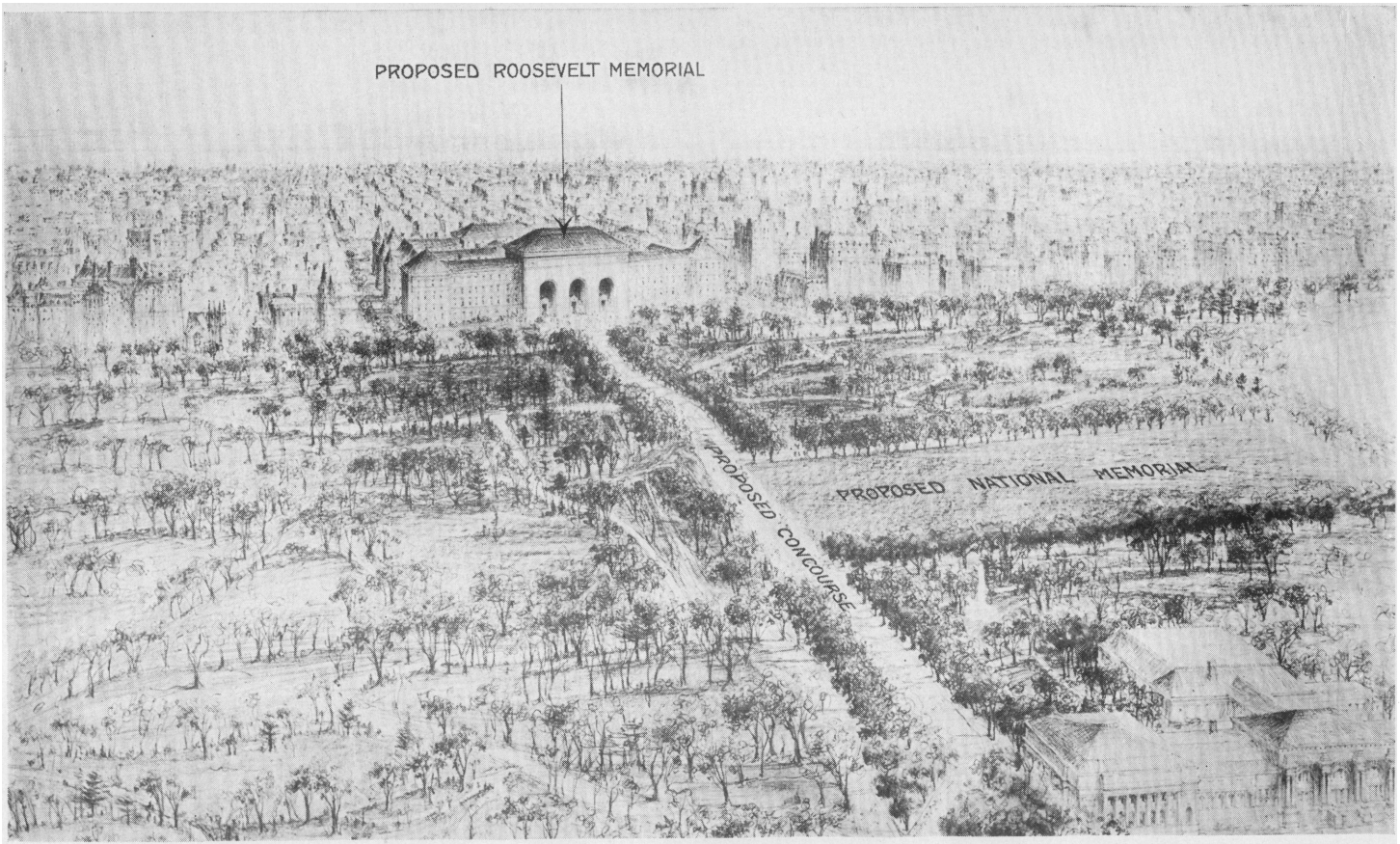
theses, we aim to present clearly the facts of nature and let these facts tell their own story and exert an influence more convincing than that of precepts or of books.

During the coming fifty years we hope to continue this kind of education and to do it still more widely and effectively. In view of its future great possibilities we regard *nature-education* as still in its infancy. We have new ideas and plans for this larger work, we have the intelligence and the sense of public responsibility, but to go ahead we must have more *space* and more *means.*

Museum Going Backward

Our fifty-first annual report is regretfully opened with the statement that the Museum as a whole is now going backward, not forward. It is like a grown man confined in the clothing of a youth. While progress is being made in many directions, it is not symmetrical, and in order to secure an harmonious educational treatment and to arrange truthfully our present collections, the Museum needs double the space which it now occupies. It is fifteen years since the building has been enlarged and during this time our collections have nearly doubled. This is not said in criticism or complaint of anyone. The Board of Estimate and Apportionment of the City has recently manifested its confidence in the institution by increasing the annual maintenance fund fifty per cent.; the Trustees and friends of the Museum have been most generous both in gifts and bequests; the Board of Education is also in friendly coöperation with our school work.

The fact that we are now going backward is owing, first, to the unprecedented growth of our collections, second, to the actual lack of available building funds by the City, and, third, to the interruption by the war of building extension through the personal subscriptions of the Trustees which was planned in 1913. This movement was well under way and would have given us a SOUTHEAST WING (ASIATIC HALL) and COURT BUILDING (HALL OF OCEAN LIFE) had not the war come on.



PROPOSED ROOSEVELT MEMORIAL AND INTERMUSEUM PARKWAY

STUDY BY JOHN VINCENT, ARTIST; TROWBRIDGE AND LIVINGSTON, ARCHITECTS

Drawn Under the Direction of President Henry Fairfield Osborn.

The Museum is not alone in its need. The whole educational system of New York City and State has suffered in the same way and from the same causes. The conditions are nation-wide, and a situation has arisen where we are compelled to take a very large and constructive view of the future. The question of the hour in everyone's mind is *Americanization,* and the wisest people are those who see that Americanization is to be accomplished only through the spiritual, moral, mental and physical training of our youth according to American ideals. Education is a great deal more than the three R's. So far as we are concerned, it is inspiration as well as information; it is instruction in local history, in geography and geology, in travel, in climatic laws, in simple economics, in all that concerns health of mind and body, in all branches of natural history, in all that living nature has to tell our youth.

Let us consider the Museum not by itself but as a part of the educational system of a city destined to be the greatest and we trust the most enlightened in the world.

NEW YORK HAS A UNIQUE EDUCATIONAL PLANT

Educational Facilities of New York

EDUCATION is the chief function of our City government. On education the largest sums of money are expended, amounting during 1919, directly and indirectly, to $60,263,757.48. Our great educational plant includes free schools, colleges, libraries, museums, scientifically arranged parks and aquaria, free lectures and free concerts, designed for instruction and inspiration. The combined attendance of the schools and colleges in 1919 was 875,327. The combined attendance of the museums, public library, scientific parks and aquaria was 10,654,881. Everyone who comes learns something. Some persons learn a great deal. Their reading, their thoughts, their imaginations take new and better channels. These figures are unprecedented and unique. No city in the world has ever been able to offer

to its people such free educational opportunities, on the whole so well conducted, so orderly, so influential.

Thoroughly democratic in operation, these institutions are open at all times, with only reasonable restrictions, to people of all classes—they are planned on a scale commensurate with a city destined to be the leading city of the world. This is the bright side of our educational system, namely, the opportunity which the City now offers, and its appreciation by the people.

The undeveloped side is, first, that in none of these institutions is the connection with the schools, as close or as penetrating as it should be; second, that all these institutions are short of funds to build, equip and maintain themselves, and to pay adequate salaries to teachers who are devoting their lives to them. We regard curators and librarians as educators no less important than the teachers in our schools. The physical condition of many of our schools is disgraceful. It is a question whether the bad example of crowded and unsanitary surroundings does not in many schools offset the zeal and earnestness of the teachers.

A SEPARATE SCHOOL TAX NECESSARY

Cost of Education

In round numbers it costs twice as much to build schools and other educational buildings; it costs twice as much to equip and to maintain them; it costs twice as much to properly pay the teachers as it did ten years ago. This is a situation which must be met sooner or later by doubling both the expenditures and the revenues devoted to education. Where is this money to be found: twice the money which has been expended hitherto? In our opinion this should not be found by placing a heavier burden solely on the existing taxpayers, which, under our present system, constitute only one-tenth of our entire population[1]. This is an aristo-

[1] In 1919 there were 578,043 taxpayers in the City of New York, out of a total estimated population of 6,740,000.

cratic means of paying for education which has grown out of the originally democratic method of imposing a tax on everyone who possessed a house, a home or lands. This system arose from the first school educational tax, imposed in Massachusetts in 1646, when practically everyone was a householder. To-day in seventeen states there is an educational poll tax. We should have such a tax in this State. It would interest all people in education. It would make them more keen about the administration of the schools, more insistent that they should be kept free from all influences except those making for the greatest welfare of the young.

Repeal of Tax on Education

The American Museum in 1917 took a leading part (see *Forty-ninth Annual Report of the President,* under the heading *Patriotism and Public Education,* pages 19 to 24), in the movement which led to the repeal of the iniquitous law passed by the Congress of the United States on September 8, 1916, *taxing all bequests, legacies, devises and gifts for education, philanthropy and religion in equal measure with expenditures for industry and for luxury.* This tax fortunately was repealed in time to save intact for educational purposes in the United States the superb bequests of Andrew Carnegie, of Margaret Olivia Sage and of Henry Clay Frick.

Separate Tax for Education

We are now prepared to throw our entire support in favor of a tax or of some other method which will give the municipal authorities of the City of New York sufficient funds to erect, equip and maintain its various educational buildings, as well as to pay adequately its great corps of teachers.

We believe that the Mayor and the Board of Estimate of the City of New York are deeply interested in the education of our children and will support a well-considered movement to secure adequate funds for education, provided it can be shown that this movement is in the interest of the 900,000 children of our public schools. The present Governor of

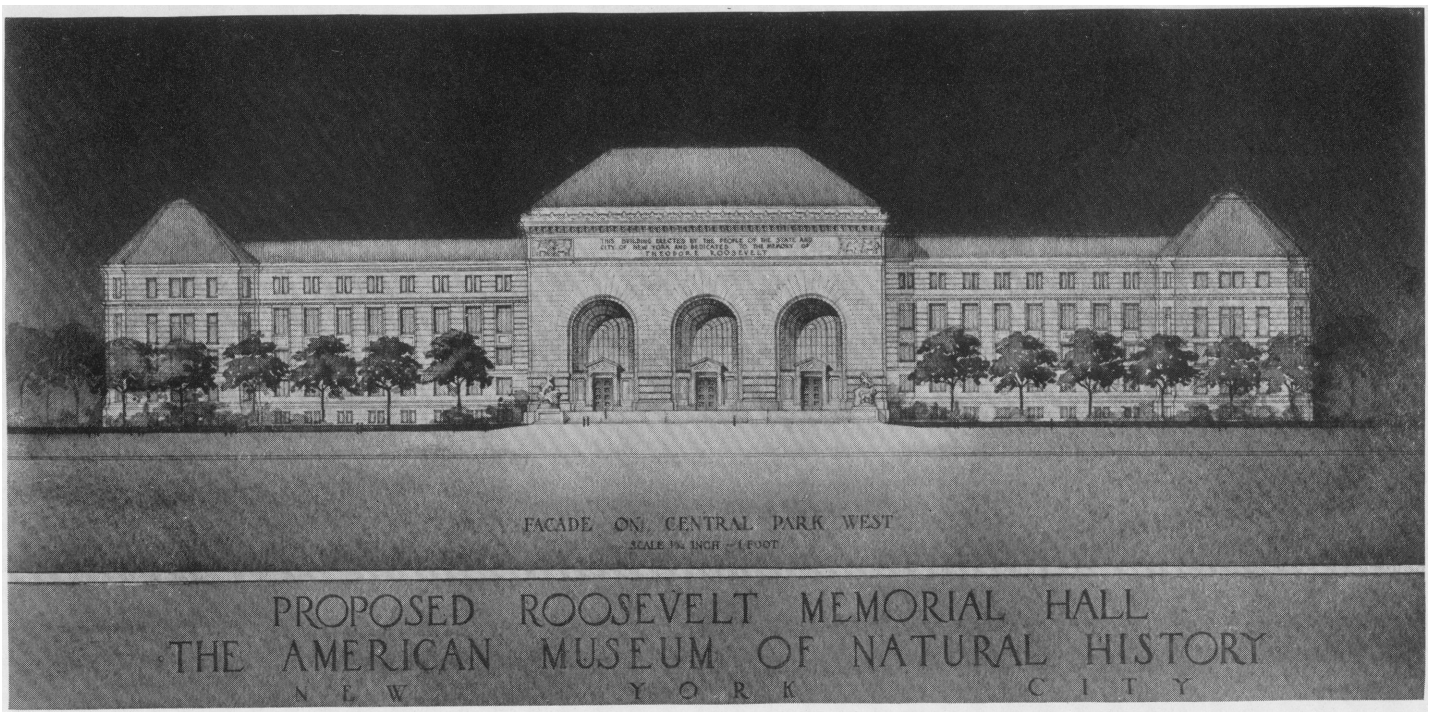
the State of New York and the Members of the Senate and Assembly must prepare to meet the crisis which has suddenly overwhelmed the educational system of the State. At the moment a democratic measure of taxation, one that has a precedent in many other states, seems advisable. President John H. Finley, at the head of the entire educational system of the State, has recently declared himself in favor of united support for home rule for the schools, for financial independence on the part of boards of education, and for *separate tax rolls and assessments for educational purposes.*

We believe that the people of this State, of all political parties, and of all religious creeds, when the matter is thoroughly explained to them, will also share cheerfully in the new burdens necessary to develop and to protect our youth. Americans, one and all, are keen about the education of their children; all are ready to make some sacrifices, and the greater number are ready to make substantial sacrifices. It is true that all adults now pay an invisible and indirect tax through rentals. A visible and direct tax for education would be paid with less murmuring if its purpose were well known and understood.

NATURE-EDUCATION BY THE AMERICAN MUSEUM —DISCOVERY REACHES THE SCHOOL MIND

Popularization of Science

The Museum is independently developing its school educational work, and with the exceptions noted has made encouraging progress. In the last five years it has reached 5,650,595 children directly and indirectly through its lecture system and traveling museums; it has expended $89,126.08 of its own funds directly on public education, in addition to the $1,538,057 expended on explorations, collections and researches in remote regions and on abstruse branches of science, which ultimately find their way into the school mind. This transfer of great scientific discoveries to the schools is going on all the time. In biology, consider the remoteness from



Central Park Façade

Showing in the Center the Recent Elevation of the

Proposed Roosevelt Memorial Hall

Facing Central Park at Seventy-ninth Street

practical school life of Pasteur's discoveries fifty years ago; now they are part and parcel of the education of youth. With an increased idealism in home and family life, Galton's principles of eugenics announced in 1884 are slowly penetrating the school mind and conscience.

As an extreme illustration of a less practical kind, when the Museum started its Department of Vertebrate Palæontology in 1891, there were probably not ten school children in the City of New York who knew what a dinosaur was. There are now some hundreds of thousands who know something about dinosaurs, for there are few children visiting the Museum who do not ask for the big fossils. These animals are now household words in the press, in school and college text-books; they crowd the illustrated pages of our newspapers; they form part of our language and literature, in art and in caricature. The American Museum has expended about a million dollars in this one department. It now easily leads the world in exhibits and collections of vertebrate fossils, and, although these fossils are at present uncouthly crowded and arranged for want of building space, they still possess great educational value. Anyone who is skeptical about this should note the close observation by the boys and girls of the animals of our ancient North American world. We are employing similar means effectively in Astronomy, through the gift by Mr. Edward D. Adams of the painting of the solar eclipse, by Howard Russell Butler.

ART AND INDUSTRIAL LIFE OF THE CITY

Industrial Art Exhibition

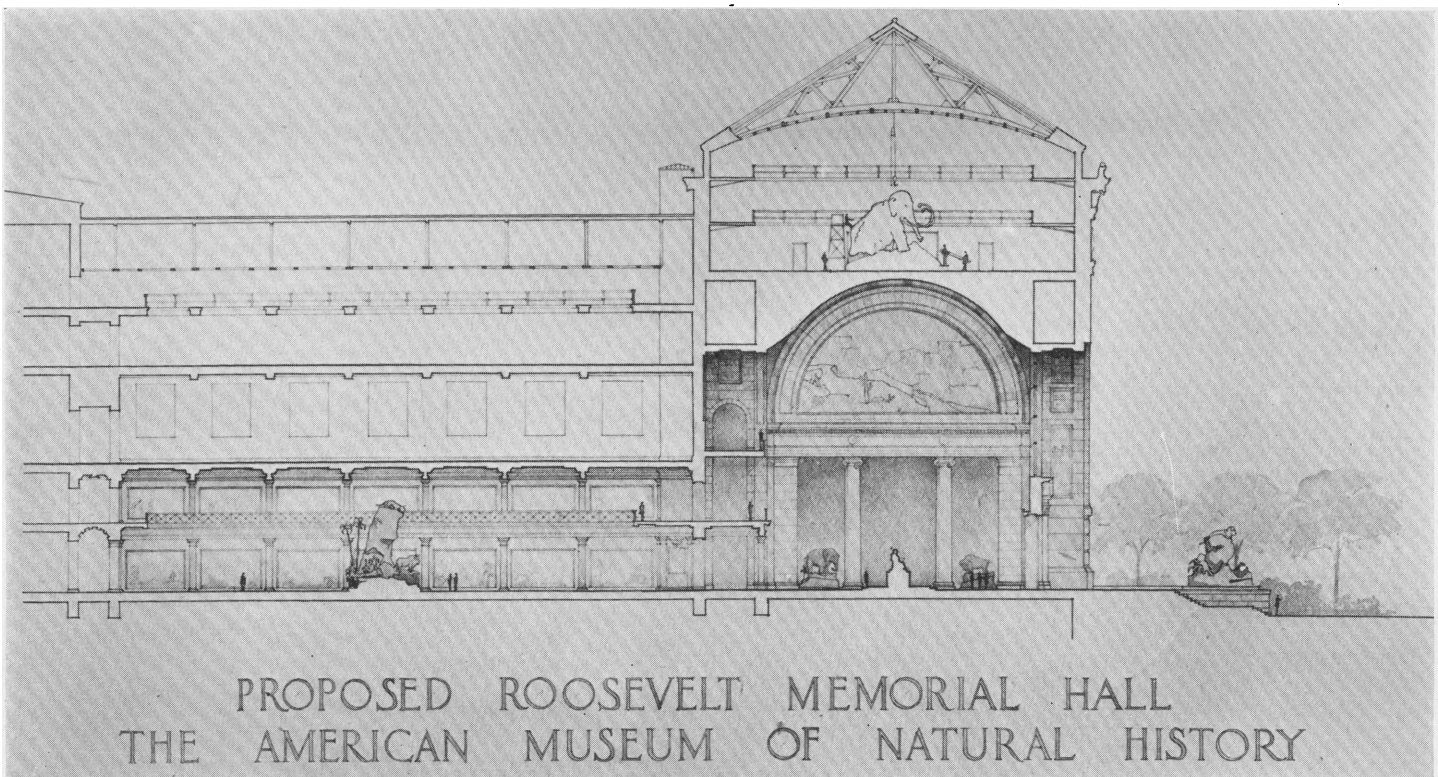
The possibility of the wide educational influence of the Museum in the art and industrial life of the City was demonstrated by the special Exhibition of Industrial Art in Textiles and Costumes, held in the Museum in November. The primary purpose of this exhibition was to show how Museum material could serve as the inspiration for designs in textiles and in costumes. The exhibition was installed under the direction

of Curator Wissler and Doctor Herbert J. Spinden, assisted by Mr. David Aaron, Mr. M. D. C. Crawford, Mr. Stewart Culin, Mr. Max Meyer and Miss Jessie Franklin Turner, and the movement had the hearty support and coöperation of thirty-five manufacturing houses and experienced designers. In the plan of the exhibition, the Museum specimen was shown in proximity to the modern design or costume derived from it. This initial step in pointing out the possibilities of coöperation between our museum and the textile industries received much favorable comment and brings forward the suggestion that the extension of the Museum to cover applied sciences is desirable.

UNTRUTHFUL ARRANGEMENT OF COLLECTIONS

Confusion Through Congestion

With all this obvious advance, the Museum has certainly come to a full stop in some branches of its educational work, and in many branches *it is actually going backward.* We are not truthfully presenting the facts about amphibians, reptiles, fishes, birds or mammals—because of disorderly arrangement. In hall after hall the arrangement is less truthful and more misleading than it was twenty years ago, because the collections are jumbled together out of their natural order. Animals which are not in the least related are placed side by side. Animals of the remote past, in fact of the very dawn of life, crowd the animals of to-day and yesterday. Small wonder that in the popularized science of the day, which is constantly flowing from Museum sources and finding its way into the newspapers all over this continent, dinosaurs are represented as contemporaneous with the mammoth and mastodon. Small wonder that the impressions of the superb succession of life through the ages of Vertebrates—of Fishes, of Amphibians, of Reptiles, of Mammals, of the Antiquity of Man—are completely confused. It is exactly as if some Chippendale furniture and Chinese peach blow vases should be placed in the center of



SECTION OF THE ROOSEVELT MEMORIAL BUILDING (MEMORIAL AND AFRICAN HALL)
WITH COLONEL ROOSEVELT'S TROPHIES.

an Egyptian hall among the relics and Canopic jars of Queen Thi and the vases of Etruria. This figuratively is the condition of six of our large exhibition halls at the present time.

It is not a civic luxury, *it is a paramount educational necessity,* which demands the completion of the building plans of the Natural History Museum, in order that the youth and the adults of the City may realize the full educational force and inspiration of our wonderful collections.

HARMONIOUS EDUCATIONAL EXHIBITION AT A STANDSTILL

Lack of Building Space

Exhibition, in the desired educational sense, is at a standstill for lack of building space and for lack of cases in five of our large halls. For want of the AFRICAN, ASIATIC, POLAR and OCEANIC HALLS, we are years behind in the exhibition of our African collections, of our Asiatic collections, of our Arctic and Antarctic collections, of our Oceanic collections, of our South American collections. For want of our projected HALL of FISHES, of REPTILES, of BIRDS OF THE EASTERN HEMISPHERE, these animals are untruthfully arranged at present.

This is concurrent with the fact that the Museum has unquestionably the best staff of experts that has ever been brought together in the history of this branch of science; men who are at the top of their profession not only in this country but in the world, several men of genius. They are drawn from many races, from many parts of the world; they include expert preparators in every branch of natural history, expert imitators of every known form of animal and of plant life, from the minute bacterium to the gigantic whale and dinosaur; they include painters and sculptors of animal life who lead their professions. Supplying these men with the scientific facts for artistic and educational expression is our school of old and young explorers who

have visited every ocean and every continent. Such men as Chapman, Cherrie, Stefánsson, MacMillan, Akeley, Andrews, Anthony, Lang, Chapin, Miller, Beck, Crampton, Hovey, Brown, Granger, Wissler, Goddard, Lowie, Spinden, Miner, Lutz, Wheeler. In the Museum archives are records and note-books of precise observations from every part of the North and many parts of the South American continent, from central and northern Africa, from eastern Asia and from Korea and Japan. These note-books are supplemented by a collection of field photographs numbering more than 25,000, also by the moving picture films of explorers like Paul J. Rainey, James Barnes, Roy C. Andrews and Donald B. MacMillan.

When only a tithe of these riches is being displayed for want of space and means of equipment, when men of museum genius like Curator Bashford Dean are leaving the Museum to seek an opportunity elsewhere, when sculptors of the rank of Carl E. Akeley are held back six years for the space of the AFRICAN HALL, Members and friends must not receive the false impression, through the random completion of an attractive exhibit or habitat group in this or that part of the Museum, that the Museum as a whole is progressing.

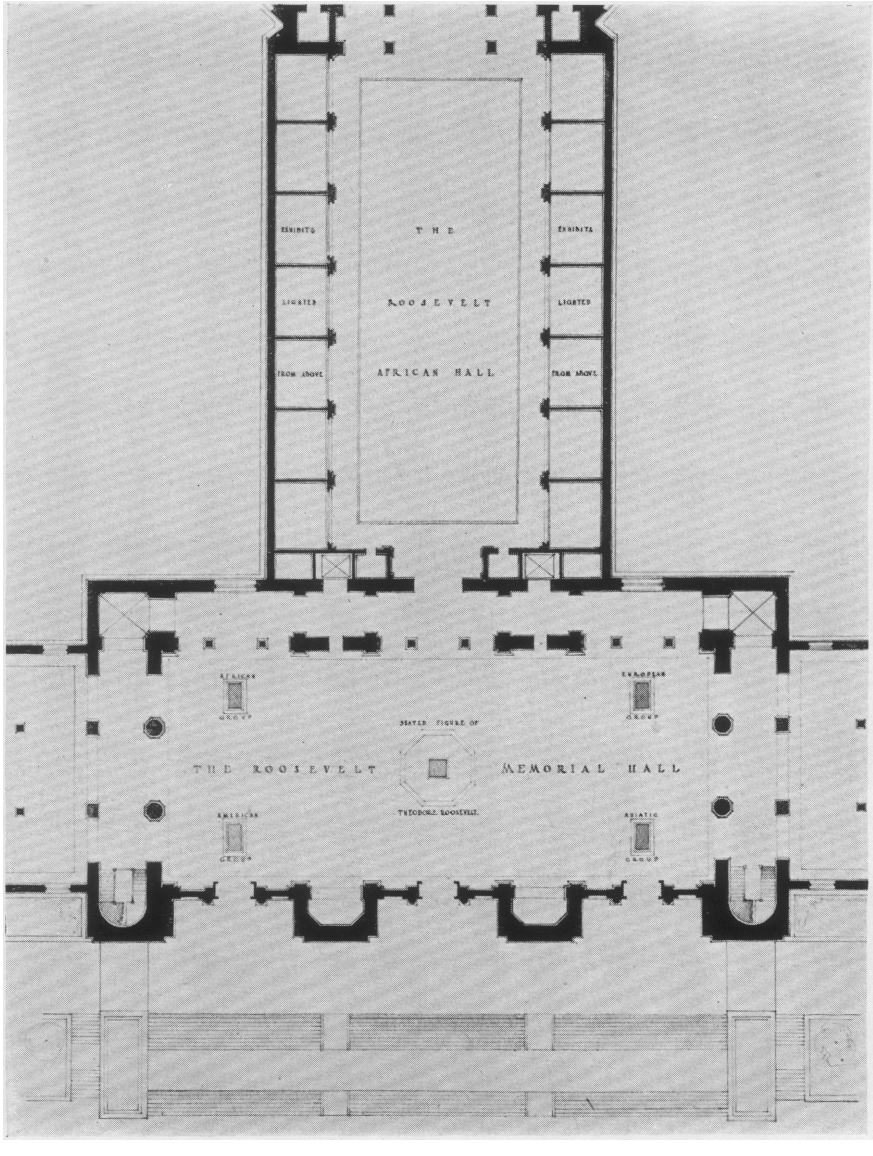
To conclude this statement of the actual condition of things, *the most important thing for the Museum to-day is an enlarged building and equipment.*

THE IDEAL NATURAL HISTORY BUILDING

Building Needs

We believe that the southern half of the building and the Central Transverse Section, with a new LECTURE HALL of larger seating capacity, and two central Court Buildings, will make an ideal natural history building for the coming fifty years. Such a completed Museum building corresponds with the plan prepared and published by the President in 1911.[1]

[1] *History, Plan and Scope of The American Museum of Natural History.*



Floor Plan of Proposed Roosevelt Memorial and African Hall.

This **Museum of Pure Science** will develop **three-fifths** of the original ground plan.

The remaining two-fifths may advantageously be devoted in part to the applications of science to health, to economics, to industry, to mineralogy, to the textile arts and manufactures. Such museums have already been developed in cities like Philadelphia and Munich, and such applications of natural history and of anthropology are greatly needed in the City of New York. The enlarged Lecture Hall may be used in common, and for purposes of both pure and applied science, it should have a seating capacity for 2,500 to 3,000 persons. It would be in practically constant use for lectures and demonstrations in pure science, in applied science and by the Board of Education.

Plans for New Buildings

By combined municipal, state and individual effort, a Natural History Museum adequate for the coming fifty years may be completed in the year 1924, to celebrate our first half century. The preparation of general plans may be completed during the present year at an estimated cost of $3,500. The plans and specifications for the SOUTHEAST WING and COURT BUILDING were completed in May, 1911, and could be sent to the builder at once. Plans for the WEST CENTRAL PAVILION will be restudied to meet the greatly increased cost of modern building. Plans for the remainder of the Transverse Section include the WEST CENTRAL WING, the ASTRONOMIC HALL, the EAST CENTRAL WING (AFRICAN HALL), combined with the EAST CENTRAL PAVILION (proposed ROOSEVELT MEMORIAL HALL). With the approval of Governor Smith, a bipartisan State Commission will be appointed at Albany to consider the various plans that have been suggested as a State Memorial to Theodore Roosevelt. Among the suggested plans is that illustrated in the accompanying plates of this Report, first brought forward in the *Fiftieth Annual Report*.

The approximate cost of each of these sections is as follows:

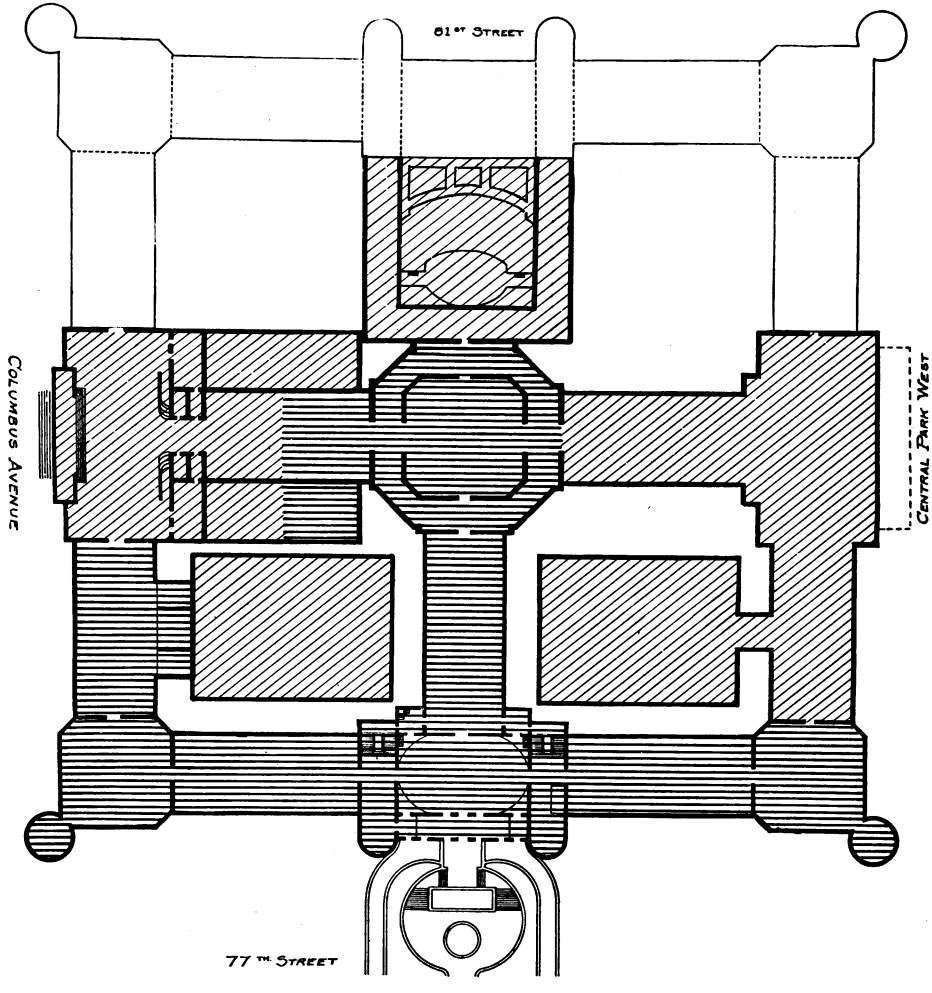
	Space cu. ft.	Cost
Roosevelt Memorial Hall	3,057,600	$1,987,440.
Roosevelt African Hall	1,035,720	673,218.
Asiatic Hall, Southeast Wing	1,181,050	667,650.
Oceanic Hall, Southeast Court	1,027,000	667,550.
Exhibition and Preparation Hall, Southwest Court	384,615	250,000.
Astronomic Hall, Planetary System, Central Pavilion	2,281,000	1,482,650.
Aztec Hall, West Central Pavilion	1,046,000	679,900.
South American Hall, Central West Wing	2,577,000	1,675,050.
Auditorium, Lecture Hall, Capacity 3,000	.....	1,541,800.
		$9,625,258.

The American Museum building to date has cost $5,319,821.48, and the additional total cost of the projected buildings will be not less than $10,000,000. This figure is to be compared with educational and other buildings in the City of New York, the approximate cost of which is shown in the accompanying table:

Comparative Cost of Buildings

Total appropriations for new Schools and High Schools during the administrations from 1898-1917	$119,307,742.69
Cost of Municipal Building of the City of New York	15,000,000.00
Cost of the State Capitol at Albany	25,000,000.00
Cost of the New York Public Library and Branch Libraries (buildings), 1898-1917	12,143,500.00
Cost of Metropolitan Museum of Art to date (plans about one-half completed)	6,542,000.00
Cost of the American Museum of Natural History to date	5,319,821.48
Cost of the Pennsylvania Terminal Building	14,830,000.00

The cost is to be considered on the basis of the magnitude of the service the Museum will render: that this will be the central Nature Exhibition, Education and Storage Building from which will radiate nature-education to one million school children annually in and about the City of New York. At present the Museum reaches 1,000,000 school children annually. This number will be further increased at least a quarter by 1924.



Original Ground Plan of 1875 of the American Museum

Horizontal ruling .....Parts already built.

Oblique ruling .....Parts which it is now proposed to construct.

Blank .....Parts for future development.

In the year 1919 the Museum was an auxiliary nature supply center, in books and in lecture, photographic, nature-study and research materials to the following:

LIST OF SCHOOLS AND OTHER EDUCATIONAL INSTITUTIONS UTILIZING THE RESOURCES OF THE AMERICAN MUSEUM OF NATURAL HISTORY

1919

Public Schools	413
Parochial Schools	18
Industrial Schools	15
Private Schools	23
Colleges and Universities	109
Medical Schools, Colleges and Hospitals	66
Schools of Art and Design	4
Libraries	15
Miscellaneous Educational Institutions and Organizations	117
	780

Scientific Work of Museum

If our institution were not primarily educational, but solely concerned in pure exploration, research and publication like the Carnegie Institution of Washington, or in medical and philanthropic work and research like the Rockefeller Foundation, it might well point with satisfaction to the great results which are being accomplished with the Jesup Endowment Fund; it might continue to expand in the direction of pure research and exploration, leaving the purposes of our Charter of 1869 along the lines of public education unfulfilled. In our opinion such a one-sided development would be a step backward: it would be a betrayal of the purposes which Mr. Jesup had in mind, and which he manifested throughout his entire career as President, as well as those of Mrs. Russell Sage.

Pure scientific research of the highest order, conducted by experts who were leaders in their respective fields, was Mr. Jesup's constant aim and should be our constant endeavor in administering his trust. He brought to the Museum leaders in Mammalogy, in Anthropology, in Invertebrate and Vertebrate Palæontology, and through them junior leaders have been trained in the Museum, in field exploration, and in the pure science courses of Columbia

University. Our staff in pure science has never been so strong as it is at the present moment, or so united in the spirit of friendly coöperation. The research product of the Museum has grown by leaps and bounds; the volume of our publications has increased several fold; the popular publications, based on the pure researches of their authors, have spread the scientific influence of the Museum all over the world. It is interesting to observe that these branches of science relinquished by many of our universities are taken up by our museums.

The details of these explorations, researches and publications are given in the usual reports by the Director and Heads of Departments. A summary of scientific publication during the last five years is as follows:

	Number of Pages
Natural History of North America	4,959
" " " South America	1,470
" " " Asia (Andrews' Expeditions)	205
" " " Europe	266
" " " Africa (Congo Reports)	1,294
" " " Various Localities	660
	8,854

North American Exploration

In coöperation with the National Museum and other museums, North America from the Arctic to the Isthmus is now well covered by our explorations, publications and photographic collections, including historic and prehistoric races of men, the insects, fishes, amphibians, reptiles, birds and mammals, as well as the extinct ancestors of these living groups. Especially noteworthy serial publications on recent explorations, completed or well advanced, are papers on the "Anthropology of the Southwest" with the Archer M. Huntington Fund, the great *Bibliography of Fishes* with the Jesup Fund, and the six volumes on Fossil Vertebrates with the Jesup Fund. Aided by the Jesup Fund[1], Professor Osborn, as a member of the

[1] Professor Osborn's research, travel and publication fund is devoted to the salaries of his research assistants and artists engaged in this work, and in part to his own travels.

staff of the United States Geological Survey, has just completed his monograph, "Titanotheres of Western America," on which he has been engaged for nineteen and a half years.

South American Exploration

About $75,000 has been expended since 1910 on South American exploration and publication through successive expeditions led by Chapman, Roosevelt, Cherrie, Miller and Richardson. Our senior Curator, Dr. J. A. Allen, has produced a series of classical papers on South American mammals. Expeditions into the interior bear the name of Theodore Roosevelt. Doctor Chapman's "Distribution of Bird-Life in Colombia," recently awarded the Daniel Giraud Elliot Medal by the National Academy of Sciences, is also a classic and leads to similar volumes on the birds of Peru and of Chile. The materials and collections will fill our South American Hall.

African Exploration and Research

We have thus far expended $190,000 on African exploration, research and publication. Unrivaled collections of reptiles, birds and mammals are in storage awaiting the construction of the African Hall, as the result of the courageous and untiring field work of a succession of explorers, namely, Roosevelt, Tjäder, Akeley, Rainsford, Barnes, Rainey, Lang and Chapin. The two last named have rendered monumental service to African natural history in bringing out the most complete and the most perfectly preserved collection which has ever come from Africa, with precise field notes and 9,500 photographs. The results are being issued in a series of twelve volumes entitled *The Zoology of the Belgian Congo.* To these volumes, not only our own but other eminent scientists of the country are contributing, notably Director W. J. Holland, of the Carnegie Museum, Professor William Morton Wheeler of Harvard University, and Dr. Henry A. Pilsbry of the Academy of Natural Sciences of Philadelphia. The first two Congo volumes were recently presented to the King of the Belgians

following his visit to the Museum. A duplicate collection is being sent to the great Congo Museum at Tervueren, Belgium, according to the agreement of the Museum with the Belgian Government.

Asiatic Exploration

Through the successive journeys of one of our own explorers, Mr. Roy C. Andrews, in Japan, Korea, the Provinces of Yunnan, Fukien, Shansi, and in Mongolia, aided by the Rev. Harry R. Caldwell, we have made a notable beginning in the collections representing the eastern mountain, plain and desert life of Asia. We have secured about one-half of the materials necessary to fill the ASIATIC HALL of the proposed Southeast Wing. We still require examples of the life of tropical Asia and Indo-Malaya. All together we have expended $35,000 in Asiatic exploration and publication up to the present time.

Popular Publications

Popular scientific works are carrying the riches of the Museum to readers all over the world. The series of popular volumes by Peary, Stefánsson, MacMillan, Roosevelt, Chapman, Miller, Wissler, Andrews and Lutz constitute a library of standard reference on Arctic exploration, on African, Asiatic and South American travel, and on the ancient and recent history of the primitive races of Europe and of North America:

Peary, Robert E.,
- Northward Over the Great Ice, 1898
- The North Pole, 1910
- Secrets of Polar Travel, 1917

Stefánsson, Vilhjalmur,
- My Life with the Eskimo, 1913

MacMillan, Donald B.,
- Four Years in the White North, 1918

Roosevelt, Theodore,
- Through the Brazilian Wilderness, 1914

Chapman, Frank M.,
- Camps and Cruises of an Ornithologist, 1908
- Handbook of Birds of Eastern North America, 1912
- The Travels of Birds, 1916
- Our Winter Birds, 1918

Miller, Leo E.,
- In the Wilds of South America, 1918

Wissler, Clark,
- North American Indians of the Plains, 1912
- The American Indian, 1917

Andrews, Roy C.,
- Whale Hunting with Gun and Camera, 1916
- Camps and Trails in China, 1918

Lutz, Frank E.,
- Field Book of Insects, 1918

Again aided by the Jesup Fund, Professor Osborn has produced three popular volumes which have become of standard reference:

The Age of Mammals, 1910
Men of the Old Stone Age, 1915
The Origin and Evolution of Life, 1917

Works of this kind are drawn upon by writers of text-books for schools and colleges, in all parts of the world.

For publication as well as for the enrichment of the collections and the preparation of exhibitions, the total sum of $1,412,839.32 has been expended, since Mr. Jesup's decease in 1908, from the income from the Morris K. Jesup Fund, which by the terms of the will is devoted to purely scientific purposes.

GENERAL AND SCIENTIFIC ENDOWMENT

The total general and scientific endowment on December 31, 1919, amounted to $8,117,986.07. If the munificent bequests which have been made to the Museum during the last few years are realized, our total endowment will amount to $10,337,986.07. The present status of these bequests is as follows:

Bequests Pending Settlement

BEQUEST OF AMOS F. ENO: Under the will of Amos F. Eno, the Museum is to receive $250,000. The will is being contested, and the case is pending in the courts.

BEQUEST OF CHARLES E. RHINELANDER: The Museum's interest is 2% of the residuary estate. The Museum's prospective share is $8,000 and possibly an additional $12,000 from a trust fund contingent upon the death of Rhinelander Waldo without descendants. Charles E. Rhinelander died on December 7, 1915.

BEQUEST OF HELEN C. JUILLIARD: The Museum's interest in this estate is $50,000, which was held in trust by Mr. A. D. Juilliard during his life. The Museum has received (in 1919) income amounting to $2,050 on this bequest, this being the interest since April 25, 1919, the date of Mr. Juilliard's death.

BEQUEST OF JAMES GAUNT: The Museum is entitled to one-half of the residuary estate, subject to life estate of Thomas T. Gaunt. The Museum's share is $15,000 plus one-half the proceeds from certain real property in Idaho of uncertain value.

BEQUEST OF EMIL WOLFF: The Museum is to receive fifty shares of the Preferred Stock of the Einstein-Wolff Company. Notice has been filed with the federal authorities of the intention of the Museum to accept this bequest.

BEQUEST OF LUDWIG DREYFUSS: The Museum is to receive $10,000 from this estate. The Assistant Secretary has filed notice of the Museum's intention to accept this bequest.

BEQUEST OF LOUISA COMBE: The Museum is designated as residuary legatee. The estimated value of the Museum's interest in the estate is from $50,000 to $75,000. There is a possibility that the Museum will receive approximately $5,000 on account in 1920.

BEQUEST OF MARGARET OLIVIA SAGE: The Museum is entitled to two shares of the residuary estate, which have an estimated value of from $1,500,000 to $1,700,000. The executors expect to make a substantial payment on account of this legacy in 1920.

BEQUEST OF A. D. JUILLIARD: Under the will of Mr. A. D. Juilliard, the Museum is to receive $100,000. The Assistant Secretary has signed the necessary papers to exempt the Museum from the Inheritance Tax.

BEQUEST OF FANNY BRIDGHAM: Under the will of Mrs. Fanny Bridgham, who became a Life Member of the Museum in 1912, and who died October 23, 1919, the Museum is to receive an unconditional bequest of $15,000.

Many of these recent bequests have come as a surprise to the Trustees, without our solicitation or suggestion. They constitute a striking manifestation of the firm hold which the Museum has gained on the confidence and affections of the people of our city.

Doubled Cost of Operation

Educational and living costs have doubled within the last ten years. Our total annual budget for our public educational work in the broadest sense has risen from $244,240.17 in 1907, the last year of Mr. Jesup's administration, to $774,899.29, our budget for 1920.

The size of the building and the maintenance work remain virtually the same, yet the operating and maintenance costs have risen from $186,828.52 in 1907, to $359,902.79, the maintenance budget for 1920. For the combined years 1919 and 1920 we face a deficiency of $106,401.08, incurred in operation and maintenance, that is, in the purely public educational side of the Museum administration, with all the exhibition halls open free to the public every day in the year.

The Board of Estimate and Apportionment has shown its faith in the public educational work that the Museum is doing by increasing the annual appropriation this year by $95,140.00, practically an advance of 50% of the appropriation for 1919.

We need at the present moment $2,000 000 of additional general endowment to meet the current costs of operation, that is, to continue our public educational work in the exhibition halls, lecture halls, and exchange collections delivered to the libraries and schools.

MEMBERSHIP AND STAFF

Trustees

We regret to record that during the year two of our colleagues have been removed by death, namely, Mr. Augustus D. Juilliard, who died on April 25, 1919, after a service of twenty-one years, and Mr. Henry Clay Frick, who died on December 2, 1919, and who had been a member of the Board since February 2, 1914. The Trustees at a meeting of the Board, held on November 10, 1919, adopted the following minute and ordered it suitably engrossed:

> The Board of Trustees of The American Museum of Natural History desire to record their warm appreciation of the many years of service of
>
> AUGUSTUS D. JUILLIARD
>
> which began with his election to the Board on May 9, 1898, and continued to the time of his death on April 25, 1919.
>
> His clear and sound judgment was manifested in his work upon the Finance Committee (1903-1905), the Auditing Committee (1908), and his ten years of service on the Executive Committee (1909-1919). He gave evidence of his wide interest in the Museum by generous annual contributions to its maintenance and to explorations in the Congo. In recent years he donated the unique collection of Nazca Pottery, also a beautiful series of Peruvian textiles, and he showed an especially warm interest in the work that the Museum is doing in industrial textile design.

All together his individual donations amounted to more than $36,000, and through his Will he manifested his faith in the future of the Museum by a bequest of $100,000, which will supplement Mrs. Juilliard's generous legacy of $50,000.

The Trustees will greatly miss his genial presence and will endeavor to keep alive his memory and influence by continuing the wise and patriotic administration of his gifts and legacies to the Museum for the public welfare.

At the Executive Committee meeting, held on December 17, 1919, the Trustees recorded their appreciation of the services of Mr. Frick by the adoption of the following minute:

The Trustees desire to record their sorrow in the loss of their late associate

HENRY CLAY FRICK

a member of the Board of Trustees from February 2, 1914, until December 2, 1919, the date of his decease. The activities of Mr. Frick on our Board are found in the following records from our minutes:

February 2, 1914—Elected a Trustee in the *Class of 1918* to succeed Mr. George S. Bowdoin, deceased.

February 18, 1914—Appointed member of Finance Committee, which position he held until his death.

February 5, 1917—Elected Associate Benefactor in view of generous contributions and interest in growth of Museum.

February 5, 1917—Entertained Trustees at his residence on the occasion of the Annual Meeting of the Board.

He was a liberal contributor to the general work of the Museum, his gifts totaling $17,000.

We wish especially to record our admiration of the public spirit and patriotism of our late colleague and his superb bequests to art, to philanthropy and to general and technical education, which place him among the foremost benefactors of the people of the country.

We desire to extend to the members of his family our most sincere sympathy in their loss and our profound appreciation of the life and work of Mr. Frick.

Because of the demands of other duties upon his time and energy, Mr. R. Fulton Cutting tendered his resignation as a member of the Board, which was accepted with regret by the Executive Committee at a meeting held on October 15, 1919.

Two new Trustees were elected to the Board on November 10, 1919, namely, Mr. Walter Douglas and Lieutenant-Colonel Theodore Roosevelt.

Scientific Staff

Several changes were made in the Scientific Staff in 1919, through promotion, resignation or appointment:

Mr. G. K. Noble was appointed Assistant Curator in the Department of Herpetology on February 19.

Mr. Karl P. Schmidt was appointed Assistant in the Department of Herpetology on February 19.

Mr. Childs Frick was appointed Assistant in Vertebrate Palæontology on May 21.

Mr. Leo E. Miller resigned as Assistant in the Department of Mammalogy and Ornithology on June 3.

Dr. Thomas G. Hull resigned as Assistant in the Department of Public Health on September 19.

Miss Ann E. Thomas resigned as Assistant in the Department of Public Education, to take effect October 1.

Miss Ruth E. Crosby was appointed to succeed Miss Ann E. Thomas, to take effect October 6.

Mr. Laurence V. Coleman was appointed Chief of the Department of Preparation on October 15.

Major Barrington Moore was appointed Research Associate in Forestry on February 19.

Mr. Robert Cushman Murphy was appointed on October 15, as Research Associate in Ornithology for 1919.

Dr. Joseph Bequaert was appointed on October 15, as Research Associate in Entomology for 1919.

PUBLIC ACTIVITIES OF THE STAFF

The outside activities of Staff members have been extensive and in many instances they have received notable public recognition.

By direction of Albert I., King of the Belgians, Colonel Leon Osterrieth, Chief of the Belgian Military Mission, presented to President Henry Fairfield Osborn, at the Museum on November 20, 1919, the Cross of Commander of the Order of the Crown of Belgium, in recognition of the Museum's important services to science in exploring the Belgian Congo and in issuing valuable publications setting forth the results of its collections and researches.

President Osborn has been elected to a trusteeship of the Institut de Paléontologie Humaine of Paris, as a member of the Conseil de Perfectionnement.

President Osborn served on Mayor Hylan's Committee on Receptions to Distinguished Guests to welcome Their Majesties King Albert I. and Queen Elizabeth of Belgium, and His Royal Highness Edward Prince of Wales.

In November, the Cullum Geographical Medal was awarded to President Osborn by the Council of the American Geographical Society.

Dr. J. A. Allen has been elected the first Honorary Member of the newly formed American Society of Mammalogists.

Dr. Frank M. Chapman, from October, 1918, to April, 1919, was Red Cross Commissioner to South America, the highest office, for foreign service, the Red Cross can give. He also visited the Panama Red Cross and the extremely active Canal Zone Chapter, and was sent in April, 1919, to Paris to report on his work.

Dr. W. D. Matthew has been elected a Fellow of the Royal Society of Great Britain.

Dr. William K. Gregory was elected a Corresponding Member of the Zoölogical Society of London, January 15, 1919.

Dr. Herbert J. Spinden was elected a Corresponding Member of the Society of Americanists of Paris, at their meeting of November 4, 1919.

The American Museum was represented at the fourteenth annual meeting of the American Association of Museums, held in Philadelphia in May, by Dr. E. O. Hovey, Dr. Herbert J. Spinden and Mr. Roy W. Miner. Dr. Spinden addressed the session with reference to the utilization of museum material in industrial art.

The American Society of Mammalogists has been organized in Washington. Among the councilors is Dr. W. D. Matthew.

Mr. Carl E. Akeley is a member of the Roosevelt Permanent National Committee, appointed for the purpose of choice and erection of a national memorial to the late Theodore Roosevelt.

The Aëronautical Society of America, at its meeting of January 9, elected Mr. Carl E. Akeley to life membership in recognition of his important invention of a camera specially designed for use in aëroplane work.

At the annual meeting of the American Camp Directors' Association and the Woodcraft League of America, held at Greenkill Camp near Kingston, New York, in May, bird study was conducted by Dr. G. Clyde Fisher, representing the Museum. Dr. Fisher has been made a member of the Council of Guidance of the Woodcraft League.

On December 20, the Museum was represented by Dr. Henry E. Crampton at a conference at Albany to consider a biological survey of the State.

Dr. F. E. Lutz was the official representative of the Museum at the annual meeting of the American Association for the Advancement of Science, held in St. Louis from December 29, 1919, to January 3, 1920.

Dr. Clark Wissler has been elected Vice-Chairman of the Section of Anthropology and Psychology of the National Research Council.

Dr. Pliny E. Goddard has been elected a Fellow of the American Academy of Arts and Sciences.

HOSPITALITY TO SOCIETIES

In spite of reductions in force, the Museum has extended its facilities to many educational and scientific societies during the year, especially to the New York Academy of Sciences, the American Ornithologists' Union, the Horticultural Society of New York, and the National Association of Audubon Societies.

Visit of King and Queen of the Belgians

On the afternoon of October 4, the King and Queen of the Belgians made an informal visit to the Museum. They were met by a committee of the Faculty under the direction of Dr. William K. Gregory. The King and Queen were greatly impressed with the attractiveness of the Museum and its educational value to the public. In commemoration of this visit, the Trustees have presented to King Albert two handsomely bound volumes of the first publications of the American Museum's Expedition to the Congo, under the heading "Zoölogy of the Belgian Congo." These volumes were accompanied by a suitable inscription to the King.

Among the societies and organizations that have held meetings at the Museum, in rooms provided for this purpose, have been the following:

American Ethnological Society.
American Institute of Mining Engineers.
American Ornithologists' Union.
American Red Cross (booth).
American Sweet Pea Society.
Aquarium Society.
Art Teachers (conference on industrial design).
Boy Scouts of America.
City History Club.
Colorado Cliff-Dwellings Association, New York Chapter.
Columbia University, Classes.
Eastern New York Conference of Educators.

Department of Education, New York City (free public lectures, January).
Galton Society for the Study of the Origin and Evolution of Man.
Horticultural Society of New York.
Keramic Society of Greater New York.
Linnaean Society of New York.
National Association of Audubon Societies.
National Research Council (Division of Anthropology and Psychology and Executive Committee on Pacific Exploration).
New York Academy of Sciences.
New York Bird and Tree Club.
New York Entomological Society.
New York Microscopical Society.
New York Mineralogical Club.
School Nature League.
Torrey Botanical Club.
United States Bureau of Education.
United States Public Health Service.
Y. M. C. A., National Board.

SPECIAL GIFTS AND ACKNOWLEDGMENTS

On pages 201 to 220, acknowledgment is made of the many gifts received by the Museum during the year 1919, but we wish here to make special mention of the specimens received from the New York Zoölogical Society and the Department of Parks. Of particular importance also are: The gift by Mr. Edward D. Adams of a framed oil painting by Mr. Howard Russell Butler, showing the corona and prominences of the sun at period of total eclipse of the sun on June 8, 1918, at Baker, Oregon; a gift of pottery and basketry from North America and Africa from Miss Mary Appleton; a series of specimens illustrating coal and its derived products, arranged genetically, from the Barrett Company; seven skins of wolverene, one of white timber wolf, and one of Alaska

brown bear, made up as rugs, from Mr. Louis V. Bell; skin of albino deer from Balls Island, S. C., from Mr. Archibald Harrison; a collection of about 11,400 Microlepidoptera from Mrs. W. D. Kearfott; 867 negatives of local wild flowers, from Miss E. M. Kittredge: archæological specimens from the Des Plaines River locality, from Mr. George Langford; a Chinese painting on silk (a kakemono of the last Manchu dynastic period), from Mr. Ogden Mills; 470 specimens of rare marine fishes from Turk's Island and Bermuda, from Mr. L. L. Mowbray; a portrait bust of Professor Henry Fairfield Osborn, by Chester A. Beach, gift of Mrs. Henry Fairfield Osborn; two marble busts with pedestals, one of Aristotle and one of Goethe, gifts of Mrs. Henry Fairfield Osborn; archæological material from Michigan, from Dr. H. G. Otis; 28,270 specimens of Coleoptera from North America, from Mr. C. A. Palm; oil paintings by J. J. Audubon (Sewellel, canvas 16x22, and Spermophile, canvas 12x22), from Dr. Edward H. Rogers; 94 mounted birds from eastern North America, and various sets of eggs, from Mr. Breck Trowbridge; a case of birds of brilliant plumage, from Mrs. F. Vettel, Jr.; five bronze objects from Sumatra, a piece of Samoan tapa cloth, two beaded and two woven pouches from Sumatra, gifts of Mr. Arthur S. Walcott; a lacquered dog house with fittings, from an imperial palace, China, gift of Miss Theodora Wilbour.

REPORTS OF THE DIRECTOR AND OF THE CURATORS

REPORT OF THE DIRECTOR

FREDERIC A. LUCAS

In spite of the restrictions imposed by crowded halls and store-rooms and the increased cost of everything, the Director is able to report progress in the acquisition of material, in research, publication, installation and attendance, as well as important gains in membership. Some of the progress has been in indirect lines, like a ship beating to windward; there have been shifts and makeshifts; much of the installation is temporary, and many changes will be necessary when more room is available, but much that has been done will be ready for exhibition when the time arrives.

There is no better maxim for the Museum Curator than that found in the words of Theodore Roosevelt, "Do what you can, where you are, with what you have," and for the past five years or so the Museum staff has been working on that principle.

Attendance

Notwithstanding the shortening of the hours during which the Museum was open to the public and the fact that many of the halls have been closed half the time, the attendance has been very good, especially during the last half of the year. Part of the attendance during the first part of the year was probably due to the presence in and near New York of soldiers awaiting their discharge and to their relatives and friends who came to meet them.

The number of visitors in the last six months is, the Director feels, largely due to improvements in the exhibition halls, which are better arranged and more fully labeled than ever before, though unfortunately some halls are still in-

adequately labeled. In considering the attendance, the number of visitors to the Flower Show and to the Exhibit of Industrial Art has been discounted, but subtracting these, the number during the last four months was as great as at any previous corresponding period.

Among noteworthy visitors were the King and Queen of Belgium, accompanied by the Crown Prince; the members of the Abyssinian Mission, headed by the Dedjazmatch (Duke) Nado; and Viscount Grey.

The Abyssinians were most impressed by the fossil vertebrates, not merely by the size of such creatures as the Dinosaurs, but with their great age, and the abundance of life at so early a period in the history of the earth.

The past few years of war, cold, unrest, strikes and epidemics of infantile paralysis and influenza have told severely on Museum attendance, but the year 1919, it is hoped, can be considered as an approach to normal.

STATISTICS OF NUMBERS REACHED BY THE MUSEUM AND ITS EXTENSION EDUCATIONAL SYSTEM

	1915	1916	1917	1918	1919
Board of Education Lectures	41,970	34,421	32,790	21,624	1,191
Lectures to School Children and Classes visiting the Museum for Study.....	61,437	58,842	57,463	21,484	35,221
Meetings of Scientific Societies and Other Meetings and Lectures.....	22,542	28,495	25,549	20,928	21,475
Total	125,949	121,758	115,802	64,036	57,887
Attendance in Exhibition Halls	794,139	725,917	786,151	627,302	810,575
Total Attendance for all Purposes.....	920,088	847,675	901,953	691,338	868,462
Lectures to Pupils in Local Centers	32,800	37,400	38,525	19,575	25,575
Numbers reached by Circulating Collections.....	1,238,581	1,118,322	1,104,456	817,610	955,438
Grand Total.....	2,191,469	2,003,397	2,044,934	1,528,523	1,849,475

Sales of Popular Publications

The sales of popular publications have reflected the character of the attendance, being greater than ever, particularly of the *Guide,* which was exhausted much sooner than expected and "out of print" for four months. Three of the *Handbooks* were also "sold out." All together there were sold at the attendants' desks 3,005 *Guides,* 1,886 *Handbooks,* 3,087 *Leaflets* and 1,044 *Reprints,* a total of 9,022 copies.

These figures do not include sales made through the Library, which go largely to educational institutions, where the *Handbooks* or other publications, particularly those of the Departments of Anthropology and Vertebrate Palæontology, are used as text books or works of reference.

The Printing Plant

The increase in printing equipment made in 1918 has been thoroughly justified by the results obtained, although, owing to rapid increases in the prices of material and labor, it is unusually difficult to make a comparison of the work done in the Museum with that done outside. Thanks, however, to Dr. Wissler, who was largely instrumental in the acquisition of the printing plant, and who has followed its operations very carefully, it is possible to say that the output has been entirely satisfactory in quantity and in cost; there is no question as to the excellent quality of the work turned out.

It is also difficult to place an exact estimate on the work of the Printing Office, not merely on account of its varied character, which necessitates frequent changes from one class of work to another, but from the fact that comparatively few copies of any piece of work are called for.

As one result of the restriction of field work, more time has been devoted to research and the preparation of papers, an unusual number of which have been offered for publication. The amount of work on hand at the close of 1919 is in itself sufficient to keep the present plant busy for the coming year, but it is hoped to add further equipment and to also provide folding and stitching machines for the bindery.

Among the decided advantages in having the printing plant in the Museum is that, when necessary, matter may be held in type. This is particularly desirable in the case of the *Guide* where slight changes can be made from time to time, in the way of cuts or descriptive matter, without involving complete resetting of the publication.

The *Bulletin* and *Anthropological Papers* have been printed in the Museum by our own staff, but the *Memoirs* are let out

to commercial concerns. The labor and other troubles have so interfered with this outside printing that no *Memoirs* appeared in 1919, but two important manuscripts were sent outside for printing and will be issued shortly.

Popular Publications and Labeling

Popular Publications, so called, printed during the year, include one new *Handbook* of 224 pages on "Peoples of the Philippines," edition 1,000; a reprint of the *Handbook* of 266 pages on "Animals of the Past," edition 2,000; the sixth edition of the *General Guide,* 136 pages, edition 3,000; an edition of 2,000 each of two new *Guide Leaflets,* one of 32 pages on "The Collection of Minerals," and one of 32 pages on "Indian Beadwork"; a reprint of the *Leaflet* of 24 pages on "Peruvian Art," edition 2,000; 5,000 copies of a special leaflet of 19 pages as a guide to the Exhibit of Industrial Art; 19,700 booklets of lectures for Members of the Museum, 16 pages; 46,300 circulars for membership and 100 copies of Honor Roll, 16 pages, 200 impressions.

MISCELLANEOUS PRINTING DURING 1919

		Impressions
Letterheads and other stationery		66,500
Field and Reserve Collection Labels		109,400
Report, Requisition and Other Forms		64,005
Catalogue Cards, Tickets to Lectures, etc.		284,685
Programs, Circulars, Invitations		129,580
Color Plates		13,850
Circulars and Miscellaneous Small Publications		27,027
Individual Labels	353	
Descriptive Labels	404	
	757 (average of 5 each)	3,785
Total		698,832

New Exhibits

The general changes in the exhibition halls and the additions to the collections are recorded in the reports of the various departments and only a few very special acquisitions are noted here.

A most welcome addition to the art collections of the Museum is a fine bust of President Osborn (by Chester A. Beach), presented by Mrs. Henry Fairfield Osborn, for the Osborn Library.

DEPARTMENT OF MAMMALOGY

GROUP OF AFRICAN PYGMIES

A most notable addition to the exhibits is the large painting of the Eclipse of the Sun in June, 1918, painted by Howard Russell Butler and presented by Mr. E. D. Adams. This is one of the most successful pieces of installation ever carried out and shows what may be accomplished by an artist who is also skilled in matters mechanical. The picture was planned for a point of view fifty feet from the painting, and the light effects, carried out by Mr. Langham, are such that the corona and prominences appear transparent.

Two other pieces also planned by artists are the Wolf Group, by Hobart Nichols, and the African Pygmies by Frederick Blaschke. The Wolf Group is noteworthy from its simplicity of design and artistic effect: while including but three animals and few accessories, no group in the Museum elicits more admiration from visitors. The African Pygmies comprise a family group of four figures modeled from the casts from life and photographs taken by Mr. Herbert Lang on the Congo Expedition.

In the Department of Anthropology, Mr. Sullivan has installed the first of the series of exhibits illustrating the structure and distinctive characters of the races of mankind. The introductory series gives a brief history of craniometry, shows the skull characters on which the divisions are based, the terms employed and the measurements used.

A most interesting and unexpected addition is a fine example of the Giant Panda, or Bear Raccoon, from Tibet, which was obtained with a few other commercial skins from the Rev. Joseph Milner.

Special Exhibitions

An important exhibition of Industrial Art was held in November, its main object being to show the possible application of primitive designs to modern textiles and costumes, and the opportunities offered to teachers and students by the Museum collections. Some thirty important manufacturers and dealers contributed to make this exhibition a success, and special credit is due to Dr. H. J. Spinden for planning the arrange-

ment of the exhibition and to Mr. M. D. C. Crawford for securing the co-operation of the exhibitors. The exhibits were grouped in sections, each illustrating some branch of the textile or costume industry and so arranged as to show the relation between the primitive object or design and its application to modern or so-called civilized use.

While this exhibit was highly successful in showing the opportunities offered by the Museum to students, and was highly praised by teachers of design and officers from museums of art, yet it is extremely doubtful if, under existing conditions, such exhibits are of lasting effect and in the end helpful to the Museum. There is no doubt that such exhibits are helpful to part of the public and are extremely desirable when space is available and working force to be had. In the present instance, three of the exhibition halls were out of commission for a month and during half of that time practically all of the mechanical force was occupied in the work of installation and rearrangement.

While a special hall is badly needed for such special exhibits, yet, as noted farther on, the extensive gallery planned for the Hall of Ocean Life would furnish room for some time to come.

Incidentally the Exhibition of Industrial Art showed conclusively that the public does not desire evening opening of the Museum, for, while the Museum was open 14 evenings in order to accommodate those who presumably could not come during the day, there were only 1,910 who availed themselves of the opportunity, the greatest attendance being only 240, while the least was but 66.

Other special exhibits include the following:

An exhibition of water-color pictures of birds of paradise, painted from life by Mrs. Ellis Rowan, was made at the Museum in July.

The "Roosevelt Day" exhibit opened on October 27, contained some of the books written by Colonel Roosevelt and also certain animals and birds collected by him.

During the meetings of the American Ornithologists'

Union, pictures by Louis A. Fuertes and Miss Althea R. Sherman were exhibited, also objects relating to the Long Expedition of 1819-20.

In December, an exhibit of Museum Posters of Museum exhibits, designed by students of the Washington Irving High School, was placed on exhibition in the Eastern Woodlands Hall.

Public Information Committee

Mr. Pindar, Chairman of the Public Information Committee, has been most successful in keeping the public informed of interesting exhibits and events at the Museum, and ninety-five articles prepared by him have been used extensively in New York and other cities, the New York press in particular having been most liberal in its notices of the Museum and its activities.

The quick response to newspaper notices is shown by the fact that an exhibit described in the morning papers is asked for before noon.

Hospitality Room

Under the direction of the Publicity Committee, there was installed early in January, 1919, a Hospitality Room for the entertainment of returning soldiers and sailors. Its establishment was highly commended by the authorities, and the facilities we were able to offer were warmly appreciated by the War Camp Community Service, the American Red Cross, and the Base and Reconstruction Hospitals of the vicinity. During the period of its maintenance (January 2 to September 13), 16,925 men made use of the room.

The Registrar also reports that all records of accessions between 1869 and 1909 have been checked and filing cards prepared giving data bearing on all exhibits and storage material up to 1909.

The new packing and shipping rooms have greatly facilitated the work of the Registrar's department, which, during the year, handled 11,779 pieces.

In addition to the constant repairs to building and cases, construction of cases, pedestals, trays and other equipment, the Department of Construction has built an office room in the Southeast Pavilion, a new garage and storage room on the southwest court and a new receiving room at the foot of the west driveway. This is the logical place for the future receiving and shipping room, and the point should be kept in mind in planning the west front and communicating driveway which should be so extended as to pass under the first-floor entrance and come out again on Columbus Avenue.

Care of Building and Equipment

Galleries have been built or extended in the offices of the departments of mammals, birds and insects, to provide greatly needed storage room, and these are waiting for the cases asked for in 1918, for which trays are already constructed.

Much good work has been done that makes no showing. Through the efforts of Messrs. Anthony, Griscom and Coleman, the store-rooms and passageways used for storage, especially those in the attic, are in better condition than at any time in the past decade. The basement corridors are also in better shape than ever. Considerable damage was done in April (12) by the bursting of a water-main on Eighth Avenue, which flooded the basement to a depth of two feet, ruining many articles in the store-room, spoiling considerable print paper in the press-room and putting out of commission the three motors.

The heating and lighting plant is in excellent condition, in spite of its age, though the old-fashioned installation of much of it makes repairs and changes extremely difficult. Coal strikes, labor strikes of various kinds; the high cost and too often poor quality of fireroom labor, coupled with the equally high cost and poor quality of coal, have conspired to render the position of Chief Engineer anything but pleasant. Nevertheless the lighting of the building, due to constant

Heating and Lighting

effort and use of modern lamps and fixtures as fast as funds permitted, is better than ever. The demands for light have been unusually great the past year, and the total current supplied was 397,586 K.W., 77,000 more than in 1918, and this has been produced at the low figure of 2.55 cents per K.W. hour.

Needs of the Museum

The needs of the Museum are in character much as they have been for the past few years, but intensified. The need of space in particular is greater than ever and is felt in every department: this want could be met more promptly and at the least cost by the erection of the Southeast Court Building. This would furnish relief for some time in providing storage, work room and exhibition room while another section was being constructed, and the gallery would also provide much needed space for temporary exhibitions.

A considerable amount of material is already available for exhibition including groups of Walrus, Sea Elephants, Seals and Penguins, while the withdrawal of these from their present locations would permit much needed readjustments. This is particularly true in the Hall of North American Mammals. A few years ago this was North American in name only and contained many African mammals, but since that time these have been removed, five groups of large mammals have been added, five of small mammals and a number of single specimens, and three groups are now in hand. The addition of these will create still further congestion, but if the groups of boreal and oceanic mammals could be removed, there would be ample room for the mammals of North America.

A crying need, noted in the Report for 1918, is for a panel board to care for electric wires for lighting cases and groups, so that there may be a definite segregation between these and those for general lighting purposes. When the building was planned, such demands for lights were unknown and naturally not provided for, but as group after

group has been installed, it has become more and more difficult to find a source of light until all available means have been exhausted.

Another need is new elevators to replace those in use for the past twenty-five years, which, while safe under normal conditions, continually demand minor repairs, are very slow, and are extremely hard on the operator.

Cooperation with other Institutions and Societies

This Museum has frequent calls for information in regard to principles of administration, especially the relations of the Museum to the schools and the workings of its Department of Public Education, and for such matters as methods of preparation, and these have been particularly numerous during the past year. Representatives have come from such widely separated points as Moscow, Hiroshima, and Canterbury, New Zealand, while the State Museum, Albany, the Boston Society of Natural History and Mt. Holyoke Seminary have had members of their force as volunteer workers in the Department of Preparation to acquire a practical knowledge of making molds, casts and accessories.

Dr. R. H. Colley and his associate, Mr. Baldwin, spent much time at the Museum gathering data regarding salaries of Staff and Preparators and methods of accounting, for the Senate Commission, and, as usual, every facility was given them.

In this connection should be mentioned a point not usually taken into consideration—that the more generally useful is a man or an institution, the wider his, or its sphere of influence, the less can that man or institution do individually, the smaller will appear the *immediate* or visible results.

The policy of the American Museum of Natural History has always been most liberal in affording information in all branches of its work, administrative, scientific or mechanical, and the administration feels that the time lost to itself is more than compensated by its service to the public.

PUBLIC EDUCATION IN THE MUSEUM AND IN THE SCHOOLS*

GEORGE H. SHERWOOD, Curator

Prospective Retrenchment

At the beginning of the year the Department was faced with complete suspension of its work with the schools, because these services are entirely outside of the Museum's contract obligations with the City. Hence when drastic retrenchment was forced upon the Trustees by the reduction of the City's appropriation for maintenance, the cessation of these activities seemed to be the logical result. However, complete suspension of the relations with the schools which had been developed in the past sixteen years would have been so great a catastrophe that the Trustees were prevailed upon to authorize a limited or half-time educational program. Even under these conditions, the Circulating Nature Study Collections could be furnished to Manhattan schools only, and we were obliged to suspend the service to the schools of Brooklyn, Bronx, Queens and Richmond. The lectures for school children at the Museum were reduced to half the usual number, while those given in the Local Lecture Centers and other schools were eliminated entirely.

Support from Board of Education

President Osborn fully appreciated how serious such a curtailment of service would be for the pupils, the teachers and the Museum, but felt that he could not ask the Trustees for further financial support for it. Accordingly he laid the full facts before President Somers and other members of the Board of Education at a luncheon given at the Museum on February 18, 1919, at which the Board of Education was rep-

* Under the Department of Public Education (see also pages 201 and 202).

resented by President Somers, Mrs. Ruth F. Russell, and Superintendent Gustave Straubenmüller; the Museum by President Osborn, Director Lucas, Curator Sherwood and Doctor Fisher; and Professor Duggan was invited as the representative of the College of the City of New York. After the luncheon, an inspection was made of the Department of Public Education and the facilities it had for serving the schools. President Somers expressed the opinion that the Board of Education ought not to allow this work to stop and desired a statement of the additional cost of full-time service. By a careful readjustment of duties of the Staff, it was found that full service would cost only an additional $4,100, although the cost of the Department's entire work would be approximately $20,000. Later the Board of Education agreed to provide the $4,100 needed, and full service to schools was resumed on March first. This included the Circulating Nature Study Collections, Lectures at the Museum, Lectures in Local Lecture Centers, Lending of Lantern Slides, Education for the Blind, Coöperation with Public Libraries, and Exhibition Hall Instruction for Classes.

Circulating Nature Study Collections

There has been no material change in the character of this work. These teaching collections have been furnished to teachers according to their requests. Not only have the regular nature study sets of birds, insects, woods, minerals, etc., been supplied, but frequently special selection of material has been made for some particular need of a school. For example, Indian garments and other objects have been lent for use in giving pageants. As usual, the collections have been delivered by Museum messengers and the schools of the distant Boroughs have been especially well supplied. During the year, twenty cases with glass fronts and sides have been constructed, in which are to be placed small habitat groups, or other exhibits illustrating biological principles more completely than is practicable with specimens which can be handled. These will be added to the circulating series.

The complete statistics of the Circulating Collections in Public Schools for the year are given below:

	1915	1916	1917	1918	1919
Number of Collections in Use	671	704	712	629	668
Number of Schools in Greater New York Supplied..	473	439	446	419	385
Number of Pupils studying Collections	1,238,581	1,118,322	1,075,076	790,346	860,992

Lectures for School Children

In accordance with the agreement with the Board of Education, full courses of lectures were given during the spring and fall, both at the Museum and in the Local Lecture Centers. Several lectures were also given at certain schools, while during Regents' Week, in January and in June, large numbers of high school students from Morris High, Evander Childs, and Washington Irving High School attended special lectures at the Museum, which were followed by laboratory work in the exhibition halls. The lectures dealt principally with geographical, historical or industrial topics, and were especially adapted to the groups addressed. Several members of the Museum Staff have kindly participated in the delivery of these lectures, their special familiarity with the subjects thus increasing the interest of the pupils. The lectures given at the Museum number 57 and the attendance was 23,587, while 33 lectures were given in the schools in which 25,575 children were reached. Thus, all together 90 lectures have been given during the year, at which the total attendance was 49,162 pupils.

In addition to the lecture work for the schools, the usual courses of lectures to Members on Thursday evenings and the Science Stories for Children of Members on Saturday mornings have been arranged.

Lending of Lantern Slides

The Board of Education renewed its special grant for the lending of slides to teachers and this work has been continued throughout the year. The details of distribution have been efficiently managed by Miss Helen W. Russell, Miss Dorothy Van Vliet and Miss Grace E. Fisher. Naturally, it is only those schools that are equipped with lanterns and rooms that can be darkened which can make the most effective use of this material. In spite of this fact, 92 schools have been regularly supplied throughout the year. The systematic use of the slides is indicated by the number of times a school borrows them. While the average number of loans per school is 11, the maximum of loans for a school was 143, P. S. No. 168, Manhattan, holding the record. A further fact of interest has been emphasized by the work of the year, namely, that teachers find the Lecture Sets with Manuscripts more useful than the general slide collections. More than 53% of the slides lent are in these sets. Six new subjects have been added recently to the series, namely,

Set 21—The History of our Country's Transportation, by Ann E. Thomas
Set 22—Through the Brazilian Wilderness with Colonel Roosevelt, by Geo. K. Cherrie
Set 23—Camera Hunting for Whales, by Roy C. Andrews
Set 24—The Search for Crocker Land, by Donald B. MacMillan
Set 25—Life in North Greenland, by Donald B. MacMillan
Set 26—Bird Life on an Antarctic Island, by Robert C. Murphy

The Lecture Set 3—Our Forests and Their Uses, by Geo. H. Sherwood, has been expanded and divided into two parts, namely,

Part 1, Set 3A—Our Forests and Their Uses—Forests and Methods of Lumbering
Part 2, Set 3B—Forest Uses and Products—Forest Protection and Conservation.

There are 27 prepared lectures, and as several of these have been duplicated to meet the needs of teachers, the total number of sets in circulation is 39.

The number of separate loans was 1,470, while the total number of slides circulated was 80,468.

Education for the Blind

Work for the Blind, supported by the Jonathan Thorne Memorial Fund, has included science talks for the sight conservation classes of the public schools, an evening lecture for the adult blind, and loans to classes of natural history specimens and of relief globes.

Although the talks for the sight conservation classes were planned for both spring and fall, the spring course was suspended on account of the absence of Miss Thomas. This fall the work was taken up by Miss Ruth E. Crosby and in consultation with Miss Moscrip, Inspector of Classes for the Blind in the Public Schools, a course of ten subjects was arranged, including:

The Narrative of the World War.....Miss Fisher
The Sources of War Materials.....Dr. Fisher
How the Eskimo Live.....Miss Crosby
Hiawatha's People .....Miss Crosby
The Earth and Neighbor Worlds.....Dr. Fisher
The Change of Seasons.....Dr. Fisher
The Three Forms of Water.....Miss Fisher
The Story of the Seashore.....Miss Crosby
Where Furs Come From.....Dr. Fisher
How Seeds Are Scattered.....Miss Crosby

From this list, each teacher chose the subjects she wished her class to hear and the date on which she could most conveniently visit the Museum. Each class was instructed separately and the carfares of the pupils and guides were refunded when desired. The chief aim in giving these talks is to provide the pupils with adequate material which they can "see with their hands." In this way they gain a clear impression of many things which are difficult to describe and which are often wrongly conceived. For instance, the talk on the World War is illustrated by a large relief model showing the trenches and dugouts of a modern battlefield. A class of wide-awake high school girls, when shown this model, was amazed to find that a trench was hollowed from the ground. Without exception,

each girl had had the impression that a trench was but a mound of earth like a hill.

During the fall, 27 talks were given to the blind, at which 245 pupils were present.

The sight conservation classes have made use of the regular natural history collections sent out by the Museum to the public schools. Many of the classes have also been supplied with large relief globes of the world, which the teachers recommend highly for their work in geography and history.

In the service to the adult blind, the Museum was enabled to extend a rare treat. In coöperation with the other agencies of the City, working with and for the blind, the Museum invited the blind of the City to hear Sir Arthur Pearson, the Blind Founder and Director of St. Dunstan's Hostel for Blinded Soldiers, London, England, in the auditorium of the Museum on February 5, 1919. More than 700 gathered to hear him and were greatly inspired by his address. Before this address, Sir Arthur examined the models, specimens and other means employed by the Museum in giving instruction to the blind and expressed his appreciation of the work. One typical incident of the evening illustrates the value of this material in correcting misconceptions. While waiting for Sir Arthur's arrival, the blind were examining the specimens on exhibition. One blind boy of twenty or twenty-five was "looking" the owl over carefully and expressed astonishment that it had only two legs and asked where the other two were. He examined the swan and found only two. The assistant had some difficulty in convincing him that all birds have only two legs, not four. He said that the only animal he knew was a cat and since a cat had four legs, he supposed all animals had four.

Loans to Public Libraries

Loan collections, illustrating different phases of geography and natural history, have been in constant circulation among the branch libraries of the city. These collections include Museum specimens, models, photographs, labels and maps, and were prepared largely through the generosity of the Department of Anthropology in furnishing both material and information. They are delivered to the libraries by the Museum

DEPARTMENT OF PUBLIC EDUCATION

INDIANS OF THE EASTERN WOODLANDS.

One of the Circulating Collections the Museum Sends to Public Libraries.

messenger and are there exhibited for from one to two months. Their purpose is to stimulate an interest in books on geography, history and nature study and to increase coöperation between the Libraries, the Public Schools and the Museum. The exhibits are seen not only by the casual observer, but are also studied by classes from nearby schools, and often serve as illustrative material for the librarians' "Story Hour."

There are seventeen of these collections in regular circulation. They have been furnished to fifteen libraries, in which more than 104,567 have seen them.

Exhibition Hall Instruction

The instruction in the exhibition halls is the equivalent of indoor field work and laboratory instruction. As often as was requested, members of the Department Staff met classes from the city or suburban schools, Boy Scouts, Camp Fire Girls, men's and women's clubs, and individuals, and conducted them through the exhibition halls, calling attention to the principal exhibits and their meaning. The total number annually served in this way is considerable, and the work helps to spread the educational influence of the Museum.

The regular staff members have been ably assisted in the work throughout the year by Miss Annie E. Lucas, who as a volunteer assistant has been very helpful in conducting wounded service men through the Museum.

Photographic Service

General education has been advanced by the large amount of photographic work done. Our two photographers have been fully occupied in making illustrations for *Natural History,* in supplying prints to the Publicity Committee, in making photographs for the scientific publications, and in preparing large numbers of slides for lectures and for sales.

Changes in Staff

In October, Miss Ann E. Thomas, who had been a member of the Staff since 1914, resigned to accept a position with the Bureau of Industrial Research. Miss Ruth E. Crosby, a graduate of Wellesley, was appointed to this vacancy and has been placed in charge of the work for the blind and the library loans and also assists in

the lecture and docent work. Early in the year Miss Virginia B. McGivney resigned as Slide Librarian and in November Miss Grace E. Fisher was appointed in her stead.

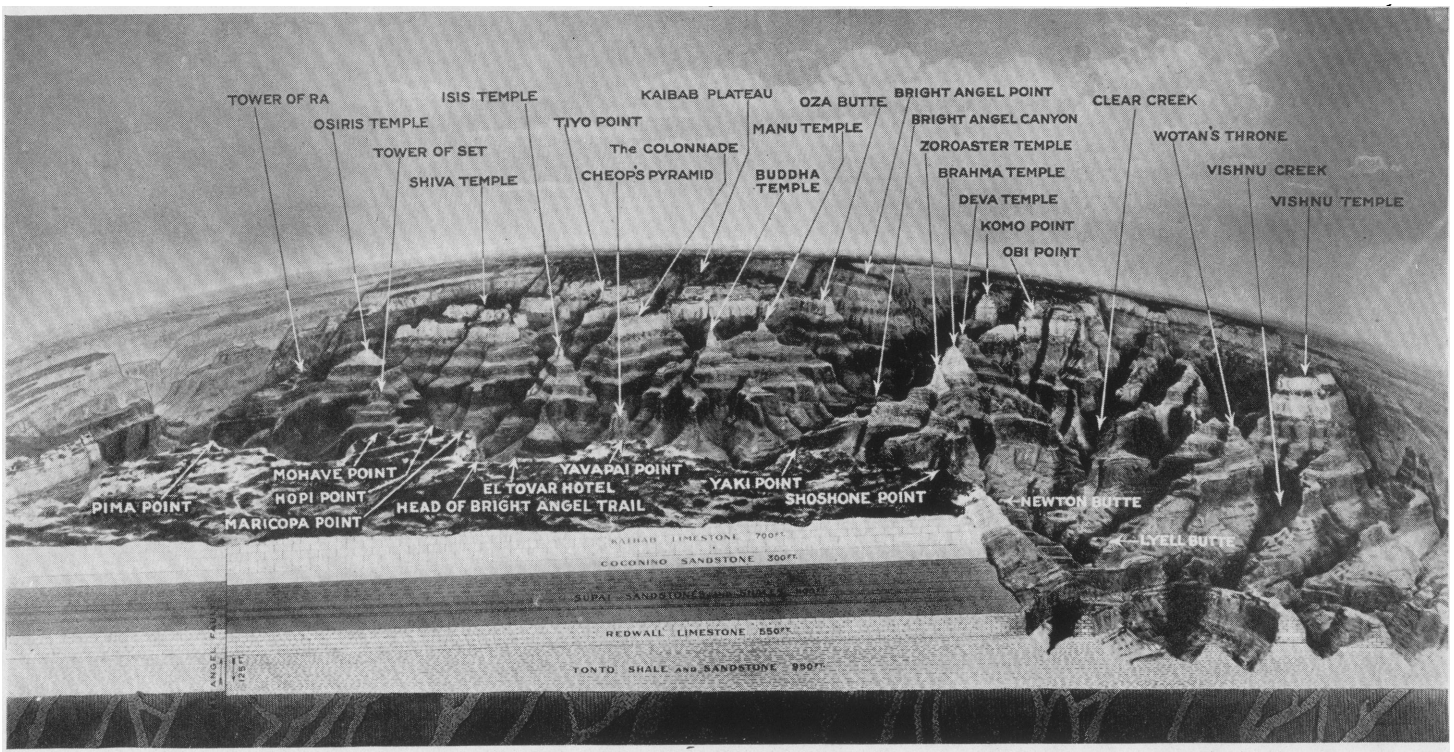
Outside Activities of Staff

The calls upon staff members for service outside of Museum work are frequent, and it is impossible to answer them all. Dr. Fisher, however, has contributed generously of his time and experience. During his vacation he conducted, under the auspices of the National Association of Audubon Societies, the course in Bird Study at the University of Florida. Besides lecturing before a number of private schools, clubs and educational organizations, he addressed the Teachers' College Alumni Association at Columbia; the New Jersey Science Teachers' Association at Trenton, and the General Science Club of New England at Boston, on "The Use of Motion Pictures in Teaching Biology." He also participated in meetings of the Woodcraft League and has recently been elected to the Council of Guidance of the League.

The Curator and Associate Curator have undertaken, jointly, the preparation of the nature study section of the Girl Scouts Manual which is to be published early in 1920. The major part of this work has been done by Dr. Fisher.

Acknowledgments

In the list of accessions we have made formal acknowledgments of the gifts received during the year, and at the same time we desire to express our appreciation of the practical assistance which we have received from many sources. Motion picture films have been loaned by the State Conservation Commission, through Mr. Clinton G. Abbott; by the General Electric Company, through Mr. C. F. Bateholts; by Mr. Lee Keedick; by the American-Scandinavian Foundation, and by Prizma, Inc. Photographic material was generously furnished by Brown Brothers and by H. Martens & Co., and a map for copy by H. J. Yurman, Furrier. This friendly coöperation has been very helpful in advancing the educational work of the institution.



DEPARTMENT OF GEOLOGY AND INVERTEBRATE PALAEONTOLOGY

RELIEF MODEL OF THE GRAND CANYON OF THE COLORADO

GEOLOGY, GEOGRAPHY AND PAST LIFE ON THE EARTH*

EDMUND OTIS HOVEY, Curator

Exhibition Hall

Under the immediate direction of Associate Curator Reeds, excellent progress has been made in the new arrangement of the exhibition hall. As far as available material goes, the biological alcoves of plants, brachiopods, pelecypods, gastropods, cephalopods, trilobites and echinoderms were added to those previously in place, while on the stratigraphical side of the hall much material was installed in all the period exhibits. Dr. Reeds has had the hypothetical land masses and other data placed on the eight paleogeographical models and they now await painting to complete them. These models will form an attractive and highly instructive feature of the hall, giving visitors a clear visual concept of the meaning of earth history. When the main work on the hall stopped in mid-year, through exhaustion of funds for the special staff engaged on it, Mr. Foyles was assigned to systematizing the arrangement of the mounts in the hall.

In February the completed model of the Bright Angel section of the Grand Canyon of the Colorado was installed with its painted pictorial background, and the exhibit has received much complimentary notice from scientific and other visitors, indicating the interest that will be aroused and the instruction to be derived from the whole series of relief models planned for the hall.

There has been placed on exhibition, in a case on the ground floor in the seismograph alcove, a selection from a remarkable lot of lead ore specimens from the Laclede Mine, Tar River, Oklahoma. These are part of a large series of such material which was secured at the mine, for the purpose of reproducing

* Under the Department of Geology and Invertebrate Palæontology (see also pages 202 and 203).

here a grotto showing a mode of occurrence of the ore in the famous Oklahoma-Kansas-Missouri lead and zinc district.

Topogeological Relief Models

The core of the second topogeological relief model, that of the Mount Holyoke Range region in Massachusetts, was finished in 1918. The core of the Watkins Glen region in Central New York State (to show Finger Lake and Glacial Drift phenomena) was finished, and that of the Standing Stone Tennessee region (to show typical sinkhole topography in an unglaciated limestone country) was prepared during the current year. The core of a fourth model, to show the topography and geology of the famous White Mountain, New Hampshire, region, is three-fourths done.

Catalogue Work

The preparation of the card index of the Whitfield catalogue of invertebrate fossils has been continued through arranging in alphabetical order the 20,000 or more cards thus far prepared from the old books and through advancing the triplicate sheets and cards therefrom and from the cataloguing of other fossil material. About 4,000 cards and individual labels, for the Hitchcock Collection of Vermont and New Hampshire rocks and for a portion of the general geological collection, have been prepared. Some 25,000 mounts of exhibition specimens have been supplied with temporary labels, the data being taken from the Whitfield catalogue.

Publication and Research

Dr. O'Connell's monographic paper on the Silicispongiæ appeared in the second half of the year and has received much favorable criticism and comment. The collection of invertebrate fossils, made in Porto Rico by Dr. C. A. Reeds and Mr. P. B. Hill in 1915, has been subdivided into zoölogical groups, certain of which have been apportioned to specialists for study, identification and description. The echinoderms were intrusted to Doctor Robert T. Jackson of Peterborough, New Hampshire, and the Mollusca to Doctor Carlotta J. Maury, then of this

museum. Doctor Maury, as a result of her studies, published in the September number of the *American Journal of Science* a summary paper on the correlation of the Tertiary Formations of Porto Rico with those of the other Antillean islands, and a longer paper entitled "Tertiary Mollusca from Porto Rico and their Zonal Relations," including descriptions of some fifty new species and varieties, is in press for the publications of the New York Academy of Sciences. Doctor Marjorie O'Connell did some preliminary work on the Foraminifera, but for lack of apparatus could not complete the studies within the time allotted for them and they were dropped. Associate Curator Reeds has in hand the completion of his contour map of the Caribbean Sea and a popular scientific description of the seismograph. The Museum has received from Doctor T. Wayland Vaughan, of the United States Geological Survey, an extensive series of the rocks of the Lesser Antilles which the Curator is to work up, in connection with further intensive study of his own Museum collections from the same region, in making a comprehensive review of the igneous geology of the islands.

Field Work

The only field work done by the Department this year was that by the Curator in connection with a visit to the lead and zinc mining region of northeastern Oklahoma in February and March for the purpose of collecting material from the lead-ore (galenite) lining of a grotto in the mine of the Laclede Lead and Zinc Mining Company's property at Tar River, Oklahoma.

Accessions

Among the gifts received by the Department, mention should be made of the large genetically arranged series of specimens illustrating coal and its derived products assembled with expert care and donated by The Barrett Company. From Mr. Edward J. Foyles has come a series of fossils and rocks from the Department of Doubs, France, made by him while serving with the United States Army. Four enlarged models of trilobite restorations have been prepared for us by Doctor Elvira Wood.

Through exchange and purchase our collection of meteorites has received several noteworthy additions: a 2,445-gram (5 pound 6 ounce) mass, the largest known of the Cumberland Falls, Kentucky, aërolite which fell 9 April, 1919, and a 467-gram (1 pound) cut and polished fragment of the same fall; an 8,320-gram (18 pound 5.5 ounce) entire mass of the Richardton, North Dakota, aërolite which was seen to fall 21 July, 1918; a 3,760-gram (8 pound 5 ounce) cut, polished and etched portion of a new iron meteorite from Australia; an entire new iron meteorite weighing 57,833 grams (127 pounds 8 ounces) from near Calexico, California; and four fragments aggregating 766 grams (1 pound 11 ounces) of the El Perdido aërolite from Argentina, South America. An interesting series of lava in fantastical shapes from the recent volcanic eruption in Nicaragua was received from Doctor Herbert J. Spinden. Thirty-six kegs and boxes of cubic lead ore (galenite) were received from Tar River, Oklahoma, the material being given by the Laclede Lead and Zinc Mining Company, but collected by a Museum expedition.

MINERALS AND GEMS*

HERBERT P. WHITLOCK, Curator

The Morgan Hall of Minerals

The General Collection of minerals, which, from its exceptionally fine nucleus of the Bement Collection, has grown year by year, now numbers about 20,000 exhibited specimens, representing a very considerable increase. In thus adding to the notably fine collection presented to the Museum in 1900 by the late J. Pierpont Morgan, the policy of acquiring handsome and interesting specimens, as well as those furnishing species not hitherto represented in the series, has been consistently adhered to. The Collection at present includes a higher percentage of the known mineral species than in 1900. This is largely due to the fact that it has been possible to acquire newly discovered minerals with much greater facility than those rare species brought to light during the last century, the specimens of which, for the most part, have found their way into the public and private collections of Europe. The Mineral Collection now averages 85 per cent. of the known species, an average which is highly creditable.

Special Exhibits

A series of the opal wood replacements from Nevada have been placed in the accession case at the entrance of the Morgan Hall of Minerals. These specimens, many of which are of gem quality, are highly representative of this most unique occurrence and furnish a most suggestive key to the general problem of organic replacements of this type.

The growing interest, both popular and scientific, in atomic structure, as related to crystallization, has led to the experimental construction of a number of models with a view to visualizing these atomic relations. These have been used suc-

* Under the Department of Mineralogy (see also pages 203 to 205).

cessfully as demonstration models before small audiences, and have led to the inception of an extended series, now in course of construction, the object of which will be to present the new idea of crystallography as a special exhibit in two flat wall cases between the window space on the north wall of the Mineral Hall.

Extension Work

During the year the Department was called upon by the Bray Studios to furnish suggestions and illustrative material for motion picture films of a popular educational character, covering mineralogical subjects. This coöperation has resulted in the production of the following educational films: Gem Cutting and Polishing, Mysteries of the Snow, Dew, In Nature's Treasure House, Window Frost.

Research and Publications

The preparation of a classified list of the new crystal forms of minerals which have been announced since the publication of the *Index der Krystallformen der Mineralien*, by V. Goldschmidt, has been undertaken. This work, which covers the mineralogical literature of the past 25 years and involves some 5,000 entries, is now well advanced. Its publication in the Museum *Bulletin* will place in the hands of the research worker in Crystallography a means of judging as to whether an observed crystal form is new to the species under investigation, without the necessity of a laborious search through the voluminous and widely scattered literature of the subject.

Two short papers have been published during the year, one in the *Report of the Director of the New York State Museum for 1917,* and the other in *The American Mineralogist.*

Accessions

Among the notable additions to the Collections during the past year, are included 5 species not heretofore represented. Three small but characteristic specimens of the newly discovered zeolite *ferrierite* from Kamloops Lake, British Columbia, were presented by Dr. W. D. Ferrier, after whom the mineral was named. A specimen

showing the association of the two rare hydrated copper silicates *bisbeeite* and *shattuckite,* from Bisbee, Arizona, was presented by Mr. George S. Scott. A massive specimen of the new tungsten sulphide, *tungstenite,* and a series of 12 pseudomorphous crystals of *cuprotungstite* after *scheelite,* were purchased through the Bruce Fund.

Other noteworthy accessions include magnificent series of 14 precious opal wood replacements which have been noted above, a beautiful group of pyromorphite crystals developed on both sides of the specimens from Ems, Nassau, Germany, a large and handsome group of crystallized willemite associated with mimetite from Utah, a notably fine specimen of crystallized silver from Chihuahua, Mexico, two large nodules of native antimony, one of which is polished, from Kern County, California, a very large and handsome specimen of carnotite replacing wood from Naturita, Colorado, three specimens showing remarkably large and perfect crystals of apophyllite from Great Notch, New Jersey, and a finely crystallized specimen of orpiment from the Island of Yesso, Japan.

WOODS AND FORESTRY*

M. C. DICKERSON, Curator

Great satisfaction is felt in the work of Mr. Milton D. Copulos during 1919 in reproduction from the life of sprays of tree foliage, fruit and flowers. The work is unexcelled in the perfection of accuracy and delicacy. The sprays are comparable with the glass flowers of Harvard in beauty and accuracy, but surpass them in naturalness, a result of the different medium and the subtle appreciation of the creative artist. Sprays especially deserving mention—the living material for which was secured through the courtesy of friends of the Museum—are blue ash (*Fraxinus quadrangulata*) from Indiana, Mexican walnut (*Juglans rupestris*) from Arizona, and western cherry laurel (*Prunus ilicifolia*) from California. The work on these combines the arts of sculptor and painter in a result of artistic realism that deceives the most expert scientific observer.

Again, however, funds have not been available for the mural paintings under discussion for the Woods and Forestry Hall, or for the work so optimistically planned during a considerable series of years to install group and case exhibits setting forth the principles of forestry and forest conservation and thus increase the Museum's practical educational value in this line. Mr. Barrington Moore, Associate Curator for part of the year preceding the outbreak of the war, found on his return from France at the war's close, that his time was too fully occupied as editor of the *Bulletin* of the Ecological Society of America and with private silvicultural research to continue full-time connection with the Museum. He has, therefore, served as Research Associate for 1919. Fortunately, it is true that the hall as it stands, while having only a fraction of educational value commensurate with its opportunity in the heart of New York City, does, nevertheless, a great work as

* Under the Department of Woods and Forestry (see also page 205).

laboratory for the New York high schools; especially during Regents' week, twice a year, when it is filled with large classes of boys and girls each equipped with sets of questions for original investigation.

The hall has served well during 1919 as an illustration of the lack of space and congestion of exhibits in all parts of the building. The food conservation exhibit prepared by the Department of Public Health of the Museum and displayed in Grand Central Station in 1918, has occupied the main aisle through the hall's whole length—something to the detriment of both lines of work.

EXISTING INVERTEBRATES*

HENRY EDWARD CRAMPTON, Curator

The past year has witnessed the resumption of full activity in every one of the normal lines of the department's work. In exhibition, increase and care of the study collections, in research and publication, and in renewed field investigation, the retrospect is most satisfactory, and reveals substantial progress, both as regards the routine of the department and also in the furtherance of the larger purposes which are held steadily in view.

Darwin Hall

The Bryozoa Group has engaged the chief energies of the technical staff, and this is now completed, ready for reassembly and installation in the Darwin Hall. This is a notable addition to the series of habitat groups, with which it is in general harmony, although it is unique in its display of minute animals as they appear largely magnified. Besides the Bryozoa colonies which are the central features, the marine plants and other organisms associated with them are fully exhibited; the models are numerous and have required exceptional care and study for their construction. Indeed, Mr. Miner's direction of the work has been particularly engrossing, for it has involved the most careful scientific study of the organisms as well as the devising of novel methods in order that the result may be zoölogically accurate, permanent and pleasing. Several individual items have been added to the Synoptic Series, among which the peculiar *Proterospongia* may be mentioned. Other models have been prepared for the Phylogeny Chart to be placed in the Darwin Hall, and for a similar display in the Synoptic Hall of Mammals.

Additional museum cases have been remodeled, and this task is now completed for half of the hall. Progress has been

* Under the Department of Invertebrate Zoölogy (see also pages 205 to 209).

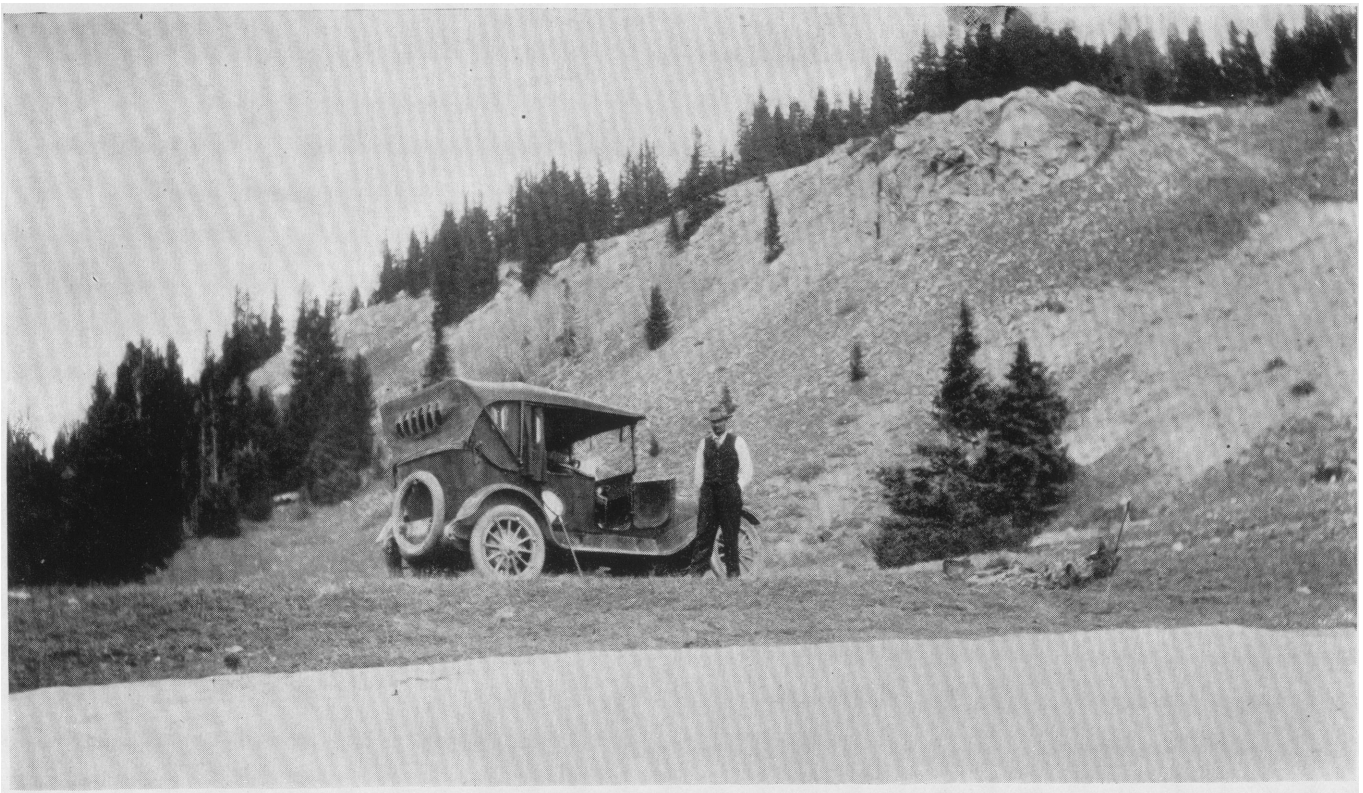
made on the next habitat group which will show the crustacea and associates of a selected area of the bottom of Vineyard Sound, off Gay Head, Massachusetts. Plans are under way for a Rotifer Group, which will be a companion in principle and in location to the Bryozoa Group, and plans are also progressing for a California Shore Group, centering about the Echinoderms of Monterey Bay. The educational value of the Darwin Hall has been greater than ever, for during the year, 11,454 pupils, belonging to 403 classes from 218 institutions, studied the exhibits under the tutelage of their instructors. Of the institutions represented, 75 are out of town, 157 are public schools, 41 private schools, 12 parochial schools, and 8 are colleges. An extension of the educational work consists of a series of beautifully colored illustrations showing many of the notable exhibits, which were prepared under Mr. Miner's direction for publication in the *New York Tribune*.

General Invertebrate Collections

The work of arranging and cataloguing the general invertebrates has been completed by Dr. Van Name, and the collections are now in final condition. Current accessions have been incorporated in the general series, with an ease that proves the correctness and practicability of the department's system. Mr. Frank J. Myers has given largely of his time and energies to the group of Rotifera, which he has recatalogued and remounted when desirable, bringing the nomenclature to date in all cases; furthermore, he has generously added to the collection so that it is becoming one of the most complete series in existence. An important addition is a series of identified annulates from the West Indies, received from Professor Aaron L. Treadwell. Mr. Arthur Jacot has devoted his energies to the cataloguing and rearrangement of the marine gastropods. This work has involved to date the writing of 13,900 departmental catalogue cards and 9,600 reference cards.

Insects and Spiders

An extensive exhibit has been installed in the Hall of Insects, which consists of representative specimens illustrating the insect fauna of the northeastern United States. Pages from the "Field Book of Insects," by Dr. Lutz, are used as labels for this exhibit, and by this unique method the value to the student is greatly increased. Coöperation with specialists outside of the Museum has been continued with mutual advantage, especially in the case of the New York Entomological Society, which has charge of the Collection of Local Insects. The collections at large are in better condition than ever before, and their growth during the last year has been greater than the average of 50,000 per annum for the last decade. The staff have been unusually successful in caring for the current accessions, and in the prosecution of their researches. Dr. Bequaert has continued his services as a temporary assistant. Mr. A. C. Kinsey, of the Bussey Institution, has devoted considerable time to the arrangement of the cynipid wasps and the characteristic galls made by them, especially on oaks and roses; his important papers concerning these insects and the curious alternation of generations in their life history will be published in the *Bulletin*. Mr. Carl Heinrich, of the United States Department of Agriculture, spent three weeks at the Museum arranging the Kearfott Collection of Microlepidoptera which the Museum acquired several years ago, partly by purchase and partly by gift. In general, these are the moths whose larvæ roll leaves or live inside the substance of leaves or stems. This collection contains a great many type specimens, but, aside from that feature, its importance in facilitating the work of identifying subsequently received material is its completeness, as indicated by the fact that, in the family Olethreutidæ, it contains 485 of the 533 species listed from the United States. The collection was received in a somewhat confused condition, but Mr. Heinrich's work makes it available for use.



DEPARTMENT OF INVERTEBRATE ZOÖLOGY

ENTOMOLOGICAL EXPEDITION OUTFIT

ON THE CONTINENTAL DIVIDE, MINERAL COUNTY, COLORADO.

Altitude, 10,800 feet, June 20, 1919. Snow in the foreground.

Curator Crampton, after a brief period of field-work in the Yosemite Valley during the early summer, proceeded to the Society Islands in Polynesia, for the purpose of completing certain field investigations on variation, distribution and evolution in the case of the land mollusks of the genus *Partula.* Work was carried on mainly in Moorea, an island near Tahiti, with results far beyond expectation in their value and significance. The volume dealing with the Moorean species and their progressive evolution under natural conditions is nearing completion. Dr. Lutz took the field in the prosecution of the survey west of the 100th meridian, a line of work that was initiated in 1916 by studies in the vicinity of Tucson, where there are mountains somewhat isolated by plains of the Lower Sonoran faunal area. This year nearly three months were spent by Dr. Lutz in Colorado, who obtained material from a number of localities ranging from typical Upper Sonoran plains to the snow line. This work was made possible partly by the generosity of Dr. Pearce Bailey; and Dr. Lutz had the volunteer assistance of Messrs. Herbert F. Schwarz and Pearce Bailey, Jr. More than 23,000 specimens were secured, and these have all been mounted and will soon be ready for study. In our chosen field of the West Indies, through the generosity of Mr. B. Preston Clark, Mr. Watson is engaged in supplementing the work done by Mr. Grossbeck in Jamaica. As Mr. Grossbeck's collecting was done in early spring and Mr. Watson visited Jamaica in December, we are certain to secure most interesting additions to our material from this island, which is, to some extent, the key to the problems concerned with distribution in the West Indies. Mr. Arthur Jacot spent a month during the summer in field-work in the vicinity of New York, collecting an extensive series of the marine and fresh-water Mollusca from characteristic localities of the neighborhood.

Field Work

Unusual success has been attained in the field of research, both on the part of members of the departmental staff and also by collaborators who have generously given their time and energy to working up collections belonging to the Museum. The Curator has made substantial progress on the second volume of the series dealing with evolution in the genus *Partula*. Mr. Miner has continued his work on the bibliography and synonymy of the myriapods and has also virtually completed a paper on a fossil representative of the group. Dr. Lutz, with the coöperation of Professor Cockerell, has completed a notable work on the taxonomy and distribution of the higher bees of North America. Dr. Van Name has continued his investigations on the ascidians of the West Indies. Mr. Mutchler has coöperated with Dr. Lutz in compiling an extensive annotated list of the type specimens of insects, other than Lepidoptera and ants, in the Museum collections. Mr. Watson has made progress in his studies on Lepidoptera. The record of completed researches, as given below, is most noteworthy; the papers already published and now in press deal mainly with the Congo Collections, and in some cases with the material obtained by the Crocker Land Expedition, although several others are listed. The accomplishment, as regards papers published in the *Bulletin* for 1919 or ready for publication, is as follows:

Research and Publication

C. P. Alexander, "Tipulidæ of the American Museum Congo Expedition," in press; F. C. Baker, "Mollusca of the Crocker Land Expedition to Northwest Greenland and Grinnell Land"; F. C. Baker, "Fresh Water Mollusca from Colorado and Alberta"; N. Banks, "Neuroptera, Panorpata and Trichoptera collected by the American Museum Congo Expedition," in press; W. S. Blatchley, "Insects of Florida. Va. Supplementary Notes on the Water Beetles"; T. D. A. Cockerell, "Some Neotropical Bees," in press; J. W. Folsom, "Collembola from the Crocker Land Expedition, 1913-1917"; T. H. Frison, "Report on the Bremidæ Collected by the Crocker Land Expedition, 1913-1917"; R. A. Hoagland, "Polychætous Annelids from Porto Rico, the Florida Keys

and Bermuda"; W. J. Holland, "Lepidoptera of the Congo," in press; C. W. Johnson, "A Revised List of the Diptera of Jamaica"; A. C. Kinsey, "New Species and Synonymy of American Cynipidæ," in press; A. C. Kinsey, "Life Histories of American Cynipidæ," in press; A. C. Kinsey, "Phylogeny of Cynipid Genera and Biological Characteristics," in press; W. M. Mann, "Additions to the Ant Fauna of the West Indies," in press; J. G. Needham, "African Stoneflies and Mayflies Collected by the American Museum Congo Expedition," in press; R. C. Osburn, "Bryozoa of the Crocker Land Expedition"; H. A. Pilsbry, "A Review of the Land Mollusks of the Belgian Congo, chiefly Based on the Collections of the American Museum Congo Expedition, 1909-1915"; M. J. Rathbun, "A New Species of Crab from Japan"; the same, "The Brachyuran Crabs of the American Museum of Natural History Congo Expedition, 1909-1915," ready for press; E. A. Richmond, "Some Studies of the Biology of the Aquatic Hydrophilidæ," in press; C. R. Shoemaker, "Amphipods of the Congo Expedition," ready for press; W. G. Van Name, "Isopods collected by the American Museum Congo Expedition," in press; F. E. Watson and W. P. Comstock, "Notes on North American Lepidoptera, with Descriptions of New Forms," in press; C. B. Wilson, "Parasitic Copepods from the Congo Basin," in press.

Accessions

Among the noteworthy accessions of the past year are the following gifts: G. W. J. Angell, nearly 3,900 specimens of Coleoptera; Barnum Brown, invertebrates (mollusks, crustaceans and spiders) from Cuba, and land shells and spiders from Texas; W. J. Chamberlain, Coleoptera from France and Oregon; William T. Davis, beetles from Arizona and paratypes of 15 species of Cicadidæ; Thomas Hallinan, insects from Peru and Ecuador, Panama, Chile and Brazil; Mrs. W. D. Kearfott, collection of about 11,400 Microlepidoptera, chiefly Old World Tineidæ, with card index of notes, descriptions, etc.; A. C. Kinsey, gall insects and galls, including 2 type specimens; C. W. Metz, Hymenoptera, including cotypes of *Prosopis;* F. J. Myers, a

collection of mounted Rotifers; C. A. Palm, 28,270 Coleoptera from North America; Karl P. Schmidt, about 275 specimens and 21 vials of invertebrates from Porto Rico; Professor A. L. Treadwell, identified annulates, including 31 types; Professor Ralph G. Van Name, collection of invertebrates (mollusks, crustaceans, insects, worms, etc.) from Newfoundland; Harry B. Weiss, numerous specimens of insects and their work, from New Jersey. Departmental expeditions secured much material both for purposes of research and for the enlargement of the study collections. Curator Crampton secured a series of representative insects in the Yosemite Valley, and, in addition to his research material, a collection of crustaceans, myriapods, arachnids and insects was made in the Society Islands. Dr. Lutz's expedition to Colorado secured more than 23,000 insects. Mr. Watson obtained numerous insects of various orders and much biological material from the vicinity of New York. Mr. Jacot obtained many invertebrates, chiefly Mollusca, from Staten Island and from one or two localities in Connecticut.

RECENT AND EXTINCT FISHES*

BASHFORD DEAN, Honorary Curator
JOHN T. NICHOLS, Associate Curator of Recent Fishes, in Charge

Care and Development of the Collections

Limited exhibition space has left little room for placing more fishes on view; in fact, several desirable exhibition specimens are now held in reserve until there be opportunity to show them to advantage. For reasons of economy there have been no purchases or notable expeditions to secure new material, except that Mr. Robert C. Murphy of the Brooklyn Museum, now in Peru, has been commissioned to make a collection of marine fishes. He will give especial attention to securing fishes of the group known as "crevallies," which the department plans to monograph for the world. His collection should also bring to the Museum specimens of other fishes which occur off Peru, of interest in a study of the relation of life to the remarkable ocean current system of the west coast of America. The one notable addition to the study collections actually received, is by gift from Mr. Louis L. Mowbray of about 470 specimens from Bermuda and Turk's Island in the Bahamas. For a number of years Mr. Mowbray has been accumulating a collection of rare or interesting fishes. He has been in close touch with our department throughout, and has planned, when he could find time to do so, to work up this material here. Recently, when leaving New York to take charge of a new Aquarium to be erected at Miami, Florida, he placed the entire collection in the American Museum where it could be properly cared for and promptly studied. This addition helps complete our representation of fishes of the West Indian Region.

Such spare time as the laboratory assistant (Mr. Kessler) has had from the actual physical care of the collections and

* Under the Department of Ichthyology (see also page 209).

similar duties, has been given to the preparation of study skeletons, about seventy being added to those already available. Such fish skeletons have been classified and arranged for ready reference in the unused cases prepared for fossil fishes. As the latter are added to, new quarters, however, will have to be found for the skeletons.

Research and Publication

Work on the final volume of the "Bibliography of Fishes" which had been all but suspended during the war, and which came to a standstill in January when Mrs. H. J. Volker resigned to accompany her husband to India, has been again resumed and has made rapid progress. Professor E. W. Gudger, who had been with us in previous summers, arrived in June to assume the responsibilities of editorship under Dr. Dean's supervision. Mr. Arthur W. Henn returned from France about the same time, and Miss Francesca La Monte was appointed in July to fill the vacancy created by Mrs. Volker's resignation.

Progress has since been rapid and continuous. Dr. Gudger has practically completed the compilation, arrangement and editing of the section relating to pre-Linnæan works, including all books, papers and periodicals published from the invention of the printing press to the publication of the 10th Edition of Linnæus' "Systema Natura" of 1758, which work marks the inception of modern scientific nomenclature. It is expected that this section will go to press shortly after the first of the year. The Addendum, comprising titles overlooked or otherwise not included in the published volumes I and II, has been completed and is awaiting final editorial revision. Work on the subject index has been resumed by Mr. Henn, and all index cards for the published volumes are now in process of final arrangement and classification.

Preparation of systematic papers from time to time is incidental to caring for new collections, as these are received, and such papers naturally take the form of faunal reports. Systematic work of a monographic nature is, however, more interesting, valuable to Ichthyology, and satisfactory in every way. Leisure for serious research has enabled taking up such

a study of a group of marine fishes with world-wide distribution, the crevallies. The literature pertaining to these fishes has first been gone over, compiled, and bound in a brief manuscript review of the group. With this as a basis, it is planned to attack the subject in detail as American Museum material makes this possible. The first short paper of a series it is hoped to submit during the course of this undertaking was published in the *Bulletin,* December, 1918; a second has been submitted for publication there; a third has been prepared, but is held pending receipt of Peruvian collections which should bear on its subject matter. A note on a rare crevally from Bermuda has just been published in *Copeia.*

Whereas it has been possible to give such work priority, collections must in fairness be worked up as they are received. Two papers describing new South American fresh-water fishes, sent here by that institution, have been submitted to the Museu Paulista, São Paulo, Brazil, for publication in English and Portuguese, and work on extensive collections of Bermuda and Turk's Island fishes is in progress. The more important papers on fishes published by members of the department during 1919 are "Six new fishes from Northwestern Canada," by Francis Harper and J. T. Nichols (in the American Museum *Bulletin*); "On *Caranx guara* from Bermuda," J. T. Nichols (in *Copeia*); and the following three titles by E. W. Gudger: "The Myth of the Ship-holder" (*Annals and Magazine of Natural History*); "The Ovary of the Gaff-topsail Catfish; its Structure and Function" (published by the Carnegie Institution of Washington); "On the Use of the Sucking Fish for Catching Fish and Turtles" (*American Naturalist*).

EXISTING REPTILES AND AMPHIBIANS*

M. C. DICKERSON, Curator

The Collections

The year has been a relatively fortunate one regarding enrichment of the department's study collections. The new material accessioned numbers 10,084 specimens, about three times the amount received in 1918, and four times that of 1917. Two thousand of the 10,000 specimens have been acquired by purchase and are largely South American, although a few lots are from China. About 1,000, from North America, South America, and the Orient, have come through exchange, in part for exhibition material in the shape of casts from life prepared in the American Museum.

Nearly 1,000 specimens, mostly North American, have been gifts. The department is particularly grateful for this remembrance by friends of the institution, many of them boys and girls of our high schools. The donors are 52 in number; the specimens for the most part were sent alive and thus in splendid condition for research or for use in preparation of casts; in some instances they were of unusual scientific value, like *Amphiardis inornatus* from Sapulpa, Oklahoma, a small snake known previously only from the type. Among the gifts from other than North American localities are small collections from Australia, Formosa, France and Brazil.

The largest accessions have been from expeditions. Considerably more than 1,000 specimens were collected during the Museum's reptile field work in Mexico, also a like number on the reptile expedition to Porto Rico under the auspices of the New York Academy of Sciences in coöperation with the American Museum. Other valuable lots have come through local work by members of the department, and through cöoperation with the New York Zoölogical Society in its work at the

* Under the Department of Herpetology (see also pages 210 to 212).

Tropical Research Station in British Guiana; while about 500 specimens were collected on an expedition to the Huachuca Mountains, Arizona.

Such rapid building up of the collections is of vital importance, because all research—taxonomic, distributional, or morphological, as well as all exhibition, is based on the collections. The department, being still considerably under ten years of age, differs from the other departments of the institution, many of which are a half century old, in having relatively meager and inadequate reference material. Attention must be centered on building up this material for several years before the department will be in a position to do its most efficient and authoritative work.

Constructive work on the catalogues and collections, outside that covered in course of the various lines of research in progress, includes identification of all West Indian material, of the collection of Nicaraguan lizards, and of the large amount of North American live material received during the summer months. A new tray system of storage has been inaugurated by which accumulation of dust on the collections is avoided and the species of a given genus are kept and handled together.

Considerable attention has been given to the department's osteological collections. The salientian skeletons now number 98 (28 genera and 58 species), three-fourths of which have been prepared by the Schultze technique during the present year. It is possibly the largest collection of salientian skeletons in America as regards the number of different forms. It appears to be second only to that of the British Museum (which possessed in 1916 about 200 specimens of about 50 different genera), and to supplement that collection in including a number of genera not represented there. Dissections of lizards, representing many species of 12 iguanid genera, to show hyoid and shoulder girdle have been prepared in connection with the work on Lower California and the Southwest. Ten lizard skulls have been prepared. In connection with the research on the myology and osteology of lizards a considerable series of skeletons suitable for exhibition is in preparation.

Research and Publication

Work by Assistant Curator G. K. Noble on the amphibians of the Museum's Congo collections is completed. It includes a survey of species of the Congo and a check list with keys of all African amphibians. Among morphological problems having taxonomic bearing discussed are the development of the vertebral column of *Xenopus mulleri,* and the relations of the shoulder girdles and anterior limb bones of the species of 4 genera, illustrated with 15 microphotographs. It will form a volume of the American Museum's Congo reports in the *Bulletin.*

The staff was increased in October when Mr. C. L. Camp, formerly of the University of California, returned from France. His thesis on the "Comparative Myology and Osteology of the Lizards" for Ph.D. at Columbia University, will be prepared as a part of the work of the department, and published in the American Museum *Bulletin.* The work includes much dissection and permanent record in a form adapted for exhibition purposes, of comparative studies of musculature and skeletons. It covers also detailed study of new fossil material from the Eocene and Oligocene of North America, attempts to correlate the muscles of existing lizards with those of other vertebrates, especially the Dinosauria, and to point out the relations of muscles and skeletons to the classification of lizards and to their adaptive radiation.

Work on the snakes of the Congo, by K. P. Schmidt, to accompany his volume on Congo crocodiles, lizards and turtles, is nearly ready for publication. It contains a resumé of the distribution of African reptiles.

In the work on the lizard fauna of Lower California and the Southwest by the Associate Curator, a paper was issued in the *Bulletin* giving synopses of 23 new species and a new genus, preliminary to the larger paper on the reviews of genera with illustrations, maps and keys. In the comparative study of shoulder girdles of iguanid genera, especial interest attaches to the new genus in its position between *Uta* and *Sceloporus* and its relation to more ancient arboreal forms.

Other papers published in 1919 are, in the *Bulletin,* "Descriptions of New Amphibians and Reptiles from Santo Do-

mingo and Navassa" (introducing a new tree frog and a new lizard from Santo Domingo and 5 new lizards from Navassa Island), by K. P. Schmidt; in *Copeia,* "Rediscovery of *Amphiardis inornatus* Garman," by K. P. Schmidt. A paper on "Some New Batrachians from Colombia," by G. K. Noble, is ready for press; Mr. Noble is also joint author with Thomas Barbour of a paper, published in the *Bulletin* of the Museum of Comparative Zoölogy, on "Amphibians from Northwestern Peru."

Courtesies received from other institutions in the shape of temporary loan or opportunity for examination of material in connection with research are as follows: Collections of African amphibians and African snakes, Museum of Comparative Zoölogy at Harvard College; and collections of African amphibians, Museum of the University of Michigan. A considerable collection of unidentified snakes from Kamerun, Africa, has been loaned by the Museum of Comparative Zoölogy for identification.

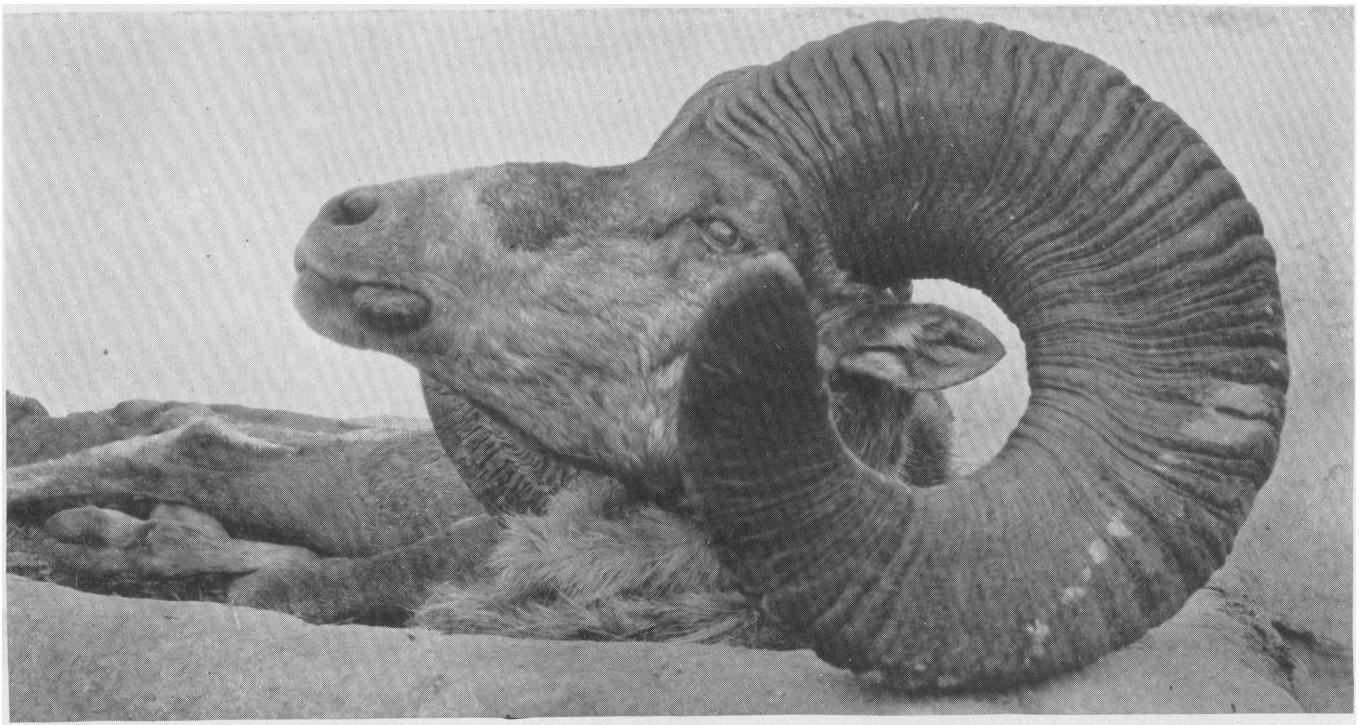
Exhibition

The exhibition work has continued as in former years in preparation of casts from life for the synoptic series, of specimens as obtained for an exhibit covering the poisonous snakes of North America, and of the animals and plant forms for the two large habitat groups in hand, namely, the Florida Gopher Turtle and the New Zealand Hatteria. The artists and preparators experienced in making these herpetology exhibits have had the pleasurable opportunity on several occasions during the year to demonstrate the methods of the work to guests from museums in other parts of the world.

Expeditions

Work in the field has been necessarily limited in amount. Some local collecting by the members of the department has been done, especially on the New Jersey pine barrens. The two months' survey of Porto Rico and the neighboring islands by Mr. Schmidt resulted, in addition to the large representative collection, in the accumulation of a large body of facts regarding habits and life histories and the addition of a species of snake and 6 species of tree frogs,

5 of them new, to the island's known fauna. The collection made by Mr. R. D. Camp during three months in southeastern Arizona is especially rich in lizards and proves the area of the Huachuca Mountains a veritable center for differentiation and distribution of at least one genus, *Holbrookia*. The expedition in Mexico under Mr. Paul Ruthling has worked in the region of Mexico City, Vera Cruz, and Guadalajara, Jalisco, with total collections covering about 60 genera and 100 species.



DEPARTMENT OF MAMMALOGY

MOUNTAIN SHEEP FROM CHINA.

Record Specimen Secured by the Second Asiatic Zoölogical Expedition for a Museum Group.

MAMMALS AND BIRDS*

J. A. ALLEN, Curator

Accessions

The additions to the collection of mammals number 476 specimens, of which 210 were received by gift, 66 by exchange and 200 by purchase. The latter include 130 from British Guiana, secured through the coöperation of the New York Zoölogical Society, under the direction of C. William Beebe, director of its British Guiana Tropical Research Station. They consist mainly of medium sized species, chiefly monkeys and carnivores, and include many skeletons as well as skins and skulls, this collection forming the most important collection of mammals the Museum has ever received from this part of South America. Other specimens purchased were a number of important desiderata for exhibition. Many specimens have been received in the flesh, some of them of great value, from the New York Zoölogical Society's Menagerie in New York City. The usual number has also been received from the New York City Department of Parks. Other gifts include a collection of 65 small mammals from France, presented by Mr. James P. Chapin, Assistant Curator of Ornithology.

The accessions to the ornithological collection number about 4,225, of which 625 were received by gift, about 350 by exchange, 20 by purchase, and 3,227 from Museum expeditions, collected in Venezuela and Peru. About 100 of those acquired by gift were received in the flesh, in large part from the New York Zoölogical Society. The gifts also include about 80 sets of birds' eggs.

Field Work

Mr. Roy C. Andrews, Associate Curator of Mammals of the Eastern Hemisphere, has continued his work in Northern China and Mongolia as chief of the Museum's Second Asiatic Zoölogical Expedition, but none of the rich material thus obtained reached the Museum during

* Under the Department of Mammalogy and Ornithology (see also pages 212 to 216).

1919. Late advices indicate that his efforts have been extraordinarily successful. His field work ended late in November, and preparations for his return with the collections early in 1920 were under way. His collection of mammals numbers about 2,000 specimens and comprises good series for mounting of the larger game animals of the region, including the Argali, Goral, Takin, Elk and Deer. The smaller species are represented in large series, the collection as a whole forming the most important ever procured, by a single expedition, in eastern Asia.

Mr. H. E. Anthony, Associate Curator of Mammals of the Western Hemisphere, left New York in November on an expedition to Jamaica for an intensive exploration of the island for fossil and recent mammals. A preliminary report indicates that the results of his field work will prove of high importance, especially in respect to the extinct mammal fauna of Jamaica.

Mr. H. Watkins is continuing his field work in Peru, from whom about 2,500 bird skins have been received during the present year.

Study Collection

The indexing and rearrangement of the research collection of mammals has made progress, although the work has been greatly retarded by the absence of two members of the staff during the greater part of the year, Associate Curator Andrews having been in the field as head of the Second Asiatic Expedition, while Associate Curator Anthony was retained in the United States military service during the early months of the year. On his return to the Museum in April, he took up the work of identifying and distributing recently accumulated material. Rather more than a thousand specimens of North American mammals were identified and installed in their proper sequence, and similar work was begun on the large accumulation of South American specimens. The department was unfortunately deprived of the services of Albert E. Lurch through his illness and death later in the year, thus further reducing the force, removing a faithful and efficient assistant whose

DEPARTMENT OF MAMMALOGY

THE PANDA OR BEAR RACCOON.

The Only Specimen in This Country of This Rare Animal from Tibet

years of service and familiarity with the collection of mammals had made him invaluable and difficult to replace.

The cataloguing of the recent accessions of birds has been continued, including some 3,500 specimens from South America, also the Congo collection. The nests and eggs have been brought into better order and the additions of recent years duly incorporated.

Exhibition Collection

The rearrangement of the exhibition collection of mammals and additions of new groups have been continued with excellent results, especially noteworthy in the revised Hall of Primates.

Mammals

Practically all the single specimens have been removed from their conspicuous polished cherry pedestals, those mounted on limbs being placed directly on the back of the case and those walking on all fours placed on inconspicuous rock bases.

Under the supervision of Mr. Peters, the group of Orangs has been rearranged and the conventional foliage—the best that could be obtained thirty-five years ago—replaced by actual reproduction of the leaves of the Durian.

Good progress has also been made in the Hall of North American Mammals. Aside from the fine group of Timber Wolves, a number of single specimens of characteristic mammals have been added to fill gaps in the series.

Birds

Steady improvement is being made in the systematic series of birds by mounting desirable specimens received from the Zoölogical Park to fill gaps in the series or to replace similar, but poor examples, while many of the old, but valuable birds, have been skilfully remounted by Mr. Engel.

The entire collection, and the cases, have been cleaned, and the actual condition and appearance of the collection are better than ever before.

Research and Publication

Research work has been restricted mainly to the Congo and South American collections. A paper by Mr. Anthony on fossil material collected by him in Cuba in 1917 has been prepared for publication in the Museum *Bulletin,* describing two additional new species of mammals. He has also prepared a short paper on new forms of mammals from South America, based on recently acquired collections. This paper will soon appear in the *Journal of Mammalogy* (by permission of the Museum authorities). Two papers by the Curator have been published during the year in the *Bulletin,* entitled "Severtzow's Classification of the Felidæ" (Vol. XLI, pp. 335-340), and "Notes on the Synonymy and Nomenclature of the Smaller Spotted Cats of Tropical America" (idem, pp. 341-419, figs. 1-31).

The report on the Carnivora of the Congo Collection was finished during the first half of the year, and later the report on the Primates was begun, the part relating to the Anthropoid Apes being now ready for the press. The Curator has been greatly assisted in this work by Mr. Lang, who is also preparing the ecological matter that will form an important feature of these reports. As noted in the Curator's report for the year 1918, the paper on the Insectivora was then in press, but its publication is still deferred owing to delay in the preparation of the part containing the field notes and allied matter that is to accompany the systematic part. So much matter is now ready for the press that it has been decided by the Publication Committee to devote a volume of the *Bulletin* exclusively to the papers on Congo mammals, for which the manuscript and illustrations are now ready, and the greater part was handed to the editor, or placed at his call as wanted, early in November.

In consequence of the prospective long delay in the publication of the report on the Carnivora of the Congo Collection, it seemed desirable to issue a preliminary paper on this group, covering some of its more important results. Accordingly in June last this was prepared, and, with the approval of the Museum authorities, sent to the editor of the *Journal of Mammalogy,* where it appeared under the title "Preliminary Notes on African Carnivores" (Vol. I, No. 1, pp. 23-31, Nov. 28, 1919).

Curator Chapman, on his return from Red Cross work in South America and in France, resumed his research work on South American birds, and has published three preliminary papers describing new forms, as follows: "Descriptions of new Birds from Peru, Bolivia, Argentina and Chile" (*Bulletin,* XLI, pp. 323-333); "A new race of the Killdeer from the coast of Peru" (*The Auk,* Jan., 1920, pp. 105-108); "Descriptions of new Birds from Peru, Bolivia, Brazil and Colombia" (*Proc. Biol. Soc. Washington,* XXXII, pp. 253-268). Associate Curator Miller has continued his studies of the pterylosis and visceral anatomy of birds received in the flesh, and (with Mr. Griscom) also his work on the "Birds of Nicaragua." He has ready for publication a paper on the "Classification of Woodpeckers and their Allies," and another on the "Classification of the Kingfishers." He has also published a number of short articles in *The Auk.*

EXTINCT VERTEBRATES*

HENRY FAIRFIELD OSBORN, Honorary Curator
W. D. MATTHEW, Curator

Field Work

The limited appropriation for field work was supplemented by a special appropriation of the proceeds of sale of duplicate skeletons of *Moropus* from the Agate Quarry, enabling us to continue operations at that locality.

In the early part of the year Associate Curator Brown investigated a number of prospects in Oklahoma and northern Texas.

Expedition to Nebraska

Mr. Albert Thomson, assisted by Mr. George Olsen, continued operations during the summer in the great fossil quarry at Agate, Neb. An extensive new cut was made on the north side of the quarry. It proved, however, to be comparatively barren of fossils, the layer thinning out all along this edge. From the richer part of the quarry a section was selected especially suitable to be preserved and exhibited at the Museum in the block. This block, showing 16 skulls and corresponding numbers of skeleton bones within a space of 5½ by 8 feet, was skilfully lifted, boxed and brought to the Museum without damage. Its weight when boxed was about 6,000 pounds. Several other valuable fossil specimens were obtained from the quarry and vicinity.

Expedition to Jamaica

In November, Mr. H. E. Anthony, assisted by Mr. Charles Falkenbach, undertook an expedition for living and extinct mammals, to the island of Jamaica. No fossil vertebrates, except for a single skull of a marine mammal, were known from this island, but a consideration of the conditions in this and other West Indian

* Under the Department of Vertebrate Palæontology (see also page 216).

islands made it appear highly probable that some land vertebrates formerly existed there, and the geology indicated that caves probably existed similar to those in Porto Rico and Cuba from which Mr. Anthony had secured such large and interesting collections of fossil mammals, and that they might also yield fossils. Preliminary reports from Mr. Anthony leave us no doubt that this forecast has been verified, but the extent and character of the collections remain to be seen. The character of this fauna will be studied with particular interest, as it should throw further light on the source of the fauna and the manner of its arrival on the islands. The geology of the West Indies indicates that the most probable locus for a mainland connection, if the fauna arrived in that manner, is by way of Haiti, Jamaica and Honduras. Obviously if the animals did arrive in that manner, the fauna of Jamaica ought to be more like that of the mainland than those of any of the other islands—more continental in type. On the other hand, if the animals, or rather their ancestors, arrived on the islands through the agency of storms, floating vegetation or other accidents of oversea transportation, without the aid of any continuous land bridge, then Jamaica, as a rather small and isolated island, should have a more scanty and insular fauna than the larger and more central islands of Cuba and Hispaniola, perhaps even more so than Porto Rico.

A partial skeleton of a small pterodactyl, or flying reptile, from the Cretaceous chalk beds of Kansas, was purchased from the discoverer, Mr. C. H. Sternberg. Another interesting specimen purchased from Mr. Sternberg is the hinder half of the skeleton of the gigantic extinct bear, *Arctotherium,* from the Rock Creek beds of Texas. The bones are finely preserved, and considerably larger than the corresponding parts of the great Alaskan Brown Bears.

Cataloguing and Storage

Steady progress has been made in revising and rearranging the storage collections of fossil mammals in charge of Associate Curator Granger. Various specimens and casts in the Warren Collection, most of them without any records of their identity or locality, were identified through published figures, references or other

means by which it was possible to recognize them with certainty, and were duly catalogued, numbered and fully recorded in the department catalogue. Their value was thus greatly enhanced. The routine of cataloguing, labeling, relabeling and rearranging collections for more convenient reference or saving of space has been carried forward as usual.

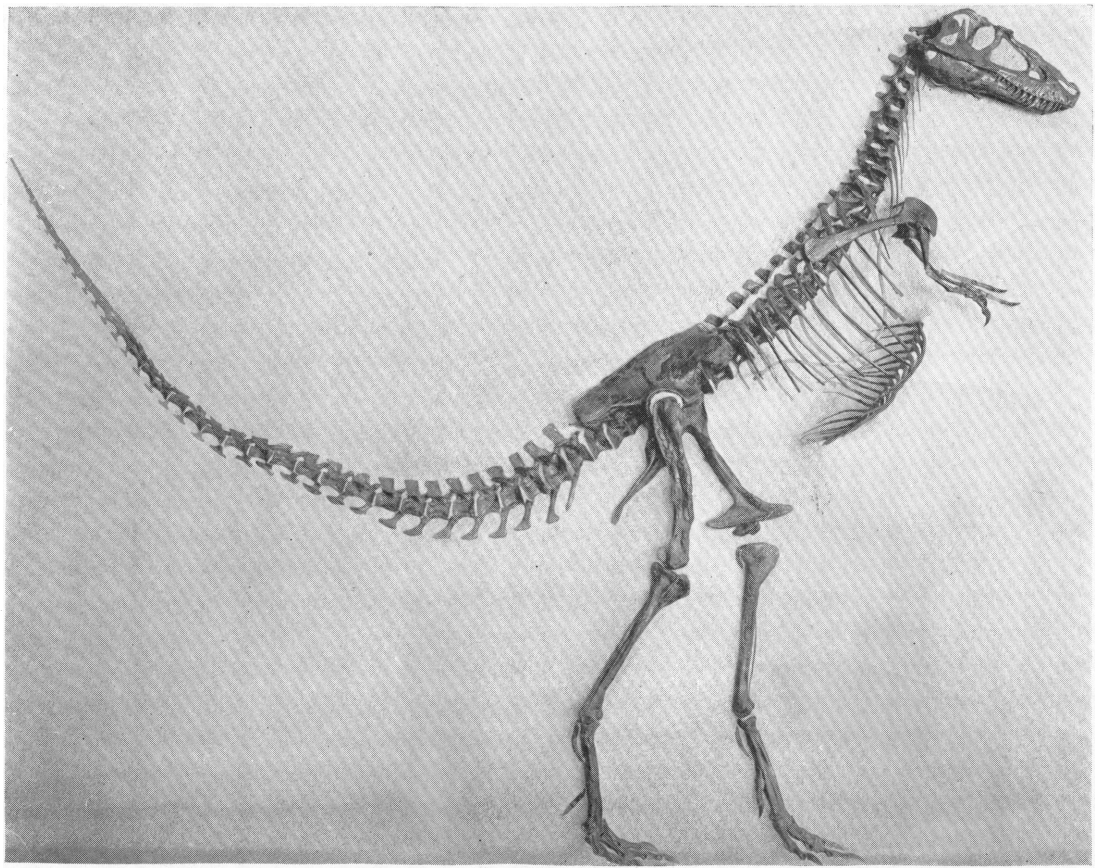
Preparation and Exhibition

The preparation of the Alberta dinosaur collections was continued with vigor, and considerable progress was made. The fine carnivorous dinosaur skeleton secured from Mr. Sternberg in 1918 has been mounted as a panel in an interesting and characteristic pose, contrasting with the skeleton of a larger species finished a year ago, which is also mounted as a panel, but placed substantially in its position as found in the rock. Two other skeletons of large carnivorous dinosaurs from Alberta are in course of preparation, one planned as an "open mount," the other as a panel. A partial skeleton of *Palaeoscincus,* showing the bony armor of the neck and forequarters in place behind the skull, has been further prepared but not yet completed; this is a very difficult specimen but highly instructive as to the body armor of the Armored Dinosaurs.

Extinct Reptiles

A mounted skeleton of *Moschops,* a large and very remarkable reptile from the ancient Permian Karroo formation of South Africa, has been placed on exhibition, temporarily installed in the Hall of the Age of Mammals, near the entrance. This is a very strange and odd-looking reptile, with short tail and small hindquarters, and a very short, deep, massive head, suggesting that of the muskox to which its scientific name alludes; but the proportions and pose of the body and legs carry more suggestion of the walrus, squat, massive, clumsy-looking, and disproportionately small behind. It should command respect, however, on account of its great antiquity, for it belongs to the Permian period of the Palæozoic, before the dawn of the Age of Reptiles.

A skeleton of *Pteranodon,* the giant Flying Reptile, has been mounted and placed on the wall of the corridor diag-



DEPARTMENT OF VERTEBRATE PALAEONTOLOGY

DEINODON—"TERRIBLE TOOTH."

Fossil Reptile from Alberta.

onally across from the elevator. This specimen was purchased from the finder, Handel T. Martin, and comes from the Cretaceous chalk formation of western Kansas, like the adjoining skeletons on the wall, the great marine lizard *Tylosaurus* below it, and the great fish *Portheus* above it. The missing parts are painted in on the chalky background, and the supposed outlines of the wing membranes are restored in a very light tint. This skeleton is believed to be the first original skeleton of *Pteranodon* to be placed on exhibition in an American museum; but there has been one (also found by Mr. Martin) in the British Museum for some years past.

The collections from the Pleistocene of Cuba obtained by Mr. Brown's expedition in 1918 have been fully prepared for study; also those obtained by Mr. Thomson in the same year at the Snake Creek fossil locality in western Nebraska.

Extinct Mammals

Considerable preparation work was done upon Eocene and Paleocene mammals during the year, chiefly upon small and delicate specimens of much scientific importance but of no great exhibition value. Various specimens of fossil crocodiles, of oreodonts and of proboscideans were cleaned and prepared, mostly for study purposes. A much crushed skull of *Elephas columbi* was prepared and placed on exhibition, and a number of casts of Siwalik proboscideans were mounted on panels in the exhibition cases. The mounting of a skeleton of the primitive mastodon *Trilophodon* is under way. Other additions are completed or in progress to the series of extinct elephants and mastodons, which is one of the finest features of the Museum's exhibits of fossil vertebrates.

The restoration of the crushed skeleton of the giant bird *Diatryma* has been undertaken in order to make an articulated mount of the specimen. The most difficult and puzzling part of it, the skull, has been satisfactorily reconstructed; no very serious difficulties are expected in the rebuilding of the remainder of the skeleton.

The Hall of the Age of Man has been improved by an exhibit illustrating the genealogy or phylogeny of man and his relationships to the higher apes, living and extinct, as known from fossil remains and the comparison of existing species. An important change was made in the arrangement of this hall by moving the Groundsloth and Glyptodon groups over against the south wall, combining them into one and adding the *Scelidotherium* skeleton, so as to make a large inclusive Edentata group. The details of arrangement for this group have not yet been finally settled; but moving it over against the wall has added considerably to the space in the centre of the hall, which was too crowded to be effective.

Age of Man Hall

To the four great murals in this hall by Charles R. Knight, representing respectively the Pleistocene life of western Europe, of central United States, of northern Asia and of Argentina, has now been added a fifth, representing the Pleistocene life of northeastern North America with its characteristic Giant Beaver, Deer, Moose and Tapir, whose remains are found along with those of the mastodon in the peatbogs and later cave deposits of the north Atlantic states. A sixth mural painting by Mr. Knight, above the west archway of the hall, represents the men of the Polished Stone Age, the prehistoric hunters of hardy Northern type whose remains are chiefly known from Northern Europe. These were the forerunners of the higher modern types of man among whom civilization arose.

Professor Osborn has completed the manuscript of the Titanothere monograph and transmitted it to the United States Geological Survey for publication. This great memoir is an exhaustive research upon one of the most important of the extinct races of animals that formerly inhabited North America, and treats fully of their geologic history, their evolution, habits, origin and extinction, and other features of interest. Progress has continued on the monograph of the Sauropoda, or gigantic amphibious dinosaurs, by Professor Osborn with assistance

Research and Publication

of Dr. Mook, and a memoir upon the skeleton of *Camarasaurus* in the Cope collection has been completed. Dr. Matthew has published two preliminary articles concerning the newly discovered Antillean faunas, and has nearly completed the memoir describing the remarkable Cuban fossils discovered by Professor La Torre and Mr. Barnum Brown. The memoir upon the Paleocene faunas by Dr. Matthew and Mr. Granger, describing the quadrupeds which lived at the beginning of the Age of Mammals, has made considerable progress during the year, both as to text and illustrations, but is still far from complete. Dr. Gregory has in press two important memoirs, one describing the Eocene lemuroid primates, the group of animals from which the later monkeys, apes and man evolved, the other, a comparative study of the lachrymal bone in the Mammalia. A study of the collections of Pliocene mammals obtained in 1918 from the Snake Creek beds in western Nebraska was made by Dr. Matthew, but publication of the results is deferred until illustrations can be made.

Dr. Mook has devoted a part of the year to a comparative research upon the existing and extinct Crocodilia, and has completed certain preliminary studies in this subject.

Considerable time was also given by the Curator and Dr. Gregory to the preparation of various popular or semi-popular articles, notices, etc., and by all members of the staff to aid scientific visitors in the examination and comparison of Museum types and other specimens. Two articles by Messrs. Gidley and Miller of the United States National Museum staff, descriptive of American Museum specimens, have been published in the *Bulletin*.

EXISTING AND EXTINCT RACES OF MEN*

CLARK WISSLER, Curator

Antiquity of Man

A plan has been developed for a new exhibition hall to take the place of that formerly devoted to the general prehistoric archæology of the United States. This new exhibit is to present the main outline of the history of culture from its earliest forms in palæolithic time to the era of the historical nations. One-half of the hall will be given to the chronological phases of Old World culture, the remaining half to a similar treatment for New World cultures. To complete the series, the adjoining tower room will be occupied by exhibits relating to the classification of the races of mankind and man's evolution. Assistant Curator Nelson prepared the detailed plan for the Old World and has advanced the installation so far that the hall has been reopened to visitors. The sections for the successive periods of palæolithic culture are in place, as also are those for the neolithic period. The preparation of labels and the specific refinement of the individual exhibits will be the work of the coming year. A few special synoptic exhibits accompany the chronological sections, showing the evolution of the ax, knife, and similar fundamental tools. The completion of this half of the hall will give our visitors unrivaled facilities for the study of Old World chronology, now fully recognized as the foundation to history and the comprehension of civilization. Most of the specimens used are from the R. L. Stuart collection, the G. L. Feuardent collection (1878) and the Andrew Ellicott Douglass collection (1901). There are, however, some unfortunate gaps in the sequential exhibits which we hope to fill with additional collections from Europe.

* Under the Department of Anthropology (see also pages 216 to 219).

The miscellaneous exhibition work of the year comprised several important additions and revisions. The Eskimo collections are now installed in the corridor to the left of the entrance to the Lecture Hall. The space is inadequate, but it has been possible to show the essential characteristics of Eskimo culture for the main geographical groups. Special emphasis has been given to the archæological collections representing the prehistoric development of the Eskimo. The greater part of these specimens are from the Stefansson-Anderson and the Crocker Land Expeditions. The section for the Indians of Eastern United States has been condensed and enriched by the addition of related archæological material, particularly in the alcoves for the Iroquois and the Indians of the Southeastern States. We plan further to intensify the exhibits of this hall by adding such archæological specimens as clearly belong to the immediate prehistoric periods of the respective localities.

Exhibition Series

Following out the same idea in the hall for the Indians of the Plains, archæological material has been added to the Hidatsa-Mandan sections and one case installed to show the general archæology of the area. Assistant Curator Spinden collected cultivated plants among the Hidatsa-Mandan Indians of North Dakota, including a series of squashes which have been skilfully reproduced in wax and placed on view as part of a special food exhibit in the section for these Indians.

Finally, mention may be made of a special installation of new specimens from the prehistoric ruin of Aztec now being excavated as a part of the Archer M. Huntington Survey of the Southwest.

Our collections have been greatly enriched by the generosity of many donors, a list of whom will be found under a separate head. A fine Chinese painting was presented by Mr. Ogden Mills. Mr. George Langford of Joliet, Illinois, presented a large archæological collection gathered by him in the course of investigations of certain village sites near his home, an account of which has been published in the *American Anthropologist*. Our

Accessions

archæological collections were further enriched by a large series of stone implements from Michigan, presented by Mr. H. G. Otis. Miss Mary Appleton gave a collection of baskets and pottery from the Indians of North America. Mr. A. S. Walcott gave a series of bronze figures from Sumatra, and Dr. Elsie Clews Parsons, a collection of rare ceremonial objects from the Zuni Indians.

A number of purchases were made from the income of the Jesup Fund, among which may be noted an extensive archæological collection from the Mimbres Valley, New Mexico. Yet the most notable of these acquisitions is a series of twelve stone sculptures from the ancient Mayan ruins of Kabah and Uxmal, Yucatan. They were purchased from Miss Cornelia Cruger, Barrytown-on-Hudson, whose father received them from the celebrated explorer, John L. Stephens, who took them from the ruins about 1840. Aside from their unique historical interest, these specimens are excellent types of Maya sculpture, originals of which are rarely found in museums.

Field Work

The only explorations undertaken by the Department were among the Havasupai Indians of Arizona and the continuation of work upon the group of prehistoric ruins near the town of Aztec, New Mexico. Early in the year Mr. Leslie Spier gave up his position as Assistant in Anthropology to accept a Traveling Fellowship from Columbia University. By special arrangement he was permitted to visit the Havasupai Indians in the interests of this Museum. Several months were spent among these Indians in making a collection and gathering data on their fast vanishing culture. As this tribe had not been seriously studied by former investigators, the results of this research will form a welcome addition to our knowledge of the subject.

The Aztec Ruins

Mr. Earl H. Morris spent the entire year at the largest of the ruins in the Aztec group. The Curator spent four weeks at the site, visiting many important ruins in the vicinity and developing plans for the final excavation and repair of the ruins under investigation. Since his visit Mr. Morris has excavated a

large part of the western half of the main ruin. Some sixteen rooms were found with their ceilings intact, thus giving us full opportunity to study the architecture in all its details. Though the walls of the ruin are of dressed sandstone, the ceilings are of wood supported by large beams of cedar and spruce. The presence of these logs has enabled us to introduce a novel method of estimating the age of the ruin. Professor A. E. Douglass, who has developed ingenious methods by which the annual rings of trees can be dated, even though the logs are of unknown age, was invited to examine cuttings from the ruins in this group and from Pueblo Bonito in the famous Chaco Cañon group, explored for this Museum by the Hyde Expedition. The investigation is now proceeding with satisfactory results, a report of which will be published later.

Research in the Museum

For the most part the members of our scientific staff gave their time to the data obtained on former field expeditions. Problems of racial distinction and origins were developed by Assistant Curator Sullivan and Dr. Bruno Oetteking. Mr. Sullivan, with the cooperation of the Department of Physiology, made a series of microphotographs of racial hair cuttings for study and exhibition. The main investigation, however, concerned itself with a series of measurements upon full and mixed-blood Indians made some years ago under the direction of Professor Franz Boas. These data have been thoroughly compiled and correlated to show the results of race mixture. Among some of the significant conclusions are the constancy of degrees of correlation between bodily proportions even in mixed-bloods and the apparent inheritance of specific correlations between face width and breadth of head. Dr. Oetteking completed the measurement and description of the skulls for northwestern America and eastern Siberia, for a report upon the physical anthropology of the Jesup North Pacific Expedition.

Our facilities for promoting research in human biology have been greatly improved during the year. A room adjoining the physiological laboratory has been equipped as an an-

thropometric laboratory and office for Assistant Curator Sullivan. By special arrangement the equipment of the physiological laboratory is now available for the work of this Department. The Galton Society has organized a special laboratory for the study of racial characters, which, for the present, is housed in this department, the Curator being the Chairman of its governing committee and Assistant Curator Sullivan, its Director.

Assistant Curator Spinden discovered a correlation between the calendars of the Aztec and Maya that promises to give us an unbroken historical record for the New World from the beginning of the Christian era. Mr. Leslie Spier has completed an exhaustive study of the sun dance of the Plains Indians revealing some interesting culture movements among these tribes. Dr. Elsie Clews Parsons has nearing completion a detailed analysis of the social organization of the Rio Grande Pueblo Indians.

Educational Activities

Our growing series of popular publications has been strengthened by the issue of a handbook on the "Peoples of the Philippines" by Professor A. L. Kroeber, Professor of Anthropology at the University of California, who filled a temporary appointment to the staff of the Department in 1918. A special guide for visitors and students of aboriginal art was prepared by the Curator under the title "Indian Beadwork."

The following lectures were given during the year:—

H. J. Spinden:
- Central American Travels (Brooklyn Institute)
- Decoration and Symbolism of the Pueblo Indians (Institute of Arts and Sciences, Columbia University)
- The Creation of a National Art (Institute of Arts and Sciences, Columbia University)
- Museums and Industrial Art (American Association of Museums)

R. H. Lowie:
- Primitive Ideas of Property (Philadelphia Anthropological Society)

DEPARTMENT OF ANTHROPOLOGY

ANCIENT DESIGNS IN MODERN EMBROIDERIES.

Section of the Special Exhibition of Industrial Art in Textiles and Costumes

Showing Museum Specimens as the Source of Designs for Modern Textiles.

A number of special loans were made to schools and educational institutions. In several instances we contributed advice and material for the staging of pageants representing the prehistory of Manhattan. Assistant Curator Spinden represented the department in several educational conferences on the teaching of decorative art conducted by the State Department of Education, and at the invitation of the State Commissioner of Education John H. Finley, prepared a series of photographic charts, with notes, for circulation among the schools of the State.

The leader of the several scout organizations centering in this city invited the coöperation of this department in the training of scout masters for instruction in woodcraft and Indian lore. Mr. B. T. B. Hyde, representing the Museum, and Dr. Elbert K. Fretwell, representing the scout organizations, have held a number of informal conferences, which have resulted in bringing the scientific resources of the department to the aid of the local masters. Mr. Hyde has directed the study of museum material by these groups and is developing some special collections for their use. It is hoped that these efforts will result in a more effective use of the Museum by the Scouts of America.

The following publications appeared during the year:

A. L. Kroeber, "Kinship in the Philippines," *Anthrop. Papers,* Vol. XIX, Part III; P. E. Goddard, "Myths and Tales from the White Mountain Apache," *Anthrop. Papers,* Vol. XXIV, Part II; Earl H. Morris, "The Aztec Ruin," *Anthrop. Papers,* Vol. XXVI, Part I; A. L. Kroeber, "Peoples of the Philippines," *Handbook* Series; Clark Wissler, "Indian Beadwork," *Guide Leaflet* Series.

ANATOMY AND PHYSIOLOGY*

RALPH W. TOWER, Curator

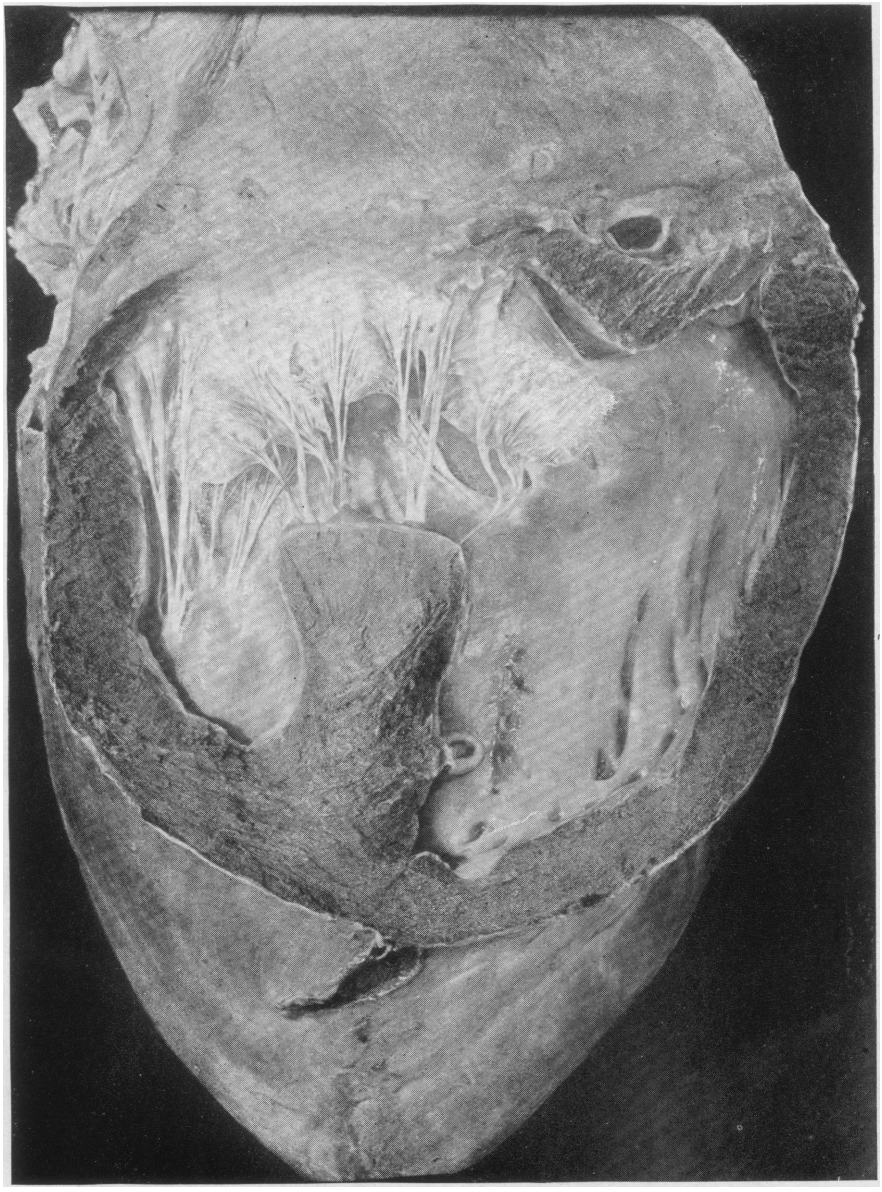
Exhibition

The department has installed an exhibit entitled "From Wing to Paddle." The specimens illustrate some of the probable steps or stages in the transformation of a wing which is used solely for flight, and one—strange as it may seem—which is used only for swimming. From this viewpoint birds could be divided into four classes: those that fly high, soar and remain on the wing for extended periods, as the vulture and the hawk; those that fly rapidly and soar but little, as the swallow; those that fly heavily and do not soar, as the hen and turkey; those that do not fly but use their wings to assist in rapid running, as the ostrich, or for paddles in swimming, as the penguin. The wings of birds are modified according to the shape, area and structure of the supporting bones, while the arrangement and size of the feathers play an important part in the function of the wing. It is interesting to note that in the strong fliers the muscles that lower the wing are more powerful than those that raise it, while in the wing used as a paddle the opposite is true.

Another exhibit recently installed is a series demonstrating the adaptation of limbs for swimming. A limb adapted to flying must be light and at the same time strong enough to support the large surface of membrane or feathers needed for flight. The bones of the wing of a bird are hollow, slender and long; on the other hand, a limb adapted to swimming must be strong and furnish the support for a comparatively narrow paddle. The foregoing characteristics are well illustrated in the exhibit.

A series of window transparencies illustrate the circulation of the blood. The structure of the ventricles, auricles and valves are shown by photographs taken from the normal heart. The pulmonary and systemic circulation of the blood is described by schematic drawings.

* Under the Department of Anatomy and Physiology.



DEPARTMENT OF ANATOMY AND PHYSIOLOGY

THE HEART AS A PUMP

Portion of the Exhibit Showing the Circulation of the Blood.

PUBLIC HEALTH*

CHARLES-EDWARD AMORY WINSLOW, Curator

From the standpoint of development in the exhibition hall, the energies of the Department during the past year have been devoted entirely to the development and extension of the exhibit dealing with the hygiene of the diet. The exhibit that was prepared along these lines in 1918 has been materially improved and expanded and has continued to be a center of inspiration for work along this general line throughout the country.

Development Food Exhibit

The work has been given large publicity during the year through the preparation of special articles which have appeared in the monthly bulletin of the Life Extension Institute and in various popular magazines and newspaper Sunday supplements, and a large number of classes and groups of students and others have visited the exhibit for informal talks in front of the cases.

At the request of Dr. Gustave Straubenmüller, Associate Superintendent of Schools, the Department has made an extensive study of the possibility of coöperating with the authorities of the City in their campaign against malnutrition among school children. A detailed plan has been prepared for a traveling exhibit to be composed of 15 models of foods which can be used in various combinations to teach the value of different foods in the diet and the composition of an ideal daily dietary, these models being supplemented by blocks illustrating the detailed composition of certain food stuffs and by a series of diagrams and charts.

Circulating Collection of Food Hygiene

The exhibit in its compactness and completeness will constitute a novel contribution to educational methods in dietary

* Under the Department of Public Health (see also page 219).

hygiene. Actual exhibits are now under preparation by the Department of Public Education and will be completed by the spring of 1920.

Museum of Living Bacteria

The Museum of Living Bacteria has continued its invaluable work, and it is interesting to notice that a collection of a similar kind has just been inaugurated in England under the auspices of the Lister Institute. It is to be hoped, however, that the preëminence in the field of systematic bacteriology which our collection has so long held may still be maintained in the future.

The total strains now under cultivation are 575, the collection having been gone over and a number of duplicate types eliminated. During the year ending December 1, 1919, 4,137 cultures were sent without charge to laboratories of health departments and universities, making a total of 26,192 cultures distributed since the opening of the laboratory in 1911. All together, 283 institutions have benefited by our service during the year ending December 1, 1919.

Publications

The monograph on the colon-typhoid group of bacteria, prepared by the Curator, Dr. Kligler and Mr. Rothberg, appeared during the autumn of 1919, and the revision of the classification of the Staphylococci, with a final report of the Committee on Classification of the Society of American Bacteriologists, of which the Curator is chairman, will go to press early in 1920.

Changes in Staff

On the completion of his military service Mr. William Rothberg returned to the Museum, and Miss E. I. Parsons resigned her position in June. Mr. Rothberg resigned in the autumn after completing eight years of devoted service, and his place has been taken by Miss Ada Bancroft, Wellesley, 1912.

DEPARTMENT OF PUBLIC HEALTH

BALANCED MENU FOR DINNER AND LUNCHEON.

A Part of the Food Exhibit.

THE LIBRARY*

RALPH W. TOWER, Curator

No one activity of the Library stands out in contrast to another. The opening of foreign transportation has been followed by an influx of periodicals and other literature dating from 1914. The detail of perfecting the exchange files is one which demands much care, and it will be only after some years that the many lacunæ can be filled.

In a recent exhibition of the Long Expedition which the Museum prepared, there was shown an original edition of Peale's *Report on the Mammals and Birds of the Wilkes Exploring Expedition,* 1848. It appears that this manuscript not only possesses the body of the report intact but contains the complete Introduction, which was suppressed in the published report and which was supposed to have been lost. In this copy there was also found an autograph letter from Peale to Gambel which throws light on the exact date of publication of the original volume, a date which has been long in doubt. The Library thus possesses an unique in this document done in the handwriting of Titian R. Peale.

Accessions

The Library added to its collections some 2,646 volumes, among which are many worthy of special notice. In addition to the accession of many volumes of foreign periodicals whose receipt has been negligible during the war, the year has seen the introduction of two new series for which there had been a frequent demand—*The American Bee Journal,* and *Ymer* the well known Swedish anthropological serial.

While gifts to the collections have been many and diversified, the following items were purchased from the funds given to the Library by the late Anson W. Hard:

* Under the Department of Books and Publications.

Moore, Frederic, "The Lepidoptera of Ceylon," 3 quarto volumes, London, 1880-1887.

Trimen, Roland & Bowker, J. H., "South African Butterflies," 3 volumes, London, 1887-1889.

Through the courtesy of Mr. John M. Hoffmire, from whom the several books of the late Titian R. Peale had already been acquired, the following new items have been donated:

Ord, George, "Sketch of the Life of Alexander Wilson," Philadelphia, 1828,

and a manuscript in the handwriting of Titian R. Peale, entitled "Catalogue of Specimens of Mammalia and Birds Collected by the South Seas Surveying and Exploring Expedition during the Years 1838, 1839, 1840, 1841 & 1842."

Mr. Ogden Mills has again shown himself a sincere friend and interested patron in presenting:

Raleigh, Walter, "The History of the World," 2 volumes, London, 1736.

Moryson, Fynes, "An Itinerary . . . Ten Yeeres Travell through the Twelve Domjnions of Germany, Bohmerland, Sweitzerland, Netherland, Denmarke, Poland, Jtaly, Turky, France, England, Scotland and Ireland," London, 1617.

To Professor T. D. A. Cockerell are due very sincere thanks for the gift of his own unpublished manuscript lists which undoubtedly will prove of great working value in the Museum. The paper deals with the "Invertebrates of Jamaica."

Anthropological accessions number several volumes from the Deniker Library and include such titles as:

Engel, E. B. d', "Essai sur Cette Question: Quand et Comment l'Amérique a-t-elle été Peuplée d'Hommes et d'Animaux?" Amsterdam, 1767, 5 volumes in quarto.

Bonaparte, Roland, "Collection Anthropologique du Prince Roland Bonaparte," Peaux Rouges, Saint-Cloud, 1884.

Some other titles of unusually important material received during the year are:

Albin, Eleazar, "A Natural History of Spiders," London, 1736.

Butler, Arthur G., "British Birds with their Nests and Eggs," Volumes 1-6, London [1896-1898].

Donovan, Edward, "An Epitome of the Natural History of the Insects of China," London, 1798.

Donovan, Edward, "An Epitome of the Natural History of the Insects of India," London, 1800.

Hamilton, William, "Campi Phlegraei. Observations on the Volcanos of the Two Sicilies," 2 volumes and Supplement, Naples, 1776-1779.

Lacordaire, Jean Theodore, "Histoire Naturelle des Insectes Genera des Coleoptères," 12 volumes and Atlas, Paris, 1854-1876.

Martyn, Thomas, "Aranei, or a Natural History of Spiders," London, 1793.

Moore, Frederick, "Lepidoptera Indica," 10 volumes, London, 1890-1913 (volumes 7-10 by C. Swinhoe).

Palisot de Beauvois, Ambroise Marie, "Insectes Recueillis en Afrique et en Amérique," Texte et Planches, Paris, 1805-[1821].

Picinellus, Philippus, "Mundus Symbolicus," I-II, Coloniæ Agrippinæ, 1681.

Rickards, Constantine George, "The Ruins of Mexico," Volume I, London, 1910.

Rochon, Abbé, "A Voyage to Madagascar and the East Indies," London, 1792.

Thomson, Carl Gustaf, "Skandinaviens Coleoptera Synoptiskt," 10 volumes, Lund, 1859-1868.

van Leeuwenhoek, Antoni, Werken, Deel 1 to 5, Delft, 1686-1718.

Westwood, John Obadiah, "The Cabinet of Oriental Entomology," London, 1848.

Publications

The publications of The American Museum of Natural History for the current year are composed of the *Annual Report;* the *Bulletin;* the *Anthropological Papers; Natural History,* Journal of The American Museum of Natural History; the *Guide Leaflet,* and the *Handbook.*

The *Annual Report* gives each year a short review of the administrative and educational activities of the institution. It is particularly pertinent to all who are interested in the welfare and progress of the Museum as well as to those who for practical purposes are concerned with museum organization.

The *Bulletin* is the organ whereby the scientific staff publish the results of the field and laboratory work for the year. It consists of twenty to twenty-five articles issued more or less regularly throughout the year and at the conclusion bound into a volume. During 1919 Volume XLI was published, which contains three articles on Mammalogy, one on Ichthyology, nine on Invertebrate Zoölogy, three on Vertebrate Palæontology, two on Herpetology, one on Ornithology and one on Invertebrate Palæontology. Also two volumes relating to the Belgian Congo were published: Volume XXXIX, containing a monograph by Bequaert on "A Revision of the Vespidæ of the Belgian Congo Based on the Collection of The American Museum Congo Expedition, with a List of Ethiopian Diplopterous Wasps," and a monograph by Schmidt on "Contributions to the Herpetology of the Belgian Congo Based on the Collection of The American Museum Congo Expedition, 1909-1915"; and volume XL which is devoted entirely to Pilsbry's paper on "A Review of the Land Mollusks of the Belgian Congo Based on the Collection of The American Museum Congo Expedition, 1909-1915." The collection of papers on the Belgian Congo has steadily increased. *A List of Reports on the Results of The American Museum Congo Expedition* published this year contains a short description of fifteen such papers. These reports, two volumes, bound in red morocco, with illuminated frontispiece, were presented to the King of Belgium on his recent visit to the institution.

The total pages for the year are 1601, with 523 text figures, 92 plates and 23 maps.

The *Anthropological Papers,* as their name implies, deal entirely with the work of the Department of Anthropology. These papers are now in their twenty-ninth volume. The nine parts which appeared during 1919 include articles on various phases of the history of the Crow, Aztec, White Mountain Apache, Eskimo and Philippine tribes, and make a total of 713 pages, 125 text figures and 3 maps.

Natural History, which is the name adopted for *The American Museum Journal* beginning with 1919, has exceeded all previous volumes in the number and variety of articles and excellence of illustrations. This periodical has taken a prominent position in popularity and importance among semi-scientific publications.

The *Handbook* on the "Peoples of the Philippines," by Dr. A. L. Kroeber, has just appeared. It gives a most interesting account of the ethnology and culture of the people of these islands. Three *Guide Leaflets,* one by Mr. Whitlock on "The Collection of Minerals," one by Dr. Wissler on "Indian Beadwork," one a reprint of the "Peruvian Art," and a reprint of the *General Guide* have also been published.

GENERAL SUMMARY

In looking forward to the coming fifty years and in surveying the general condition of education in this country, it becomes doubly clear that *now is the time* for united effort on the part of all the citizens of this country to overcome the crisis brought about by the high cost of living. From the universities at the top to the primary schools at the bottom, the prestige and influence of the teaching profession are rapidly declining, because the teaching class is not being drawn from the most intelligent members of the community. Just at the moment when the United States needs the greatest intelligence and inspiration in its teachers to meet new social and economic problems, which can be solved only through intelligence, we find the ranks of the teaching profession being

deserted all over the United States and the vacancies often filled by men and women ill-fitted by nature and training for the most important function of our Government. Education as "the most important subject which we as a people can be engaged in" was the opening thought of Abraham Lincoln's first public speech.

In The American Museum of Natural History this crisis must be met first by the erection of a building adequate to give our exhibitions their full educational value, second, through the encouragement and training of a rising generation of teachers and pupils in all the branches which fall within our special province. To accomplish this result throughout the country and within the Museum, it is absolutely essential to double the appropriations hitherto made for education. We have doubled expenditures in every other activity of life; we must prepare to double expenditures for education.

Respectfully submitted,

HENRY FAIRFIELD OSBORN,
President.

FINANCES, MAINTENANCE, ENDOWMENT

There have been no important changes in the methods of conducting or recording the finances of the Museum during 1919. The present system, devised by the Bursar, Mr. Frederick H. Smyth, is working satisfactorily and makes it possible to present a financial report which is easily comprehended. All of the Treasurer's books are kept at the Museum, under the immediate direction of Mr. Smyth. The total expenditures for the year amount to $647,382.95. For the most part these disbursements are made in small sums and the mere recording of them involves a large amount of clerical work.

For the sake of clearness it has been found advisable to treat the financial transactions of the Museum in five major accounts, namely,

Endowment and Investment Account
City Maintenance Account
General Account
Morris K. Jesup Fund Account
Special Funds Account

and four minor accounts, namely,

Crocker Land Expedition Fund Account
Corporate Stock Account
Incidental Account
Museum Building Fund Account.

The details of the receipts and disbursements of each account will be found under the respective headings in the Treasurer's Report, pages 119 to 137.

Endowment and Investment Account

The transactions pertaining to the *capital* of the Permanent Endowment, whether general or special, are recorded in this account. The principal additions to the capital of the General Endowment during the year were the bequest of Dr. James Douglas, amounting to $100,000, and membership fees, amounting to $9,500. A special Endowment for the Department of Anthropology, amounting to $10,000, was received from the estate of Margaret L. Baugh as payment in full of her bequest. With this new capital, the Finance Committee has purchased Liberty Bonds to the amount of $114,350. The total Endowment on December 31, 1919, consisted of securities of $8,111,325 and uninvested cash of $6,661.07.

City Maintenance Account

The City's appropriation and the disbursements therefrom are recorded in the City Maintenance Account. These are the operating expenses for the care and upkeep of the building and the maintenance of the exhibits for the public, as distinguished from expenses of research, exploration and scientific administration. It does not show the entire maintenance and operating expenses, because the City's appropriation was inadequate. In 1919, the City provided $200,000 for maintenance. The actual operating expenses, however, amounted to $300,886.79. The deficiency of $100,886.79 the Trustees met by personal contributions or from general unrestricted funds, which were disbursed through the General Account.

Trustees' General Account

The receipts of the General Account are the only unrestricted funds which the Trustees may apply to general purposes. It is from these funds that the deficiency in running expenses has been met. The principal items of income for the year are as follows:

Income from the General Endowment	$56,948.82
Membership Fees (Sustaining, Annual and Associate)	37,665.00
Sales and Exchanges	8,256.94
Personal Contributions of Trustees	29,350.00

The present invested value of the splendid bequests of Mr. and Mrs. Jesup is $6,672,323.07. The income on this fund amounted to $275,571.67, which was increased by sale of publications and exchanges to $280,934.04. Under the terms of the bequest this revenue can be applied to the scientific administration, i. e., to exploration, the enrichment of the collections, researches and the publication of the results of these investigations. The details of the disbursements of this fund as given on page 127 show that every scientific department has shared in this fund and that this means the general development of the entire Museum.

Morris K. Jesup Fund Account

It frequently happens that a patron or group of patrons of the institution desire to encourage and support some particular research or exploration and wish their contribution applied solely to such purpose. In such instance these moneys are not merged with other funds of the Museum, but are handled as independent funds in the Special Funds Account. Disbursements are made from such funds only for the purpose specified by the donor. These special funds are very important in fostering scientific research because as a rule the particular work promoted could not otherwise be taken up. The net receipts available in this account during 1919 amounted to $26,710.80.

Special Funds Account

The minor accounts (pages 134 to 137) are the Crocker Land Expedition Fund Account, the Corporate Stock Account, the Incidental Account and the Museum Building Fund Account. The sums involved in these transactions are relatively small.

Minor Accounts

A full account of the receipts and disbursements of the Pension Fund, of which the Treasurer of the Museum is *ex-officio* Treasurer, is published as a part of the Report of the Pension Board, and will be found in the Appendix to this Report.

Pension Fund Account

Respectfully submitted,

H. P. Davison,

Treasurer.

SUMMARY OF CLASSIFICATION
THE AMERICAN MUSEUM OF NATURAL HISTORY

	Jesup Fund		General Account		City Maintenance Account	
	Salaries	Other Items	Salaries	Other Items	Salaries	Other Items
Scientific	$199,927.57	$79,360.17	$26,497.39	$20,796.10	$23,531.38	
Administration			27,932.95	31,662.45	123,919.61	$5,742.29
Heating and Lighting			667.22	8,917.00	16,738.28	6,451.50
Repairs and Construction of Heating and Lighting				1,479.65	2,331.24	1,172.27
Repairs and Construction			3,378.00	2,904.37	18,052.11	2,061.32
General Expenses		1,875.00	20,181.00	5,377.11		
	$199,927.57	$81,235.17	$78,656.56	$71,136.68	$184,572.62	$15,427.38
Totals by Account	$281,162.74		$149,793.24		$200,000.00	

OF DISBURSEMENTS OF
FOR THE YEAR ENDING DECEMBER 31, 1919

Special Funds Account		Crocker Land Expedition Fund Account		Corporate Stock Account	Grand Totals		Totals 1919	Totals 1918
Salaries	Other Items	Salaries	Other Items	Salaries	Salaries	Other Items		
$3,083.31	$4,787.90		$650.00		$253,039.65	$105,594.17	$358,633.82	$333,371.21
					151,852.56	37,404.74	189,257.30	187,707.81
					17,405.50	15,368.50	32,774.00	33,610.35
					2,331.24	2,651.92	4,983.16	8,151.72
				$7,905.76	29,335.87	4,965.69	34,301.56	50,790.99
					20,181.00	7,252.11	27,433.11	35,313.58
$3,083.31	$4,787.90		$650.00	$7,905.76	$474,145.82	$173,237.13	$647,382.95	$648,945.66
$7,871.21		$650.00		$7,905.76				

FRED H. SMYTH, *Bursar.*

February 2, 1920

Financial Statement
1919

PERMANENT ENDOWMENT

Morris K. Jesup Fund:			
Bonds	$6,488,998 07		
Stocks (Bequest Value)	183,325 00		
		$6,672,323 07	
General Endowment Fund*		1,375,117 83	
Special Endowment Funds:			
Matilda W. Bruce Fund		11,000 00	
Jonathan Thorne Memorial Fund		26,884 10	
Margaret Olivia Sage Fund		11,000 00	
Anson W. Hard Library Fund		5,000 00	
Physical Anthropology Fund		10,000 00	
			$8,111,325 00
Uninvested Cash:			
General Endowment Fund		6,303 32	
Physical Anthropology Fund		357 75	
			6,661 07
			$8,117,986 07

MUSEUM BUILDING FUND ACCOUNT

Bonds	$110,250 00	
Cash	2,478 82	
		$112,728 82

*Principal contributors to the General Endowment Fund:

Hugh Auchincloss	$10,223 56	Morris K. Jesup	$225,000 00
Samuel D. Babcock	5,000 00	Frank W. Kitching	10,043 00
Anna B. Bliss	5,000 00	Charles Landon	5,000 00
Emil C. Bondy	10,000 00	Solomon Loeb	5,000 00
George S. Bowdoin	5,000 00	D. O. Mills	125,000 00
James M. Constable	25,000 00	J. Pierpont Morgan	325,000 00
Benjamin P. Davis	22,799 25	Oswald Ottendorfer	30,000 00
Wm. E. Dodge	5,000 00	Percy R. Pyne	45,000 00
Wm. E. Dodge	10,000 00	Wm. Rockefeller	10,000 00
James Douglas	100,000 00	Wm. R. Sands	10,000 00
Mrs. Martha T. Fiske	10,000 00	Wm. C. Schermerhorn	5,000 00
Frederika Gade	5,000 00	Mrs. Mary Stuart	50,000 00
H. O. Havemeyer	25,000 00	Charles E. Tilford	25,070 37
Miss S. M. Hitchcock	5,000 00	Mrs. Emily N. Trevor	30,098 90
C. P. Huntington	5,000 00	Cornelius Vanderbilt	25,000 00
Henry Iden	10,000 00	Wm. H. Vanderbilt	50,000 00
D. Willis James	5,000 00	Henry Villard	5,000 00

The income of the Permanent Endowment is the chief source of income of the General Account and of the Morris K. Jesup Fund Account.

ENDOWMENT AND INVESTMENT ACCOUNT

RECEIPTS

1919

GENERAL ENDOWMENT FUND:		
Balance	$1,074 62	
Bequest of James Douglas	100,000 00	
Patrons	1,000 00	
Fellows	500 00	
Life Members	8,000 00	
		$110,574 62
MARGARET OLIVIA SAGE FUND:		
Balance		2 89
PHYSICAL ANTHROPOLOGY FUND:		
Bequest of Margaret L. Baugh		10,000 00
INTEREST ON CREDIT BALANCES:		
Earnings to December 31, 1919		180 40
		$120,757 91

Examined and Approved { FELIX M. WARBURG, THOMAS DEWITT CUYLER, WILLIAM AVERELL HARRIMAN, } *Auditing Committee*

ENDOWMENT AND INVESTMENT ACCOUNT

DISBURSEMENTS

1919

GENERAL ENDOWMENT FUND:	
Purchase of Bonds	$104,271 30
MARGARET OLIVIA SAGE FUND:	
Transferred to Margaret Olivia Sage Fund, Special Funds Account	2 89
PHYSICAL ANTHROPOLOGY FUND:	
Purchase of Bonds	9,642 25
INTEREST ON CREDIT BALANCES:	
Transferred to Interest on Credit Balances, General Account	180 40
CASH ON HAND DECEMBER 31, 1919	6,661 07
	$120,757 91

H. P. DAVISON, *Treasurer*

E. & O. E.

NEW YORK, *December 31, 1919*

CITY MAINTENANCE ACCOUNT

RECEIPTS

1919

Capital Fund:		
Cash on hand January 1, 1919		$15,000 00
Department of Parks:		
Appropriation for 1919:		
Salaries and Expenses	$200,000 00	
Total net receipts for the maintenance of all departments		**200,000 00**
Interest on Credit Balances:		
Earnings to December 31, 1919		292 61
Loans		22,000 00
		$237,292 61

Examined and Approved { FELIX M. WARBURG, THOMAS DEWITT CUYLER, WILLIAM AVERELL HARRIMAN, } *Auditing Committee*

*CITY MAINTENANCE ACCOUNT**

DISBURSEMENTS

1919

Geology and Invertebrate Palæontology....	$1,136 72	
Mineralogy	1,059 89	
Mammalogy and Ornithology.....	3,521 34	
Vertebrate Palæontology	1,773 07	
Anthropology	2,146 21	
Ichthyology	800 02	
Herpetology	61 11	
Invertebrate Zoology	4,090 55	
Public Health	30 00	
Library	6,674 31	
Public Education	4,509 98	
Division of Printing.....	2,737 91	
Heating and Lighting.....	29,378 89	
Repairs and Installation	25,824 70	
General Supplies and Expenses.....	5,093 98	
Administration	111,161 32	
Total net disbursements for the maintenance of all departments		**$200,000 00**
Interest on Credit Balances:		
Transferred to Interest on Credit Balances, General Account		292 61
Loans		22,000 00
Capital Fund:		
Cash on hand December 31, 1919.....		15,000 00
		$237,292 61

H. P. DAVISON, *Treasurer*

E. & O. E.

NEW YORK, *December 31, 1919*

*The annual appropriation of the City can be used only for the maintenance of the Museum and is inadequate for this purpose. It cannot be used for the purchase of specimens or for the expenses of exploring and collecting expeditions. The deficiency in maintenance for 1919, amounting to $100,886.79, has been met from the Trustees' General Account.

GENERAL ACCOUNT

RECEIPTS
1919

Trustees' Unrestricted Funds:			
Income from General Endowment		$56,948 82	
Interest on Credit Balances		914 95	
Annual Members		32,580 00	
Sustaining Members		2,725 00	
Associate Members		2,360 00	
Sales and Exchanges		1,932 69	
Sale of Publications		5,022 78	
Subscriptions to *Natural History*		1,301 47	
Contributions of Trustees for General Purposes:			
George F. Baker $2,500 00	Walter B. James $ 250 00		
Frederick F. Brewster 1,100 00	Charles Lanier 500 00		
R. Fulton Cutting 500 00	Ogden Mills 2,500 00		
Thomas DeWitt Cuyler 500 00	J. P. Morgan 2,500 00		
H. P. Davison 2,500 00	Henry Fairfield Osborn 500 00		
Cleveland H. Dodge 2,500 00	Percy R. Pyne 1,000 00		
Adrian Iselin 1,000 00	John B. Trevor 500 00		
Arthur Curtiss James 2,500 00	Felix M. Warburg 2,500 00		
		*23,350 00	
Contributions for General Purposes:			
George B. Hopkins	500 00		
G. Frederick Schwarz	5 00		
		505 00	
Interest on Bequest of Helen C. Juilliard		2,050 00	
Total net receipts for the development of all departments			**$129,690 71**
Loans:			
City Maintenance Account		$22,000 00	
Morris K. Jesup Fund Account		32,500 00	
Bursar's Account		20,000 00	
Crocker Land Expedition Fund Account:			
Loans Receivable		15,600 00	
			90,100 00
Proceeds of Notes held by United States Trust Company of New York			150,000 00
			$369,790 71

Examined and Approved { FELIX M. WARBURG, THOMAS DEWITT CUYLER, WILLIAM AVERELL HARRIMAN, } *Auditing Committee*

*Contributions of Trustees for General Purposes in 1919, amounting to $6,000.00, were received and recorded in the 1918 Financial Statement. Therefore the total contributions of Trustees for general purposes for 1919 were $29,350.00.

*GENERAL ACCOUNT**

DISBURSEMENTS

1919

Geology and Invertebrate Palæontology	$2,693 70	
Mineralogy	718 84	
Mammalogy and Ornithology	2,591 77	
Vertebrate Palæontology	2,822 16	
Anthropology	2,837 96	
Ichthyology	1,393 26	
Herpetology	122 06	
Invertebrate Zoology	3,071 55	
Anatomy and Physiology	7 80	
Public Health	991 74	
Library	111 65	
Public Education	7,146 65	
Preparation and Exhibition	1,449 10	
Publications	22,188 79	
Division of Printing	7,022 83	
Heating and Lighting	9,720 70	
Repairs and Installation	8,511 57	
General Supplies and Expenses	31,015 97	
Administration	27,532 23	
Pension Fund	11,569 08	
Military Service Salaries	4,714 35	
Interest on Bank Loans	1,559 48	
Total net disbursements for the development of all departments		**$149,793 24**
Deficit of 1918 Account		359 55
Loans:		
City Maintenance Account	$22,000 00	
Morris K. Jesup Fund Account	32,500 00	
Bursar's Account	20,000 00	
Crocker Land Expedition Fund Account	15,600 00	
		90,100 00
Cash on hand December 31, 1919:		
Proceeds of Notes held by United States Trust Company of New York to meet overdrafts		†129,537 92
		$369,790 71

H. P. DAVISON, Treasurer

E. & O. E.
NEW YORK, *December 31, 1919*

*The Trustees' Unrestricted Funds are applied to the general purposes of the Museum, including the deficiency in maintenance.

† The Treasurer's books show a balance on hand December 31, 1919, of $129,537 92

The liabilities against this balance are as follows:

Reserve to meet five notes held by the United States Trust Company of New York	$150,000 00	
Orders and contracts outstanding	3,750 00	153,750 00
Net deficit December 31, 1919		$24,212 08

MORRIS K. JESUP FUND ACCOUNT

RECEIPTS

1919

Trustees' Restricted Funds:		
Cash on hand January 1, 1919		$36,191 69
Income from Morris K. Jesup Fund	$275,571 67	
Sale of Publications	1,642 10	
Sales and Exchanges	2,847 03	
Interest on Credit Balances	873 24	
		280,934 04
Total net receipts for the development of all departments		**$317,125 73**
Loans:		
General Account		32,500 00
		$349,625 73

Examined and Approved { FELIX M. WARBURG, THOMAS DEWITT CUYLER, WILLIAM AVERELL HARRIMAN, } *Auditing Committee*

*MORRIS K. JESUP FUND ACCOUNT**

DISBURSEMENTS

1919

Geology and Invertebrate Palæontology....	$17,069 76	
Mineralogy	4,199 22	
Mammalogy and Ornithology.....	38,153 78	
Vertebrate Palæontology	43,831 84	
Vertebrate Palæontology Research and Publication Fund	3,657 49	
President Osborn's Science Fund.....	4,000 00	
Anthropology	38,749 14	
Ichthyology	5,016 08	
Dr. Dean's Research and Publication Fund	1,200 00	
Herpetology	10,777 54	
Invertebrate Zoology	16,297 37	
Anatomy and Physiology	4,074 21	
Public Health	3,795 41	
Woods and Forestry.....	4,246 73	
Library	17,214 55	
Public Education	6,697 94	
Preparation and Exhibition.....	36,756 96	
Publications	17,033 61	
Division of Printing.....	5,903 19	
General Supplies and Expenses.....	612 92	
Interest on Bank Loans.....	1,875 00	
Total net disbursements for the development of all departments		**$281,162 74**
Loans:		
General Account		32,500 00
Cash on hand December 31, 1919.....		†35,962 99
		$349,625 73

H. P. DAVISON, *Treasurer*

E. & O. E.

NEW YORK, *December 31, 1919*

*Disbursements of this account are made as the Board of Trustees may direct, for the purchase of specimens, for the expenses of field parties, and for the support of scientific work.

†The Treasurer's books show a balance on hand December 31, 1919, of $35,962.99, of which $24,792.70 has been carried forward to 1920 to meet pledges and obligations contracted in 1919. Therefore, the net cash balance as of December 31, 1919, is $11,170.29.

SPECIAL FUNDS ACCOUNT

RECEIPTS

1919

GEOLOGY AND INVERTEBRATE PALÆONTOLOGY:			
Angelo Heilprin Exploring Fund:			
Balance	$500 00		
Mr. and Mrs. Paul J. Sachs	500 00		
		$1,000 00	
Geological Fund:			
Balance		1,000 00	
			$2,000 00
MINERALOGY:			
Matilda W. Bruce Fund:			
Balance		$152 61	
Interest		660 00	
			812 61
MAMMALOGY AND ORNITHOLOGY:			
Crandall Oölogical Fund:			
Balance		$1,160 00	
Whale Model Fund:			
Balance		1,000 00	
South American Exploration Fund:			
Balance		283 05	
Peruvian Bird Fund:			
Balance		45 34	
Asiatic Zoölogical Expedition Fund:			
Mr. and Mrs. Charles L. Bernheimer		200 00	
Margaret Olivia Sage Fund:			
Balance	$1,087 24		
Interest	427 88		
Endowment and Investment Account: Transfer of uninvested cash	2 89		
		1,518 01	
			4,206 40
VERTEBRATE PALÆONTOLOGY:			
Pleistocene Faunal Life Scenes Fund:			
Balance		$1,000 00	
Horse Preparation Fund:			
W. B. Dickerman		1,500 00	
Cope Biography Fund:			
Mrs. Julia Cope Collins		50 00	
			2,550 00
ANTHROPOLOGY:			
East Asiatic Fund:			
Balance		$1,788 49	
Anthropology of the Southwest Fund:			
Balance		5,000 00	
New Zealand Group Fund:			
Balance		43 71	
			6,832 20
Carried forward			$16,401.21

SPECIAL FUNDS ACCOUNT

DISBURSEMENTS

1919

GEOLOGY AND INVERTEBRATE PALÆONTOLOGY:			
Geological Fund:			
Expenses of Field Work			$150 00
MINERALOGY:			
Matilda W. Bruce Fund:			
Purchase of Minerals			451 00
MAMMALOGY AND ORNITHOLOGY:			
South American Exploration Fund:			
Expenses of Field Work		$218 50	
Peruvian Bird Fund:			
Special Services on South American Birds		45 34	
Asiatic Zoölogical Expedition Fund:			
Transferred to Mammalogy and Ornithology, Morris K. Jesup Fund Account, for expenses of field assistant in China		200 00	
			463 84
VERTEBRATE PALÆONTOLOGY:			
Pleistocene Faunal Life Scenes Fund:			
For Murals in the Hall of the Age of Man		$1,000 00	
Horse Preparation Fund:			
Preparation of skeleton of horse, "Lee Axworthy"	$117 00		
Transferred to Vertebrate Palæontology, Morris K. Jesup Fund Account, for advances made for preparation of skeleton of horse "Lee Axworthy"	383 00	500 00	$1,500 00
ANTHROPOLOGY:			
Anthropology of the Southwest Fund:			
Expenses of Field Work			1,077 99
Carried forward			$3,642.83

SPECIAL FUNDS ACCOUNT

RECEIPTS

1919

Brought forward			$16,401.21
ICHTHYOLOGY:			
Dodge Ichthyology Fund:			
Balance		$714 17	
Fish Bibliography Fund:			
Balance	$1,339 27		
Bashford Dean	1,200 97		
		2,540 24	
			3,254 41
INVERTEBRATE ZOOLOGY:			
Southwest Entomological Field Fund:			
Pearce Bailey		$250 00	
Jamaica Entomological Fund:			
B. Preston Clark		600 00	
			850 00
LIBRARY:			
Anson W. Hard Library Fund:			
Interest			207 25
PUBLIC EDUCATION FUND:			
Jonathan Thorne Memorial Fund:			
Balance	$338 59		
Interest	1,084 20		
		$1,422 79	
Public Education Fund:			
Balance	$145 00		
Charles A. Munn	25 00		
		170 00	
Docent Service Fund:			
Balance		100 00	
Children's Room Fund:			
Balance		115 69	
School Fund:			
Balance	$34 49		
Department of Education, City of New York	908 31		
		942 80	
			2,751 28
Carried forward			$23,464.15

SPECIAL FUNDS ACCOUNT

DISBURSEMENTS

1919

Brought forward		$3,642.83
ICHTHYOLOGY:		
Fish Bibliography Fund:		
Special Services		1,035 10
INVERTEBRATE ZOOLOGY:		
Southwest Entomological Field Fund:		
Expenses of Field Work	$250 00	
Jamaica Entomological Fund:		
Expenses of Field Work	600 00	
		850 00
LIBRARY:		
Anson W. Hard Library Fund:		
Purchase of Books		207 25
PUBLIC EDUCATION:		
Jonathan Thorne Memorial Fund:		
Services of instructors, transportation of the blind and expenses of special lectures	$1,085 91	
Docent Service Fund:		
Special Services	100 00	
School Fund:		
Loaning Slides to Public Schools	942 80	
		2,128 71
Carried forward		$7,863.89

SPECIAL FUNDS ACCOUNT

RECEIPTS

1919

Brought forward					$23,464.15
PREPARATION AND EXHIBITION:					
Sea Elephant Preparation Fund:					
Balance					1,000 00
PUBLICATIONS:					
Jesup North Pacific Expedition Publication Fund:					
Balance				1,121 65	
Museum Journal Fund:					
David Aaron	$75 00	Johnson Cowdin & Co.	100 00		
A. Beller & Co.	100 00	H. R. Mallinson & Co.	100 00		
Albert Blum	100 00	Marshall Field & Co.	100 00		
Sidney Blumenthal & Co.	100 00	J. Wise & Co.	50 00		
Bonwit, Teller & Co.	100 00	Women's Wear	100 00		
Cheney Bros.	100 00				
B. C. Faulkner	100 00				
				1,125 00	
					2,246 65
Total net receipts for the development of specific departments					**$26,710 80**
INTEREST ON CREDIT BALANCES:					
Earnings to December 31, 1919					419 70
					$27,130 50

Examined and Approved { FELIX M. WARBURG, THOMAS DEWITT CUYLER, WILLIAM AVERELL HARRIMAN, } *Auditing Committee*

SPECIAL FUNDS ACCOUNT

DISBURSEMENTS

1919

Brought forward	$7,863.89
PUBLICATIONS:	
Museum Journal Fund:	
Special Illustrations for *Natural History*	7 32
Total net disbursements for the development of specific departments	**$7,871 21**
INTEREST ON CREDIT BALANCES:	
Transferred to Interest on Credit Balances, General Account	419 70
CASH ON HAND DECEMBER 31, 1919	18,839 59
	$27,130 50

H. P. DAVISON, *Treasurer*

E. & O. E.
NEW YORK, *December 31, 1919*

CROCKER LAND EXPEDITION FUND ACCOUNT

RECEIPTS

1919

SALE OF MATERIALS, SUPPLIES AND EQUIPMENT	$52 29
LOANS:	
General Account	15,600 00
INTEREST ON CREDIT BALANCES:	
Earnings to December 31, 1919	3 90
	$15,656 19

Examined and Approved { FELIX M. WARBURG, THOMAS DEWITT CUYLER, WILLIAM AVERELL HARRIMAN, } *Auditing Committee*

CORPORATE STOCK ACCOUNT

RECEIPTS

1919

DEPARTMENT OF PARKS	$7,905 76	
INTEREST ON CREDIT BALANCES:		
Earnings to December 31, 1919	2 11	
		$7,907 87

Examined and Approved { FELIX M. WARBURG, THOMAS DEWITT CUYLER, WILLIAM AVERELL HARRIMAN, } *Auditing Committee*

CROCKER LAND EXPEDITION FUND ACCOUNT

DISBURSEMENTS

1919

Deficit of 1918 Account		$15,000 00
Salaries	$650 00	
INTEREST ON CREDIT BALANCES:		
Transferred to Interest on Credit Balances, General Account	3 90	
		653 90
CASH ON HAND DECEMBER 31, 1919		2 29
		$15,656 19

H. P. DAVISON, *Treasurer*

E. & O. E.

NEW YORK, *December 31, 1919*

CORPORATE STOCK ACCOUNT

DISBURSEMENTS

1919

PAYROLLS OF MECHANICS, ETC.	$7,905 76	
INTEREST ON CREDIT BALANCES:		
Transferred to Interest on Credit Balances, General Account	2 11	
		$7,907 87

H. P. DAVISON, *Treasurer*

E. & O. E.

NEW YORK, *December 31, 1919*

INCIDENTAL ACCOUNT

RECEIPTS

1919

CASH ON HAND January 1, 1919		$573 39
RECEIPTS FROM INDIVIDUALS AND SOCIETIES	$3,035 60	
INTEREST ON CREDIT BALANCES: Earnings to December 31, 1919	16 23	
		3,051 83
		$3,625 22

Examined and Approved { FELIX M. WARBURG, THOMAS DEWITT CUYLER, WILLIAM AVERELL HARRIMAN, } *Auditing Committee*

MUSEUM BUILDING FUND ACCOUNT

RECEIPTS

1919

CASH ON HAND January 1, 1919	$824 46
INCOME FROM INVESTMENT FUND	4,528 36
INTEREST ON CREDIT BALANCES: Earnings to December 31, 1919	26 00
	$5,378 82

Examined and Approved { FELIX M. WARBURG, THOMAS DEWITT CUYLER, WILLIAM AVERELL HARRIMAN, } *Auditing Committee*

INCIDENTAL ACCOUNT

DISBURSEMENTS

1919

DISBURSEMENTS FOR INDIVIDUALS AND SOCIETIES	$2,651 31	
INTEREST ON CREDIT BALANCES:		
Transferred to Interest on Credit Balances, General Account	16 23	
		$2,667 54
CASH ON HAND DECEMBER 31, 1919		957 68
		$3,625 22

H. P. DAVISON, *Treasurer*

E. & O. E.
NEW YORK, *December 31, 1919*

MUSEUM BUILDING FUND ACCOUNT

DISBURSEMENTS

1919

INVESTMENT FUND:	
Purchase of Bonds	$2,900 00
CASH ON HAND DECEMBER 31, 1919	2,478 82
	$5,378 82

H. P. DAVISON, *Treasurer*

E. & O. E.
NEW YORK, *December 31, 1919*

MEMBERSHIP

The growth of our membership roll reflects the confidence that the public at large has in the quality of the service rendered by the institution to the world. In spite of the abnormal financial conditions of the year, a greater number of new Members has been enrolled than in any preceding year. In all, 904 new names appear on our records and the total membership now exceeds 5,000. This means that there are more than 5,000 friends who are actively interested in the development of the Museum and the extension of its educational work, and the influence of these Members in interesting others is one of the Museum's greatest assets.

Members receive current copies of the magazine *Natural History,* tickets to the various courses of lectures and the privileges of the Members' Room. The name of *The American Museum Journal* has been changed to *Natural History,* partly to avoid confusion with other publications known as "Museum Journals" and partly because the magazine for two years had not been restricted to a consideration of the American Museum's work and interests, but aimed to be a medium of expression between authoritative science in America and the people, a place for publication of readable articles on the results of the scientific research and thought of the nation for people who are not technically trained.

Owing to conditions in the printing trade and the difficulties of securing suitable material, there has been an extraordinary delay in the regular issuing of the magazine during the latter part of the year. To relieve the congestion, it was decided to issue one large number of the magazine which would be the equivalent of the October, November and December numbers and would close the 1919 volume. Unfortunately, however, delays prevented the issuing of this number before the close of the year. Owing mainly to the increased cost of produc-

tion and the intention to maintain the same character of the magazine, it has been decided to publish it as a bimonthly, beginning in 1920.

Lectures to Members

The Spring Course of Lectures to Members included: "African Big Game," by Carl E. Akeley; "The Forests and the Wild Life of New York State," by George D. Pratt; "Australia," by Herbert E. Gregory; "A Naturalist's Rambles in Florida," by G. Clyde Fisher.

The Autumn Course was as follows: "The Canadian Alps," by B. M. DeCou; "Our Animal Allies in the Great War," by Ernest Harold Baynes; "Chile and Her Resources," by Frank M. Chapman; "The Friendly Arctic," by V. Stefansson.

Lectures to Children of Members

The Spring Course of Lectures to the Children of Members included: "Wigwam Stories," by Alanson Skinner; "Animal Work and Play," by Raymond L. Ditmars; "The Story of the Winds," by George H. Sherwood; "African Jungle Trails," by Carl E. Akeley.

The Autumn course was as follows: "Seaside Stories," by Roy W. Miner; "Nature's Ways of Scattering Seeds," by G. Clyde Fisher; "Animals of the Ice and Snow," by George H. Sherwood; "The Songs of Birds," by Charles Crawford Gorst.

Special Lectures

The American Museum of Natural History in coöperation with the other agencies of the City working with and for the Blind offered a lecture to the blind and their friends, by Sir Arthur Pearson, the blind Founder and Director of St. Dunstan's Hostel for Blinded Soldiers, London, England, given in the Auditorium of the Museum on February 5.

On Roosevelt Day, October 27, in coöperation with the National Association of Audubon Societies at its Annual Meeting, addresses were given in the Auditorium by President Osborn, Carl E. Akeley, Frank M. Chapman, George K. Cherrie, T. Gilbert Pearson, and Ernest Thompson Seton.

On November 12, a Reception to Members on the occasion of the opening of the Exhibition of Industrial Art in Textiles

and Costumes was held at the Museum, and addresses were made by President Osborn, President John H. Finley, Mr. M. D. C. Crawford, and Dr. James P. Haney.

Status of Membership

The number of new Members enrolled during 1919 was 904, of which 86 were Life Members. The loss through death and resignation was 263. There was a net gain of 641, and on December 31, 1919, the total membership was 5,209, divided into classes as follows:

Founders	0	Fellows	48
Benefactors	5	Honorary Fellows	10
Associate Founders	10	Life Members	862
Associate Benefactors	20	Sustaining Members	106
Patrons	111	Annual Members	3,218

Associate Members (non-resident) 819

NEW MEMBERS

The following was elected an Associate Benefactor:

GEORGE F. BAKER

The following were elected Patrons:

W. B. DICKERMAN
WILLIAM AVERELL HARRIMAN
MRS. DAVID J. KELLEY
MRS. HENRY FAIRFIELD OSBORN

The following were elected Fellows:

S. N. BOND
FREDERICK POTTER

The following was elected an Honorary Fellow:

HERBERT L. BRIDGMAN

The following were elected Life Members through contribution of One Hundred Dollars:

JOHN EDWARD ALDRED
A. M. ANDERSON
CHARLOTTE L. ANDREWS
JOHN ASPINWALL
JOSEPH G. BALDWIN, JR.
FREDERIC BARNARD
MRS. H. ROSWELL BATES
EDMUND G. BUCKNER
DR. FELIPE GARCIA CAÑIZARES
C. L. CARPENTER
WALTER S. CASE
E. D. CHURCH
FRANCIS B. CROWNINSHIELD
J. S. CULLINAN
CHARLES B. CURTIS

Heyward Cutting
Edgar B. Davis
Lieut. Frederick Trubee Davison
Harry Vallette Day
Mrs. Carlos deHeredia
D. George Dery
Clarence Dillon
Dano Dunn
Irénée du Pont
William du Pont
W. Cameron Forbes
Eugene G. Foster
Austen G. Fox
Noel Bleecker Fox
Walter D. Gelshenen
Henry S. Hall, Jr.
Augustus Hemenway
Walter Hinchman
Alfred O. Hoyt
Reynold Janney
Elias M. Johnson
Felix E. Kahn
Sidney A. Kirkman
Bella C. Landauer
Fairfax S. Landstreet
Isobel H. Lenman
Theo. N. Vail Marsters
Hunter S. Marston
Wm. Maxwell
Mrs. Harold F. McCormick
Dunlevy Milbank
Francis L. Mitchell
John M. Morehead
Mrs. Jay C. Morse
E. Virgil Neal
Frank G. Ormsby
C. P. Perin
Carl H. Pforzheimer
Howard Phipps
Herbert L. Pratt
Daniel G. Reid
Mrs. J. D. Rockefeller, Jr.
F. L. Rodewald
H. E. Sargent
R. E. Seamans
Walter Seligman
Mrs. Gardiner Sherman
Stuart C. Squier
Stevenson Taylor
Mrs. Thaw
Julien Stevens Ulman
Inglis M. Uppercu
Theo. N. Vail
C. Blaine Warner
Paul Watkins
Thomas L. Watson
Francis Beach White
William Whitman
Miss Theodora Wilbour
Blair S. Williams
Emil Winter
George Wood
Huston Wyeth
Geo. A. Zabriskie
Samuel Zemurray

The following were made Life Members through Honorary Election:

Dr. Pearce Bailey
Dr. E. W. Gudger
Horace F. Hutchinson
Richard B. Kelly
Miss E. M. Kittredge
Col. S. Herbert Wolfe

The following have become Sustaining Members:

John V. Bacot, Jr.
Francis D. Bartow
Miss Anita Bliss
Miss S. D. Bliss
R. J. Caldwell
Edward H. Clark
Wallace de Witt
J. S. Douglas

Mrs. Carl Ferenbach
William B. Goodwin
Laurence H. Hendricks
Elon Huntington Hooker
Mrs. J. F. D. Lanier
Geo. W. Mann
G. B. McCann
A. McEwen
Mrs. James McLean
Edward Milligan
M. L. Morgenthau
Clarence M. Roof
E. C. Smith
Casimir I. Stralem

DECEASED TRUSTEES AND MEMBERS

Trustees

Henry C. Frick
A. D. Juilliard

Associate Founder

A. D. Juilliard

Associate Benefactors

Henry C. Frick
A. D. Juilliard

Patrons

Andrew Carnegie
A. D. Juilliard
Henry C. Frick
Theodore Roosevelt
F. Augustus Schermerhorn

Fellows

Robert Gordon
F. Augustus Schermerhorn

Honorary Fellow

Theodore Roosevelt

Life Members

Geo. Bleistein
Frederick G. Bourne
Mrs. Samuel W. Bridgham
Joseph Bushnell
Richard M. Colgate
Daniel B. Fearing
Harry S. Harkness
Phoebe A. Hearst
A. Jacobi, M.D.
F. Augustus Schermerhorn
Chas. M. Schott, Jr.
Geo. R. Sheldon
Miss Frances E. Sprague
H. M. Tilford
W. A. Wadsworth
William R. Warren
F. W. Woolworth

A complete list of Members is appended.

Respectfully submitted,

Adrian Iselin,
Secretary.

LIST OF TRUSTEES AND TERMS OF SERVICE

1869-1919

The Mayor of the City of New York.....1908-
The President of the Department of Parks.....1908-
The Comptroller of the City of New York.....1908-
Auchincloss, Hugh 1876-1890
Baker, George F. 1914-
Bickmore, Albert S. 1885-1914
Bishop, H. R. 1882-1891
Blatchford, Richard M. 1869-1872
Blodgett, William T. 1869-1875
Bowdoin, George S. 1903-1913
Brewster, Frederick F. 1913-
Choate, Joseph H. 1869-1917
Colgate, Robert 1869-1885
Constable, James M.....1872-1900
Cutting, R. Fulton 1914-1919
Cuyler, Cornelius C. 1904-1909
Cuyler, Thomas DeWitt 1910-
Dana, Chas. A. 1869-1872
Davison, Henry P. 1916-
Dodge, A. G. Phelps 1869-1872
Dodge, Cleveland H. 1904-
Dodge, W. E., Jr. 1872-1903
Douglas, James 1909-1918
Douglas, Walter 1919-
Drexel, Joseph W. 1872-1888
Elliot, Daniel Giraud 1915-1915
Field, Benjamin H. 1869-1893
Frick, Henry C. 1914-1919
Gerry, Elbridge T. 1894-1902
Grant, Madison 1911-
Green, Andrew H. 1869-1903
Grinnell, Moses H. 1869-1872
Haines, William A. 1869-1880
Hard, Anson W. 1894-1917
Harriman, Oliver 1878-1895
Harriman, William Averell 1918-
Havemeyer, H. O. 1898-1907
Havemeyer, Theodore A. 1891-1897

Haven, George G. 1892-1895, 1895-1908
Hewitt, Abram S. 1874-1903
Huntington, Archer M. 1909-1912, 1914-
Hyde, Frederick E. 1899-1909
Hyde, James H. 1903-1907
Iselin, Adrian 1869-1905
Iselin, Adrian 1905-
James, Arthur Curtiss 1903-
James, D. Willis 1889-1903
James, Walter B. 1911-
Jesup, Morris K. 1869-1908
Juilliard, A. D. 1898-1919
Kissel, Gustav E. 1894-1911
Landon, Charles G. 1882-1893
Lanier, Charles 1874-
Low, Seth 1905-1916
Mills, D. O. 1882-1910
Mills, Ogden 1910-
Morgan, J. Pierpont 1869-1913
Morgan, J. P. 1908-
Morton, Levi P. 1889-1890
Osborn, Henry Fairfield 1901-
Ottendorfer, Oswald 1886-1900
Parish, Henry 1869-1872
Potter, Howard 1869-1880
Pyne, Percy R. 1872-1895
Pyne, Percy R. 1900-
Robb, J. Hampden 1886-1911
Rockefeller, William 1895-1913
Rogers, Archibald 1891-1910
Roosevelt, Theodore 1869-1878
Roosevelt, Theodore 1886-1891
Roosevelt, Theodore 1919-
Sherman, Benjamin B. 1869-1874
Stebbins, Henry G. 1869-1874
Stevens, Frederic W. 1873-1882
Steward, D. Jackson 1869-1898
Stuart, Robert L. 1869-1882
Trevor, John B. 1872-1888
Trevor, John B. 1908-
Vanderbilt, Cornelius 1878-1899
Warburg, Felix M. 1910-
Wickersham, George W. 1910-1917
Whitney, William C. 1891-1904
Wolfe, John David 1869-1872

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Murry Guggenheim
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C. Ritchie Simpkins
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Mrs. William Douglas Sloane
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Aspell, John, M.D.
Ast, Abraham W.
Asten, Mrs. Thomas B.
Atkins, G. W. E.
Atwater,
Mrs. William C.
Auchincloss, C. C.
Auchincloss, Mrs. C. C.
Auchincloss, Mrs. E. S.
Auchincloss, Hugh
Auchincloss, John W.
Auerbach, Joseph S.
Auerbach, Mrs. Jos. S.
Auerbach, S. H.
Auger, C. L.
Austen, Mrs. Vallé
Avery, Edward S.
Avinoff, Andrew N.
Aycrigg, B. Arthur
Ayer, James C., M.D.

Babbott, Frank L.
Babcock,
Mrs. F. Huntington
Babcock, Woodward
Bacon, Daniel
Bacon, Geo. W.
Bacon,
Marshal Chandler
Bacon, Mrs. Martha W.
Baer, Mrs. Rose O.
Baerwald, Paul
Baird, Charles
Baisley,
Mrs. Chas. Townsend
Baker, Alfred L.
Baker, Charles Chaney
Baker, George R.
Baker,
Mrs. James McF.
Baker, Stephen
Baker, W. E.
Baldwin, Frederick H.
Baldwin, Geo. J.
Baldwin,
George V. N., Jr.
Baldwin, Henry
de Forest
Balinky, A.
Ball, Alwyn, Jr.
Ball, T. Arthur
Ballard, Charles W.
Ballard, Edward L.
Ballin, Gustav N.
Ballin, Mrs. Jacques
Bambach, Chris
Bandler, Harry S.
Bangs, F. S.
Bannard, Otto T.
Barber, Herbert
Barber, Thomas H.
Barclay,
Mrs. James Lent
Barker, Louis H.
Barlow, Mrs. Francis C.
Barnard, Miss E. J.
Barnes,
Miss Anne Hampton
Barnes, A. Victor
Barnes, C. D.
Barnes, E. W.
Barnes, Henry B.
Barnes, J. Sanford

Barnes,
Miss Katherine M.
Barnes, T. Howard
Barney, Ashbel H.
Barney,
Edgar S., Sc. D.
Barnum, William M.
Barr, James I.
Barr, Robert I.
Barringer, D. M.
Barrows, Ira
Barry, Charles D.
Barry, Llewellyn
Barstow, Frederic D.
Bartlett, Miss Mary F.
Bartlett, Philip G.
Bartol, Henry G.
Barton,
Mrs. C. Vanderbilt
Barton, Edward R.
Barton, Mrs. F. O.
Bastedo, W. A., M.D.
Bates, James H. S.
Bateson,
Mrs. E. Farrar
Battin, Mrs. A.
Battle, Geo. Gordon
Bauchle,
Thomas Henry, Jr.
Bauer, Mrs. Louis
Baumann, C. Ludwig
Baumgart, Isidor
Baumgarten, Paul
Baumgarten, Paul J.
Bausher, C. L.
Bava, Felice
Baxter, M., Jr.
Bayard, Louis P.
Baylies, Edmund L.
Bayne, Mrs. Howard
Bayne,
Mrs. Lawrence P.
Beach, Edwin
Beach, Wm. N.
Beadleston, Edith
Beal, Mrs. Robert C.
Beall, Jeremiah
Beatty, A. Chester
Beatty, W. Gedney
Bechstein, A. C.
Beck, Martin
Beckhard, Martin
Beckman, H. C.
Beckwith, Edward P.
Beckwith,
Sidney Forbes
Beekman, Charles K.
Beer, Mrs. J.
Behr, Herman
Behre,
Mrs. A. Frederick
Behrend, Otto F.
Beinecke, B.
Beller, A.
Bend, Mrs. G. H.
Bender, George
Bendheim, Adolph D.
Bendix, Joseph H.
Benedict, A. C.
Benedict, Miss Clara J.
Benedict, E. C.
Benedict, H. H.
Benedict, James H.
Benedict, Lemuel C.
Benjamin, E.
Benjamin,
George Powell
Benjamin, Wm. M.
Benkard, J. Philip
Bent, Arthur Cleveland
Benziger, Miss Lulu
Berggren, E. R. T.
Bernheim, Mrs. Eli H.
Bernheim, Geo. B.
Bernheim, Henry J.
Bernheim, Isaac J.
Bernheim, Mrs. J. C.
Bernheimer, Miss Rosie
Bernstein, Theodore
Berolzheimer, Emil
Berolzheimer, Philip
Bertron, S. R.
Berwind, Edward J.
Berwind, Mrs. E. J.
Bettens, Edward D.
Bickerton, Joseph P., Jr.
Biddle, Mrs. Nicholas
Biddle, William C.
Bier, Mrs. Sylvan
Bigelow, Dr. Wm. S.
Biggs,
Hermann M., M.D.
Bijur, Abraham
Bijur, Nathan I.
Bill, Nathan D.
Billings, C. K. G.
Billington, Cecil
Billquist, C. Edward
Bing, Alexander M.
Binger, Robert E.
Binswanger, Max
Bishop, H. R.
Bishop, Wm. F.
Black, George P.
Black, Mrs. Robert C.
Blackall, Frederick S.
Blagden, Dexter
Blagden, Mrs. F. M.
Blagden, Mrs. George
Blagden,
Mrs. Samuel P.
Blair, C. Ledyard
Blair, Mrs. C. Ledyard
Blair, J. P.
Blashfield, Edwin H.
Bleecker, Mrs. Theo. B.
Bleyer, Alfred
Bliss, Gen.
Tasker H., U.S.A.
Blitzer, Moses D.
Block, Henry
Blodgett,
Mrs. William T.
Blodgett,
William T., 3d
Blood,
George Whitefield
Bloodgood, Robert F.
Bloomingdale,
Hiram C.
Bloomingdale, Irving I.

Bluen, Mrs. M. J.
Blum, Albert
Blum, Mrs. H. L.
Blumenthal, Gustav
Blumenthal, Hugo
Blumenthal, Sidney
Blumgart, Louis
Boardman, Miss R. C.
Bodanzky, Arthur
Boettger, Theodore
Bogert, Miss Anna
Bogue, Morton G.
Bolton,
Reginald Pelham
Bond, Miss Annie W.
Bond, Mrs. Wm. E.
Bondy, Richard C.
Bondy, Wm.
Bonner, G. T.
Bonnett, Charles P.
Bonties, H. P.
Booth, Enos S.
Borden, Howard S.
Borg, Sidney C.
Borg, Mrs. Sidney C.
Born, Edward
Borne, Mrs. John E.
Bourne, Mrs. George G.
Bouvier, M. C.
Bowditch, Charles P.
Bowdoin, George T.
Bowen,
Mrs. Clarence W.
Bowers, Henry S.
Bowman, John McE.
Braden, Welcome W.
Bradley,
Daniel Richards
Bradley, Mary T.
Bradley, Wm. H.
Brady,
Cyrus Townsend
Brainard, Frank
Braman, Chester A.
Brawner, A. H.
Brayton,
Mrs. Hezekiah A.
Breckinridge,
Mrs. John C.
Breder, Charles M., Jr.
Breitenbach, M. J.
Brengle, Lawrence J.
Brennan, Edmund M.
Brewer, Horatio J.
Briesen, Arthur v.
Briggs, James Ellis
Brightman, F. C. M.
Brill, Dr. A. A.
Brill, Henry S.
Bristol, John I. D.
Bristow, William B.
Brite, Mrs. James
Britton, Dr. N. L.
Brokaw, Clifford V.
Bronson, Dr. E. B.
Brookfield,
Henry Morgan
Brookman, Mrs. H. D.
Brooks, Dr. Harlow
Brooks, J. Arthur
Broughton,
Mrs. Urban H.
Broun, LeRoy, M.D.
Brower, Wm. L.
Brown, Charles F.
Brown, Charles Hilton
Brown, Charles S., Jr.
Brown, Edwin H.
Brown, Ernest Clive
Brown, Franklin Q.
Brown,
Mrs. Franklin Q.
Brown, J. Alexander
Brown, John D.
Brown, Lathrop
Brown, Dr. Lawrason
Brown, Thatcher M.
Brown, Vernon C.
Brown, Walter
Brown, Wm. Adams
Browne, Dr. Charles
Brownell, Mrs. S. B.
Browning, J. A.
Browning, Mrs. J. Hull
Bruggerhof, F. W.
Bruns, Edwin G.
Brunswick, Mrs. E.
Bryant, Dr. Alice G.
Bryce, William
Bryson, T. B.
Buch, Miss Emily
Buckley, B. Lord
Buckner, M. N.
Buckner, Thos. A.
Buechner, C. Fred
Bulkley, Edwin M.
Bulkley, Mrs. Edwin M.
Bulkley, Erastus W.
Bulkley, Jonathan
Bulkley, Mrs. Jonathan
Bulkley, Joseph E.
Bulkley,
L. Duncan, M.D.
Bunker, William
Burchard,
Mrs. Anson W.
Burden, James A.
Burden, Mrs. W. A. M.
Burghard,
Mrs. Edward M.
Burgi, Oscar
Burhorn, Edwin
Burke, Mrs. J. K.
Burleigh,
Mrs. George W.
Burleigh, George Wm.
Burnett, E. R.
Burns, William J.
Burr, Algernon T.
Burr, Geo. H.
Burr, Winthrop
Burr, Wm. H.
Burroughs, Chas. W.
Bush, D. Fairfax
Bushnell, Charles E.
Busk, Fred T.
Butler, Charles S.
Butler, Dr. E. Santley
Butler,
Maj. Ethan Flagg
Butler, Miss Helen C.

Butler, Maxwell Evarts
Butler, Miss Virginia
Butler, Wm. Allen
Butler, Mrs. Wm. Allen
Button, Mrs. W. H.
Byrne, James
Byrne, Mrs. James

Cæsar, H. A.
Cæsar, Harry I.
Cahn, Mrs. Leopold
Cahn, Mrs. S.
Caldwell, Edward T.
Calmà, Dr. Pablo. F.
Calman, Henry L.
Cammann, Henry L.
Cammann, H. H.
Cammann, Miss I. M.
Camp, Edward B.
Campbell, Dr. C. G.
Campbell, J. W. C.
Campbell, Mrs. M. T.
Candee,
Howard Sumner
Canfield, Frederick A.
Canfield, George F.
Cannon, Henry B.
Cannon, H. W.
Cannon, Mrs. S. T.
Capen, Mrs. Frances I.
Carden, George A.
Carden, Richard A.
Cardozo, Ernest A.
Carlebach, Emil
Carlisle, G. Lister, Jr.
Carlisle, Mrs. G.
Lister, Jr.
Carlson, Frank
Carlton, Newcomb
Carnegie,
Mrs. George L.
Carns, Arthur L.
Carpenter, Wm.
Carpenter, Chas. W.
Carr, Herbert J.
Carse, John B.
Carter, Ernest T.
Carter, Robert A.
Carty, John J.
Case, Charles L.
Case, J. Herbert
Case, Theodore W.
Caspary, A. H.
Cass, Charles Anderson
Cassard, Wm. J.
Castle, Chas. C.
Cauty, Frank H.
Chaim, Morris L., M.D.
Chaires, Miss Anna E.
Chamberlaine,
Mrs. C. F.
Chambers, Frank R.
Chambers, Geo. J.
Chambers, Hilary R.
Champ, William S.
Champollion, André C.
(In Memoriam)
Chandler, George W.
Chandler, Percy M.
Chandor,
Miss Valentine L.
Channon, Harry
Chapin, C. H. B.
Chapin,
Miss Maria Bowen
Chapman, Clarence E.
Chapman, John Jay
Chapman,
Mrs. John Jay
Charles, Lillian M.
Chase, George
Chatillon, George E.
Chaves, José E.
Chenevert, C. T.
Cheney, Geo. L.
Cheney, Mrs. K. D., Jr.
Cheney, Louis R.
Cheney, O. H.
Chew, Beverly
Child, Miss Ruth
Auchincloss
Childs, S. W.
Childs,
Mrs. Starling W.
Childs, Wm., Jr.
Chilton, H. P.
Chisholm, George E.
Chisholm, Hugh J.
Chisholm, Mrs. Hugh J.
Chisolm, B. Ogden
Chisolm,
Mrs. B. Ogden
Choate,
Mrs. Caroline S.
Choate, Mabel
Choate, Wm. G.
Christie, R. E.
Chubb, Percy
Chubb, S. H.
Church, Charles B.
Church, C. T.
Church, Louis P.
Cillis, Hubert
Claflin, George E.
Claflin, John
Clancy, John Evarts
Clapp, A. P.
Clapp, Frederick G.
Clapp, George H.
Clark, Ambrose R.
Clark, A. Wayne
Clark, Bernard S.
Clark, Charles Martin
Clark, Mrs. Charles M.
Clark, Clarence M.
Clark, D. Crawford
Clark, Edward S.
Clark, Miss E. Mabel
Clark, Frederick H.
Clark, Henry A.
Clark, John M.
Clark,
Mrs. John Peyton
Clark, J. William
Clark, Louis C.
Clark, Myron H.
Clark, Thos. F.
Clark, W. A.
Clark, W. H.
Clark, William
Clarke, E. A. S.

Clarke, John S.
Clarke, Thomas B.
Clarke, Thomas Shields
Clarkson, Miss Annie
Clarkson, Ashton C.
Clausen, George U.
Clayburgh, Albert
Clemens, Dr. James B.
Clerici, John
Cleveland, Clement, M.D.
Clinch, Edward S.
Close, Walter H.
Clowes, Frederick V.
Clowry, Robert C.
Coakley, Cornelius G., M.D.
Coates, Mrs. O. B.
Cobb, Frank I.
Cochran, G. D.
Coddington, Mrs. Clarence Morgan
Coffin, Miss Alice S.
Coffin, C. A.
Coffin, Edmund
Coffin, Francis A.
Coffin, I. Sherwood
Coffin, Mrs. Sturgis
Coffin, William S.
Coggeshall, Edwin W.
Cogswell, W. B.
Cohen, Benno
Cohen, DeWitt Clinton
Cohen, Julius Henry
Cohen, Dr. Martin
Cohen, Max
Cohen, William W.
Cohen, Wm. N.
Cohn, Martin L.
Coker, James Lide
Cole, Frederic A.
Cole, Rufus
Cole, Mrs. Rufus
Colebrook, Charles B.
Colgate, Mrs. A. W.
Colgate, Gilbert
Colgate, Mrs. Gilbert
Colgate, Henry A.
Colgate, James C.
Colgate, Lathrop
Colgate, Russell
Collier, Mrs. R. J.
Collins, C. L.
Colon, George Edward
Colt, Harris D.
Colt, Richard C.
Comly, Garrard
Conboy, Martin
Condit, Wm. L.
Cone, Mrs. Ceasar
Cone, Frederick H.
Conger, George P.
Conheim, Hermann
Conklin, Roland R.
Connell, Herbert Stanley
Conner, C. H.
Connett, E. V., Jr.
Connett, Mrs. Lyndon
Constable, Mrs. William
Content, Walter
Cook, Mrs. Alfred A.
Cook, Mrs. Chas. T.
Cook, Robert H.
Cooley, Mrs. Elmer E.
Coolidge, Mrs. F. S.
Cooper, Mrs. Charles W.
Cooper, F. G.
Cooper, Henry E.
Corbin, Austin
Cordley, Frank R.
Corlies, Howard
Cornell, Miss Emily L.
Corning, Christopher R.
Corning, Mrs. John J.
Corscaden, Dr. James A.
Corson, H. C.
Costello, Alfred
Coster, Mrs. C. H.
Cottrell, J. C.
Coutant, Dr. R. B.
Covell, Henry H.
Cowdin, Winthrop
Cowl, Clarkson
Cowl, Mrs. Clarkson
Cowles, Dr. Edward S.
Crabbe, Miss Louise G.
Crain, Miss Christobelle
Crandall, E. H.
Crane, Charles R.
Crane, H. M.
Crane, Mrs. Jonathan H.
Cravath, Mrs. Paul D.
Crawford, R. L.
Crawford, Wm.
Crile, George W., M.D.
Crimmins, Mrs. Thomas
Crocker, William H.
Crocker, W. T.
Crockett, Mrs. Stuart
Cromwell, James W.
Cromwell, Lincoln
Cromwell, Seymour L.
Cronin, Richard
Crosby, Maunsell S.
Cross, Eleänore
Cross, George D.
Cross, Miss M. R.
Cross, Mrs. R. J.
Cross, W. R.
Crowley, Timothy F.
Cullman, Jos. F.
Curie, Chas.
Curiel, H.
Curtis, F. Kingsbury
Curtis, G. Warrington
Curtis, Ronald Eliot
Curtis, W. J.
Curtis, Wm. Edmond
Curtiss, Roy
Cushing, Howard G., Jr.
Cushman, Burritt A.
Cutcheon, F. W. M.
Cutler, J. Warren
Cutter, Ralph L.

Cypra, Anton

Daily, George M.
Dakin,
Mrs. Henry Drysdale
Dallett, Frederic A.
Dalziel, Mrs. F.
Dana, Charles L., M.D.
Dana, Paul
Danforth,
Mrs. George H.
Daniel, Annie S., M.D.
Daniels, Lorenzo
Danziger, Virginia
Darlington,
Clinton Pelham
Dashew, Jacob
Davenport, Mrs. Ira
Davey, Wm. Nelson
Davidge, Wm. H.
Davies, J. Clarence
Davies, Julien T.
Davis,
Rear-Admiral C. H.
Davis, Mrs. Clark
Davis, David T.
Davis, Everly M.
Davis, George S.
Davis, Gherardi
Davis, John W. A.
Davis, Leonard M.
Davis, Morgan
Davis, R. C.
Davis, Waters S.
Davis, Mrs. William C.
Davison, Miss Alice M.
Davison, Alvah
Davison, C. B.
Davison, Miss E. H.
Davison, E. Mora
Davison, George W.
Day, Joseph P.
Day, Miss Sarah J.
Dazian, Henry
Dean, Miss Florence
Dean, Geo. Hamilton

de Bary, A.
De Buys, A.
de Forest, H. W.
de Forest, Johnston
de Forest, Lockwood
de Forest, Robert W.
de Forest,
Mrs. Robert W.
Degener, John F.
Degener, John F., Jr.
De Golyer, E.
Delafield, Frederick P.
Delamar, Alice A.
Delano, Lyman
de Laugier-Villars,
Countess
De Lee, Mrs. S. T.
Delin, B.
de Long,
Mrs. George B.
Deming,
Mrs. Horace E.
Deming, L. C.
Dempsey, Geo. C.
Demuth, Leopold
Denny, Mrs. Lucy W.
Denton, Dr. Myron P.
Deppé, W. P.
De Sola, Mrs. J. C.
Despard, Walter D.
Deutsch, Alexander
Deutsch, Lee
DeVinne, T. B.
DeWolf, W. Ashley
Dey, Richard Varick
Deyo, Robert E.
Dick, Mrs. Fairman R.
Dick, J. Henry
Dickerman,
Mrs. Wm. C.
Dickey, Charles D.
Dickey,
Mrs. Charles D.
Diedel, Henry R.
Diefenthäler,
Charles E.
Dieterich, Chas. F.

Dill, Miss Mary A.
Dillon, Mrs. John M.
Dilworth, Jos. R.
Dimmick, J. Benjamin
Ditson, Charles H.
Dittenhoefer, I. M.
Dittrich, Hermann
Dix, John A.
Dix, Mrs. Morgan
Dobbyn, William A.
Dodd, Frederick G.
Dodd, Miss Gertrude
Dodds, Lida L.
Dodge, Mrs. Arthur M.
Dodge, Rev. D. Stuart
Dodge, Francis P.
Doelger, Charles P.
Doelger, Frank G.
Dolan, H. Yale
Dominick, Bayard, Jr.
Dominick, H. B.
Dommerich, L. W.
Dommerich, O. L.
Donaldson, Robert M.
Donoho, Mrs. Ruger
Donohugh,
Mrs. Agnes C. L.
Dorman, Benjamin
Dorr, John V. N.
Dorrance, Saml. R.
Doscher, Henry
Doubleday, F. N.
Doughty, Edgar M.
Douglas,
Miss Elizabeth
Douglas, Walter
Douglas, Wm. Harris
Douglass, Alfred
Douglass, Benjamin, Jr.
Douglass, Mrs. Chas.
Douglass, Mrs. G. A.
Dow, Mrs. Frederic G.
Dow, R. P.
Dowd, Joseph
Dowd, William B.
Dowd, Wyllys E., Jr.
Downer, William J.

Downes,
William A., M.D.
Downey, John I.
Dows, David
Dows, Mrs. David
Drake, Miss Mary E.
Draper, Charles D.
Draper,
Mrs. William K.
Draper, Mrs. Wm. P.
Drayton, J. Coleman
Drexel, Mrs. John R.
Drummond,
Isaac Wyman
DuBois, Arthur
DuBois, Eugene
DuBois,
Mrs. Matthew B.
DuBosque, F. L.
Dudley, P. H.
Duell,
Major Holland S.
Duer, Mrs. J. B.
Dull, Mrs. A. P. L.
Duncan, Frederick S.
Duncan, Mrs. John P.
Duncan, Stuart
Duncan, Wm. A.
Dunham, Mrs. Carroll
Dunham, H. F.
Dunlap, Mrs. R.
Dunn, Henry E.
Dunning,
Dr. William B.
du Pont, Henry F.
Durkee, Eugene W.
Durkee, Richard P. H.
Du Val, Guy
Duvall, William C.
Dwight, Maj. A. S.
Dwight, John E.
Dwight,
Jonathan, M.D.
Dwight, Mrs. M. E.
Dwight, P. D.
Dworetzky, Morris

Earle, Ellis P.
Eaton,
Mrs. Frederick H.
Eaton, Geo. Dummer
Eckart, Edmund
Ecker, F. H.
Eckstein, M. Maurice
Eddy, Geo. Simpson
Eddy, Wm. H.
Eden, John H., Jr.
Eder, James M.
Edgar,
Mrs. Herman LeRoy
Edgar, Mrs. J. Clifton
Edge, Mrs. C. N.
Edgell, Mrs. George S.
Edie, Richard, Jr.
Edmonds, John W.
Edson, Mrs. J. B.
Edwards, James M.
Egleston, Melville
Ehret, George, Jr.
Ehret, Mrs. Louis J.
Ehrich, Mrs. Wm. J.
Ehrmann, Mrs. E.
Eilers, Karl
Eilers, Miss Meta
Eilshemius, Henry G.
Eimer, A. O.
Eimer, August
Eimer, Walter R.
Einstein, I. D.
Eisman, Max
Eldridge, Lewis A.
Elkan, Benno
Elkus, Mrs. Abram I.
Ellinger, Ernest
Elliott, Howard
Ellis, S. A.
Ellsworth, John S.
Elmer, C. W.
Elms, Franklin M.
Emanuel,
John Henderson, Jr.
Embury,
Miss Emma C.
Emerson, Mrs. Wm.

Emmerich, Robert D.
Emmet, C. Temple
Emmet, Miss Lydia F.
Emmet, Robert Temple
Endicott, William
Crowninshield
Enelow, H. G.
Erb, Newman
Erbsloh, R.
Erdmann, Albert J.
Erdmann, Martin
Erdmann, William
Erdwurm, Frank, M.D.
Erlanger, Abraham
Erlanger, Milton S.
Ernst, Irving L.
Erskine, Major H. P.
Erstein, Benedict
Esberg, Henry
Estey, Mrs. A. R.
Ethical Culture School
Ettlinger, Louis
Evans, Jackson
Evans, Dr. Samuel M.
Everitt, John W.
Ewing, B. M.
Ewing, Charles
Exton, H. E.
Exton, W. G.

Fabbri, Ernesto G.
Fabricius, Dr. J. R.
Fahnestock, Harris
Fairbank, Wallace
Fairchild, Charles S.
Fairchild, Mrs. Chas. S.
Fairchild, S. W.
Falk, Mrs. G.
Falk, Kaufman George
Farber, Charles
Farish, John B.
Farnam, Thomas W.
Farnsworth, William
Farrel, Mrs. Franklin
Fatman, Morris
Fatman, S. A.

Fay, Charles J.
Fay, Dudley B.
Fearing, George R.
Feder, Mrs. Joel
Feldman, S. J.
Ferguson, Alfred L.
Ferguson, Miss Eleanor
Ferguson, Mrs. Farquhar
Ferguson, Walton
Ferguson, William C.
Feustman, L. P.
Field, Wm. B. Osgood
Field, Mrs. Wm. B. Osgood
Finch, Edward B., M.D.
Firuski, Louis L.
Fischer, Hermann, M.D.
Fischer, T. Tasso
Fish, Wm. L.
Fisher, L. G.
Fisher, Miss Ruth B.
Fisher, Samuel H.
Fisk, Pliny
Fiske, Alex. P.
Fitzpatrick, Frank J. E.
Flagler, Harry Harkness
Flagler, John H.
Flannery, Mrs. Joseph A.
Fleischer, Nathan
Fleitmann, Fred. T.
Fleitmann, H. C.
Fleming, Mrs. George W.
Fleming, Henry S.
Fleming, Matthew C.
Fleming, Stephen B.
Flesh, William J.
Fletcher, Henry
Flexner, Mrs. Simon
Flower, Mrs. Anson R.
Floyd, William
Floyd, William T.
Floyd-Jones, Edward H.
Fohr, Franz
Follett, Richard E.
Foot, Sandford D.
Foran, George J.
Ford, Franklin
Fordyce, Dr. John A.
Forni, Madame F. G. Fara
Forsch, Mrs. F.
Forsyth, Robert
Foshay, P. Maxwell
Foster, Edward W.
Foster, Frank B.
Foster, Harold A., M.D.
Foster, Macomb G.
Foster, Mortimer B.
Foster, Scott
Fowler, A. A.
Fowler, Mrs. R. L., Jr.
Fowler, Mrs. Thomas Powell
Fox, Miss Alice Bleecker
Fox, Mortimer J.
Fox, Thomas Francis
Fox, William
Frank, Edgar E.
Frank, Joseph
Frank, Joseph S.
Frank, Mrs. Laurence
Franke, Julius
Frankel, D. J.
Frankel, Herbert
Frankenberg, Henry E.
Frankenberg, Werner V.
Frankenstein, Edwin
Frankfeld, B.
Frankfield, A.
Frankfort, M.
Franklin, George S.
Fraser, Mrs. A. V.
Fraser, George C.
Fraser, Miss J. K.
Fraser, Miss S. Grace
Fredrick, Mrs. Leopold
Freedman, Leo
Frelinghuysen, Frederick
Frelinghuysen, Mrs. Frederick
Frelinghuysen, P. H. B.
French, Daniel C.
French, Mrs. Daniel C.
Frenkel, Emil
Frese, Fred
Frew, Walter E.
Friedlander, Louis
Friedlander, Victor
Friedlander, Wm. S.
Fries, Miss Emilie
Fries, Harold H.
Frissell, A. S.
Frissell, Miss Leila S.
Frothingham, Major John W.
Frothingham, Mrs. Randolph
Fuld, Felix
Fuld, Sol.
Fulle, John H.
Fuller, Mrs. Eugene
Fuller, Melville B.
Fulton, John H.
Fulton, Robert Edison

Gade, Wm. H. F.
Gaillard, Mrs. Wm. D.
Gaines, Mrs. Furman V.
Galban, Eugenio
Gale, Mrs. Thomas K.
Gallatin, Albert
Gallatin, Mrs. Albert
Gallatin, Goelet
Gallaway, Mrs. R. M.
Gambier, E. V.
Gardin, John E.
Gardiner, Mrs. Robert A.

Garrard,
Miss Margaret H.
Garrett, John W.
Garrett, Robert
Gartland, George E.
Garver, John A.
Gaston, Wm. G.
Gawtry, H. E.
Gayley, Florence
Gayley, Mrs. Gardiner
Gaylord, Irving C.
Geer, Robert C.
Geer, Walter
Gelshenen, William H.
Gerrish, Frank Scott
Gerry, Robert L.
Gertzon, Sven, D.D.S.
Gibb, Dr. W. Travis
Gibson,
Miss Florence Wier
Gidding, Jacob Meyer
Gilbert, Mrs. C.
Gilbert, Clinton
Gilbert, Miss Ellen G.
Gilbreth, Frank B.
Gilchrist, George R. E.
Gillespie, Robert McM.
Gillet, Lorenzo M.
Gillies, Edwin J.
Gilroy, Thomas F., Jr.
Gips, Walter Fuld
Gladding, J. R.
Glazier, Henry S.
Glenn, John M.
Glyn, W. E.
Goadby, W. H.
Goddard,
Mrs. Frederic N.
Goddard, Mrs. Morrill
Godfrey, Mrs. E. D.
Godley,
George McMurtrie
Goffe, Dr. J. Riddle
Goldman, Albert
Goldman, Julius
Goldman, Samuel P.
Goldsmith, Frederick
Goldsmith, Mrs. H. B.
Goldsmith, James A.
Goldsmith,
Mrs. Maurice
Goldstone, Abraham L.
Goldwasser, I. Edwin
Goldzier, Morris
Good, Dr. Robert
Goodfriend, Jacob
Goodfriend, Meyer
Goodhue, Chas. E.
Goodmann, Gustav
Goodwin, Walter L.
Gordon, Fred W.
Gordon, George B.
Götberg, Miss Anna S.
Gotshall, W. C.
Gottgetreu, Wm.
Gottheil, Leon
Gottheil, Mrs. Paul
Gotthold, Arthur F.
Gould, Charles A.
Gould, Edwin
Gould, Horace S.
Grace, Mrs. L. A.
Graham, Miss M. D.
Grasselli, C. A.
Gratz, Anderson
Graves, Henry, Jr.
Gray, Arthur R.
Gray, Henry G.
Gray,
Mrs. H. Winthrop
Graydon,
Mrs. Clendenen
Greeff, Bernhard, Jr.
Greeff, Ernest F.
Green, Fred W.
Greene, Miss
Augusta Borland
Greene, G. S., Jr.
Greenebaum, Fred H.
Greenhut, Benedict J.
Greening, Alfred C.
Greenwood,
Miss Eliza R.
Greer, Charles
Greer, Mrs. David H.
Greer, Louis M.
Greims, Mrs.
Herbert Spencer
Griffin, W. V.
Grinnell, E. Morgan
Griscom, Mrs.
Clement Acton
Griswold, Mrs. Chester
Griswold, Wm. E. S.
Gross, James S.
Gross, Moritz
Grossmann,
Mrs. Edward A.
Grosvenor, Thomas
Howard, M.D.
Gude, O. J.
Guernsey,
Henry William
Guggenheim, Simon
Guggenheim,
Mrs. Simon
Guggenheim, William
Guinness,
Mrs. Benjamin
Guinzburg, A. M.
Guinzburg, Mrs. Victor
Guiteras, Ramon
Guiterman, Percy L.
Guiterman, Rudolph
Gurnee, Mrs. Walter S.
Gushee, R. A.
Gutterson, John Harris
Guye, C. H.

Hackett, Frank S.
Hage, Daniel S.
Haggin, Mrs. Terah
Hague, Miss Marian
Hahlo, Arthur H.
Haigh, George C.
Haines, Charles D.
Hale, Dr. Henry E.
Hale, Thomas
Hall, Henry B.
Hall, Henry J. S.
Hall, Henry Walker

Hall, Mrs. John H.
Hall, William Webster
Halls, William, Jr.
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Mrs. Frederick A.
Halsey, Robert H.
Halsey, R. T. H.
Hamann, Wm. A.
Hamburger, D. Ellis
Hamburger, L.
Hamburger, Samuel B.
Hamerschlag, Royal P.
Hamersley,
Louis Gordon
Hamilton, Alexander
Hamilton, Miss E. S.
Hamilton,
Mrs. W. Pierson
Hamlen,
Dr. George Dempster
Hammerslough,
Alexander J.
Hammerslough,
Edward
Hammerslough, Samuel
Hammill, C. W.
Hammond,
Mrs. John Henry
Hammond, Ogden H.
Hanauer, Jerome J.
Hance, John A.
Hand, Joseph C.
Handy, Parker D.
Hansen, Ferdinand
Harbeck, Mrs. J. R.
Hard, De Courcy L.
Hardenbergh,
Mrs. T. E.
Hardenbergh,
Mrs. W. P.
Hardin, William B.
Harding, Eugene C.
Hardinge, Mrs. H.
Hardon,
Mrs. Henry W.
Hardtmayer, Dr. H. R.
Hardy, Charles J.
Hardy,
Dr. Sarah Belcher
Hare, J. Montgomery
Harkness, David W.
Harmon, Mrs. Clifford
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Mrs. Frank D.
Harriman, E. Roland
Harrington, Mary E.
Harris, Abraham
Harris, Alfred
Harris, Chas. C.
Harris, Geo. A.
Harris, Ida M.
Harris, Richard
Harris, Mrs. Victor
Harrison, Archibald
Harrison, L.
Harrison, Sidney
Hartley, Thos. R.
Hartshorn, Stewart
Haskell, J. Amory
Hasslacher, Jacob
Hastings, Thomas
Hatch,
Mrs. Harold Ames
Hathaway, Charles
Havemeyer, F. C.
Havemeyer, H. O.
Havemeyer, J. C.
Havemeyer, John F.
Havemeyer, T. A.
Haven, Mrs. G. G.
Haven, J. Woodward
Haviland, Paul B.
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Hawkes, Eva
Hawkes,
Mrs. McDougall
Hawley, Mrs. Henry E.
Hawley, Samuel B.
Hay, Clarence L.
Hayes, Carroll
Haynes, W. deF.
Hayward, J. B.
Hazard, Mrs. R. G.
Hazen, George H.
Heck, George C.
Heckscher, Mrs. August
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Mrs. G. Maurice
Hedges, Job E.
Heide, Henry
Heide, Henry, Jr.
Heide, Herman L.
Heide, William F.
Heilner, Julius
Heimann, Julius
Heine, J. F.
Heinsheimer, Alfred M.
Held, Max
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Heller, Samuel
Heller, William H.
Hellman, Edgar A.
Hellman, Milo, D.D.S.
Helme, Mrs. Geo. A.
Helmuth,
John Lockman
Hencken, Hancke
Henderson, John B.
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Hendricks, Harmon W.
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Henry, James
Henry, Nelson H.
Henry, Philip W.
Hernsheim, Joseph
Hernstadt, William L.
Heroy, W. W.
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J. B. Francis
Herrick, Harold
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Herrman,
Mrs. Henry S.
Herrmann, Charles E.
Herrmann, F.
Hershey, Andrew H.
Herter, Albert
Herty, Chas. H.

Herz, Fred. W.
Herzig, Mrs. Joseph
Herzog, Max
Herzog, Samuel A.
Hess, Dr. Alfred F.
Hess, Simon
Hetzler, Theo.
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Hewitt, Peter Cooper
Hewlett, Walter Jones
Heydt, Herman A.
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Heymann, Seymour E.
Hicks, John M. W.
Higbie, James S.
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Higgins, R. H.
Highet, Frank B.
Hilder, Moritz
Hill, Robert Carmer
Hills, Dr. Alfred K.
Hilyard, George D.
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Hinckley, Mrs. Samuel N.
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Hine, Lyman N.
Hine, Thomas A.
Hines, Walker D.
Hird, Samuel
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Hirsch, Mrs. H.
Hirsch, Morris J.
Hirschberg, M. H.
Hirschhorn, Fred
Hirschland, F. H.
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Hochschild, Berthold
Hochschild, Harold K.
Hodenpyl, Anton G.
Hodes, Hal
Hodges, Geo. W.
Hodson, Mrs. Halstead Pell
Hoe, Geo. E.
Hoe, Richard M.
Hoe, Mrs. Robert
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Hoffman, Charles W.
Hoffman, F. B.
Hoffman, Harry L.
Hogan, Mrs. Jefferson
Hoggson, W. J.
Holabird, William
Holbrook, Mrs. Edward
Holden, Dean Hawley
Holden, Mrs. Edwin B.
Holland, Arthur L.
Hollenback, Miss Amelia B.
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Hollister, George Clay
Hollister, Granger A.
Holt, L. Emmett, M.D.
Holt, R. S.
Holter, Mrs. E. O.
Holzmaister, L. V.
Holzman, Elkan
Homan, B. H.
Homans, Howard P.
Homer, Chas. C., Jr.
Homer, Francis T.
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Hooker, Mrs. Ransom S.
Hoole, C. H.
Hopkins, Miss Augusta D.
Hopkins, Emma B.
Hopkinson, Ernest
Hoppin, G. Beekman
Hoppin, Mrs. W. W., Jr.
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Horowitz, Dr. Philip
Horr, A. R.
Horr, L. Wm.
Hotchkiss, Henry D.
Houghton, Clement S.
House, Edward M.
House, Frederick B.
Housman, Clarence J.
Howard, Fredk. T.
Howell, M. D.
Howell, Thomas A.
Howells, Mrs. John
Howes, Mrs. Reuben
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Hoyt, Francis S.
Hoyt, Geo. S.
Hoyt, Gerald L.
Hoyt, Miss Gertrude L.
Hoyt, Miss Virginia Scott
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Hubbard, Louis B.
Huber, Mrs. J. M.
Hughes, Avah W.
Huidekoper, Edgar
Hulswit, Frank T.
Humphrey, Martha K.
Humphrey, Rev. Wm. Brewster
Humphreys, Fredric E.
Humphreys, Geo. H.
Hunt, W. Roger
Hunter, Arthur M.
Hunter, George Leland
Hunter, Stephen C.
Huntington, F. J.
Huntington, Mrs. Robt. P.
Huntington, Mrs. R. P.
Hüpfel, Adolph G.
Hüpfel Chris. G.
Hüpfel, J. Chr. G.
Hurd, Dr. Lee M.
Hurlbut, Miss Margaret C.
Hurst, Mrs. Albert Edward

Hussey, William H.
Husted, Miss M. Katharine
Husted, Seymour L., Jr.
Hutcheson, C. L.
Hutchins, A. S.
Hutchins, Mrs. R. G., Jr.
Hutchinson, Cary T.
Huyler, C. D.
Huyler, David
Huyler, Frank DeK.
Hyatt, A. M.
Hyde, A. Fillmore
Hyde, Capt. Arthur S.
Hyde, Mrs. Augustus L.
Hyde, Mrs. Clarence M.
Hyde, Courtney
Hyde, E. Francis
Hyde, Seymour Worrall
Hyde, W. Truslow
Hyman, Abraham, M.D.

Ingalls, Fay
Ingersoll, Robt. H.
Ingraham, Geo. L.
Ingraham, Mrs. George
Inman, John H.
Innes, O. G.
Innis, Wm. R.
Inslee, Edwin W.
Isaacs, Stanley M.
Iselin, C. Oliver
Iselin, Miss Georgine
Iselin, Lewis
Iselin, Mrs. William E.
Iselin, Wm. E.
Isham, William B.
Isham, Mrs. Wm. B.
Ives, Frederick D.

Jackson, Mrs. C. D.
Jackson, Francis DeMilt
Jackson, Mrs. Frederic W.
Jackson, Jas. W.
Jackson, Mrs. Percy
Jackson, Samuel
Jacobus, John S.
Jaffray, Robert
James, Ellerton
James, Henry
James, Robert C.
James, Mrs. Walter B.
Janeway, Henry H., M.D.
Jansen, Ed.
Jaretzki, Mrs. Alfred
Jarvie, James N.
Jarvis, Mrs. S. M.
Jay, Mrs. Augustus
Jeancon, J. A.
Jefferson, John Percival
Jekyll, Mrs. Arthur B.
Jenkins, A. C.
Jenkins, Alfred W.
Jenkins, Mary Bernice
Jenks, Mrs. Robert I.
Jennings, Miss A. B.
Jennings, Percy H.
Jennings, Mrs. Percy Hall
Jennings, Mrs. Philip B.
Jennings, Robt. E.
Jennings, Walter
Jephson, George S.
Jermain, Miss M. C.
Jewett, George L. (In Memoriam)
Jobe, Miss Mary L.
Johnson, Mrs. Bradish
Johnson, Guy B.
Johnson, Thos. W.
Johnson, Mrs. Wolcott H.
Johnston, J. Herbert
Johnston, Mrs. J. Herbert
Johnston, Dr. Marius E.
Jones, Mrs. Adam Leroy
Jones, A. H.
Jones, Mrs. Cadwalader
Jones, De Witt Clinton
Jones, Francis C.
Jones, Frank Morton
Jones, H. Bolton
Jordan, Richard, M.D.
Joseph, Eli
Joseph, Mrs. Hugo S.
Joseph, Mrs. John A., Jr.
Josephthal, Louis M.
Judge, Rev. Arthur H.
Judson, Mrs. Albert L.
Jungbluth, Karl

Kahle, Mrs. Julie
Kahn, Arthur J.
Kahn, Otto
Kahn, Otto H.
Kahn, Dr. Robert Johnstone
Kahn, Walter N.
Kahrs, J. Henry
Kane, Mrs. De Lancey
Karsch, Oswald J.
Kassing, Edwin S.
Kathan, Reid A.
Kaufman, Fred
Kaufmann, B.
Kaufmann, H. M.
Kaufmann, Julius
Kean, Mrs. Hamilton Fish
Keech, Mrs. Frank Browne
Keeler, Mrs. Charles Bradley
Keen, Barton L.
Keith, Henry M.
Keith, Minor C.
Keith, Mrs. Minor C.

Kelchner, William W.
Keller, Joseph F.
Keller, S.
Kellers, Fred. T.
Kelley, Augustus W.
Kellogg, L. D.
Kellogg, Mrs. Morris W.
Kemmerer, M. S.
Kemp, Mrs. Edward
Kemp, Prof. James F.
Kempner, Elias
Kennan, George
Kennedy, Dr. Harris
Kennedy, Henry W.
Kennedy, Mrs. John S.
Kennerly, M. M.
Kent, Edwin C.
Kent, G. H.
Keppel, David
Kern, William M.
Kerr, E. Coe
Kerr, John B.
Kerr, John Clapperton
Kerr, Walter
Kerrison, Dr. Philip D.
Kessel, Leo, M.D.
Keuffel, W. G.
Keyes, Dr. E. L.
Keyser, Mrs. Samuel
Kidder, Edward H.
Kieger, Emil L.
Kilborne, Mrs. R. S.
Killeen, Edward V.
Kilner, S. E.
Kimbel, Anthony
Kimbel, Henry
King, Mrs. Edward
King, Ellen
King, Herbert T.
King, Miss Isabella C.
King, James Gore
Kingsbury, N. C.
Kingsford, Daniel P.
Kingsford, Miss Margaret S.
Kingsley, W. M.
Kinney, Morris
Kinney, Warren
Kip, Mrs. Garrett B.
Kip, W. Ruloff
Kirchberger, M.
Kirkpatrick, John
Kirkpatrick, Mrs. Thomas
Kissel, Mrs. G. E.
Kissel, W. Thorn
Kitchel, Allan F.
Klaas, G. P.
Klee, Sigmund
Klein, Leo M.
Kleinberger, François
Klenke, William H.
Klingenstein, Charles
Klipstein, E. C.
Knapp, Edward J.
Knapp, Mrs. H. K.
Knapp, Joseph P.
Knight, Samuel Howell
Knoedler, Roland F.
Knowlton, Eben B.
Koch, Mrs. R. S.
Koch, Wilhelm
Koch, William T.
Koenig, Otto
Kohler, Miss M. E.
Kohlman, Chas.
Kohlman, Mrs. M. L.
Kohn, S. H.
Kohn, Mrs. Walter T.
Kohns, Lee
Kohnstamm, Emil V.
Koles, Henry M., M.D.
Konta, Alexander
Koplik, Isador
Kops, Daniel
Kops, Mrs. Max
Kosmak, Geo. W., M.D.
Kovacs, Dr. Richard
Kozminski, Mrs. Maurice W.
Kraemer, J. C., Jr.
Kremer, Mrs. William N.
Kruse, Edward H.
Kudlich, H. C.
Kugelman, Julius G.
Kuhirt, Geo. A.
Kuhn, Arthur K.
Kuhn, August
Kuhn, Edward
Kuhn, Julius
Kuhn, Mrs. Walt
Kühne, Mrs. Frederick J.
Kursheedt, Roland S.
Kuser, Mrs. Anthony R.
Kuser, John Dryden
Kuttroff, Adolf
Kuttroff, Fredk.

Lacombe, E. Henry
Ladd, W. M.
La Dow, Stanley V.
Lagai, Dr. G.
Lage, Frederico
Lagowitz, Miss H. L.
Lamarche, Mrs. Henry J.
Lambden, John F.
Lambelet, Mrs. H.
Lambert, Adrian V. S.
Lambert, Samuel W.
Lamont, T. W.
Lancashire, Mrs. J. H.
Landon, Francis G.
Landon, Henry Hutton
Lane, Edward V. Z.
Lane, James Warren
Lane, Wolcott G.
Lange, Gustav, Jr.
Langeloth, Mrs. Jacob
Langmann, Mrs. G.
Langton, John
Langzettel, Mrs. Marion B. B.
Lanier, Reginald B.
Lapham, Mrs. John J.
Lapham, Lewis H.

Lapsley, Anna Welsh
Larkin, Mrs. James S.
Larkin, Wm. B.
la Rosa, Carlos, Jr.
Lathrop, Alanson P.
Lauder, Mrs. Geo., Jr.
Lauer, Edgar J.
Lavelle, M. J.
Lawrence, Mrs. Arthur W.
Lawrence, Emlen N.
Lawrence, Miss Margaret
Lawrence, Townsend
Lawrence, W. V.
Lawton, William W.
Lea, Charles M.
Leach, Henry Goddard
Leale, Charles A., M.D.
Leary, Mrs. George
Leavitt, Mrs. Charles W.
Le Blanc, Alfred
Ledoux, Albert R.
Ledyard, Mrs. Lewis Cass
Lee, Mrs. Arthur
Lee, Charles N.
Lee, Frederic S.
Lee, Ivy L.
Lee, J. W., Jr.
Lee, Dr. Marguerite T.
Leeds, Mrs. Warner M.
Le Fevre, C. R.
Lefferts, Marshall C.
Lefferts, Wm. H.
Legg, George
Lehmaier, James M.
Lehmaier, Mrs. Louis A.
Lehman, Arthur
Lehman, Irving
Lehman, Isidore H.
Leigh, R. Walter
Leikauf, John E.
Leland, Mrs. Amory
Lemmon, Robert S.
Lemp, Louis
Leon, Henry
Leonori, Charles L.
Le Roy, Mrs. E. A.
LeRoy, Dr. Louis C.
Leslie, J. C.
Lester, A. Edward
Lester, George Bacon
Lester, Maxwell
Leupp, Wm. H.
Leventritt, David
Levi, Albert A.
Levi, Emil S.
Levi, Louis
Levine, Edmund J.
Levison, Benno
Levor, G.
Levy, Edgar A.
Levy, Ephraim B.
Levy, Louis S.
Lewis, Alphons
Lewis, Mrs. August
Lewis, Mrs. Eugene
Lewis, Mrs. Frederic E.
Lewis, Miss Hope
Lewis, Montgomery H.
Lewis, Richard V.
Lewis, Robert Parker
Lewis, Wm. J., M.D.
Lewisohn, Miss Irene
Lewisohn, Sam A.
Lewisohn, Mrs. Walter
Lexow, Mrs. Allan
Lichtenstein, Melvin
Lichtenstein, Oscar R.
Lichtenstein, Paul
Lichtenstein, Mrs. Paul
Liddle, Joseph G.
Lieb, Charles C., M.D.
Lieb, J. W.
Lieber, Dr. Hugo
Liebmann, Mrs. Charles J.
Lilienthal, Albert M.
Lilienthal, Jos. L.
Lilly, Mrs. Henry
Limburg, Herbert R.
Lindenmeyr, Fritz
Lindheim, Norvin R.
Lindsay, C. Seton
Lindsey, Edward
Lippincott, Charles S.
Lisman, Frederick J.
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Littell, Mrs. Emlen
Livermore, Mrs. John R.
Livingston, Miss A. P.
Livingston, Mrs. Charles L.
Lloyd, Francis G.
Lockwood, Dr. George Roe
Loeb, C. M.
Loeb, J.
Loeb, Mrs. Morris
Loeb, Mrs. William, Jr.
Loewenstein, Miss Virginia S.
Loewenthal, Mrs. Julius
Loewi, Hugo V.
Loewy, Benno
Long, Louis
Lord, Daniel M.
Lorenz, Mrs. Leo
Loring, D. A.
Loring, Daniel Alden, Jr.
Lorsch, Henry
Louderback, Arthur E.
Lounsbery, Judson
Lounsbery, Richard
Love, E. G.
Loveland, Major John W.
Lovett, R. S.
Low, Ethelbert I.
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Low, William Gilman, Jr.
Lowe, Houston
Lowenstein, Oscar
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Lowrey, Mrs. G. C. W.

Lowther, Christopher M.
Lowther, George
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Ludlow, Mrs. E. L.
Ludlow, Israel
Ludlow, James B.
Ludlum, C. A.
Lueder, A.
Lueders, George
Lufkin, E. C.
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Luke, David L.
Luke, John G.
Lummis, Benjamin Rush
Luquer, Lea Shippen
Lusk, Miss Anna H.
Lustbader, Samuel, Jr.
Lüttgen, Walther
Lybrand, William M.
Lyman, Henry D.
Lyman, Theodore
Lynch, Mrs. John H.
Lynch, W. J. Turner
Lyon, Ralph
Lyons, Howard J.

Maas, Gustavus
Maas, Milton A.
Mabon, J. B.
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MacFadden, Carl K.
Macfadden, Robyn
MacIver, David Randall
Mack, Arthur C.
Mack, Arthur J.
Mack, Fred. A.
Mack, M.
MacKee, Geo. M.
Mackenzie, Mrs. Hugh Ross
Mackenzie, Kenneth K.
Mackey, Oscar T.
MacManus, Edward A.
Mager, F. Robert
Main, Frank H.
Mainzer, Herbert R.
Mainzer, Robert H.
Mallet-Prevost, S.
Mallett, Percy S.
Mallory, Charles
Manchester, Percival
Manges, Dr. Morris
Mann, W. D.
Mansfield, Howard
Mantle, J. G. C.
Mapes, Eugene E.
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Marbury, Miss Elisabeth
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Marcus, Samuel
Marcuse, Alexander J.
Marcuse, Bernhard
Markle, John
Markle, Mrs. John
Markoe, Dr. J. W.
Marks, Maurice
Marshall, Robert
Marston, Edgar L.
Marston, Edwin S.
Martin, Bradley
Martin, Robert W.
Martin, Walton, M.D.
Martin, W. M.
Marvin, Langdon Parker
Marwick, James
Masbach, Robert J.
Masius, Max L.
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Mason, Mrs. Frances B.
Mason, Mrs. George Grant
Massey, Mrs. George
Massey, Miss Harriet F.
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Masters, Francis R.
Masters, Sarah W.
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Mathesius, Fredk., Jr.
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Matheson, Wm. J.
Mathews, Dr. Frank S.
Mathewson, Charles E.
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Mayer, M. R.
Mayer, Nelson B.
Mayer, R. A. de Lima
Mayer, Theresa
Mayo, Mrs. George H.
Mayor, Dr. Alfred G.
McAdoo, William
McAfee, John Knox
McAleenan, Joseph A.
McAllister, Robert Edgar
McAlpin, Dr. D. H.
McAlpin, George L.
McBride, Mrs. Herbert
McBride, Thomas J.
McBride, Wm. M.
McCagg, Louis B.
McCall, John C.
McCarthy, J. M.
McClure, Samuel G.
McCourt, James
McCrea, W. S.
McCreery, Henry Forbes
McCulloh, Charles S.
McCurdy, Robert H.
McCutcheon, Chas. W.
McDonald, Wm.
McDuffie, Marshall William
McElheny, Victor K., Jr.
McEwen, James R. R.
McGee, Wm. H.
McGinley, J. R.
McGregor, Robert
McIlhenny, E. A.
McIlvaine, Tompkins

McIntyre, John G.
McKelvey, Charles W.
McKelvey, J. J.
McKelvy, Robert
McKenna, Thos. P.
McKenney, Henry P.
McKernon, Dr. Jas. F.
McKim, Mrs. Haslett
McKim, John A.
McKim, Le Roy
McKnight, Charles
McLane, Miss Elizabeth
McLane, Miss Sophie Hoffman
McLane, Thomas S.
McLean, Miss Ethel L.
McLean, Malcolm, M.D.
McMahon, Rev. Joseph H.
McManus, Edward F.
McMillan, Francis W.
McMillan, W. N.
McNair, William
McNall, Robert H.
McNaugher, David W.
McNeir, George
McRoberts, Samuel
McWilliams, Howard
Mead, Charles N.
Mead, Herbert, Jr.
Means, Philip Ainsworth
Meeker, Henry E.
Meeks, Howard V.
Mehl, Henry
Mein, Wm. Wallace
Meinhard, Morton H.
Melcher, John S.
Mellen, Chase
Meloy, Andrew D.
Melzer, Wm.
Menke, William
Menken, S. Stanwood
Merriam, Henry F.
Merrick, Bertha V.
Merrihew, George W.
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Merrill, Mrs. Payson
Merritt, Dr. Arthur Hastings
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Metcalf, Mrs. Walter Willson
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Meyer, Harry J.
Meyer, J. Edward
Meyer, Max
Meyer, Robert B.
Mezes, S. E.
Mielke, Henry
Milbank, Albert G.
Milhau, Louis J. de
Millard, William J.
Miller, Mrs. Charles E.
Miller, Clifford L.
Miller, C. R.
Miller, Emanuel
Miller, J. Doull
Miller, Simon
Miller, William W.
Millett, Stephen C.
Mills, Dr. Adelaide
Mills, Frederic C.
Milne, Clyde
Milne, George D.
Miner, Edward G.
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Mitchell, C. E.
Mitchell, Mrs. John Murray
Mitchell, Wesley C.
Mitchell, Mrs. William
Mitchell, Wm.
Moffatt, Mrs. R. Burnham
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Molleson, George A.
Mommer, Ewald
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Monae-Lessèr, Mozart
Monroe, Robert Grier
Montague, C. D.
Montgomery, Carleton
Montgomery, Charles S.
Montross, N. E.
Moore, Major Barrington
Moore, Casimir de R.
Moore, Mrs. Casimir de R.
Moore, Frederic P.
Moore, Russell W.
Moore, Mrs. W. D.
Moore, William A.
Moorhead, Horace R.
Moos, Louis H.
Moot, Adelbert
Morgan, Miss Anne
Morgan, E. D.
Morgan, Mrs. Junius S.
Morgan, W. Forbes, Jr.
Morgan, Wm. Fellowes
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Morris, Louis M.
Morris, Mrs. L. R.
Morris, Stuyvesant F.
Morris, Theodore Wilson
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Morton, Quincy L.
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Moses, Mrs. Henry L.
Moses, Mrs. James
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Mosle, Max A.
Mosman, Philip A.
Moss, Augustus L.
Motley, Jas. M.

Mott, Henry C.
Mott, Mrs. J. L.
Mott, Mrs. John B.
Mott, Miss Marian
Mowry, Eugene C.
Muendel, Christina
Mulford, Edwin H.
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Müller, Mrs. Carl
Muller-Schall, Fred.
Mullins, W. H.
Mundy, Floyd W.
Munn, Dr. John P.
Munsey, Frank A.
Munson, C. W.
Munson, S. L.
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Murphy, G. M.-P.
Murphy, Wm. C.
Murray, F. W., M.D.
Murray, J. Archibald
Murtha, Thomas F.
Myers, L.
Myers, William S.

Nagle, James Franklin
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Nathan, Harmon H.
Naumburg, Aaron
Necarsulmer, Henry
Neeser, John G.
Neilson, Ernest A.
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Nessler, H. D.
Neuburger, David
Neugass, Isidore
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Newton, Mrs. Francis
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Nichols, John W. T.
Nicholson, John E.
Nickerson, Hoffman
Nicoll, Benjamin
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Oastler, Dr. F. R.
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Ochs, Adolph S.
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O'Connor, James C.
Offerman, John
Ogden, David B.
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Olcott, Dudley
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Olin, S. H.
Ollesheimer, Henry
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Olney, Elam Ward
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Oppenheim, Laurent
Oppenheimer, Julius
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Ottinger, Marx
Oudin, Lucien
Overton, Frank

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Pagenstecher, G.
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Palmer, Edgar
Palmer, Howard
Palmer, John
Palmer, John Stanton
Palmer, Laura A.
Palmer, N. F.
Palmer, William J.
Palmieri, F. Louis

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Pardee, Ario
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Parish, Wainwright
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Parker, A. W.
Parker, Junius
Parker, Winthrop
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Patterson, Stuart H.
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Peck, Charles H.
Peck, L. O.
Peck, Morton R., M.D.
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Perera, Lionello
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Peters, Miss Isabel M.
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Pfender, W. S.
Pforzheimer, Walter
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Phillips, Mrs. Alfred Noroton
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Piel, Gottfried
Pierrepont, Seth Low
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Pierson, D. H.
Pierson, J. Fred
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Poor, Ruel W.
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Popper, Wm. C.
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Porter, Wm. H.
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Post, Sylvester
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Potts, William B.
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Cornelius Van Vorst
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Pratt, John T.
Pratt, Samuel
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Pyle, James McAlpin
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Quintard, Dr. Edward

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M.D.
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Randolph, Evan
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Rau, Henry M.
Rauch, William
Rawle, Henry
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Raymond, Irving E.
Raynes, George W.
Raynor, Forrest
Read, Geo. R.
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Reed, Wm. E.
Rees, Mrs. R. Llewelyn
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Mrs. Jerome
Reichenbach, L.
Reichenberger,
Mrs. Victor M.
Reid, Mrs. Daniel Gray
Reid, Mrs. Ogden Mills
Reid, Wallace
Reiland, Rev. Karl
Reincke, Hans
Reis, Fred. L.
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Rennult, William
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Edward Brevoort
Reynal, Mrs. E. S.
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Reynolds, Thos. A.
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Rhoades, Miss Nina
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Rich, William L., Jr.
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Richard, Miss Elvine
Richard, Oscar L.
Richards, Charles A.
Richards, Eben
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Mrs. J. Ernest
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Mrs. C. Tiffany
Richardson, Dr. G. W.
Richardson, Sinclair
Richter, Max
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Riddle,
Mrs. Theodate Pope
Ridgway, Mrs. Robert
Riegel, Louis
Riem, Simon R.
Riesenberg Adolph
Riggs, George C.
Riglander, Mrs. M. M.
Riker, Wm. J.
Ripley, Henry B. H.
Rippenbein, Morris
Robb, Wm. J.
Robbins, Mrs. Helen C.
Robert, Samuel
Roberts, G. Theo.
Robertson, Miss J.
Robins, Kingman Nott
Robinson, Beverley R.
Robinson, Mrs. C. L. F.
Robinson, Mrs. Douglas
Robinson,
Mrs. Drew King
Robinson, Edward
Robinson, Monroe D.
Robinson,
Mrs. T. Douglas
Rockefeller,
Mrs. Wm. G.

Rockwood, Miss K. C.
Roddy, Harry Justin
Roe, Gen. Chas. F.
Roelker, Alfred
Rogers, Allen Merrill
Rogers, Edmund P.
Rogers, Edward L.
Rogers, Edwin M.
Rogers, Francis
Rogers, Mrs. Francis
Rogers, Gustavus A.
Rogers, Hubert E.
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Rogers, John S.
Rogers, Dr. Oscar H.
Rogers, Saul E.
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Rose, Mrs. Oscar
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Rosenbaum, Selig
Rosenbaum, Sol. G.
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Rossin, Alfred S.
Rossin, Morris
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Mrs. V. Sydney
Rothschild, Walter N.
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Ralph Stowell, Jr.
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Rowland, Thos.
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Runyon, Walter Clark
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Ryan, John Barry
Ryle, Miss Julia

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Sachs, Bernard, M.D.
Sachs, Harry
Sachs, Julius
Sachs, Walter E.
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St. John, Mrs. Jesse
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Salant, Aaron B.
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Sampson, Charles E.
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Sanborn, William A.
Sand, Alice Low
Sandhagen, H.
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Mrs. Charles Ward
Saril, August
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Mrs. Herbert L.
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Sauter, Fred., Jr.
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Sayles, Robert W.
Sayles, Mrs. Robert W.
Scarborough, Wm. S.
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Schaefer, Geo. G.
Schaefer, Henry
Schaefer, J. Louis
Schaefer, R. J.
Schaetzer, Carl
Schall, W.
Schanck, George E.
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Schell, Miss Mary E.
Scheuer, Arnold L.
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Schieffelin, Wm. Jay
Schiff, Gustave H.
Schiff, Lieut. Herbert,
U.S.N.R.F.
Schiffer, Jack W.
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Schmidt, William H.
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H. Ernest
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Heinrich, Jr.
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Scholle, Howard A.
Scholle, William D.
Schram, Louis B.

Schramm, W.
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Schrenkeisen, Raymond M.
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Schwarz, Dr. Herman
Schwarz, Paul
Schweitzer, Mrs. H.
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Scott, Francis M.
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Scott, William
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Scoville School
Scribner, Charles
Scrymser, Mrs. J. A.
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Scudder, Willard
Scull, Chas. O.
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Seaman, Lloyd W.
Seaman, Louis L., M.D.
Seaver, Benj. F.
See, A. B.
Seeman, Carl
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Seligman, George W.
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Semler, Geo.
Seton, Alfred
Sexton, Lawrence E.
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Shaw, Mrs. Wm. N.
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Sheffield, William Paine
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Shepard, Mrs. Finley J.
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Shillaber, Wm.
Shiman, Abraham
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Shoemaker, Henry W.
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Sicher, Dudley D.
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Sidenberg, William R.
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Simon, Leo L.
Simon, R. E.
Simon, Theo. A.
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Simpson, John Boulton
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Skinner, William
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Sloane, Wm. M.
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Slocum, Capt. Myles Standish
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Smillie, Ralph
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Sperry, Eugene E.
Sperry, Wm. M.
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Stern, Isaac
Stern, Leopold
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Stillman, J. A.
Stillman, Leland S.
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Stone, Alfred W.
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Stone, Geo. C.
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Straus, Marcus
Straus, Nathan
Straus, Percy S.
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Strauss, Charles
Strauss, Frederick
Strauss, Miss Henriette
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Strauss, Martin
Strauss, Samuel
Strauss, Mrs. William

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Loring, Lindsley
Lovejoy, F. W.
Lovett, Edgar Odell
Lowber, James W.,
Ph.D., Sc.D.
Lowrie, A. L.
Ludlow, Dr. Clara S.
Lyford, Edwin F.
Lyman, Henry F.
Lyon, Marcus W., Jr.

Macauley, Alvan
MacColl, James R.
MacCurdy,
Prof. Hansford M.
Mack, Edwin F.
Macnamara, Charles
Macrum, William
Malcolm, Mrs. Arthur
Mann, Elbert B.
Manton, W. P., M.D.
Marlatt, Charles Lester
Marlow,
Frank William
Marsh, Geo. E.
Marsh, M. C.
Marshall, Edwin J.
Marshall, John W.
Marston, Howard F.
Martin, Frank G.
Martin, Wm. Barriss
Mason, Dean
Masson, John G.
Matson, Geo. C.
Matthews, W. N.
McBride, Donald
McCallie, S. W.
McCamant, Wallace
McCaskey,
Hiram Dryer
McDonell, Agnes
McFarland, G. W.
McGregor, Tracy W.
McHatton, T. H.
McKay, Robt. J.
McLachlin, Dan.
McMath, F. C.
McNair, Edward E.
McNairy, Amos B.
Memminger, C. G.
Mercer, William R.
Mershon, Wm. B.
Metcalf,
John Brockway
Meyer, J. Henry
Michelson,
Mrs. Albert A.
Miller, Louise Klein
Miller, Paul H.
Miller, Shirley P.
Milligan, Dr. Robert
Millis, John
Mills, Enos
Mills, Frank S.
Mills, Wm. C.
Mitchell, Walter S.
Molineux,
Mrs. Elizabeth M.
Monroe, William S.
Montgomery,
Edmund B., M.D.
Moody,
Dr. Robert Orton
Mooers, C. A.
Moore, Chas. C.
Morgan, F. Corlies
Morgan, S. Rowland
Morris, F. W., Jr.
Morris, Miss Lydia T.
Morse, Warner J.
Motter,
William Calhoun
Murphy, W. D.

Murtagh, Col. John A., M. C., U. S. A.
Musgrave, M. E.
Myers, Benjamin F.

Nachtrieb, Henry F.
Nagel, Charles
Neeb, H. A.
Neely, Miss C. B.
Neill, Chas. P.
Nettleton, Charles H.
Newcomb, C. A., Jr.
Newcomb, Dr. Walter E.
Newcomb, William W.
Newman, Mrs. R. A.
Nichols, Dr. Susan P.
Northrop, Edwin C.
Norton, Arthur H.
Norton, J. Pease
Noyes, Winthrop G.
Nyeboe, M. Ib

O'Donoghue, Prof. Chas. H.
Oliver, Dr. J. C.
Oliver, Nelson E., M.D.
Olmsted, John C.
Osborn, Chase S.
Osborn, Henry Leslie
Osborn, Dr. H. W.
Osterhout, George E.
Overbeck, O. E.
Owre, Oscar, M.D.

Pabst, Mrs. Frederick
Pack, Frederick J.
Packard, C. S. W.
Page, Edward S.
Page, Hugh Nelson
Painter, Kenyon V.
Palmer, W. B.
Palmer, Wm. P.
Pardee, Geo. C.
Pardee, Lucius C., M.D.
Parfitt, Wm.
Parke, W. G.
Parker, George A.
Parker, G. H.
Parker, Mrs. Robert
Parman, D. C.
Parrish, M. L.
Partridge, H. E.
Patch, Edith M.
Paterson, Edmund T.
Patterson, J. T.
Paxon, Col. Frederic J.
Pearse, A. S.
Pease, Miss Clara A.
Pellew, Miss Marion J.
Perkins, George H.
Perry, Thomas S.
Peter, Julius C.
Peterson, William
Phelps, Mrs. John W.
Phillips, Ebenezer Sanborn
Phillips, John W.
Phillips, Miss Ruth L.
Phister, A. V.
Pierce, Mrs. A. S.
Pierce, Miss S. K.
Pirie, John T.
Platt, Mrs. Orville H.
Pool, Raymond J., Ph.D.
Pope, Laurence E.
Porter, James F.
Price, Alonzo
Purdy, F. A.

Radcliffe, Lewis
Railsback, J. B.
Rathbone, Gerald L.
Ray, F. B.
Raymond, Dr. Alfred
Raymond, H. W.
Read, L. C.
Rebmann, G. Ruhland, Jr.
Redwood, Mrs. Francis Tazewell
Reed, H. D.
Reese, Albert M.
Rehn, James A. G.
Remington, Seth P.
Reynolds, Dr. Edward
Reynolds, John P.
Rhodes, James M.
Rice, Prof. Wm. North
Ricketson, Walton
Ripley, Joseph
Roberts, G. Brinton
Roberts, Thos. S., M.D.
Robertson, Mrs. Lucy H.
Robins, William Randolph
Rochester, De Lancey, M.D.
Rogers, Joseph M.
Rogers, Wm. B.
Roloson, Walter L.
Rosendale, Simon W.
Rothermel, John G.
Rothwell, J. E.
Ruggles, Mrs. T. Edwin
Rush, Raymond C., M.D.
Russell, B. F. W.

Sage, John Hall
Sarmiento, Mrs. F. J.
Schaefer, M. Charlotte, M.D.
Schively, Adeline F., Ph.D.
Schively, Mary Alice, M.D.
Schmidt, Hubert
Schmucker, S. C.
Schuchert, Charles
Schuneman, Charles
Scott, Maj.-Gen. H. L., U.S.A.
Scott, Wm. G.
Scudder, C. W.
Sears, Frederick E.

Shannon, C. W.
Sharp, Charles Cutler
Sharpe, C. A.
Sharpe, Henry S.
Shattuck,
Frederick C., M.D.
Shedd, Solon
Sheldon, Mrs. G. W.
Shepard, Roger B.
Sheppard,
William Biddle
Shimer,
Hervey Woodburn
Shippen, Dr. Lloyd P.
Shriver,
Joseph Nicholas
Sibley,
Mrs. Rufus Adams
Simons, W. C.
Simpson, A. T.
Skinner, Dr. Henry
Slater, H. N.
Slaven, Ralph E.
Sloan, Earle
Slocum, William H.
Slonaker,
Dr. J. Rollin
Smith, Charles D., M.D.
Smith, David S. H.
Smith, Delavan
Smith, Dudley W.
Snader,
Craige McComb
Snyder, Dr. F. D.
Somers, L. H.
Sommers, Charles L.
Soule, Caroline Gray
Sperry, George B.
Sprague, A. A., 2d
Sproul, Miss Cleona C.
Stanley, Mrs. D. S.
Starr, Charles S.
Stauffer, Clinton R.
Steiner, Bernard C.
Stephan, John F.
Stephenson, B. W.
Sternberg, Charles H.
Stetson, George R.
Stevens, Henry G.
Stevens, J. P.
Stone, Miss
Elisabeth W.
Stone, Frank
Storrs, Lucius S.
Stott, Louis N.
Stow, Vanderlynn
Stowe, Franklin D. L.
Stuart, Henry Clifford
Stuart, Dr. P. E.
Studley, J. Edward
Sturges, Rush
Sturgis, S. Warren
Sundt, Mrs. Frederick
Swan, Mrs. J. Andrews
Sweet, Henry N.
Swift, Carleton B.
Synnott, Thos. W.

Tate, J. M., Jr.
Taylor, Mrs. A. P.
Taylor, Hollinshead N.
Taylor, Knox
Tetrault, P. A.
Thayer, George A.
Thayer, Mrs. W. B.
Thomas, Abram Owen
Thomas, Howard V.
Thomas, Samuel Hinds
Todd, James
Todd, Dr. Joe H.
Townsend, J. Barton
Townshend, Henry H.
Trotter, Wm. Henry
Tucker, Chas. Edward
Tunks, Rev. Walter F.

Uihlein, Edgar J.
Urmston, J. K.
Utter, Henry E., M.D.

Vaillant, G. W.
Valentine, Colonel
Henry Lee
Van Devanter, Willis
van Santvoord,
Seymour
Verbeck, Gen. Wm.
Vibert, Charles W.

Wadsworth, Samuel
Wadsworth,
Samuel F., M.D.V.
Waldron, L. R.
Walker, Sir Edmund
Walker, Elda R.
Walker, Harrington E.
Walker, Hiram H.
Walker, Miss Lydia M.
Walker, Thaddeus
Wall, Ashbel T.
Wallace, Herbert I.
Walton, W. J.
Warren, George C.
Warren, Dr. J. Collins
Watson, Thomas A.
Webb, Walter F.
Weed,
Rt. Rev. Edwin G.
Wehrle, Augustine T.
Weidner,
M. Robert, M.D.
Weiss, Albert P.
Weld, Elizabeth F.
Weller, Stuart
Wells, Edward P., 2d
Welsh, Robert F.
Wernigk, Dr. R.
West, Dr.
Frederic Beall
Wheatland, Richard
Wheeler, Charles
Wheeler, H. C.
Wheeler, Samuel H.
Wheelwright, Wm. D.
Whelan, Ralph
Whipple, B. F.
White, Dr. Charles J.
White, E. Grace
White, Dr. Joseph A.
White, Philip T.

White, Ralston
White,
Walter W., M.D.
Whitnall, Harold O.
Whitney, David C.
Whittell, George
Wilcox, Walter D.
Will, George F.
Willcox,
Prof. Mary A.
Willey, Arthur
Williams, David W.
Williams, Henry P.
Williams, Ira A.
Williamson, E. B.
Willock, J. Scott
Wilson, Charles Branch
Wilson, Herrick E.
Wilson, Dr. J. Howard
Wilson, Rev.
Robert, D.D.
Wilson, Robert, Jr.,
M.D.
Windle, Ernest
Winston, William O.
Winter, Dwight
Wood, Baldwin
Wood, Mrs. Richard L.
Woodbury, Lieut.-Col.
Frank Thomas, U.S.A.
Woods, Chas. D.
Woods, Chas. M.
Woodward,
Lemuel Fox
Woodwell, John
Wright, A. B.
Wright,
Mrs. Eva Edgar
Wright,
Miss Harriet H.
Wright, John S.
Wright, Robert C.

Yarnall, Charlton
York, George W.

Zapffe, Carl

ACCESSIONS, 1919

DEPARTMENT OF PUBLIC EDUCATION

By Gift

American Optical Co., Southbridge, Mass.
1000 Feet positive motion picture film, entitled "Through Life's Windows."

Mrs. J. Stewart Barney, New York City.
2 Dutch dolls.

Frederick Blaschke, New York City.
Rose-breasted Grosbeak in the flesh.

Bray Studios, New York City.
Strip of motion picture film representing Mr. Copulos making the Magnolia, etc., 400 feet; and a strip showing Mr. Müller making glass flowers, radiolarians, etc., and Mr. Shimotori coloring them, 400 feet.

Miss Laura B. Broomall, Far Rockaway, L. I.
1 Tennessee Warbler, 1 Magnolia Warbler, 1 Parula Warbler, 1 Flicker, 1 Junco, 1 Winter Wren, 2 White-throated Sparrows, 1 Herring Gull; all in the flesh. From Long Island.

Commission of Fine Arts, Washington, D. C.
Book of photographs of Memorials to Presidents of the United States.

Raymond L. Ditmars, New York City.
200 Feet positive motion picture film: Crocodile and Lizard.

Paul Engel, New York City.
1 Black Snake, mounted; and 7 hawks (1 Red-tailed, 1 Red-shouldered, 2 Cooper's, 2 Sharp-shinned, 1 Broad-winged).

Eberhard Faber, New York City.
A chart with samples of material attached to illustrate, showing how a lead-pencil is made and the evolution of the rubber eraser.

Messrs. Gordon and Ferguson, St. Paul, Minn.
13 Photographs of fur garments, 8 x 10.

Walter Granger, New York City.
2 Negatives, 5 x 7; Sheep and sheep-herder's wagon, Wyoming.

Walter C. Harris, New York City.
4 Photographs of Skate and Sea Anemone, 8 x 10; and 3 photographs of Japanese Fringetail Goldfish.

Miss Mary J. Hochderffer, Harbor Haven, L. I.
Barn-swallow in the flesh.

Mrs. Charles F. Holder, Pasadena, Cal.
Photograph of Professor Bickmore.

Miss E. M. Kittredge, Woodstock, Vt.
804 Negatives of local wild flowers, identified, 4 x 5; 63 Negatives of botanical subjects, 4 x 5.

Dr. F. A. Lucas, New York City.
148 Lantern slide negatives of sealing industry on Pribilof Islands, some whales, and a few on Palæontology.

E. Malmquist, Astoria, L. I.
1 Hermit-thrush in the flesh.

New York Telephone Co., New York City.
16 Photographs illustrating the use of the telephone (8 x 10).

L. J. Oswald, Brooklyn, N. Y.
1 Basket tray.

Pach Brothers, New York City.
Photograph of Theodore Roosevelt.

Mr. Rogers, New York Tribune, New York City.
3 Photographs of Prince of Wales planting trees.

Miss Mariana Townsend, Middletown, Conn.
66 Plain lantern slides of Indian subjects.

Universal Film Manufacturing Co., New York City.
200 Feet positive motion picture film: Cartoon of Dinosaurs.

Willard G. Van Name, New York City.
4 Photographs of whales.

By Purchase

109 Original negatives of western scenes.

9 Negatives: Niagara Falls, Casco Bay and Panama Canal.
2000 Feet of positive motion picture film from Second Asiatic Zoölogical Expedition negative, Chinese Mongolia.

THROUGH MUSEUM EXPEDITIONS

SECOND ASIATIC ZOÖLOGICAL EXPEDITION.
2400 Feet negative motion picture film, from Chinese Mongolia. Taken by Roy C. Andrews.

BY DEPOSIT

CARL E. AKELEY, New York City.
55 Negatives of African subjects.

DEPARTMENT OF GEOLOGY AND INVERTEBRATE PALÆONTOLOGY

BY GIFT

MEYER ABRONSON, New York City.
Water-worn pebble with concretion, Long Island.

WILLIAM MAXSON ALBERTI, New York City.
Specimen of iridescent coal, from near Elkhorn City, Ky.

FREDERIC I. ALLEN, New York City.
Block of Schoharie Grit from glacial drift, above trap-rock quarry, West Paterson, N. J.

JOSEPH ANDERSON, New York City.
Fossil leaf, Mazon Creek, Ill.

BARRETT CO., New York City.
Series of 187 specimens illustrating coal and its derived products, genetically arranged.

W. E. BURGESS, New York City.
3 Specimens of free gold in quartz gangue, 360 ft. level, Bodie Mine, Mono Co., Cal.

MRS. CHARLES FINNEY COX, Yonkers, N. Y.
Septaria, concretion, and geode showing freak resemblance to human remains.

E. J. FOYLES, New York City.
Collection of fossils and rocks (70 specimens) from Department of Doubs, France.

FRANK KNOWLES, West Englewood, N. J.
2 Water-worn pebbles.

JOSEPH F. MACGRAIL, New York City.
Fragment of carved marble (17" x 7") from Cathedral destroyed by eruption of Mt. Pelé, 1902. Marble door, carved (9¼" x 11½"), from child's tomb, St. Pierre, Martinique.

EDWARD A. MALMQUIST, Astoria, L. I.
2 Small rock specimens.

DR. GEORGE P. MERRILL, Washington, D. C.
Plaster cast of Australian meteorite.

RICHARD A. METCALF, White Plains, N. Y.
Kaolin and pyrophyllite (12 specimens), Habersham County, Ga.

DEPARTMENT OF MINERALOGY (transfer).
Specimen of Sphalerite in vein quartz. Shows concentric deposition of sphalerite and quartz, latter in "graphic granite" arrangement.

W. H. MORGAN, Sawyer, Ky.
2 Fragments (6.5 grams) of Cumberland Falls meteorite, from Cumberland Falls, Ky.

CHRIS E. OLSEN, Hornerstown, N. J.
1 Pelecypod cast, found 29 feet below surface.

H. PAPKE, West Hoboken, N. J.
Sphalerite from Jerome Avenue Railway.

OTTO PAPKE, Snake Hill, N. J.
Watchung Mountain trap, long, lath-like crystals.

M. H. SMART, New York City
Concretionary mold resembling footprint.

CARROLL RICHARD STEGALL, Rossville, Ga.
Hand specimen of conglomerate, from Belgian Congo.

DEPARTMENT OF VERTEBRATE PALÆONTOLOGY (transfer).
14 casts of Trilobites.

HERBERT P. WHITLOCK, New York City.
Hand specimens showing typical fold in hornblende gneiss.

BY EXCHANGE

DR. ARTHUR HOLLICK, New Brighton, S. I.
2 Specimens of *Phragmites aquehongensis,* from moraine at Clifton, S. I.

NEW YORK BOTANICAL GARDEN.
27 Fossil plants.

UNITED STATES NATIONAL MUSEUM, Washington, D. C.
Fragment of Cumberland Falls, Ky., aërolite, 467 grams (16.5 ounces)—one surface polished.

BY PURCHASE

Cumberland Falls aërolite, from Cumberland Falls, Ky. An entire mass weighing 2,445 grams (5 pounds 6 ounces).
"El Perdido" meteorite, from Bahia Blanca, Argentina: 4 fragments weighing 766 grams (27 ounces).
Richardton meteorite, Richardton, N. D. Entire mass weighing 8,320 grams (18 pounds 5.5 ounces).
Models of Trilobites, *Triarthrus*, *Isotelus* and *Trinucleus*, in plaster of Paris.
Iron meteorite, from Signal Mt., Mex., near Calexico, Calif. Entire, unique mass weighing 57,833 grams (127.5 pounds).
Cut and polished mass weighing 3,760 grams (8 pounds 5 ounces) of Australian iron meteorite.
85 Stromatoporoids and corals.
35 Cambrian fossil specimens.

THROUGH MUSEUM EXPEDITIONS

Type specimen of *Pecten decorus* Cooke and type and figured specimens of *Pecten* (*Nodipecten*) *articulosus* Cooke. Collected by Barnum Brown, near Guajay, Cuba.
500 Specimens of cubic lead ore, marcasite, etc., Tar River, Okla. Collected by Dr. E. O. Hovey, through coöperation of the Laclede Lead and Zinc Mining Company.
14 Volcanic specimens from eruption of June 7, 1919, San Salvador, Nicaragua. Collected by Dr. H. J. Spinden.

DEPARTMENT OF MINERALOGY

BY GIFT

FREDERICK I. ALLEN, New York City.
Specimen of Fluorite in Limestone, Hardyston, N. J.

R. M. ALLEN, New York City.
Specimen of Torbanite on Pegmatite, Bedford Hills, N. Y.

DANIEL MOREAU BARRINGER, Philadelphia, Pa.
Vial of Osmiridium, Shasta Co., Cal.

CAERANO A. BARROS, New York City.
Specimen of Quartz from Whitlock and Westchester Avenues, New York City.

H. S. BRYAN, Denver, Col.
Vial of Metahewittite, Montrose Co., Col.

HARRY E. DAY, New York City.
About 200 specimens of miscellaneous minerals.

H. A. ENGLISH, New York City.
1 Pyrargyrite, from Tonopah, Nev.
1 Rhodochrosite, from Butte, Mont.

DR. W. D. FERRIER, Ottawa, Canada.
3 specimens of Ferrierite, Kamloops Lake, B. C.

DEPARTMENT OF GEOLOGY (transfer).
33 Specimens of Galena, 5 Marcasite on Galena, and 3 Sphalerite, from Admiralty Zinc-Lead Company Mine, Century, Okla.

MISS ELIZA R. GREENWOOD, New York City.
3 Specimens of Bloodstone (cut) and 1 of Silver, from Michigan.

E. T. HERRMAN, Grand Junction, Col.
1 Specimen of Carnotite, Gateway, Col.; 1 Carnotite and 2 Metahewittite, south of Thompsons, Utah.

CHARLES W. HOADLEY, Englewood, N. J.
2 Specimens of Franklinite, Franklin Furnace, N. J.

MOSES JOY, Boston, Mass.
6 Specimens of Chromium ore, from near Anacortes, Wash.; Cody, Wyo., and Alaska.

C. MARSHALL, New York City.
1 Specimen of Muscovite, 1 Scheelite, and 1 Wolframite, from Peru.

ESTATE OF SARA E. MOWER, New York City.
1 Diamond Ring.

H. C. OGDEN, Middletown, N. Y.
1 Specimen of Sphalerite in Quartz, and 1 Vesuvianite, Wurtzboro and Orange Cos., N. Y.

H. Papke, West Hoboken, N. J.
3 Specimens of Gmelinite and 2 of Datolite, Snake Hill, N. J.

Edward Powers, Gouverneur, N. Y.
1 Specimen of Galena and 4 Pyrite, from Cole Farm, Gouverneur, N. Y., and 1 Magnetite, from Benson Mine, St. Lawrence Co., N. Y.

John A. Roebling, Bernardsville, N. J.
2 Specimens of Antimony, from Kern Co., Cal., and 1 of Smaltite with Niccolite, Ontario, Canada.

Charles Rutledge, New York City.
1 Alabandite, 1 Azurite, 1 Barite in Psilomelane, 4 Chalcopyrite, 2 Chalcocite, 1 Chrysocolla, 2 Galena, 3 Malachite, 1 Magnetite, 1 lot of Manganese ore, 10 Psilomelane, 17 Pyrolusite, 10 Pyrite in Shale, 2 Pyrite, from Cuba; 2 Serpentine, from Trinidad.

George S. Scott, New York City.
1 Specimen of Bisbeeite and Shattuckite, Bisbee, Ariz.

R. Shad, New York City.
56 Specimens of miscellaneous minerals.

By Exchange

Jerome Alexander, New York City.
5 Specimens of Mica, near Woodbridge, N. J.

Charles W. Hoadley, Englewood, N. J.
1 Calamine, 1 Copper on Franklinite, 1 Sphalerite (Cleiophane) and Aragonite, from Franklin, N. J.
1 Fluorite, Westmoreland, Vt.
1 Scheelite in Quartz, Long Hill, Conn.
1 Lepidolite and Albite, Portland, Conn.

George S. Scott, New York City.
1 Calciovolborthite, Naturita, Col.
1 Copper in Franklinite, Franklin, N. J.

By Purchase

(Bruce Fund)

1 Amethyst Scarab, Egypt.
12 Apatite crystals, Auburn, Me.
1 Apophyllite and Heulandite, Great Notch, N. J.
2 Apophyllite on Pectolite, Great Notch, N. J.
1 Aragonite, South Dakota.
1 Arsenopyrite, Germany.
1 Aurichalcite, Stockton, Utah.
1 Axinite, France.
1 Barite, England.
2 Calcite, England.
1 Calcite, West Paterson, N. J.
1 Calcite, Apophyllite and Pectolite, Great Notch, N. J.
1 Calcite and Aurichalcite, Stockton, Utah.
1 Calcite containing Copper, Michigan.
1 Carnotite, Naturita, Col.
1 Cerussite, Arizona.
1 Chalcophanite, Sterling Hill, N. J.
1 Chalcopyrite, Gilpin Co., Col.
12 Cuprotungstite, Tooele Co., Utah.
1 Fluorite, Colorado.
35 Galena and associated minerals, Picher, Okla.
1 Garnet, Franklin, N. J.
1 Kreittonite, Bavaria.
1 Magnetite, Brewster, N. Y.
1 Manganhedenbergite, Stockton, Utah.
1 Manganosite, Franklin, N. J.
1 Molybdenite, Tooele Co., Utah.
2 Octahedrite, Switzerland.
1 Olivenite, Juab Co., Utah.
3 Opals, Italy.
2 Opals, Nevada.
1 Orthoclase, Italy.
1 Pyromorphite, Germany.
5 Pyrite, Arizona.
1 Pyrite, Gilpin Co., Col.
1 Psittacinite, Good Springs, Nev.
1 Quartz, Pike's Peak, Col.
2 Rhodochrosite, Colorado.
1 Scheelite, Utah.
1 Silver, Chihuahua, Mexico.
1 Sphalerite, Joplin, Mo.
2 Tourmaline crystals, California.
2 Tourmaline, Auburn, Me.
1 Tourmaline, St. Lawrence Co., N. Y.
1 Tungstenite, Utah.
1 Willemite, Utah.
1 Wulfenite, New Mexico.
1 Zincite, Franklin, N. J.
30 Miscellaneous minerals.

By Purchase

(Jesup Fund)

5 Apophyllite, Snake Hill, N. J.
1 Azurite, Bisbee, Ariz.

1 Calcite in Chalcocite, Arizona.
1 Chalcocite, Cornwall, England.
1 Cleiophane, Franklin, N. J.
1 Clinochlore, Putnam Co., N. Y.
1 Cuprite, Bisbee, Ariz.
1 Dolomite, Hungary.
1 Enargite, Butte, Mont.
1 Enargite, Peru.
1 Garnet, New York City.
2 Gmelinite, Snake Hill, N. J.
14 Opals, Nevada.
1 Orpiment, Japan.
1 Rhodonite, Franklin, N. J.
1 Serpentine pseudomorph, Putnam Co., N. Y.
1 Serpentine, Texas, Pa.
1 Sphalerite with Calcite, Franklin, N. J.
1 Tourmaline, Maine.
1 Turquoise, New Mexico.
1 Willemite, Franklin, N. J.

DEPARTMENT OF WOODS AND FORESTRY

By Gift

Mrs. Horde, New York City.
Sugar pine cone.

Mrs. C. G. Noble, Bushhaven, N. H.
Fungus on cypress tree.

DEPARTMENT OF INVERTEBRATE ZOOLOGY

By Gift

Dr. Charles P. Alexander, Urbana, Ill.
6 Paratype and 3 named species of Japanese Tipulidæ.

G. W. J. Angell, New York City.
3884 Specimens of Coleoptera.

Nicholas Arroyo, New York City.
Box decorated with shells, from Porto Rico.

Dr. William Barnes, Decatur, Ill.
Copy of the "Check List of the Lepidoptera of Boreal America."

Ernest L. Bell, Flushing, L. I.
31 Specimens of Coleoptera and Heteroptera; material showing the workings of *Sphenophorus pertinax* in *Typha latifolia* (21 specimens); about 60 live larvæ of Lepidoptera; from Long Island.
268 Insects from Long Island and Vermont.

John Bell, Los Angeles, Cal.
Invertebrates (Insects, Gastropods and Shells), from California.

Joseph Bequaert, New York City.
2 Coleoptera, from Shelburne, Mass.
2 Specimens of *Mellinus cervensis*, from Belgium.
Type specimen of *Nephrotoma ruwenzoriana* and 1 tipulid larva, from Mt. Ruwenzori, Belgian Congo.
Holotype and allotype of *Hirmoneura bradleyi*, from Anhalt, Comel Co., Texas.

Sydney Bevin, New York City.
10 Live pupæ, from Virginia.
11 Butterflies and 1 Bee, from Cuba.

Miss Alice E. Bird, Rye, N. Y.
1 Bot-fly, from Rye, N. Y.

W. F. Breeze, San Francisco, Cal.
70 Lepidoptera, from California.

Herman Brehme, South Amboy, N. J.
2 Paratypes of *Arzama brehmi* Barnes.

Barnum Brown, New York City.
Collection of Invertebrates (Mollusks, Crustacea and Spiders), 400 specimens, from Cuba.
13 Specimens of Land Shells and 6 Spiders, from Texas.

Samuel E. Cassino, Salem, Mass.
79 Lepidoptera, from North America.

Frère R. Césaire, Habana, Cuba.
25 Lepidoptera, near Guantanamo, Cuba.

W. J. Chamberlain, Corvallis, Ore.
176 Coleoptera, from France and Oregon.

Edward A. Chapin, Washington, D. C.
Fleas: 10 slides, including 1 paratype.

Howard L. Clark, Bristol, R. I.
1 Noctuid, Bristol, R. I.

Mrs. I. Clark, New York City.
1 Specimen of Brain Coral.

Prof. T. D. A. Cockerell, Boulder, Col.
81 Hymenoptera, including 8 cotypes, and 1 lot of Scale Insects, from Boulder, Col.

L. V. Coleman, Boston, Mass.
10 Lepidoptera.

William P. Comstock, Newark, N. J.
62 Insects, chiefly Lepidoptera, from New Orleans, La.
28 Lepidoptera.

WILLIAM T. DAVIS, New Brighton, S. I., N. Y.
229 Beetles, from Arizona.
Paratypes of 15 species of Cicadidæ (19 specimens).

HARRY E. DAY, New York City.
11 Cœlenterates, 1 Echinoderm.

MISS FRANCESCA L. DEL MAR, New York City.
6 Beetles, from South America.

MISS M. C. DICKERSON, New York City.
3 Sphingid larvæ, from Ft. Lee, N. J.

DURBAN MUSEUM, through DR. E. C. CHUBB, Natal, Africa.
16 Specimens (*Itryaea gregoryi* Distant, *I. speciosa* Melich, and *I. patricia* Melich), from British East Africa.

CHARLES A. A. DURING, New York City.
1 Butterfly case containing about 1000 Insects, chiefly Lepidoptera.

FRANCIS J. DYER, San Francisco, Cal.
34 Invertebrates, Haiti and Panama.

MISS C. FATH, Acidalia, N. Y.
4 Arctiid Moths, Acidalia, N. Y.

MRS. ELLA SPARKS FREEMAN, New York City.
2 *Turbo marmoratus* Linné (shells).

MRS. ELLA SPARKS FREEMAN and MISS A. T. SPARKS, New York City.
500 Miscellaneous shells.

A. M. GAUDIN, New York City.
55 Coleoptera, from France.

H. PAUL GREENWOOD, Tampico, Mexico.
2 Specimens of *Scolopendra* sp., Mexico.

G. C. HALL, New York City.
56 Lepidoptera, chiefly from South Carolina.

THOMAS HALLINAN, Paterson, N. J.
110 Insects, from Peru and Ecuador.
175 Specimens of Parasitic Insects, from Panama and Chile.
294 Insects, chiefly Lepidoptera, from Brazil.

KATHERINE B. HARRIS, Yonkers, N. Y.
264 Beetles, Southern Pines, N. C.

DEPARTMENT OF HERPETOLOGY (transfer).
70 Specimens of Insects and Shells, South America and West Indies.
20 Specimens of Invertebrates (Crustacea, Myriapods, Slugs, Land Shells, etc.), China.
3 Specimens of Annulates, Ecuador.

MISS MARY FOLWELL HOISINGTON, Northport, Me.
15 Beetles (*Callidium antennatum*), Sunset Island, Me.

A. B. HOWELL, Covina, Cal.
Ectoparasites from *Eumops californicus* (2 specimens), from Colton, Cal.

JOHN R. JOHNSTON, Habana, Cuba.
10 Beetles, Cuba.

F. M. JONES, Wilmington, Del.
91 Lepidoptera, 142 Coleoptera.

MRS. W. D. KEARFOTT, Montclair, N. J.
Collection of about 11,400 Microlepidoptera, chiefly Old World Tineidæ, with card index of notes, descriptions, etc.

FRED KESSLER, New York City.
3 Crabs from Long Branch, N. J.

A. C. KINSEY, Forest Hills, Mass.
93 Gall Insects and 26 Galls (including 2 type specimens).

A. BARRETT KLOTS, New York City.
493 Insects and 2 Biological specimens.

HERBERT LANG, New York City.
52 Insects, chiefly Lepidoptera, from Warren, Idaho.

FREDERICK LEMMER, Irvington, N. J.
6 Lepidoptera and 1 Lepidoptera larva (blown), from New Jersey.

R. A. LEUSSLER, Omaha, Neb.
24 Lycænidæ, from Nebraska.

MALCOLM E. LITTLE, Louisville, Ga.
Numerous specimens of Thysanura, From Louisville, Ga.

ALBERT E. LURCH, New York City.
122 Lepidoptera, from New York.

DR. WILLIAM M. MANN, Washington, D. C.
33 Specimens of Coleoptera (including cotypes of 4 specimens), from South America.

C. W. METZ, New York City.
146 Hymenoptera, 212 *Prosopis*, including cotypes.

MEXICAN GOVERNMENT (Dept. of Agriculture), through A. CATUREGLI.
58 Insects, 21 lots of Shells, 3 Echinoderms, 1 Coral, 1 Crustacean.

W. DEW. MILLER, New York City.
2 Pupæ, and 2 molt skins, from Springfield, N. J.

L. L. MOWBRAY, New York City.
28 Invertebrates: Crustacea, Echinoderms and Mollusks, from Bermuda, Bahamas and Florida.

L. D. MURPHY, Almirante, Republic of Panama.
1 Lantern fly (Homoptera), from Panama.

MUSEUM OF COMPARATIVE ZOÖLOGY, Cambridge, Mass.
1 Cotype of Insect, from Iowa.

FRANK J. MYERS, Ventnor, N. J.
7 Slides of Typical Rotifers.

NAGELE BROTHERS.
1 *Squilla empusa.*

ALAN SLOAN NICOLAY, Brooklyn, N. Y.
641 Insects, from France and other localities.

LIEUT. J. K. NOBLE, Santo Domingo, D. R.
1 Specimen of *Scolopendra alternans* Leach (Myriapod) and 13 Insects, from Dominican Republic.

HOWARD NOTMAN, Brooklyn, N. Y.
76 Lepidoptera, from New York and Ontario, Canada.

CHRIS E. OLSEN, New York City.
73 Insects.
Paratype of *Idiocerus gemmisimulans* and cotype of *Ormenia saucia,* from Ithaca, N. Y., and Yerington, Nev.
156 Slides of Aphids mounted in balsam and card index to same.

DEPARTMENT OF ORNITHOLOGY (transfer).
1 Specimen of *Scolopendra subspinipes* Leach, from St. Thomas, A. V. I.

DR. R. OTTOLENGUI, New York City.
4 Plusia, 5 Lycænidæ, 22 Hesperiidæ, from California and Tennessee.

C. A. PALM, Long Island City, N. Y.
28,270 Specimens of Coleoptera (25,270 specimens pinned material, 3,000 not pinned), from North America.

A. S. PINKUS, Hartford, Conn.
7 Lepidoptera, from vicinity of New York City.

GARTANS RAIOLA, New York City.
1 Pearl from a mussel shell, Pelham Bay, N. Y.

CHARLES H. ROGERS, New York City.
159 Specimens of Millipedes, Insects, Shells, and Echinoderms, from Lesser Antilles.

GUILLERMO RUIZ, Santiago, Cuba.
3 Specimens of *Liguus fasciatus* (Müll.), from Camino Real de la Isla.

J. SCHACK, New York City.
400 Shells.

KARL P. SCHMIDT, New York City.
About 275 specimens and 21 vials of Invertebrates, from Porto Rico.

C. O. SCHOOF, Brooklyn, N. Y.
5 Lepidoptera.

MISSES BARBARA M. and MARJORIE D. SCHWARZ, New York City.
About 100 Insects, from Colorado.

H. F. SCHWARZ, New York City.
About 200 Insects, from Colorado.

JOHN D. SHERMAN, JR., Mt. Vernon, N. Y.
16 Beetles from Philippine Islands and Mt. Vernon, N. Y.

RICHARD SIMON, San Juan, Porto Rico.
Beetle (*Stenodontes exsertus*), from Aibonito, Porto Rico.

PROF. FRANK SMITH, Urbana, Ill.
13 Specimens of identified Lymnæid Mollusks (4 species, including 1 paratype), from Colorado.

DR. A. H. STURTEVANT, New York City.
Insects from Georgia and Alabama.
Type, allotype and genotype of *Drosophila simulans* (Diptera), from Lakeland, Fla.
2 Specimens of *Zygothrica dispar,* from Panama.

L. W. SWETT, Lexington, Mass.
8 Butterflies, from Lexington.

A. THOMSON, New York City.
26 Insects, from Agate, Neb.

C. J. TILLYARD, New York City.
Larvæ of Cadelle beetles in barley flour, from Oregon.

DR. CHARLES H. TOWNSEND, New York City.
6 Lampyrid larvæ, from Mamaroneck, N. Y.

PROF. A. L. TREADWELL, Poughkeepsie, N. Y.
147 Vials of identified Annulates (including 31 types).

U. S. DEPARTMENT OF AGRICULTURE (Bureau of Entomology), Washington, D. C.

4 Ears of corn, 6 pieces of stalk, 1 vial containing eggs, 1 vial larvæ, 1 vial pupæ, 6 mounted specimens of larvæ, 2 male and 2 female insects—mature, showing work, etc., of the European Corn Borer, *Pyrausta nubilis.*

U. S. Department of Agriculture, Riverton, N. J.
Numerous specimens of adult, pupa, larva and workings of the Japanese beetle (*Popillia japonica*), from Riverton, N. J.

U. S. National Museum, Washington, D. C. (through Dr. August Busck).
4 Specimens of *Pyrausta nubilis* Hübner, from Massachusetts.

T. S. Van Aller, Mobile, Ala.
32 Insects, mostly bees and wasps, from Mobile, Ala.

Millard C. Van Duzee, Buffalo, N. Y.
21 Specimens of Dolichopodidæ (Diptera), including 15 paratypes.

Prof. Ralph G. Van Name, New Haven, Conn.
Collection of Invertebrates (Mollusks, Crustacea, Insects, Worms, etc.—about 75 specimens), from Harry's River, Newfoundland.

Miss Gertrude B. Van Winkle, New York City.
127 Insects, from Blue Ridge Summit, Pa.

Dr. Jos. S. Wade, Washington, D. C.
4 Paratypes of *Eleodes barbata,* from Willard, N. M.

F. Weinberg, Los Angeles, Cal.
17 Hymenoptera, from Los Angeles.

Harry B. Weiss, New Brunswick, N. J.
Numerous specimens of Insects and their work, from New Jersey.
Insects injurious to Orchids: 4 photos of Orchids, 170 Insects (general); 14 vials of larvæ (containing numerous specimens).
Material and photograph showing the workings of *Pyrausta nubilis* in corn, from Massachusetts.
Fungi and the Insects associated with them, also photographs of the fungi (about 120 specimens), from New Jersey and Pennsylvania.
Material showing insect attack on evening primrose (45 specimens and 6 photographs), from New Jersey.
49 Photographs of Nursery Insects.

Lewis H. Weld, Evanston, Ill.
28 Specimens of Galls and Gall Insects, and 2 photographs.

Erdman West, New Brunswick, N. J.
14 Specimens of Fungi and numerous larvæ of insects in alcohol, from New Jersey.

Mrs. Alfred L. White, New York City.
1 Paper wasp nest, mounted under glass dome.

Dr. E. Whitehill, New York City.
3 "Pearl" blisters (1 abalone and 2 naiad).

C. B. Williams, Trinidad, W. I.
10 Specimens of Homoptera.

By Exchange

Canadian Arctic Expedition.
3 Specimens of *Euthemisto libellula* (Crustacea).

Durban Museum, Natal, Africa.
48 Lepidoptera and 47 other Insects, from Africa.

Thomas Hallinan, Paterson, N. J.
1060 Insects, from Chile.

John R. Johnston, Habana, Cuba.
19 Beetles, from Cuba.

C. G. von Schoeler.
Sponges, Corals, Echinoderms, Shells, etc. (dry specimens), from Key West, Fla. (Received in 1904.)

By Purchase

378 Insects, chiefly Lepidoptera, from Costa Rica.
54 Hesperiidæ, from Utah.

Through Museum Expeditions

Collection of Crustacea, Myriapods, Arachnids and Insects (400 specimens), from Society Islands; 446 Insects, from Yosemite Valley. Collected by Professor H. E. Crampton.
Invertebrates, chiefly Mollusca, from Staten Island, and Monroe, Conn. Collected by A. P. Jacot.
23,000 Insects from Colorado. Collected by Dr. F. E. Lutz.

850 Insects, various orders, including biological material, from vicinity of New York City. Collected by Frank E. Watson.
150 Shells, from Cuba. Collected by Barnum Brown.

DEPARTMENT OF ICHTHYOLOGY

By Gift

Richard Dorn, Upper Montclair, N. J.
10 Miscellaneous fresh-water fishes, from Calcutta, India.

Mrs. W. Flugel, New York City.
Sword of a Swordfish, from Block Island, R. I.

Miss Eliza R. Greenwood, New York City.
1 Sea Horse (*Hippocampus*), dried.

Misses Eliza R. and Mary M. Greenwood, New York City.
10 Specimens of fossil fish.

Otto W. Jommersbach, Brooklyn, N. Y.
Skeleton of a Crucifix Catfish.

Mrs. Robert Johnstone Kahn, New York City.
32 Specimens of mounted fishes (most from Mediterranean).

Roy Latham, Orient, L. I.
2 Young fishes (*Phycis tenuis* and *Petromyzon marinus*), from Orient, L. I.

Dr. G. A. MacCallum, New York City.
1 Sharp-nosed Shark.

William Mack, New York City.
15 Aquarium fishes and 3 herpetological specimens.

J. W. Mackelden, St. Louis, Mo.
50 Specimens of fresh-water fishes from the Mississippi Valley.

L. L. Mowbray, New York City.
470 Specimens of rare marine fishes, from Turk's Island and Bermuda.

Museum of the American Indian, New York City.
A number of otoliths of fishes, from Indian mounds in California.

G. K. Noble and K. P. Schmidt, New York City.
2 Mud Minnows, 1 Sunfish, 1 Banded Pickerel, from Lakehurst, N. J.

Mr. Joseph Orr, New York City.
1 Young Spined Dogfish, from Ambrose Lightship.

Edwin B. Powers, Colorado Springs, Col.
20 Specimens of miscellaneous marine fishes, from Friday Harbor, Puget Sound.

Karl P. Schmidt, New York City.
3 Specimens of Swellfish, from Porto Rico.

Edwin C. Starks, Stanford University, California.
3 Specimens of Flying Fish, from San Pedro.

H. S. Trull, New York City.
Balanced Aquarium and 2 specimens of *Xiphophorus helleri*.

Mrs. J. Frank Turner (deceased), through Mr. Charles A. Gifford, New York City.
1 Mounted Sailfish, from Florida.

E. Robbins Walker, through Joseph Walker, Jr., New York City.
Mounted fish: 1 Sailfish, 1 Grouper, 1 Barracuda, 2 Kingfish, from Europe, Africa and Florida.

Mrs. Alfred L. White, New York City.
Mounted head of a large Lake Trout.

Henry Whiton, New York City.
A number of Garpike and a large Mudfish.

Elias S. Wolf, New York City.
Skull of Shark from Long Beach.

By Exchange

Joseph A. Fisher, Sayville, L. I.
1 Cowfish, from near Fire Island Beach, L. I.

Museu Paulista, São Paulo, Brazil.
About 200 South American fresh-water fishes.

By Purchase

20 Specimens of Cyprinoid fishes, from Yunnan, China.
27 Fishes (Snake-heads, Catfish and Roaches), from Yunnan, China.

DEPARTMENT OF HERPETOLOGY

By Gift

New York Aquarium, New York City.
1 Turtle.

Ardmore High School, Ardmore, Okla.
12 Frogs, 8 lizards, 1 toad and 2 turtles, from Ardmore.

Alfred M. Bailey, New Orleans, La.
2 Snakes, from New Orleans.

Theodore Beard, Sapulpa, Okla.
4 Lizards, 12 snakes, 5 toads and 4 turtles, from Sapulpa.

Dr. J. Bequaert, New York City.
1 Salamander, Englewood, N. J.

H. S. Boyle, New York City.
6 Frogs, 6 salamanders, 1 toad and 1 turtle, Long Island.

Dr. E. M. Brigham, Battle Creek, Mich.
2 Frogs and tadpoles, from Brazil.

Bristol High School, Bristol, Tenn.
2 Frogs, 4 lizards, 3 salamanders, 7 snakes, 1 toad and 4 turtles, Bristol.

Barnum Brown, New York City.
9 Lizards, from Cuba.

A. R. Cahn, College Station, Texas.
Eggs and tadpoles of *Rana pipiens*, College Station, Texas.

James P. Chapin, New York City.
2 Frogs, 2 salamanders, 21 toads, from France.

Morton L. Church, Marshall, N. C.
19 Salamanders, 1 snake and 8 toads, from Marshall.

Concord Public School, Concord, N. C.
1 Snake, Concord, N. C.

Major M. L. Crimmins, Ft. San Houston, Texas.
2 Snakes, Ft. San Houston.

George Davis, Murfreesboro, Tenn.
1 Turtle, Murfreesboro.

H. S. Dickerson, Rollo, Mo.
1 Lizard, Rollo, Mo.

W. B. Donahue, Cannondale, Conn.
1 Frog and 2 salamanders, Cannondale.

Arthur Hahnel, West Hoboken, N. J.
22 Salamanders and 7 snakes, New Jersey.

Dr. Herman Haupt, Jr., Middle Island, L. I.
1 Frog, 1 snake, 1 turtle, Middle Island.
1 Snake, Holbrook, N. Y.

A. B. Howell, Covina, Cal.
3 Salamanders, Covina.

Department of Invertebrate Zoölogy (transfer).
1 Snake skin, Cocoanut Grove, Fla.

Dr. H. L. Kesteven, Sidney, Australia.
4 Frogs, 9 lizards, 1 turtle, Sidney.

E. B. Kirk, New York City.
1 Snake, Manaos, Brazil.

Dr. F. Garcia Leao, Brazilian Consulate, New York City.
1 Snake skin, from Brazil.

J. W. Mackelden, St. Louis, Mo.
7 Frogs, 9 lizards, 32 salamanders, 12 snakes, 1 turtle, Missouri.

Richard Moldenke, Jr., Watchung, N. J.
12 Snakes and 3 eggs, New Jersey and Vermont.

Museum of the American Indian, New York City.
1 Snake skin, Dutch Guiana.

New York Zoölogical Society.
1 Lizard, British Guiana.
2 Turtles.

J. T. Nichols, New York City.
18 Frogs, 1 lizard, 5 snakes, 3 toads and 5 turtles, Florida and Long Island.
1 Snake skin from Arizona.

J. T. Nichols and C. H. Rogers, New York City.
1 Turtle, Mastic, L. I.

Miss C. Noble, Yonkers, N. Y.
1 Snake, Long Island.

G. K. Noble and K. P. Schmidt, New York City.
1 Frog, 15 salamanders and 2 snakes, New York and New Jersey.

Lieut. J. K. Noble, Santo Domingo.
1 Frog, 24 lizards and 4 snakes, Santo Domingo.

Department of Ornithology (transfer).
4 Alligator eggs.

M. Oshima, Formosa, Japan.
65 Amphibians, Formosa.

DEPARTMENT OF PARKS, New York City.
1 Snake.

CLYDE PATCH, Ottawa, Canada.
7 Salamanders and 8 toads, Canada.

OSCAR F. QUARTERMAN, Canaveral, Fla.
32 Frogs, 13 lizards, 1 snake, 5 turtles and 5 toads, Canaveral.

DR. JAMES RODWAY, Georgetown, British Guiana.
1 Caiman, British Guiana.

WILLIAM H. ROGERS, Las Vegas, Nev.
1 Lizard, Las Vegas.

SAN RAFAEL HIGH SCHOOL, San Rafael, Cal.
5 Frogs, 3 lizards, 1 salamander and 1 snake, San Rafael.

F. J. W. SCHMIDT, Stanley, Wis.
22 Frogs and 1 snake, Stanley.

KARL P. SCHMIDT, New York City.
5 Frogs, 5 toads and 1 turtle, Ramsey, N. J., and Patchogue, L. I.

WILLIAM SEBILLE, New York City.
2 Lizards (1 from Arabia and 1 from Mexico); 2 snakes (1 from Bahamas and 1 from Mexico); 2 turtles, from Cuba.

HENRY A. SMITH, Saugatuck, Conn.
1 Snake, Saugatuck.

SOUTH GEORGIA STATE NORMAL SCHOOL, Valdosta, Ga.
1 Lizard, 2 salamanders, 6 toads and 5 turtles, Valdosta.

DR. CHARLES T. VORHIES, Tucson, Ariz.
1 Lizard, Tucson.

E. ROBBINS WALKER, through Joseph Walker, Jr., New York City.
1 Turtle skull, from Florida.

B. A. WALL, San Juan, Porto Rico.
1 Frog, 21 lizards and 33 snakes, Porto Rico.

A. S. WEBB, Concord, N. C.
1 Frog, 18 salamanders, 2 snakes and 1 turtle, Concord, N. C.

WICHITA FALLS HIGH SCHOOL, Wichita Falls, Texas.
44 Lizards, 7 toads and 8 turtles, Wichita Falls.

EDWARD WILLISTON, Huntsville, Ala.
2 Snakes, Huntsville.

BY EXCHANGE

DR. VITEL BRAZIL, Sao Paulo, Brazil.
25 Snakes, from Brazil.

BROOKLYN MUSEUM, through George Engelhardt, Brooklyn, N. Y.
About 190 Lizards from Utah.

CARLOS LOPEZ, Mexico City, Mex.
6 Amphibians and 35 reptiles, from Mexico and Lower California.

ANONYMOUS, Colombia.
27 Lizards, 34 salamanders, 12 snakes and 1 snake skin, from Bogotá.

ANONYMOUS, Colombia.
1 Cœcilian, 1 lizard and 237 snakes, Colombia.

MUSEUM OF COMPARATIVE ZOÖLOGY, Cambridge, Mass.
87 Amphibians, 2 crocodiles, 47 lizards and 9 snakes.

M. OSHIMA, Formosa, Japan.
32 Frogs, 66 lizards, 11 salamanders and 21 toads, from Riu Kiu Islands and Formosa.

DR. MALCOLM A. SMITH, Bangkok, Siam.
66 Amphibians, 22 lizards, 24 snakes and 1 turtle, Siam.

BY PURCHASE

354 Specimens of amphibians, lizards and snakes from South America.
105 Amphibians, lizards and snakes from West Indies.
6 Lizards, 16 snakes and 5 toads, from Colombia.
53 Amphibians, 19 lizards and 29 snakes, from Ecuador.
1 Lizard and 7 snakes, Eureka, Fla.
38 Amphibians, 19 lizards and 11 snakes, Yunnan, China.
1 Snake, from Florida.
147 Lizards and 2 snakes, San Antonio, Tex.
2 Snakes, from Englewood, Kan.
274 Lizards and 4 snakes, Utah.
3 Snakes, Lakehurst, N. J.
1 Lizard and 3 snakes, from Florida; 1 lizard from California; 1 snake from Cuba, and 1 snake from Nassau.
109 Amphibians, 75 lizards, 4 lizard eggs and 55 snakes, British Guiana.
2 Lizards and 2 snakes, from Brazil; 14 amphibians, 3 lizards, 19 snakes, from Kamerun, Africa; 20 frogs, 5 toads, 27 lizards, 23 snakes, Ecuador and Venezuela; 5 frogs, 3 lizards, 12 snakes, Argentina and Morocco;

154 frogs, 91 lizards, 6 salamanders, 62 snakes and 44 toads, South America.
2 Frogs, 47 salamanders, 2 snakes, 17 tadpoles and 9 toads, Lake Cushman, Wash.
14 Frogs, Louisiana.

THROUGH MUSEUM EXPEDITIONS

SECOND ASIATIC ZOÖLOGICAL EXPEDITION.
1 Salamander from Yunnan, China.

TROPICAL RESEARCH EXPEDITION OF THE NEW YORK ZOÖLOGICAL SOCIETY.
142 Amphibians, 142 lizards and 57 snakes, West Indies and British Guiana. Collected by C. William Beebe.

HUACHUCA MOUNTAIN, ARIZONA, EXPEDITION.
44 Amphibians, 518 lizards and snakes, and 7 turtles, Arizona. Collected by R. D. Camp.

LOCAL EXPEDITON BY DEPARTMENT.
2 Salamanders, 120 frogs, 1 toad, 5 lizards, 1 snake and 2 turtles, Lakehurst, N. J. Collected by G. K. Noble and K. P. Schmidt.

ENTOMOLOGICAL EXPEDITION TO COLORADO.
1 Salamander, 2 frogs, 9 toads, 22 lizards and 3 snakes, Colorado. Collected by Dr. F. E. Lutz.

REPTILE EXPEDITION TO MEXICO.
1274 Amphibians and reptiles from Mexico. Collected by Paul D. R. Ruthling.

SCIENTIFIC SURVEY OF PORTO RICO AND THE VIRGIN ISLANDS OF THE NEW YORK ACADEMY OF SCIENCES.
1222 Amphibians and reptiles, from Porto Rico, Culebra, Vieques, and Mona Islands. Collected by K. P. Schmidt.

DEPARTMENT OF ORNITHOLOGY

BY GIFT

ANONYMOUS.
1 White-throated Sparrow, 1 Junco, in the flesh, from vicinity of New York.

B. S. BOWDISH, Demarest, N. J.
4 Seedeaters, in the flesh.

COURTENAY BRANDRETH, Ossining, N. Y.
1 Red Phalarope in the flesh, Ossining, N. Y.

WILLIAM H. BRETTMAN, Greenwich, Conn.
Great Horned Owl, in the flesh, near Greenwich, Conn.

MISS DORA BUCKANOWA, Brooklyn, N. Y.
1 Flicker, Long Island, N. Y.

JAMES P. CHAPIN, New York City.
39 Bird skins from France.

DR. FRANK M. CHAPMAN, New York City.
217 Bird skins, Mexico.

C. CHRISTMAN, New York City.
Wings and bones of a Turkey.

CALDWELL CLEVELAND, New York City.
78 Sets of local birds' eggs (49 species), northern New Jersey and southern New York.

MISS SARAH REGNIER CONDIT, Regnier, Col.
1 Ferruginous Rough-legged Hawk in the flesh, Regnier, Col.

ROBERTO DABBENE, Buenos Aires, Argentina.
9 Bird skins, and nest and eggs of *Phloeocryptes melanops,* Argentina.

MISS J. H. DAVIES, New York City.
1 Flycatcher in the flesh, Palisades, N. J.

MISS DEL SERA, New York City.
70 Bird skins.

DEPARTMENT OF PUBLIC EDUCATION (transfer).
2 Nestling Fish-hawk skins, Gardiners Island, N. Y.

R. D. EMMERICH, New York City.
1 Duck, 1 Grouse, 1 Crow: skins from New Brunswick.

ENGLEWOOD BIRD CLUB, Englewood, N. J
1 Skin of Wood Thrush, 1 of Chebec from Englewood.

A. TRAVERS EWELL, New York City.
1 Skin of Flamingo, from Andes of Chile.

H. L. FERGUSON, Fishers Island, N. Y.
1 Snowy Owl, in the flesh, Fishers Island.

WILLIAM FLOYD, New York City.
2 Pintails, 1 Shoveler, 1 Scaup Duck, in the flesh, Mastic, L. I.

C. GARRETT, Cranbrook, B. C.
1 Skin of Coues' Junco, from Cranbrook, B. C.

ROBERT GIBSON, JR., New York City.
1 Wood Thrush, in the flesh, Essex Fells, N. J.

ARTHUR W. HENN, New York City.
24 Bird skins, Ecuador.

DR. ALFRED JAHN, Caracas, Venezuela.
1 Skin of Vireo, Venezuela.

MRS. F. W. KEASBEY, Morristown, N. J.
1 Skin of young Hermit Thrush, Nova Scotia.

DR. H. LEIGHTON KESTEVEN, Marouba, Sydney, N. S. W.
Head of Cockatoo.

DR. L. LAMBERTI, New York City.
1 Shama Thrush.

HERBERT LANG, New York City.
1 Skin of Great Gray Owl, Warren, Idaho.

MRS. A. LEWIS, New York City.
Yellowhead Parrot.

DR. F. A. LUCAS, New York City.
Skull of Night Heron, from Plymouth, Mass.

ALBERT E. LURCH, New York City.
1 Great Blue Heron in the flesh, from Palenville, N. Y.

DR. G. A. MACCALLUM, New York City.
1 Chachalaca in the flesh.

W. DEW. MILLER, New York City.
1 Thrush, 1 Robin, 1 Kingbird, in the flesh, from New Jersey.

DR. T. H. MORGAN, New York City.
1 Sebright Cockerel.

NEW YORK ZOÖLOGICAL SOCIETY.
1 Barbet, 1 Bustard, 1 Cassowary, 1 Coot, 1 Crow, 4 Geese, 1 Guan, 1 Hawk, 1 Hemipode, 1 Heron, 1 Honey-eater, 1 Kea, 1 Mockingbird, 4 Owls, 3 Parrots, 1 Partridge, 1 Peacock, 2 Pelicans, 2 Pheasants, 1 Pigeon, 1 Plover, 1 Quail, 1 Regent-bird, 1 Crow Shrike, 1 Spoonbill, 2 Tanagers, 1 Thickknee, 1 Thrush, 2 Timelias, 1 Tinamou, 1 Toucan, 1 Tree-duck, 1 Trumpeter, 1 Weaver, 2 Woodpeckers; in the flesh.

J. T. NICHOLS, New York City.
1 Hooded Warbler, 1 Hummingbird, 2 squabs of Domestic Pigeons, 1 Mute Swan, in the flesh; from Long Island.

DR. R. OTTOLENGUI, New York City.
Group of 4 Loons from Maine, and 2 Owls, from Miami, Fla.

DEPARTMENT OF PARKS, New York City.
5 Cockatoos, 1 Piping Crow, 4 Geese, 1 Guan, 1 Red-tailed Hawk, 1 Jay, 1 Laughing Kingfisher, 3 Macaws, 1 Magpie, 2 Ostriches, 1 Owl, 2 Parrakeets, 7 Parrots, 1 Pigeon, 1 Crested Screamer, 1 Swan, 1 Thickknee.

ANTOINETTE G. PEARSALL, New York City.
1 Hermit Thrush, from vicinity of New York City.

LORD WILLIAM PERCY, London, England.
Skin of Snow Bunting.

R. B. POTTER, West Nyack, N. Y.
2 Heads of Ibises, from Florida.

F. REGNIER, Regnier, Col.
3 Jays in the flesh, from Regnier, Col.

CHARLES H. ROGERS, New York City.
1 Plover, 1 Sandpiper, 1 Old-squaw, 1 Horned Grebe, 1 Loon, in the flesh, from Long Beach, L. I.

DR. L. C. SANFORD, New Haven, Conn.
11 Bird skins from Mexico; 1 Red-tailed Hawk and 3 Owls, from Connecticut.

MRS. SCHWIND, New York City.
2 Mounted birds: 1 Great Horned Owl, 1 Herring Gull.

MRS. NELLIE STACK, Plainfield, N. J.
1 Skin of Red-tailed Hawk, 1 of Great Blue Heron, and 2 of Osprey.

J. W. TAYLOR, St. Paul, Minn.
1 Ruby-throated Hummingbird, from St. Paul, Minn.

EDWIN THORNE, Babylon, L. I.
1 Dovekie in the flesh, from Babylon, L. I.

HENRY THURSTON, Brooklyn, N. Y.
2 Bob-whites, 2 Red-breasted Mergansers, 1 Meadowlark, and 2 Black Ducks; from Long Island.

BRECK TROWBRIDGE, New York City.
94 Mounted birds from eastern North America and various sets of eggs.

MRS. F. VETTEL, JR., New York City.
Case of Birds of brilliant plumage.

J. VON LENGERKE, New York City.
6 Hawks in the flesh.

LAIDLAW WILLIAMS, New York City.
1 Red-throated Loon in the flesh, from Mastic, L. I.

BY EXCHANGE

CARNEGIE MUSEUM OF NATURAL HISTORY, Pittsburgh, Pa.
2 Skins of *Siptornis wyatti,* from Colombia, S. A.

THOMAS HALLINAN, Paterson, N. J.
230 Bird skins, from Chile.

BROTHER APOLINAR MARIA, Bogota, Colombia.
34 Bird skins, from Colombia.

HERMANO NICEFERO MARIA, Medellin, Colombia.
58 Bird skins, from Colombia.

W. F. H. ROSENBERG, London, England.
Skin of Ant-thrush.

DR. L. C. SANFORD, New Haven, Conn.
1 Skin of Sumichrast's Becard, from Vera Cruz.
1 Skin of Woodpecker, 1 of Parrot, 3 of Songbirds.

U. S. NATIONAL MUSEUM, Washington, D. C.
18 Bones of Wings of Great Auk, from Funk Island, Newfoundland.

BY PURCHASE

20 Bird skins, from Montana.
THROUGH MUSEUM EXPEDITIONS
748 Bird skins, from Venezuela. Collected by George K. Cherrie.
2479 Bird skins, from Peru. Collected by H. Watkins.

DEPARTMENT OF MAMMALOGY

BY GIFT

O. W. BARRETT, New York City.
1 Pangolin from Africa.

LOUIS V. BELL, New York City.
7 Skins of Wolverine, 1 white Timber Wolf, 1 Alaska Brown Bear, made up as rugs.

MRS. EVA LEVERICH BROOKS, New York City.
1 Mummy Cat, from Egypt.

CHARLES DEW. BROWER, Barrow, Alaska.
1 Lemming, from Pt. Barrow, Alaska.
6 Skins and skulls of Lemmings, from Alaska.

JAMES P. CHAPIN, New York City.
63 Small mammals from France.

LANGDON GIBSON, Schenectady, N. Y.
1 Mounted specimen of Duck-bill (*Ornithorhynchus*), from Australia.

ARCHIBALD HARRISON, New York City.
Skin of Albino Deer, from Balls Is., S. C.

A. W. HENN, New York City.
1 Rodent, from Ecuador.

W. H. HOLDEN, New York City.
Whitetailed Deer, from New Brunswick.

CHARLES R. KNIGHT, Bronxville, N. Y.
1 Mole in the flesh, from Bronxville.

CHESTER A. A. LINDEWURTH, New York City.
Collie Dog, skin and skull.

ARTHUR LOVERIDGE, Nairobi, British East Africa.
5 Bats, skins and skulls, from Morogoro, British East Africa.

ALBERT E. LURCH, New York City.
1 Bat, from Palenville, N. Y.

DR. GEORGE A. MCEACHREN, New York City.
Upper molar tooth of an Indian Elephant.

HERMANO NICEFERRO MARIA, Medellin, Colombia.
13 Specimens of small mammals, from Colombia.

NEW YORK ZOÖLOGICAL SOCIETY.
1 Jaguarondi, 1 Alpaca, 1 Baboon, 3 Badgers, 1 Polar Bear, 1 Buffalo, 2 Capybara, 1 Coyote, 2 Sambar Deer, 1 African Wild Dog, 1 South American Dog, 1 Echidna, 1 African Elephant, 1 Kit Fox, 2 Rocky Mountain Goats, 1 Herpailurus, 1 Prjevalsky Horse, 1 Kangaroo, 1 Kinkajou, 1 Lemur, 2 Lynxes, 3 Monkeys, 1 Mona Monkey, 1 Rhesus Monkey, 1 Opossum, 1 Porcupine, 1 South American Porcupine, 1 Kangaroo Rat, 1 Marsupial Rat, 1 Reedbuck, 1 Barbary Sheep, 1 Sitatunga, 1 Sloth, 6 Squirrels, 1 Wallaby, 1 Weasel, 1 Tasmanian Wolf, 1 Wombat, 1 Black Woodchuck.

J. W. T. Nichols, Syosset, L. I.
2 Young "Mule Foot" Pigs, from Syosset, L. I.

Department of Parks, New York City.
2 Armadillos, 1 Baboon, 3 Black Bears, 2 Brown Bears, 1 Axis Deer, 3 Fallow Deer, 1 Lemur, 1 Lion, 1 Llama, 9 Monkeys, 1 Nilgai, 1 Opossum, 1 Paca, 1 Puma, 1 Raccoon, 1 Mongolian Tiger.

Dr. L. D. Powers, White Plains, N. Y.
2 Rabbit skulls, 1 monkey skull, 1 cat skull, 1 skull.

Mrs. Roswell Skeel, Jr., New York City.
Boar's skull, from Java.

Alanson Skinner, New York City.
4 Teeth, 1 hoof-bone of American Bison, found in prehistoric Iroquois site, Watertown, N. Y.

William Sulzer, New York City.
Head of Mountain Sheep and 1 of Hartebeest.

J. Suzanne, Ft. Montgomery, N. Y.
Siberian Wolf, skin and skull.
Siberian Rabbit, descendant of rabbits taken from Byrranga Mts., Siberia.

Albert Thomson, New York City.
1 Black-footed Ferret, skin and skeleton, Agate, Neb.

Edward M. Van Cleave, New York City.
Mounted specimen of young "White Coat" Seal (*Phoca groenlandica*), from Labrador.

W. A. Van Rensselaer, Salt Point, N. Y.
2 Specimens of European Hare, from Salt Point, N. Y.

E. Robbins Walker, through Joseph Walker, Jr., New York City.
Heads of mammals: 1 Wood Caribou, 2 Wild Boar, 3 Hartebeest, 1 Buffalo, 1 Water Buck; from Europe, Africa and Florida.

Mrs. Alfred White, New York City.
Mounted specimen of White Muskrat, from Adirondacks, N. Y.

J. O. Wright, Fairfield, Conn.
3 Small mammals from Fairfield, Conn.

By Exchange

Field Museum of Natural History, Chicago, Ill.
Skull of African Elephant, from near Mt. Kenia, British East Africa.

Thomas Hallinan, Paterson, N. J.
21 Bats, 1 Raccoon, 1 Wolf, from Central and South America.
1 Leaf-nosed Bat, from Panama.

A. B. Howell, Covina, Cal.
24 Specimens of Rodents and Bats, from California.

Dr. H. Leighton Kesteven, Marouba, Sydney, Australia.
Skulls: 2 *Trichosurus vulpecula,* 1 *Phascolarctus cinereus,* 1 *Macropus ruficollis,* 1 *Echidna aculeata,* 1 *Dacelo gigas,* 1 *Amphibolurus muricatus.*
Heads: 1 *Trichosurus vulpecula,* 1 *Phascolarctus cinereus,* 1 *Platypus.*

Luther Little, San Francisco, Cal.
Skin and skull of California Mastiff Bat.

Museum of Comparative Zoölogy, Cambridge, Mass.
6 Specimens of small African mammals.

Oakland Museum, Oakland, Cal.
5 Deer: skins, skulls, and leg bones.
3 Dogs: skins, skulls, and leg bones.

Fred. Schneider, New York City.
Cougar and Kinkajou—skeletons.

U. S. National Museum, Washington, D. C.
Gibbon, from East Sumatra.

By Purchase

130 Specimens of mammals from British Guiana.
Skull of Woodchuck with abnormal teeth.
Skins of: 1 Panda Bear, 2 Leopards, 1 Tiger, 1 Brown Bear.
19 Small mammals and 3 skulls.
9 Weasels.
Mounted specimens: male Mule Deer, yellow-haired Porcupine, Badger, and Prairie Dog, from Colorado.
Skull of a Puma, from Colorado.
Skins and nest of California Ground Squirrels (3 adults and 6 young).
1 White-footed Mouse and 7 small young, from Oregon.

THROUGH MUSEUM EXPEDITIONS

12 Small mammals from Peru. Collected by H. Watkins.

DEPARTMENT OF VERTEBRATE PALÆONTOLOGY

BY GIFT

DEPARTMENT OF ANTHROPOLOGY (transfer).
2 Teeth of mammoth.

BARNUM & BAILEY, New York City.
Grévy's Zebra, in the flesh.

WARREN DELANO, New York City.
Head of Horse, from Barrytown, N. Y.

BASSETT DIGBY, New York City.
14 Specimens of ivory combs; examples of native Siberian carving from fossil elephant tusks.

DR. ALEXEI KIRILLOVITCH KOUZNETSOV, Museum of Russian Geographical Society, Tchita, Transbaikalia, Siberia.
Tooth of Mammoth, from Kee River, Siberia.

PROF. D. K. KRAMBERGER-GORJANOVICS, National Museum, Agram, Kroatia.
Casts of fossil human remains, from Krapina (15 specimens).

DR. A. R. LEDOUX, New York City.
Calcaneum of Megatherium, from Long Branch, N. J.

MRS. J. MAGRANE, New York City.
Molar tooth of Mammoth, from Dawson, Alaska.

ROBERT B. MEYER, Great Neck, L. I.
2 Fossil Hippopotamus teeth, from cave on Island of Malta.

NEW YORK ZOÖLOGICAL SOCIETY.
Prjevalsky Horse.

WILLIAMS COLLEGE, Williamstown, Mass. (through Professor Cleland).
Type specimen of *Dictyocephalus elegans* Leidy (consisting of an amphibian skull preserved in coal), from Triassic Coal Deposits of Chatham Co., N. C.

BY PURCHASE

Part of skeleton of extinct bear, *Arctotherium* sp., from Pleistocene of Texas.
Partial skeleton of small Pteranodont from Cretaceous of western Kansas.

THROUGH MUSEUM EXPEDITION

Collection of Miocene fossils, consisting of several specimens of "Devil's Corkscrews" and large slab containing skeletons of two-horned rhinoceros *Diceratherium,* from Agate, Neb. Collected by Albert Thomson and George Olsen.

DEPARTMENT OF ANTHROPOLOGY

BY GIFT

ANONYMOUS.
4 Shell rings, string of beads, 2 bone awls, 1 piece of turquoise.

MISS MARY APPLETON, Newport, R. I.
1 Barrel of pottery and basketry, from North America and Africa.

F. BLATT, Brooklyn, N. Y.
Small pipe with date 1706, from Russia.

CECIL A. BROWN, Pipestone, Minn.
2 Catlinite pipes, 1 sample of material, from Pipestone, Minn.

MRS. JANET BURCHELL (deceased), through Miss S. A. Burchell, New York City.
2 Bottle-neck baskets, from Southern California.

MRS. CORNELIA J. CHADWICK, for Admiral Chadwick, Newport, R. I.
2 Cloaks of chiefs (Zulu?)

CHILE EXPLORATION CO., Chuquicamata, Chile.
1 Picture from Chuquicamata.

MRS. WAITE A. COTTON, New York City.
Philippine basket.

ANDREW DASBURG, New York City.
Navajo blanket from San Antonio, near Toas, New Mexico.

PAUL DEISLER, New York City.
Well preserved skull and lower jaw, supposed to be Gallo-Roman, from Blondefontaine (Hte. Saône), France.

MISS FRANCES DEL MAR, New York City.
9 Photographs of Maori dancers, members of the New Zealand Expeditionary Force.

HAROLD DE RAASLOFF, through Dr. Bashford Dean, New York City.
Collection of Japanese objects: 2 mirrors, several pieces of wood carving, costumes, sketches, etc.

MRS. W. P. EDGERTON, New York City.
Box containing game (East Indian), Egyptian musical instrument (Desert), Javanese musical instrument, 7 rolls of breech cloths (Guam).

M. G. FOSTER, New York City.
Stone celt found ten years ago on the Foster Farm, Wheeler Township, Steuben Co., N. Y.

DR. ARTHUR GREENBERG, Corona, L. I.
1 Skull of Negro woman, from Dallas, Texas.

MISS ELIZA R. GREENWOOD, New York City.
European and American archæological collection: 20 lots of stone implements.

MRS. JAMES C. HALLOCK, New York City.
Pottery head found in excavation near Quito, Ecuador.

MISS HELMAN, New York City.
Ostrich egg from Egypt.

DR. WM. TOD HELMUTH, New York City.
1 Wooden image and 1 bone implement, from Pacific Islands.

MICHAEL JANETIS, U. S. Navy.
1 Skull of male Negro from St. Thomas Island.

A. G. JENKINS, Winifred, L. I.
Feather headdress of chief, lance, bow and arrow, 2 gourd dishes, and 1 cane, from South America.

ALEXANDER JOHNSON, East Northport, L. I.
1 Male and 1 female skull, presumably of Whites, found in excavations at Reade Street and Broadway, New York City.

GEORGE LANGFORD, Joliet, Ill.
Archæological specimens, from Des Plaines River locality.

JOHN C. LLOYD, Nutley, N. J.
1 Shield, 1 conjuring stick, and 1 bamboo pole with Batik characters; from Sumatra.

JAMES MACDOWELL, New Bedford, Mass.
Cotton fibre series, microphotographs and mounted fibres, samples of thread and cloth.

CARL K. MACFADDEN, New York City.
19 Pieces of black pottery, from Colombia.

J. ALDEN MASON, Chicago, Ill.
Archæological specimens from Southern Arizona.

PAUL MAUSLOFF, New York City.
5 Pieces of pottery: 4 archæological and 1 ethnological, from Southern Colorado.

RICHARD A. METCALF, White Plains, N. Y.
Fragments of Cherokee vessel, from Aerial, Habersham Co., Ga.

HENRY F. MEYER, New York City.
Mexican spoon, from Oaxaca, Mexico.

EDWARD H. MILLER, New York City.
Stone celt found on old Crowell Farm, Cuyahoga Co., Ohio, in 1890.

OGDEN MILLS, New York City.
Chinese painting on silk (a kakemono of the last Manchu dynastic period), 1761.

JOHN D. MURPHY, New York City.
Net sinker, from Speedway, L. I.

NELS C. NELSON, New York City.
4 Eoliths from Ipswich, England.

NEW YORK AND HONDURAS ROSARIO MINING CO. (through Wm. A. Prendergast), New York City.
Pestle used by the natives for the purpose of extracting gold and silver contents, Honduras.

HARRISON GRAY OTIS, New York City.
30 Spear points, from Michigan.
Archæological material, from Michigan.

DR. E. C. PARSONS, New York City.
Feathersticks, from Zuni, New Mexico.
31 Ethnological specimens, from Zuni, New Mexico.

MISS ELIZABETH SAMSON, New York City.
1 Pottery vase and 2 pottery plaques, from Mexico.

MRS. CHARLES H. SENFF, New York City.
1 Malay sword.

ROSWELL SKEEL, JR., New York City.
Drain for squeezing out water when making cassava bread, from Santa Cruz, W. I.

H. D. SKINNER, Dunedin, New Zealand.
1 Card with: 7 wingbones of seabird (albatross?), 2 wingbones of moabone. 1 Card with: 7 barbed bone points of composite fishhooks (3 from moabone), 1 barbed point showing method of manufacture, 6 unbarbed bone points of composite fishhooks (2 from lower jaw of dog, rest from moa); 2 tabs of moabone, showing working; from Otago village sites near Dunedin, N. Z.

H. J. SPINDEN, New York City.
2 Pottery vessels, from Colombia.

MRS. N. M. STERNBERGER, New York City.
Costa Rican objects of the nineteenth century, consisting of 5 pottery vessels, 1 pottery figurine and 1 stone figurine.

MRS. ANDREW J. STONE, New York City.
84 Alaskan ethnological specimens.

JOHN G. TAIT, New York City.
2 Pieces of Indian pottery and 1 image of a saint.

NAGASATO TUKAMOTO, New York City.
Native Japanese mountain climbing outfit: 7 pairs of straw sandals, 1 pair of straw gloves, 3 pairs straw leggings, 1 straw overcoat, 2 straw skirts, 2 pairs cotton stockings, 1 pair overshoes, 2 pairs iron creepers.

ARTHUR S. WALCOTT, New York City.
5 Bronze objects, 2 beaded pouches and 2 woven pouches, from Sumatra; 1 piece Samoan tapa cloth.

MISS THEODORA WILBOUR, New York City.
Lacquered dog-house, with fittings, from some imperial palace, China.

DR. J. LEON WILLIAMS, New York City.
1 Stone gouge, from Embdin, Me.

BY EXCHANGE

THEODORE HAMILTON, Cleveland, O.
1 Slate pendant, from near Akron, O.

GEORGE LANGFORD, Joliet, Ill.
Archæological specimens, from Des Plaines River.

MUSEUM OF THE AMERICAN INDIAN, Heye Foundation, New York City.
176 Specimens of pottery from Cuba.
33 Pieces of pottery from Arkansas.
1 Drum, 2 woven bags, from Bri-bri, Costa Rica; 1 wooden club, from Missouri.

PUBLIC SCHOOL (C. H. Shaw), Lake Bathurst, N. S. W., Australia.
1 Beaked boomerang, 1 boomerang, and 1 fur string; set of fire sticks and grass woven dillibag; from Australia.

ROYAL ONTARIO MUSEUM OF ARCHÆOLOGY, Toronto, Canada.
English and Egyptian palæolithic points and implements (64 English and 143 Egyptian), from the Thames River system and the Thebaid plateau.

BY PURCHASE

2 Unpainted casts, from Copan, Honduras.
1 German silver hatband from Passamaquoddy tribe of Pleasant Point, near Eastport, Me.
Yucatan monuments.
2 Colored casts of Talgai skull.
120 Ethnological specimens from the Chippewa Indians, Minnesota.
1 Buffalo robe from the Plains Indians of North America.
4 Pieces of Philippine lace work.
2 Boxes archæological material, from England.
1 Fiji Island club.
Carved dance pole, from Paak Island, New Guinea.
5 Skulls from India.
9 East Indian skulls (male and female).
42 Prehistoric specimens from Chile.
1 Japanese bronze flower jar and 1 Japanese bronze hanging lamp. (Received in 1918.)

Archæological collection (mostly pottery), from Deming, N. M.
Collection of Penobscot and Micmac specimens, from Maine and Nova Scotia.
1 Fire drill, 1 ivory carving, 1 wooden drill, 1 doll, 6 bags, from Alaska.
1 Peruvian pot.
1 Pot and 4 spindle whorls, from Colombia.
Necklace of shell and turquoise from the Southwest.
Ethnological specimens from Borneo, New Zealand, and Admiralty Islands.

THROUGH MUSEUM EXPEDITIONS

Archæological material from New Mexico. Collected by Earl H. Morris.
1 Cast each of head, face and shoulders of Albert E. Purple and Wilson C. Reynolds, East Haddam, Conn., through Capt. George Comer and Mr. Horter.
Ethnological specimens from Arizona. Collected by Leslie Spier on joint expedition of American Museum and Columbia University.
1 Pottery vessel from Peru, 1 bird in stone, 1 spindle whorl of clay, 1 toy seat in stone, from Colombia; 7 animal figures in cow's horn, and 1 stone seat, from Central America; cotton cloth, from Dutch or British Guiana; 3 ceremonial headdresses from Mosquito Indians, of Bocay, Nicaragua. Collected by Dr. H. J. Spinden.

DEPARTMENT OF PUBLIC HEALTH

BY GIFT

DR. H. AMOSS, Rockefeller Institute, New York City.
9 Bacterial specimens.

DR. O. T. AVERY, Rockefeller Institute, New York City.
4 Bacterial specimens.

BELLEVUE MEDICAL SCHOOL, New York City.
1 Bacterial specimen.

DR. G. S. BURKE, Leland Stanford University, Cal.
2 Bacterial specimens.

CHICAGO UNIVERSITY, Chicago, Ill.
1 Bacterial specimen.

CITY BOARD OF HEALTH, New York City.
3 Bacterial cultures.

COLLEGE OF PHYSICIANS AND SURGEONS, New York City.
3 Bacterial specimens.

DR. PHILLIP HADLEY, Rhode Island State College, Kingston, R. I.
1 Bacterial specimen.

MISS F. HALLOCK, Hunter College, New York City.
1 Bacterial specimen.

DR. THOMAS G. HULL, Chief of Hygienic Laboratory, Dept. of Public Health, Springfield, Ill.
Specimens of food-cards used in Germany during the war.
Samples of war flour and coffee and soap from Coblenz, Germany.

DR. JOHN H. NORTHRUP, Rockefeller Institute, New York City.
2 Bacterial specimens.

DR. SYDNEY G. PAINE, Royal College of Science, London.
3 Bacterial specimens.

DR. THEOBALD SMITH, Rockefeller Institute, Princeton, N. J.
1 Bacterial specimen.

SWANN-MYERS CO., Indianapolis, Ind.
2 Bacterial specimens.

U. S. DEPARTMENT OF AGRICULTURE (Bureau of Plant Industry), Washington, D. C.
2 Bacterial cultures.

BY EXCHANGE

DR. T. B. OSBORNE, Agricultural Experiment Station, New Haven, Conn.
4 White Rats (fed on special diet).
8 Experimental Rats.

ART

BY GIFT

EDWARD D. ADAMS, New York City.
Framed oil painting by Howard Russell Butler, showing Corona and Prominences of the Sun at Period of Total Eclipse of the Sun,

June 8, 1918. Canvas 49" x 33½". From Baker, Oregon.

MRS. FRANKLIN Q. BROWN, Dobbs Ferry, N. Y.
Oil sketch, 30" x 40", on board, "Cave Family Attacked by Mammoths."

NATIONAL WAR GARDEN COMMISSION, Washington, D. C.
Medal symbolizing the War Service of the Home Gardens of America.

A FRIEND.
Bronze portrait medallion of John Purroy Mitchel. (Rectangular, 7" x 10¼".)

MRS. HENRY FAIRFIELD OSBORN, New York City.
Portrait bust of Professor Henry Fairfield Osborn, by Chester A. Beach.
2 Marble busts with pedestals, one of Aristotle, one of Goethe.

DR. EDWARD H. ROGERS, New York City.
Oil paintings by J. J. Audubon: Sewellel, canvas 16" x 22", and Spermophile, canvas 12" x 22". Framed in gilt and accompanied by affidavits of authenticity from M. Eliza Audubon.

BY PURCHASE

Large photograph of Theodore Roosevelt. Framed (photo 22" x 27").

MISCELLANEOUS

BY GIFT

MRS. NELLIE BLY (Elizabeth C. Seeman), New York City.
Mounted Maltese terrier "Duke."

MRS. ANDREW J. STONE, New York City.
Panoramic photographs of Alaskan towns and localities and some bear and other sketches by Belmore Brown.

INCORPORATION

AN ACT

TO INCORPORATE THE

AMERICAN MUSEUM OF NATURAL HISTORY

Passed April 6, 1869

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. John David Wolfe, Robert Colgate, Benjamin H. Field, Robert L. Stuart, Adrian Iselin, Benjamin B. Sherman, William A. Haines, Theodore Roosevelt, Howard Potter, William T. Blodgett, Morris K. Jesup, D. Jackson Steward, J. Pierpont Morgan, A. G. P. Dodge, Chas. A. Dana, Joseph H. Choate and Henry Parish, and such persons as may hereafter become members of the Corporation hereby created, are hereby created a body corporate, by the name of "The American Museum of Natural History," to be located in the City of New York, for the purpose of establishing and maintaining in said city a Museum and Library of Natural History; of encouraging and developing the study of Natural Science; of advancing the general knowledge of kindred subjects, and to that end of furnishing popular instruction.*

SEC. 2. Said Corporation shall have power to make and adopt a Constitution and By-Laws, and to make rules and regulations for the admission, suspension and expulsion of its members, and their government, the number and election of its officers, and to define their duties, and for the safe keeping of its property, and, from time to time, to alter and modify such Constitution, By-Laws, Rules and Regulations. Until an election shall be held pursuant to such Constitution and By-Laws, the persons named in the first section of this Act shall be, and are hereby declared to be, the Trustees and Managers of said Corporation and its property.

SEC. 3. Said Corporation may take and hold by gift, devise, bequest, purchase or lease, either absolutely or in trust, for any purpose comprised in the objects of the Corporation, any real or personal estate, necessary or proper for the purposes of its incorporation.†

SEC. 4. Said Corporation shall possess the general powers, and be subject to the restrictions and liabilities, prescribed in the Third Title of the Eighteenth Chapter of the First Part of the Revised Statutes, and shall be and be classed as an educational corporation.*

SEC. 5. This Act shall take effect immediately.

STATE OF NEW YORK,
OFFICE OF THE SECRETARY OF STATE. } *ss.:*

I have compared the preceding with the original law on file in this office, and do hereby certify that the same is a correct transcript therefrom, and of the whole of said original law.

[L. S.] Given under my hand and seal of Office at the City of Albany this fourteenth day of April, in the year one thousand eight hundred and sixty-nine.

D. WILLERS, Jr., *Deputy Secretary of State.*

† Section 3. As amended by Chapter 303, Laws of 1898, of the State of New York, entitled "An Act to amend chapter one hundred and nineteen, laws of eighteen hundred and sixty-nine, entitled 'An Act to incorporate the American Museum of Natural History,' relative to its charter."

* Sections 1 and 4. As amended by Chapter 162 of the Laws of 1909, entitled "An Act to amend chapter one hundred and nineteen of the laws of eighteen hundred and sixty-nine, entitled 'An Act to incorporate the American Museum of Natural History,' in relation to classifying said corporation and modifyng its corporate purposes."

CONTRACT
WITH THE DEPARTMENT OF PUBLIC PARKS

FOR THE OCCUPATION OF THE NEW BUILDING

THIS AGREEMENT, made and concluded on the twenty-second day of December, in the year one thousand eight hundred and seventy-seven, between the DEPARTMENT OF PUBLIC PARKS OF THE CITY OF NEW YORK, the party of the first part, and the AMERICAN MUSEUM OF NATURAL HISTORY, party of the second part, witnesseth:

Whereas, by an Act of the Legislature of the State of New York, passed April 22d, 1876, entitled "An Act in relation to the powers and duties of the Board of Commissioners of the Department of Public Parks, in connection with the American Museum of Natural History, and the Metropolitan Museum of Art," the said party of the first part is authorized and directed to enter into a contract with the said party of the second part, for the occupation by it of the buildings erected or to be erected on that portion of the Central Park in the City of New York, known as Manhattan Square, and for transferring thereto and establishing and maintaining therein its museum, library and collections, and carrying out the objects and purposes of said party of the second part; and,

Whereas, a building contemplated by said act has now been erected and nearly completed and equipped in a manner suitable for the purposes of said Museum, as provided in the first section of the Act of May 15, 1875, known as Chapter 351, of the Laws of 1875, for the purpose of establishing and maintaining therein the said Museum, as provided by the said last-named act, and by the Act of April 5, 1871, known as Chapter 290, of the Laws of 1871; and,

Whereas, it is desired as well by the said party of the first part, as by the said party of the second part, that, immediately

upon the completion and equipment of said building, the said party of the second part should be established therein, and should transfer thereto its museum, library and collections, and carry out the objects and purposes of the said party of the second part;

Now, therefore, it is agreed by and between the said parties as follows, namely:

First.—That the said party of the first part has granted and demised and let, and doth, by these presents, grant, demise and let, unto the said party of the second part, the said buildings and the appurtenances thereunto belonging, to have and to hold the same so long as the said party of the second part shall continue to carry out the objects and purposes defined in its charter; or such other objects and purposes as by any future amendment of said charter may be authorized; and shall faithfully keep, perform, and observe the covenants and conditions herein contained on its part to be kept, performed and observed, or until the said building shall be surrendered by the said party of the second part, as hereinafter provided.

Secondly.—That neither the party of the first part, its successor or successors, nor the Mayor, Aldermen and Commonalty of the City of New York, shall be in any manner chargeable or liable for the preservation of the said building or the property of the party of the second part which may be placed therein, against fire, or for any damage or injury that may be caused by fire to the said property; but it is agreed that, damages as aforesaid excepted, the said party of the first part will keep said building, from time to time, in repair.

Thirdly.—That as soon after the completion and equipment of said building as practicable, said party of the second part shall transfer to, and place and arrange in said building, its museum, library and collections, or such portion thereof as can be properly displayed to the public therein, and shall have and enjoy the exclusive use of the whole of said building, subject to the provisions herein contained, and the rules and regulations herein prescribed, during the continuance of the term granted, or until a surrender thereof, as herein provided.

Fourthly.—That the exhibition halls of said building shall, on Wednesday, Thursday, Friday and Saturday of each week, and on all legal or public holidays, except Sunday, be kept open and accessible to the public, free of charge, from nine o'clock A.M. until half an hour before sunset, under such rules and regulations as the party of the second part shall from time to time prescribe; but on the remaining days of the week the same shall be only open for exhibition to such persons, upon such terms as the said party of the second part shall from time to time direct. But all professors and teachers of the public schools of the City of New York, or other institutions of learning in said city, in which instruction is given free of charge, shall be admitted to all the advantages afforded by the said party of the second part, through its museum, library, apparatus, and collections, or otherwise, for study, research and investigation, free of any charge therefor, and to the same extent and on the same terms and conditions as any other persons are admitted to such advantages, as aforesaid.

Fifthly.—That the museum, library and collections, and all other property of said party of the second part, which shall or may be placed in said building, shall continue to be and remain absolutely the property of said party of the second part, and neither the said party of the first part nor the said the Mayor, Aldermen and Commonalty, shall by reason of said property being placed in said building, or continuing therein, have any right, title, property or interest therein; nor shall the said party of the second part, by reason of its occupation and use of said building under this agreement, acquire, or be deemed to have any right, title, property or interest in said building, except so far as expressly granted by this agreement.

Sixthly.—That the said party of the second part shall, on or before the first day of May, in every year, during the continuance of this agreement, submit to the said party of the first part, its successor or successors, a detailed printed report of the operations and transactions of the said party of the second part, and all its receipts and payments, for the year ending with the 31st day of December next preceding.

Seventhly.—That said party of the first part shall have, at all times, access to every part of the said building for general visitation and supervision, and also for the purpose of the performance of the duties devolved upon it by the laws of the State of New York, or of the City of New York. That the police powers and supervision of said party of the first part shall extend in, through and about said building. That the said party of the second part may appoint, direct, control and remove all persons employed within said building, and in and about the care of said building, and the museum, library and collections therein contained.

Eighthly.—That said party of the second part may, at any time, after the expiration of three, and before the expiration of six, months from the date of the service of a notice in writing to said party of the first part, its successor or successors, or to the Mayor of the City of New York, of its intention so to do, quit and surrender the said premises and remove all its property therefrom; and upon and after such notice, the said party of the second part shall and will, at the expiration of the said six months, quietly and peaceably yield up and surrender unto the said party of the first part and its successors all and singular the aforesaid demised premises. And it is expressly understood and agreed by and between the parties hereto that if the said party of the second part shall omit to do, perform, fulfill or keep any or either of the covenants, articles, clauses and agreements, matters and things herein contained, which on its part are to be done, performed, fulfilled or kept, according to the true intent and meaning of these presents, then and from thenceforth this grant and demise shall be utterly null and void. And in such case it shall and may be lawful for said Department to serve or cause to be served on the said party of the second part a notice in writing declaring that the said grant hereinbefore made has become utterly null and void and thereupon the said party of the first part, its successor or successors (ninety days' time being first given to the said party of the second part to remove its property therefrom), may reënter, and shall again have, repossess and enjoy the premises aforementioned, the same as in their first and former estate,

and in like manner as though these presents had never been made, without let or hindrance of the said party of the second part, anything here contained to the contrary notwithstanding.

Ninthly.—And it is further expressly understood and agreed, by and between the parties hereto, that this agreement may be wholly canceled and annulled, or, from time to time, altered, or modified, as may be agreed, in writing, between the said parties, or their successors anything herein contained to the contrary in anywise notwithstanding.

In witness whereof, the party of the first part hath caused this agreement to be executed by their President and Secretary, pursuant to a resolution of the Board of Commissioners of said Department, adopted at a meeting held on the thirtieth day of January, in the year of our Lord one thousand eight hundred and seventy-eight; and the said party of the second part hath caused the same to be executed by their President, and their official seal affixed thereto, pursuant to a resolution of the Trustees of the American Museum of Natural History, adopted at a meeting held on the twelfth day of February, in the year of our Lord one thousand eight hundred and seventy-seven.

In presence of
D. PORTER LORD.

JAMES F. WENMAN,
President Department of Public Parks of the City of New York.

WILLIAM IRWIN,
Secretary Department of Public Parks of the City of New York.

SEAL
of the American
Museum of
Natural History

ROBERT L. STUART,
President American Museum of Natural History.

STATE OF NEW YORK,
City and County of New York, } ss.:

On this 12th day of February, in the year 1878, before me personally came James F. Wenman, President of the Department of Public Parks of the City of New York, and William Irwin, Secretary of the said Department of Public Parks, with both of whom I am personally acquainted, and both of whom being by me duly sworn, said that they reside in the City and County of New York; that the said James F. Wenman is the President, and the said William Irwin is the Secretary of the said Department of Public Parks, and that they signed their names to the foregoing agreement by order of the Board of Commissioners of the said Department of Public Parks, as such President and Secretary.

W. C. BESSON,
[SEAL.] (73) *Notary Public N. Y. Co.*

STATE OF NEW YORK,
City and County of New York, } ss.:

On this 12th day of February, in the year 1878, before me personally came Robert L. Stuart, the President of the American Museum of Natural History, with whom I am personally acquainted, who being by me duly sworn, said that he resides in the City and County of New York, that he is the President of the American Museum of Natural History, and that he knows the corporate seal of said museum, that the seal affixed to the foregoing agreement is such corporate seal, that it is affixed thereto by order of the Board of Trustees of said American Museum of Natural History, and that he signed his name thereto by the like order, as President of said Museum.

W. C. BESSON,
[SEAL.] (73) *Notary Public N. Y. Co.*

Recorded in the office of the Register of the City and County of New York in Liber 1426 of Cons., page 402, February 16, A. D. 1878, at 9 o'clock A. M., and examined.

Witness my hand and official seal,

FREDERICK W. LOEW,
[SEAL.] *Register.*

NOTE.—July 25, 1892, by consent of the Trustees, section fourth was modified to enable the Trustees to open the Museum free to the public "throughout the year, excepting Mondays, but including Sunday afternoons and two evenings of each week."

June 29, 1893, by consent of the Trustees, section fourth was modified to enable the Trustees to open the Museum free of charge to the public "throughout the year for five days in each week, one of which shall be Sunday afternoon, and also two evenings of each week."

CONSTITUTION

OF THE

AMERICAN MUSEUM OF NATURAL HISTORY

IN THE CITY OF NEW YORK

REVISED AND AMENDED TO FEBRUARY 7, 1916

ARTICLE I

This Corporation shall be styled THE AMERICAN MUSEUM OF NATURAL HISTORY.

ARTICLE II

The several persons named in the charter, and such others as they may add to their number, which shall not exceed twenty-five in all at one time, and in addition, the Mayor, the Comptroller, and the President of the Department of Public Parks, of the City of New York, for the time being, *ex-officio,* shall be the Trustees to manage the affairs, property and business of the Corporation.

The members of the Board of Trustees holding office at the time of the regular quarterly meeting of November, 1905, shall then, or at the first meeting of the Board thereafter, be divided by lot into five classes of five members each, to serve for the terms of one, two, three, four and five years respectively from the date of the annual meeting of February, 1906. The Board of Trustees at each annual meeting thereafter, or an adjournment thereof, shall by ballot, by a majority vote of the Trustees present at the meeting, elect five Trustees to supply the places of the class whose term expires at that meeting; said newly elected Trustees to hold office for five years or until their successors are elected. In case of a vacancy in the Board by death, resignation, disqualification or otherwise, the vacancy shall be filled by ballot, in like manner, by the Board of Trustees at any regular meeting or special meeting, for the unexpired term. No person shall be eligible for election as Trustee unless his name shall be presented by the Nominating Com-

mittee at a regular or special meeting of the Board previous to the meeting at which his name shall be acted upon. Written notice of such election and the vacancy to be filled shall be sent to the Trustees at least one week prior to said meeting.

ARTICLE III

The Trustees shall meet regularly, on the first Monday of every February and May, and the second Monday of November, at an hour and place to be designated, on at least one week's written notice from the Secretary, and shall annually, at the regular meeting in February, elect the officers and committees for the ensuing year. They shall also meet at any other time to transact special business on a call of the Secretary, who shall issue such call whenever requested so to do, in writing, by five Trustees, or by the President, and give written notice to each Trustee of such special meeting, and of the object thereof, at least three days before the meeting is held.

ARTICLE IV

SECTION 1. The officers of said Corporation shall be a President, a First Vice-President, a Second Vice-President, a Treasurer and a Secretary, who shall be elected from among the Trustees. These officers shall be elected by ballot, and the persons having a majority of the votes cast shall be deemed duly elected. They shall hold their offices for one year or until their successors shall be elected.

SEC. 2. The Board of Trustees shall appoint each year, in such manner as it may direct, the following Standing Committees: an Executive Committee, an Auditing Committee, a Finance Committee and a Nominating Committee. These Committees are all to be elected from the Trustees, and the members shall hold office for one year or until their successors shall be elected.

The Board of Trustees shall also have authority to appoint such other committees or officers as they may at any time deem desirable, and to delegate to them such powers as may be necessary.

The Board of Trustees shall have power to appoint a Director who, acting under the authority and control of the President, shall be the chief administrative officer of the Museum; but shall not be a member of the Board. He shall hold office during the pleasure of the Board.

ARTICLE V

SECTION 1. The President shall have the general supervision, direction and control of the affairs of the Corporation, and shall preside at all the meetings of the Museum and of the Trustees. In his absence or inability to act, the First or Second Vice-President shall act in his place, or in the absence of these officers, a Trustee appointed by the Executive Committee.

SEC. 2. The Secretary shall be present, unless otherwise ordered by the Board, at all the meetings of the Museum and Trustees, of the Executive Committee and such other Committees as the Board may direct. He shall keep a careful record of the proceedings of such meetings, shall preserve the seal, archives and correspondence of the Museum, shall issue notices for all meetings of the Trustees and various committees, and shall perform such other duties as the Board may direct.

The Board of Trustees shall have power to appoint an Assistant Secretary, who, under its direction, shall perform the duties of the Secretary in his absence or inability to act. The Assistant Secretary shall be an administrative officer of the Museum and shall act under the direction of the President or the Secretary. He shall hold office during the pleasure of the Board.

SEC. 3. The Treasurer shall receive and disburse the funds of the Museum. He shall report in writing, at each regular meeting of the Trustees, the balance of money on hand, and the outstanding obligations of the Museum, as far as practicable; and shall make a full report at the annual meeting of the receipts and disbursements of the past year, with such suggestions as to the financial management of the Museum as he may deem proper.

The Board of Trustees shall have power to appoint an Assistant Treasurer, who shall perform such duties as it may direct, and who shall hold office during its pleasure.

SEC. 4. The accounts of the Museum shall be kept at the General Office, in books belonging to it, which shall at all times be open to the inspection of the Trustees.

ARTICLE VI

The Executive Committee shall consist of nine Trustees, the President, the Secretary and the Treasurer *ex-officio* and six others, to be appointed each year in the manner provided in Article IV. They shall have the control and regulation of the collections, library and other property of the Museum; and shall have power generally to conduct the business of the Museum, subject to the approval of the Board. Five members of the Committee shall constitute a quorum for the transaction of business.

ARTICLE VII

The Auditing Committee shall consist of three Trustees. They shall have the books of the Museum duly audited, at least once in six months, by an authorized public accountant to be selected by them.

ARTICLE VIII

The Finance Committee shall consist of five Trustees, the Treasurer *ex-officio* and four others to be elected each year in the manner provided in Article IV. They shall have general charge of the moneys and securities of the Endowment and other permanent funds of the Museum, and such real estate as may become the property of the Corporation, with authority to invest, sell and reinvest the same, subject to the approval of the Board of Trustees.

Three members shall constitute a quorum.

ARTICLE IX

The Nominating Committee shall be composed of three Trustees, to whom shall be first submitted the names of any persons proposed as candidates for election to membership in

the Board of Trustees. The Committee shall report on such candidates from time to time, as it may deem to be for the interest of the Museum. A fortnight before the annual meeting they shall prepare and mail to each member of the Board of Trustees a list of the candidates for officers and Trustees to be balloted for at the said meeting.

ARTICLE X

Nine Trustees shall constitute a quorum for the transaction of business, but five Trustees meeting may adjourn and transact current business, subject to the subsequent approval of a meeting at which a quorum shall be present.

ARTICLE XI

By-Laws may be made from time to time by the Trustees providing for the care and management of the property of the Corporation and for the government of its affairs, and may be amended at any meeting of the Trustees by a vote of a majority of those present, after a month's notice in writing of such proposed amendment.

ARTICLE XII

The incorporators of The American Museum of Natural History shall be designated as Founders of the Museum.

Any person contributing or devising $50,000 in cash, securities or property to the funds of the Museum may be elected a Benefactor of the Museum.

Any person contributing $25,000 in cash, securities or property to the funds of the Museum may be elected an Associate Founder of the Museum, who after being so elected shall have the right in perpetuity to appoint the successor in such associate foundership.

Any person contributing $10,000 to the funds of the Museum may be elected an Associate Benefactor of the Museum, who after being so elected shall have the right in perpetuity to appoint the successor in such associate benefactorship.

Any person contributing $1,000 to the funds of the Museum, at one time, may be elected a Patron of the Museum, who

after being so elected shall have the right in perpetuity to appoint the successor in such patronship.

Any person contributing $500 to the funds of the Museum, at one time, may be elected a Fellow of the Museum, who after being so elected shall have the right to appoint one successor in such fellowship.

No appointment of a successor shall be valid unless the same shall be in writing, endorsed on the certificate, or by the last will and testament.

Any person contributing $100 to the funds of the Museum, at one time, may be elected a Life Member of the Museum.

Any person may be elected to the above degrees who shall have given to the Museum books or specimens which shall have been accepted by the Executive Committee, or by the President, to the value of twice the amount in money requisite to his admission to the same degree.

Benefactors, Associate Founders, Associate Benefactors, Patrons, Fellows and Life Members shall be elected by the Board of Trustees or by the Executive Committee, and the President and Secretary shall issue diplomas accordingly under the seal of the Museum.

In recognition of scientific services rendered, the Trustees may also elect Honorary Fellows of the Museum in their discretion.

ARTICLE XIII

Any Trustee who shall fail to attend three consecutive regular meetings of the Board shall cease to be a Trustee, unless excused by the Board.

ARTICLE XIV

No alterations shall be made in this Constitution, unless at a regular meeting of the Trustees, or at a special meeting called for this purpose; nor by the votes of less than a majority of all the Trustees; nor without notice in writing of the proposed alterations, embodying the amendment proposed to be made, having been given at a previous regular meeting.

BY-LAWS

REVISED AND AMENDED TO FEBRUARY 7, 1916

I

If any Trustee shall accept a salary from this Corporation he shall thereby be disqualified for the time being from acting as a Trustee thereof; provided, that the Board of Trustees shall have power to suspend the operation of this law in any special case.

II

Any vacancies occurring in the membership of the several committees during the interval between the regular meetings of the Board of Trustees may be filled at a regular meeting of the Executive Committee, until the next meeting of the Board.

III

The regular meetings of the Executive Committee shall be held on the third Wednesday of each month, but special meetings may be held at any other time on a two days' call issued by order of the President, or at the request of three of its members.

IV

All bequests or legacies, not especially designated, and all membership fees, excepting Sustaining, Annual and Associate Membership fees, shall hereafter be applied to the *Permanent Endowment Fund,* the interest only of which shall be applied to the use of the Museum as the Board shall direct.

V

SECTION 1. No indebtedness (other than for current expenses) shall be incurred by any committee, officer or employee of the Museum, except as provided for in the Constitution.

SEC. 2. No bills shall be paid unless approved by the Director or, in his absence, the Assistant Secretary, and countersigned by one of the following named Trustees: President, Chairman of the Executive Committee, or Treasurer.

SEC. 3. The accounts of the Museum shall be under the care of a Bursar, who, on recommendation of the President and the Treasurer, shall be appointed by the Board of Trustees and be under its direction. He shall give such bonds for the faithful performance of his duties as the Board may direct, and shall hold office during the pleasure of the Board. The Bursar, acting under the direction of the President or Treasurer, shall be the official representative of the Treasurer at the Museum, and as such shall be the head of the Treasurer's office there.

VI

The Board of Trustees shall have power to appoint, on recommendation of the Director, a Superintendent of Building and such other officers as may be deemed necessary, who, acting under the instruction of the Director, shall have charge of the construction, maintenance, alterations and repairs of the buildings, and shall be responsible for their sanitary condition. They shall hold office during the pleasure of the Board.

VII

The Board of Trustees shall have power to appoint a Registrar, who, acting under the instruction of the Director or Assistant Secretary, shall inspect all incoming and outgoing shipments, and shall attend to the details of matters relating to customs.

VIII

Benefactors, giving $50,000, are each entitled to 1 Subscriber's Ticket, 10 Complimentary Season Tickets and 10 Tickets for a single admission.

Associate Benefactors, giving $10,000, are each entitled to 1 Subscriber's Ticket, 10 Complimentary Season Tickets and 10 Tickets for a single admission.

Patrons, giving $1,000, are each entitled to 1 Subscriber's Ticket, 5 Complimentary Season Tickets and 10 Tickets for a single admission.

Fellows, giving $500, are each entitled to 1 Subscriber's Ticket and 10 Tickets for a single admission.

Life Members, giving $100, are each entitled to 1 Subscriber's Ticket and 7 Tickets for a single admission.

Sustaining Members, paying $25 yearly, are each entitled to 1 Subscriber's Ticket and 5 Tickets for a single admission.

Annual Members, paying $10 yearly, are each entitled to 1 Subscriber's Ticket and 4 Tickets for a single admission.

Associate Members, paying $3.00 yearly, are each entitled to 1 Subscriber's Ticket, admitting to the Members' Room, and 2 Tickets for a single admission; also to current copies of the Museum Journal and the Annual Report.

IX

The Board of Trustees hereby creates a class of honorary Members, without membership fee, to be designated as Corresponding Members. Upon recommendation of the Scientific Staff, any person interested in or actively engaged in scientific research may be elected by the Board of Trustees a Corresponding Member, such election being for a period of five years and subject to renewal. Corresponding Members shall be entitled to current numbers of *Natural History* and to a copy of such scientific publications of the Museum as they may desire for the prosecution of their researches.

NOTE.—A Subscriber's Ticket admits to the Members' Room, also to all Receptions and Special Exhibitions, and may be used by any member of the Subscriber's family.

The Single Admission Tickets admit the bearers to the Members' Room, and are issued to Subscribers for distribution among friends and visitors.

SEVENTH ANNUAL REPORT

OF THE

PENSION BOARD

OF

THE AMERICAN MUSEUM OF NATURAL HISTORY

FOR THE YEAR 1919

OFFICERS AND MEMBERS OF THE PENSION BOARD

1919

Chairman
FELIX M. WARBURG

Vice-Chairman
RALPH W. TOWER

Treasurer
HENRY P. DAVISON

Secretary
GEORGE N. PINDAR

TRUSTEE MEMBERS

ADRIAN ISELIN
WALTER B. JAMES
PERCY R. PYNE
FELIX M. WARBURG

EMPLOYEE MEMBERS

HARRY F. BEERS
RALPH W. TOWER
GEORGE N. PINDAR

Bursar
FREDERICK H. SMYTH

Counsel
LEWIS L. DELAFIELD

Consulting Actuary
S. HERBERT WOLFE

Medical Examiner
GEORGE M. MACKENZIE, M. D.

To the President and Trustees of The American Museum of Natural History and to the Subscribers to the Fund:

In accordance with the Rules and Regulations, I have the honor to transmit to you herewith the Seventh Annual Report of the activities of the Pension Board and of its financial operations for the fiscal year ending December 31, 1919.

FELIX M. WARBURG,
Chairman.

February 2, 1920.

The close of 1919 found the membership of the Fund comprised of 233 contributors and 3 retired employees. It is with regret that we are obliged to note the loss by death of two contributors and one retired member, further mention of whom will be found in another part of this report.

Facilities for the purchase of bonds by serial payments (through an arrangement similar to that offered in previous Government loans) were again extended to employees of the Museum in the Victory Loan through the generosity of one of our good friends. One hundred seventy-six employees took advantage of the opportunity, and the subscriptions, as in the two previous loans, passed the $20,000 mark, $20,200 being subscribed to the fifth loan.

Too much stress cannot be laid on the desirability of instituting a system of periodical physical inspection for our employees. It has been suggested that such a system be made obligatory, and that the employee be asked to contribute one-half of the expense of his examinations, which would probably number two a year and would be given at a nominal rate. It is realized that the introduction of such a plan might perhaps call forth some objection on the part of a few employees. Such opposition, however, would probably arise only in the first hasty consideration of the plan, and would disappear after a little clear thought had been given the matter. It is to-day a generally accepted fact that the interests of employer and employee are mutual and closely interrelated. Their obligations toward each other do not begin and end in the mere performance of and remuneration for a certain amount of work. The Museum authorities have found it possible, on a number of occasions in the past, to be of assistance in various ways to employees in need of medical or surgical attention. Such assistance has been as gratefully accepted as it was freely offered. Now the Corporation proposes to extend to all its employees its coöperation in detecting signs of threatened or incipient illness, and in promptly warding off or correcting the trouble. Such wise precaution will accomplish for the individual employee the elimination of preventable sickness, and a consequent extension of life, while for the Museum it will mean a generally higher standard of efficiency due to the higher physical standard among the employees. It is therefore the hope of the Pension Board that the proposi-

tion of periodical physical examinations, after its adoption by the Board of Trustees, will be met with favor, and even with enthusiasm, by the employees.

At the time of the adoption of our Rules and Regulations, Mr. S. Herbert Wolfe, the actuary who passed upon the plan, recommended that from time to time examinations be made of the condition of the Fund, and that a comprehensive survey be made at least every five years. The unusual conditions prevailing in 1918 prevented such an examination. In November last, however, Mr. Wolfe made an exhaustive examination, and we have his assurance that the accumulations of the Fund have reached the figure which it was assumed they would equal. But Mr. Wolfe makes suggestions looking forward to the improvement of the condition of the Fund, and to the further assurance of its continuity. The following excerpt from his report is worthy of earnest consideration:

"If the future experience follows that of the past, I am of the opinion that the scale of contributions may remain as it is, and the benefits will be paid as required. There are certain conditions, however, which must be noted in order that the entire matter may be intelligently considered.

"The number of contributing members is small, and it is axiomatic that the smaller the group the greater will be the effect of fluctuations from the normal.

"It would not be the part of wisdom to shut our eyes to the fact that throughout the world at this time a lack of balance is manifest in the financial, the social and the economic bases of our existence. What effect will these disturbances have upon the Fund? Will they serve to change the relationship existing between the Museum and its employees? Will they result in unrest which in turn will be evidenced by less persistent employment and by a desire to discontinue active work as soon as the retirement age has been reached? Will the changing economic conditions result in a modification of the wage scale to an extent which will disarrange the calculations upon which the Fund was started?

"No one is competent at this time to answer the foregoing questions, and I deem it desirable, therefore, to make a suggestion intended to shield the Fund from the effect of any adverse conditions which may be developed in the future. In

view of the excellent condition of the Fund, it would seem that this time is the most appropriate for the inauguration of this additional safeguard. I would therefore suggest the formation of a Trustees' Emergency Fund, which will not become an integral part of the Pension Fund, but which will be held as a reserve to be called upon if needed in the future and if not needed can revert to the original subscribers or become part of some other designated fund of your institution. I would suggest that this fund be placed at $150,000, and that it and its accumulations be set aside for the purposes indicated above."

Accepting this recommendation, it is the Committee's intention to endeavor to raise by personal solicitation the sum named.

Probably in every pension system it is found advisable to introduce certain changes or emendations after the plan has been in operation for a period long enough to indicate the conditions peculiar to the corporation or institution concerned. It seems wise that in our plan some provision be made whereby persons of over 45 years of age entering the employ of the Museum be permitted to become subscribers to the Fund, provided they be in good health.

Again, plans which, when formulated, seem clear in purpose and application, do not always prove satisfactory in their actual operation. It is therefore the intention of the Pension Board to clarify, at an early date, some of the rules pertaining to the administration of the Fund, as well as to recommend certain changes in the rules relating to retirements. Apropos of this latter purpose, we quote Mr. Wolfe, who had unusual opportunity to study the working of the pension systems of the United States Government and of foreign countries during the war, and was in a position to observe the weak points of various systems, the existence of which had not been anticipated:

"* * * it was observed that the cause for the constantly increasing amounts paid for our Army and Navy pensions was traceable not to pensions allotted to those who were disabled as the result of their military activities, but to those who received allowances based upon the mere fact that they were in service for a certain period. The latter group

may be said to correspond to those of your employees who would be entitled to retire after 30 years of service, irrespective of their then age. An employee entering your service at the age of 21 would become entitled to retire at the age of 51, and it is manifest that if employees should avail themselves of this privilege to any considerable extent the burden might prove embarrassing."

To the friends mentioned below we feel especially grateful for kindnesses conferred:

To Mr. S. Herbert Wolfe for his painstaking and complete survey of our Pension Fund.

To Mr. Horace F. Hutchinson and Mr. Richard B. Kelly for their generosity in placing at our disposal their endowed beds in the Presbyterian Hospital for the treatment of our sick.

To Mr. Lewis L. Delafield for advisory services freely rendered.

Deceased Subscribers

We deeply regret to have to report the deaths of the following members during the year 1919:

Jefferson L. Jeffords

Jefferson L. Jeffords was born on August 7, 1859, in Jamestown, New York. In 1908 he came to the Museum. For a number of years he worked as a machinist, being later assigned to the custodians' force. There he served to the time of his death, displaying always an unusually happy disposition, never failing courtesy and genial presence. His sudden death on October 15, 1919, came as a distinct shock to all his acquaintances. The institution has lost in him one who served with efficiency and a deep sense of personal interest.

John F. Jordan

John F. Jordan was born in London on April 8, 1847. In 1901 he entered the service of the Museum in the capacity of painter. Always cheerful, his cordiality won for him a warm welcome in the gatherings of his associates. The infirmities of age compelled him to retire in 1917. He died suddenly on February 27, 1919.

John T. Kyle

John T. Kyle was born May 4, 1874, in Jersey City. In early manhood he decided to learn carpentry, and served a

regular apprenticeship, upon the completion of which he became a ship-joiner. With this experience he joined the construction force of the Museum as a cabinet-maker, and in this position served efficiently for eight years. A man of exemplary character and habits, he was of sterling integrity, steadfast in friendship and always welcome among groups of his associates. Patient during a long-continued illness, he was released from his suffering on September 23, 1919.

RETIREMENTS

Name	Former Position	Date of Retirement	Yearly Allowance	Period of Service
John T. Davis	Carpenter	March 1, 1917	$311 64	15 years
H. Ernestine Ripley	Secretary	Jan. 1, 1919	416 00	16 years
George A. Young	Carpenter	Feb. 1, 1919	253 03	15 years

Financial Statement
of the
Pension Fund
of the
American Museum of Natural History
1919

Invested Funds

	Par Value	Book Value
Endowment Fund	$1,258 37	$1,140 39
Investment Fund	122,741 63	113,375 99
Total	$124,000 00	$114,516 38

STATEMENT OF INVESTED FUNDS

Par Value	Securities	Due	Rate of Int.	Interest Payable	Ann. Int.	Date Acquired	Book Value
$5,000 00	Union Pacific Railroad Company, 1st Lien & Refunding Mortgage Bonds	2008	4%	Mar.-Sept.	$200 00	Feb. 26, 1914	$4,687 50
5,000 00	Chicago & Northwestern Railway Company, General Mortgage Bonds	1987	4%	May-Nov.	200 00	July 7, 1914	4,725 00
5,000 00	Pennsylvania Railroad Company, General Mortgage Bonds	1965	4½%	June-Dec.	225 00	June 4, 1915	4,887 50
5,000 00	Baltimore & Ohio Railroad Co., Refunding & General Mortgage Bonds	1995	5%	June-Dec.	250 00	Dec. 29, 1915	5,050 00
5,000 00	Chicago, Milwaukee, St. Paul Railway Company, General & Refunding Mortgage Bonds	2014	4½%	Apr.-Oct.	225 00	May 5, 1916	4,668 75
5,000 00	Atchison, Topeka & Santa Fe Railway Company, General Mortgage Bonds	1995	4%	Apr.-Oct.	200 00	May 29, 1916	4,687 50
5,000 00	Norfolk & Western Railway, First Consol. Mortgage Bonds	1996	4%	Apr.-Oct.	200 00	May 29, 1916	4,681 25
5,000 00	New York Central Railroad Co., Refunding & Improvement Bonds	2013	4½%	Apr.-Oct.	225 00	May 29, 1916	4,706 25
5,000 00	Southern Pacific Railroad Co., First Refunding Mortgage Bonds	1955	4%	Jan.-July	200 00	May 29, 1916	4,533 75
5,000 00	Northern Pacific Railway Co., Refunding & Improvement Mortgage Bonds	2047	4½%	Jan.-July	225 00	July 17, 1916	4,825 00
5,000 00	Illinois Central Railroad Co., Refunding Mortgage Bonds	1955	4%	May-Nov.	200 00	Oct. 18, 1916	4,518 75
5,000 00	Chicago, Burlington & Quincy R. R. Company, General Mortgage Bonds	1958	4%	Mar.-Sept.	200 00	Dec. 30, 1916	4,717 50
5,000 00	Louisville & Nashville R. R. Co., Unified Mortgage Bonds	1940	4%	Jan.-July	200 00	Apr. 12, 1917	4,656 25
6,000 00	Baltimore & Ohio R. R. Co. (Pittsburgh, L. Erie & W. Va.), Refunding Mortgage Bonds	1941	4%	May-Nov.	240 00	July 16, 1917	4,808 75
5,000 00	Pennsylvania R. R. Co., General Mortgage Bonds.	1965	4½%	June-Dec.	225 00	Oct. 19, 1917	4,608 75

Par Value	Securities	Due	Rate of Int.	Interest Payable	Ann. Int.	Date Acquired	Book Value
1,000 00	Atchison, Topeka & Santa Fe Ry. Co., General Mortgage Bonds	1995	4%	Apr.-Oct.	40 00	Mar. 12, 1918	821 25
1,000 00	Norfolk & Western Ry. Co., Consolidated Bonds	1996	4%	Apr.-Oct.	40 00	Mar. 12, 1918	831 25
2,000 00	Union Pacific R. R. Co., 1st Lien Refunding Mortgage Bonds	2008	4%	Mar.-Sept.	80 00	Mar. 12, 1918	1,592 50
2,000 00	Southern Pacific R. R. Co., 1st Refunding Mortgage Bonds	1955	4%	Jan.-July	80 00	Mar. 12, 1918	1,582 50
5,000 00	Great Northern Ry. Co., 1st Refunding Mortgage Bonds	1961	4¼%	Jan.-July	212 50	May 10, 1918	4,456 25
4,000 00	Atchison, Topeka & Santa Fe Ry. Co., General Mortgage Bonds	1995	4%	Apr.-Oct.	160 00	Aug. 19, 1918	3,250 00
2,000 00	Chicago, Burlington & Quincy Ry. Co., General Mortgage Bonds	1958	4%	Mar.-Sept.	80 00	Aug. 20, 1918	1,602 50
5,000 00	United States of America Third Liberty Loan Bonds	1928	4¼%	Mar.-Sept.	212 50	Nov. 30, 1918	4,890 00
3,000 00	Chicago, Burlington & Quincy R. R. Co., General Mortgage Bonds	1958	4%	Mar.-Sept.	120 00	Jan. 27, 1919	2,486 25
3,000 00	Union Pacific Railroad Co., 1st & Refunding Mortgage Bonds	2008	4%	Mar.-Sept.	120 00	Jan. 27, 1919	2,460 00
5,000 00	United States of America Victory Liberty Loan Bonds	1922/3	4¾%	June-Dec.	237 50	May 15, 1919	5,000 00
5,000 00	United States of America Victory Liberty Loan Bonds	1922/3	4¾%	June-Dec.	237 50	June 17, 1919	4,998 00
3,000 00	N. Y. C. Municipal Bonds	1927	4½%	Jan.-July	135 00	Sept. 19, 1919	3,001 88
2,000 00	Pennsylvania R. R. Co., General Mortgage Bonds	1968	5%	June-Dec.	100 00	Oct. 2, 1919	1,827 50
5,000 00	United States of America Victory Liberty Loan Bonds	1922/3	4¾%	June-Dec.	237 50	Dec. 11, 1919	4,954 00
$124,000 00					$5,307 50		$114,516 38

PENSION FUND ACCOUNT

Receipts

1919

Cash on Hand, January 1, 1919			$10,787 79
Contributions of Subscribing Employees:			
Deductions of 3% from Payrolls of			
City Maintenance Account	$4,919 05		
General Account	1,545 92		
Special Funds Account	29 09		
Corporate Stock Account	225 20		
Incidental Account	3 22		
Morris K. Jesup Fund Account	4,297 94		
		$11,020 42	
Personal Contributions of Subscribing Employees		487 25	
			11,507 67
Contributions of Board of Trustees:			
To Equal Contributions of Subscribing Employees			11,548 20
Interest on Investment Fund			4,486 22
Interest on Endowment Fund			50 34
Interest on Credit Balances			204 43
Bursar's Account			500 00
			$39,084 65

Examined and Approved { ADRIAN ISELIN, PERCY R. PYNE } *Auditing Committee*

PENSION FUND ACCOUNT

DISBURSEMENTS

1919

RETURN OF CONTRIBUTIONS	$3,245 87	
INTEREST ON CONTRIBUTIONS	197 15	
		$3,443 02
SERVICE PENSIONS	577 03	
PENSION IN EVENT OF ILLNESS, DISMISSAL, ETC.	416 00	
DEATH GRATUITIES PAID UNDER SECTION 13	968 23	
" " " " " 18	735 70	
		2,696 96
PURCHASE OF SECURITIES:		
Investment Fund		24,689 26
EXPENSES		23 93
LOAN ACCOUNT		500 00
CASH ON HAND DECEMBER 31, 1919:		
Deposited with the United States Trust Company of New York	7,231 48	
Deposited with Colonial Bank (Bursar's Account)	500 00	
		7,731 48
		$39,084 65

E. & O. E.

NEW YORK, *December 31, 1919*

H. P. DAVISON, *Treasurer*

PENSION FUND—SPECIAL FUNDS ACCOUNT

Receipts

1919

Liberty Loan Accounts:			
Interest on Credit Balances			$96 83
American Museum Liberty Loan No. 1:			
Subscribers' Payments:			
Personal	$55 00		
Deducted from Salaries	337 50		
		392 50	
Interest on Unpaid Balances:			
Personal Payments	2 79		
Deducted from Salaries	1 05		
		3 84	
			396 34
American Museum Liberty Loan No. 2:			
Subscribers' Payments:			
Personal	90 00		
Deducted from Salaries	856 00		
		946 00	
Interest on Unpaid Balances:			
Personal Payment	1 17		
Deducted from Salaries	9 25		
		10 42	
			956 42
American Museum Liberty Loan No. 3:			
Cash on Hand January 1, 1919		182 50	
Subscribers' Payments:			
Personal	805 14		
Deducted from Salaries	3,952 80		
		4,757 94	
Interest on Unpaid Balances:			
Personal Payment	9 34		
Deducted from Salaries	84 16		
		93 50	
			5,033 94
American Museum Liberty Loan No. 4:			
Cash on Hand January 1, 1919		240 23	
Subscribers' Payments:			
Personal	2,076 55		
Deducted from Salaries	6,163 30		
		8,239 85	
Interest on Unpaid Balances:			
Personal Payment	11 00		
Deducted from Salaries	222 44	233 44	
			8,713 52
Carried forward			$15,197 05

PENSION FUND—SPECIAL FUNDS ACCOUNT

DISBURSEMENTS

1919

LIBERTY LOAN ACCOUNTS:		
Advances for 1918 Accounts		$43 62
AMERICAN MUSEUM LIBERTY LOAN No. 1:		
Purchase of Bonds:		
Loan Account	$384 95	
Interest on Loans	1 12	
		386 07
AMERICAN MUSEUM LIBERTY LOAN No. 2:		
Purchase of Bonds:		
Loan Account	946 00	
Interest on Loans	9 72	
		955 72
AMERICAN MUSEUM LIBERTY LOAN No. 3:		
Purchase of Bonds:		
Loan Account	4,940 44	
Interest on Loans	91 68	
		5,032 12
AMERICAN MUSEUM LIBERTY LOAN No. 4:		
Purchase of Bonds:		
Loan Account	8,385 08	
Interest on Loans	239 33	
		8,624 41
Carried forward		$15,041 94

PENSION FUND—SPECIAL FUNDS ACCOUNT

RECEIPTS (*Continued*)

1919

Brought forward			$15,197 05
AMERICAN MUSEUM VICTORY LIBERTY LOAN:			
Subscribers' Payments:			
Personal	$7,530 86		
Deducted from Salaries	5,735 50		
		$13,266 36	
Interest on Unpaid Balances:			
Personal Payments	17 35		
Deducted from Salaries	273 23		
		290 58	
Loan Account		15,250 00	
			28,806 94
			$44,003 99

Examined and Approved { ADRIAN ISELIN, PERCY R. PYNE } *Auditing Committee*

PENSION FUND—SPECIAL FUNDS ACCOUNT

DISBURSEMENTS (*Continued*)

1919

Brought forward		$15,041 94
AMERICAN MUSEUM VICTORY LIBERTY LOAN:		
Purchase of Bonds	$20,200 00	
Loan Account	8,316 36	
Interest on Loans	298 59	
		28,814 95
CASH ON HAND DECEMBER 31, 1919, DEPOSITED WITH THE UNITED STATES TRUST COMPANY OF NEW YORK		147 10
		$44,003 99

E. & O. E.

NEW YORK, *December 31, 1919*

H. P. DAVISON, *Treasurer*

Press of B. H. Tyrrel
206-208 Fulton Street
New York, N.Y., U.S.A.

From the Charter of 1869

"For the purpose of establishing and maintaining in said city a Museum and Library of Natural History; of encouraging and developing the study of Natural Science; of advancing the general knowledge of kindred subjects, and to that end of furnishing popular instruction."