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*Why ask for the moon
When we have the stars?*



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STANLEY FIELD HALL, NEW BUILDING.

FIELD MUSEUM OF NATURAL HISTORY.

PUBLICATION 205.

REPORT SERIES.

VOL. V, No. 5.

ANNUAL REPORT OF THE
DIRECTOR

TO THE

BOARD OF TRUSTEES

FOR THE YEAR 1919.



CHICAGO, U. S. A.

January, 1920.



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THE LIBRARY.

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January 1, 1920.

ANNUAL REPORT OF THE DIRECTOR.

1919

To the Trustees of Field Museum of Natural History:

I have the honor to present a report of the operations of the Museum for the year ending December 31, 1919.

Uncertainty as to the date of removal to the new Museum building in Grant Park was as far as humanly possible dissipated at the close of the year, by the joint opinion of all parties and agencies concerned in the big task that this movement could safely begin the latter part of April, and it is upon this understanding that the personnel of the Museum will enter the new year; with over ninety per cent of the material ready for transportation and the building practically completed. All the contracts incident to this most important work will have been closed during January and all arrangements perfected for the building of spur tracks from the Illinois Central Railroad to platforms to be constructed near the openings in each building provided for forwarding and receiving. It is now estimated that the transfer of all properties may be accomplished within sixty days and that before the end of 1920 sufficient installation will have been completed to justify admission of the public to at least certain sections of the new building.

After rather protracted negotiations, but without any serious dispute, the contract with the Government permitting the hospitalization of the new Museum building was cancelled and the Museum accepted from the Government an allowance as full satisfaction of the expenses incurred and additional cost imposed during the time the Government controlled building operations.

Mr. James Simpson, Vice-President of Marshall Field & Company and for many years the confidential associate of Marshall Field, donated to the Museum such a sum of money as would be required to construct the large assembly hall, or auditorium, in the new building. This gift was accepted with expressions which the circumstance would naturally invite. Subsequently, it was determined to dedicate this auditorium as "James Simpson Theatre of Field Museum of Natural History." It will accommodate one thousand people. A stage and its ordinary accompaniments, foot lights, orchestra stall, etc., are included in the

plan. The interior treatment of the theatre will be in harmony with that of the main building and it will be equipped with every modern appliance for facility and comfort.

The Trustees have named the large hall along the east side of the Department of Botany on the second floor of the new building in honor of Mrs. Stanley Field. In this hall will be installed the collections in plant reproduction, for which expensive and elaborate work under the direction of the Department of Botany, Mrs. Field has provided the essential funds. It will be known as Sara C. Field Hall.

The plaster model of the new Museum building, which has been on exhibition in the Rotunda of the present building for several years, by vote of the Board of Trustees has been presented to the Architectural School of Armour Institute.

The Woman's Temple building, located at the corner of La Salle and Adams streets, mortgage upon which was given to the Museum by Marshall Field before his death and which mortgage was foreclosed after years of default, was sold to the State Bank of Chicago during the month of May, and the proceeds added to the capital of the General Fund.

In order to increase the income to a sum demanded by the extended service of the public schools by The N. W. Harris Public School Extension of Field Museum of Natural History, the heirs of the late Norman W. Harris, who provided the foundation for the Extension, have donated to the Museum the sum of \$25,000.00.

Trustee William Wrigley, Jr., having granted an exclusive privilege to the Museum to survey, excavate and collect archæological material on Catalina Island, the Museum, by permission of the grantor, entered in an arrangement with the Museum of the American Indian of New York City to prosecute scientific investigation on this island for the period of two years. An expedition for this purpose is to be commissioned by Mr. George G. Heye, President of the Museum of the American Indian, early in 1920.

A gift of unusual interest came from President Field; a Chinese cloisonné figure, perfect in execution and rich in color, about twenty-two inches high, representing a Grand Lama of the Buddhist Church of Tibet. Upon comparison with other images, the statue is identified as a portrayal of Pal-dan-ye-she, a church dignitary only next in rank to the Dalai Lama of Lhasa, and known as the Tashi Lama. Extended reference to this donation is made elsewhere.

An important accession during the year consisted of the private botanical collection of Mr. Edward T. Harper of Geneseo, Illinois. This collection is composed of 10,000 fungi, 10,000 flowering plants, over 800 titles of books and pamphlets and approximately 1,500 photograph

negatives. Mr. Harper desiring to continue his collecting and notes on this order of plants will remain in charge of this section in the Department of Botany, as Assistant Curator of Cryptogamic Botany. The transfer of the material will take place when the section which it is to occupy in the new building is ready for its reception.

Mr. George Langford of Joliet, Illinois, presented to the Museum his unusual collection of remains of mastodons obtained in Minooka, Illinois, and also specimens of mosasaurs from Kansas. The mastodon material includes remains of eight individuals. The expenses incurred by Mr. Langford in connection with this transfer were borne by Trustee Chauncey Keep.

The publication of "Sino-Iranica" by Dr. Berthold Laufer, Curator of the Department of Anthropology, funds for which were provided by Mrs. T. B. Blackstone and Mr. Charles R. Crane, has been completed and distributed.

Mr. William Wrigley, Jr. has presented to the Museum a notable collection of pre-Columbian gold ornaments from the United States of Colombia, excavated near the river Neshi, which is described in detail elsewhere. The gift comprises a brilliant and intrinsically valuable contribution to the rare material in the Museum.

An advance in salaries and the allowance of generous bonuses for the year 1919, recognized the increased cost of subsistence as well as the protracted and commendable services of the recipients.

Mr. Stanley Field was unanimously elected by the Board of Trustees an Honorary Member of the Institution, in recognition of the eminent service he has rendered to science.

Mr. John P. Wilson was elected a Patron of the Museum, in recognition of the eminent service he has rendered to the Institution.

The continued efforts of President Field to increase the Life Memberships of the Institution resulted in the election of the following during the year: Mark Morton, Silas H. Strawn, Edward S. Moore, Leroy A. Goddard, Robert H. Allerton, John V. Farwell, Ward W. Willits, Frederic McLaughlin, John Borden, Lafayette McWilliams, Joy Morton, Solomon A. Smith, Charles P. Wheeler, Frederick T. Haskell, Thomas E. Wilson, George E. Scott, Frank Hibbard, Frank O. Lowden, William O. Goodman, C. K. G. Billings, John W. Scott, G. F. Swift, Jr., A. G. Becker, Garrard B. Winston, Henry C. Lytton, William A. Pinkerton, David B. Jones, A. W. Goodrich, Thomas D. Jones, James C. Hutchins, John B. Drake, L. J. Hopkins, John B. Lord, Thomas W. Hinde, Adolph Nathan, Wallace C. Winter.

The death of Harlow N. Higinbotham, as a result of an automobile accident in New York City on April 18, 1919, has to be announced.

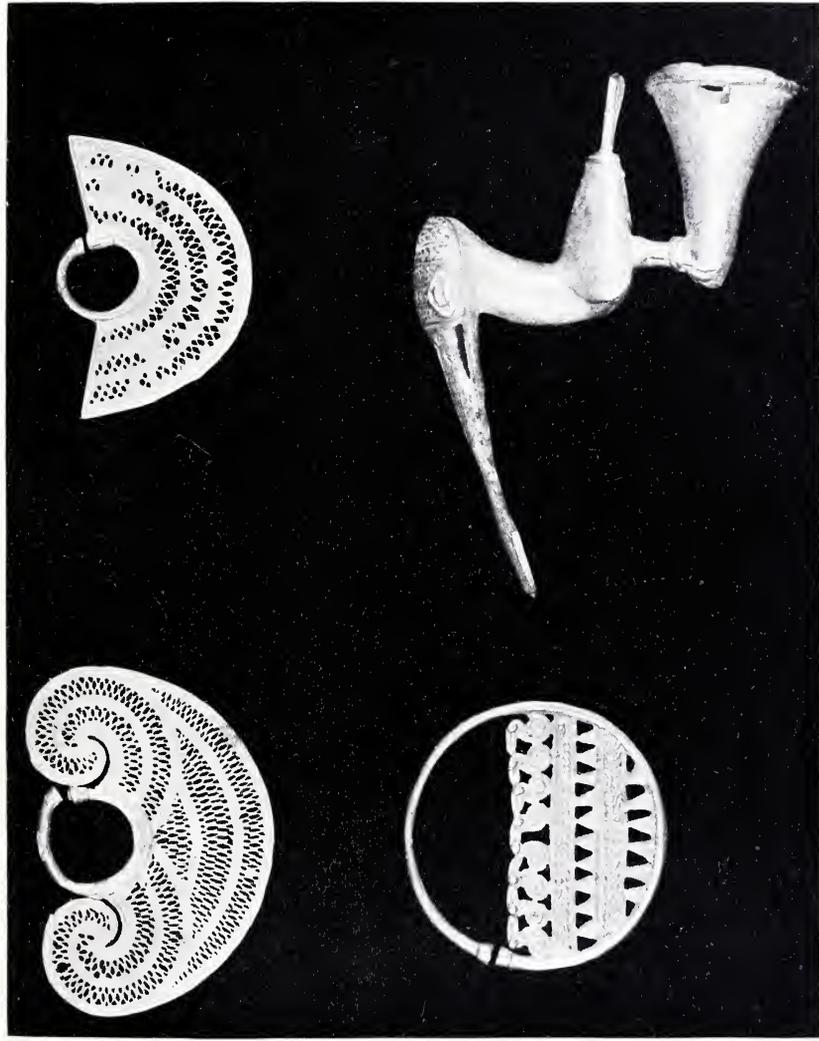
Mr. Higinbotham took a very active interest as President of the Columbian Exposition in securing for the Museum a vast quantity of material, which was the nucleus of the collections, and as Chairman of the Executive Committee of the Museum for fifteen years and as President of the Museum for twelve years, assisted effectively in the up-building of the Institution. He presented the collection of Gems and Jewels now installed in a hall named in his honor and gave other interesting but less costly material to the Museum. Mr. Higinbotham was succeeded as President by the incumbent of that office in 1909.

At the last regular meeting of the year, the Trustees were informed that the Founder of the Stanley Field Museum Employes' Pension Fund had suggested incorporating a system of life insurance in the benefits of the pension plan and that the Committee in charge of pensions had worked out a scheme which commended itself to Mr. Field. The Board of Trustees gave its approval, and it is probable that by the first of February, 1920, life insurance will be written upon the employes of the Institution.

MAINTENANCE.—The budget authorized by the Board of Trustees provided the sum of \$156,380.00 for the maintenance of the Museum for the year. The amount expended was \$132,252.00, which sum includes all expenditures made for preparing the entire contents of the Museum for removal to the new building. A satisfactory margin of \$24,130.00 appears as a result of the operations during the year. A further sum of \$9,039.00 was expended by special order of the Board of Trustees for collections, bonuses referred to elsewhere, and expeditions, bringing the total approximately to \$141,300.00.

PUBLICATIONS.—During the year four publications were issued, comprising parts of four volumes, details of which follow:

- Pub. 201.—Anthropological Series, Vol. XV, No. 3. Sino-Iranica. Chinese Contributions to the History of Civilization in Ancient Iran with special reference to the History of Cultivated Plants and Products. By Berthold Laufer. 1919. 446 pages. Edition 1,800.
- Pub. 202.—Report Series, Vol. V, No. 4. Annual Report of the Director for the Year 1918. January 1919. 69 pages, 26 halftones. Edition 1,950.
- Pub. 203.—Zoölogical Series, Vol. XIII, Part II, No. 2. Catalogue of the Birds of the Americas. By Charles B. Cory. 293 pages. 1 colored plate. December 1919. Edition 1,200.



GOLD EAR-RINGS AND CAST FIGURE OF A BIRD, FROM A MOUND IN COLOMBIA, SOUTH AMERICA.
Gift of Mr. Wm. Wrigley, Jr.

Pub. 204.—Botanical Series, Vol. IV, No. 2. Revision of the North American species of *Xanthium*. By Charles F. Millspaugh and E. E. Sherff. April 1919. 41 pages. 7 halftones. Edition 1,000.

In addition to the publications distributed for exchange purposes, two hundred and sixty-eight have been sold to various individuals who were not in a position to offer equivalent literature as an exchange.

THE LIBRARY.—There have been received by gift, exchange and purchase 1,716 books and pamphlets, an increase over last year's receipts. The library contains 72,736 bound and unbound books and pamphlets. The following list shows the number of titles in each Department:

General Library	45,792
Department of Anthropology	3,698
Department of Botany	7,640
Department of Geology	10,675
Department of Zoölogy	4,931

No especial event affecting the welfare of the library has occurred during the year; the endeavor has been to round out the work along the usual lines. With the activities of the curatorial staff largely engaged in preparations for moving to the new building, their requests for books were comparatively few during the first half of the year. With the cessation of that work and time again devoted to research their requests were renewed for books necessary for the study of material for installation purposes. For immediate use forty-three works were purchased. An important gift was received from Dr. Frank W. Gunsaulus of a rare and beautifully bound copy of Autograph Letters of Charles Darwin, written to J. Jenner Weir during the year 1868; also autographed copies by Louis Agassiz. These are the initial contributions to a very interesting collection to be known as, Gunsaulus collection of personalia and souvenirs of eminent naturalists. Early in the year the first volume of *The Monograph of the Pheasants*, by William Beebe, was published by the New York Zoölogical Society; a beautifully illustrated work of these gorgeous birds in their native haunts, to be complete in four volumes. When the attention of Mr. Edward E. Ayer was called to the work he immediately subscribed to the set for the Ayer Ornithological Library of the Museum. Mr. Ayer has also presented copies of Seth-Smith's *Handbook of the Imported Species (parakeets)*, and Whitaker's *Birds of Tunisia*. A number of desirable and valuable publications were received from contemporary institutions, both domestic and foreign, in exchange for the publications of the Museum. The number was especially noticeable because of the enormously enhanced cost of book-production. The Museum was most fortunate in receiving

from the Museum of Comparative Zoölogy, Harvard College, an almost complete set of its Memoirs, thirty-four volumes, covering the years 1864 to 1916. From the Sullivant Moss Society, New York City, was received a set to date of its publication, *The Bryologist*, in sixteen volumes. One hundred and seventeen books were bound during the year. While it ordinarily is unwise to keep separate numbers of serials and periodicals in an unbound condition, the prices of all materials used in binding having increased nearly one hundred per cent in the past few years, binding at present prices seems prohibitive. There were written and filed in the catalogues 18,054 cards. The regular monthly installment of author cards was received from the John Crerar Library. The Museum is unusually indebted this year to large libraries both in and out of Chicago for the loan of books that were necessary in the performance of its work; these courtesies are gratefully acknowledged, especially to the Library of Congress, the Library of the Department of Agriculture, the Surgeon General's Library, the John Crerar Library and the Library of the University of Chicago. A list of all accessions received by the Library during the year will be found elsewhere in this report.

DEPARTMENTAL CATALOGUING, INVENTORYING, AND LABELING.—During the year, in the Department of Anthropology, the work of cataloguing has been carried on as new accessions were acquired, but this task was naturally eclipsed by the necessary preparations for moving collections into the new building. The total number of catalogue cards prepared amounts to 577. These cards were distributed over the single divisions as follows: China, Japan, and India 117; Melanesian Ethnology 325; South-West, Mexican, and South American Archæology 125; and North American Ethnology 10. All these cards have been entered in the inventory books of the Department, which now number thirty-eight. The number of annual accessions amounts to twenty-five, nineteen of which have been entered. The total number of catalogue cards entered from the opening of the first volume amounts to 153,548. The photographer made 297 negatives and two enlargements, and supplied 370 prints to the Department, 160 of these referring to Japanese sword-guards. Twenty-four prints were added to the photographic albums kept in the Department. The printer delivered to the Department a total of 5,419 labels for use in exhibition cases. These labels are distributed as follows: New Guinea 1,939; Eskimo and Northwest Coast 2,622; Mexico 841; and China 17. The printer further supplied the Department with 700 catalogue cards. 373 new label cards were added to the label file.

In the Department of Botany the entries made number 4,586,

bringing the total entries to 482,076. The card indexes have been augmented as follows:

	No. of Cards Augmented 1919	Total
Index of Botanical Species	4,383	152,033
Index to Common Names of Plants	349	20,299
Index to Yucatan Plants . . . . .	.....	6,362
Index to Euphorbiaceae . . . . .	.....	4,225
Index to Department Labels . . . . .	.....	3,100
Index to Geographic Localities	6	2,756
Index to Collectors and Collections	42	9,892
Index to Botanical Titles . . . . .	.....	1,500
Index to Department Library . . . . .	.....	8,800
Index to Illinois Flora . . . . .	.....	900
Index to Hand Specimens of Woods . . . . .	.....	800
Index to Installed Cases . . . . .	.....	595
Index to Photographs . . . . .	.....	600
	<hr/> 4,780	<hr/> 211,862

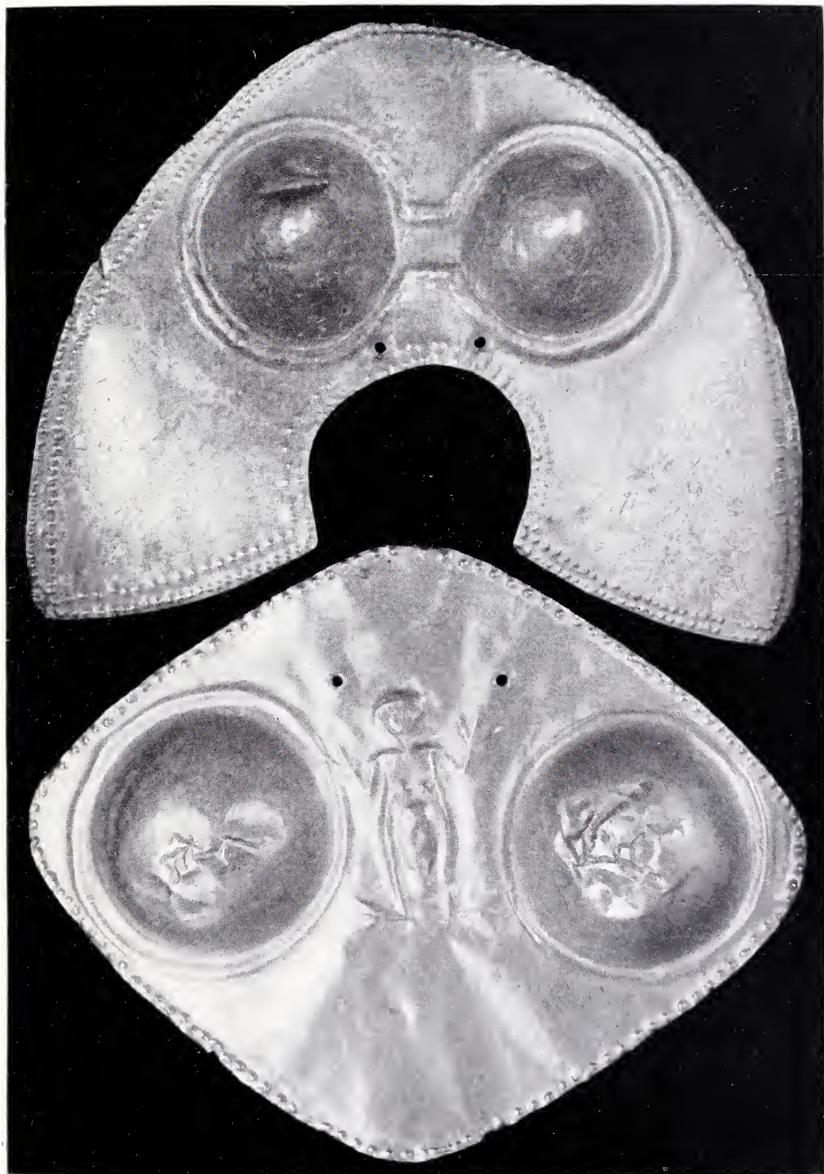
In the Department of Geology all accessions have been catalogued in full as received, with the exception of the Langford collection, which, as it was already packed on its arrival at the Museum, it seemed inadvisable to unpack for final cataloguing until space should be available for its installation. The entries made during the year number 591. These were chiefly of specimens of the Klechner and Dahlgren collections. A few labels have been made to fill gaps in the series of exhibition labels.

Owing to the inaccessibility of most of the study collections in the Department of Zoology, due to the preparation for removal to the new building, comparatively little cataloguing and labelling has been possible. The total entries made during the year number 553. There have been added 153 new entries in the Division of Ichthyology and 87 in Herpetology. Data for these entries have been added to the card catalogue and the specimens have been duly labelled and tin-tagged. Labels have also been prepared for a considerable portion of the exhibition collection in Ichthyology. Only 2 entries were made during the year in the Division of Osteology, an African elephant skull and a white rhinoceros skull received in exchange from the American Museum of Natural History. These were catalogued and index cards written to complete the record. In the Division of Mammalogy 6 catalogue entries were made and in the Division of Ornithology 305. The total entries to date number 101,014. The cards written during the year number 193, making a total of 34,406.

The following table shows the work performed on catalogues and the inventorying accomplished:

	No. of Record Books	Total No. of Entries to Dec. 31, 1919	Entries During 1919	Total No. of Cards Written
Department of Anthropology	38	153,548	577	153,688
Department of Botany	58	482,076	4,586	87,175
Department of Geology	22	141,020	591	8,018
Department of Zoology	40	101,014	554	34,406
The Library	14	111,076	2,716	277,026
Section of Photography	20	120,844	1,706	.....

ACCESSIONS.—The most notable accession of the year in the Department of Anthropology is represented by the generous and memorable gift of Mr. William Wrigley, Jr., being the gold treasure excavated from a mound on the river Nechi, in the province of Antigua, Colombia, South America. This remarkable and unique collection consists of 36 pre-Columbian gold ornaments, comprising four large embossed breast-plates of pure gold, two collars of gold foil, two rectangular plates, two fragmentary sheets of gold foil, one necklace of gold beads, four pairs of gold ear-rings, three cast figures of a bird, and eighteen miscellaneous ornaments. The four breastplates were beaten out on stone moulds carved in relief with the design required; they were apparently interred with women of high social standing, who were buried adorned with jewelry and ornaments they had most prized during their lifetime. Two of these plates are selected for illustration in this Report; also one of the birds and three of the ear-rings, which are exquisite both as to artistic quality of design and perfection of technique. The gold collection has been installed in the Gem Room, and is accompanied by a general label setting forth its significance. It has attracted a great deal of attention and given rise to many favorable comments, both in the press and on the part of archæologists. Mr. Stanley Field made a notable gift to the Department by adding to its Tibetan collection a fine portrait-statue, 22 inches high, wrought in cloisonné enamel and representing a Grand Lama of the Buddhist Church of Tibet. Comparison with other known images permits the establishment of the identity of this personage. In all probability it is a portrayal of Pal-dan-ye-she, a church dignitary only next in rank to the Dalai Lama of Lhasa and having his seat in Tashilhunpo in central Tibet. He is known as the Tashi Lama, being famous for having been the first Tibetan, who in 1774 entered into negotiations with the Anglo-Indian Government through George Bogle, an emissary of Warren Hastings, Governor General of India. In his diary Bogle characterizes him thus: "His disposition is open, candid, and generous. He is extremely merry and entertaining in conversation, and tells a pleasant story with a great deal of humor and action. I endeavored to find out in his character those defects which are inseparable from humanity, but he is so universally beloved that I had no success,



GOLD BREASTPLATES FROM A MOUND IN COLOMBIA, SOUTH AMERICA.
Gift of Mr. Wm. Wrigley, Jr.

and not a man could find in his heart to speak ill of him." Subsequently, he received an invitation from the Emperor of China to come to Peking, where he spent a year in one of the Lama temples, highly honored by the whole country. In 1780 he died a mysterious death, at the age of forty-two, officially of small-pox, but more probably of poison administered by imperial jealousy and disapproval of his intercourse with the English. Technically his image is a masterpiece and the finest specimen of cloisonné in the Institution. The background is yellow to indicate the robe of imperial yellow silk conferred upon the hierarch by the Emperor. The designs woven in this robe are all skillfully brought out by the process of inlaid enamels and represent the eight Buddhistic emblems of happy augury,—canopy, wheel of the law, conch, umbrella, lotus, vase, knotted cords, and double fish. The mitre is decorated with two red dragons soaring in clouds. The pedestal is ornamented in front with two lions in green, playing with a ball, and two dragons pursuing the flamed pearl; two elephants bearing tribute-gifts are shown on the sides, and three lotus-blossoms decorate the back of the base. Face and hands are gilt. Both composition and coloration are dignified and harmonious, and the statue conveys an excellent characterization of this historically interesting Grand Lama. Mr. Edward E. Ayer remembered the Department during the winter spent on the Pacific Coast, and a collection of six excellent knives, five from the Mohammedan Moro of the Philippines and one of Borneo manufacture, probably from the Kenyah or Kayan, is due to his generosity. The Borneo blade is beautifully chased and inlaid with brass, while the ivory handle is decorated with elaborate carvings. Three of the Philippine knives have wavy blades, and two are of the straight blade variety. In the latter group is a specimen of particular interest, because it is inlaid with a conventionalized floral pattern next to the hilt. A feather head-band used in the white-deer dance of the Indians of California, a good stone mortar with pestle, and a metate with muller, used by a child, were likewise presented by Mr. Ayer. His further contribution during the year is a Sioux woman's beaded dress of buckskin, taken by the late Lieut. Frederick Schwatka of the 3rd Cavalry from the village of the hostile Sioux chief, American Horse. This sleeveless, one-piece dress is probably unique owing to the large quantity of pink beads displayed over the back and breast extending onto the arms. This feature, together with its extraordinary state of preservation, makes it a museum specimen of the first order and now rarely encountered. A very unusual and beautiful ancient slate carving of the Haida on Queen Charlotte Islands, B. C., likewise obtained by Lieut. Schwatka at Victoria, B. C., in 1891, was presented by Mr. Martin A. Ryerson. It is a master-

piece of primitive sculpture. During the year Mr. Homer E. Sargent made two notable additions to his previous extensive contribution of 1917. These comprise two Pueblo squaw dresses secured about thirty years ago, three excellent Navaho blankets of native wool and dyes, and a Salish blanket of mountain-sheep wool, all of which strengthen the former gift. The last-named blanket is illustrated in this Report. To the continued interest of Dr. Frank W. Gunsaulus the Museum is further indebted for four remarkable additions,—first, a very important and most interesting collection coming from the native tribes of Formosa and brought to this country by S. Ishii, who for fifteen years has been chief of the Ethnological Survey of the Japanese Government on that island. It is well known that the task of the traveler and collector is fraught there with difficulties, especially in view of the fact that the wild tribes are secluded in the high mountainous regions. There are in this collection two complete costumes, one worn by a warrior chief on head-hunting expeditions, and a woman's dress. Other prominent features are three fine necklaces of agate and colored Venetian beads, which are highly prized by the natives and used for bartering purposes; several valuable wood carvings decorated with artistic designs; large pieces of textiles; a sword with a wooden scabbard carved with interesting ornaments; the model of a dugout, and several carved tobacco pipes and musical instruments. In view of the close affinity of the culture of the Formosan tribes with that of the Philippines, especially northern Luzon, which, for instance, is brought out by the artistic decorations of these specimens, this new material is of considerable scientific interest. A number of interesting photographs and two albums illustrating scenes of native life are added to the collection, which, it is hoped, will be placed on exhibition in the new building and act as a stimulus for future research in Formosa. Dr. Gunsaulus likewise presented a fine decorated metal shield from India and a celadon flower-vase in the shape of an elephant. Four glazed, ornamented porcelain tiles from Persia, due to his generosity, constitute a good beginning for a Persian collection. Miss Helen C. Gunsaulus donated a Japanese dagger with decorated sheath and hilt. Mrs. Henry J. Patten of Chicago presented an extraordinary ancient feather blanket from Rotorua, New Zealand, which was formerly the property of a Maori chief. A collection of 33 specimens from China was received from Mrs. Morgan S. Woodward of Chicago, being collected by herself at Peking in 1900, after going through the siege of the British Legation by the Boxer rebels. Among these are some trophies captured by American soldiers from the Boxers, the most curious object being a large jingal, about sixty pounds in weight, and inscribed in Chinese as hav-

ing been made in 1896 in the Arsenal of Tientsin; such jingals were carried by two soldiers on their shoulders and fired by a third man standing behind. Mr. G. L. Fitz-William, chemical and mining engineer of Hammond, Indiana, presented the Museum with an important ethnographical collection from the San Blas Indians, whom he had visited and studied. At the donor's request, this collection is to be named, in honor of his son, the "William Fitz-William Collection." The material is an excellent and representative collection from a very interesting tribe on the Isthmus of Panama. While not far removed from contact with civilization, this people preserves its aboriginality and particularly its purity of blood tenaciously. While they have been much brought into the light of publicity of late, the San Blas are seldom visited, and their specimens are rarely seen in museums. The most interesting part of the collection consists of women's garments, which are composed of many layers of bright colored cloths cut out in characteristic designs. Mr. G. F. Vivian contributed seven bows and thirty-six arrows from the Arawak of British Guiana, South America, collected by Dr. Geo. D. B. Dods; this is good and representative material, and there are several new types of arrows not heretofore in the Museum collection. Assistant Curator Mason presented eighteen ethnological and archæological objects from the Papago in Arizona, where he spent several weeks in the beginning of the year under a special leave of absence granted by the Institution. Mr. Joseph R. Morris of Deerfield, Illinois, donated twenty-three objects relating to Indian ethnology, collected at Fort Peck, Montana, in 1876. Among the prominent specimens in the lot are two choice blanket stripes, a buckskin gun-case, two splendid pouches, four knife-cases, and a netted wheel. Mr. Alfred R. Brown, Director of Education, Tonga, South Pacific, from whom the Museum purchased an Andaman Island collection in 1910, presented this year a small collection from the same group, which, while adding nothing new to the material on exhibition in the Museum, is of considerable scientific value. The technical culture of the aborigines of the Andaman Islands is not very rich, and at best yields a few weapons—chiefly bows and arrows,—some basketry, crude pottery, and scanty garments which are decorative and commemorative rather than for protection. All these are represented in this collection, and in addition a few modern imitations of the ancient bone-tipped arrows used in hunting and warfare. Included in the gift are two wood-carved images from the Nicobar Islands. One of these, the figure of a woman, is an excellent piece of native carving, and is a distinct addition to the exhibition collections. Such figures are believed to drive sickness and evil influences away from a house or village. While in Manokwari, Dutch New Guinea, in

December, 1912, Assistant Curator Lewis left a small sum in care of F. J. F. van Hasselt, a missionary stationed there, for the purpose of obtaining specimens from the north coast of Dutch New Guinea. This missionary was in the habit of taking trips every year to various parts of the coast, and stated that in the course of two or three years he could easily make a fairly representative collection. Owing to long delays in shipping caused by war conditions, the material arrived here only in July of this year. The collection comprises over three hundred specimens from various places along the north coast of Dutch New Guinea, including some fine large wooden figures, house ornaments, and about twenty-five ancestral images, called *korwar*. These are rare and valuable. Weapons, implements, household utensils, clothing and ornaments are all well represented. This part of New Guinea has been more or less visited by Europeans for many years, and very little of original native workmanship is at present to be had. The influx of the numerous Chinese and Malays settled along the coast has also tended to destroy or modify the native industries. Hence, but little from this region can be obtained, and that often betrays foreign influence.

The Department of Botany received the following important additions to its herbarium during the year: From the Philippine Bureau of Sciences 646 plants of the Philippines; Miss Anna King 300 specimens from Illinois; Paul C. Standley 285 Mexican plants of Arséne and Nicolas; B. F. Bush 70 plants of Missouri; Geological Survey of Canada 248 Canadian plants; Mrs. Stanley Field Plant Reproduction Section 102 plants of Georgia and Florida; Bernice Pauhai Bishop Museum 262 Hawaiian plants; The New York Botanical Garden 507 West Indian plants; C. F. Millspaugh 65 Wisconsin plants; H. M. Denslow 73 New England plants, and F. E. McDonald 63 plants of Illinois. The regional distribution of fully organized material to the herbarium in 1919 is shown in the following tabulation:

LOCALITY.	Added to Herbarium 1919	Total now in Herbarium
NORTH AMERICA (in general)	40	123
Alaska	4	1,350
Canada	4	909
Alberta	122	1,273
Athabasca	2	3
British America	3	3
British Columbia	33	1,486
Queen Charlotte Island	3	101
Vancouver Island	48	758
Herschen Island	1	1
Mackenzie	1	7
Nova Scotia	8	427

LOCALITY.	Added to Herbarium 1919	Total now in Herbarium
Ontario	39	1,709
Quebec	18	1,146
United States:		
Alabama	34	1,502
California	544	26,127
Colorado	22	12,607
Carolina (South)	5	1,103
Dakota (North)	1	651
Florida	74	20,405
Georgia	5	4,000
Illinois	494	28,462
Kansas	5	551
Louisiana	40	1,338
Maine	12	1,657
Maryland	7	1,373
Massachusetts	7	5,357
Michigan	1	3,913
Missouri	86	3,972
Nebraska	1	496
Nevada	13	1,308
New Hampshire	19	1,591
New Jersey	42	3,079
New Mexico	127	3,849
New York	79	7,550
Ohio	6	2,076
Pennsylvania	8	10,176
Tennessee	2	1,372
Texas	4	9,892
Utah	732	4,033
Vermont	19	3,623
Virginia	2	4,845
Wisconsin	65	5,072
Bahama Islands:		
New Providence	11	2,439
West Indies:		
Cuba	12	10,969
Grenada	5	819
Jamaica	1	7,695
Porto Rico	1	4,732
St. Kitts	1	14
Trinidad	1	495
Mexico	291	31,605
Yucatan	2	6,761
CENTRAL AMERICA:		
Costa Rica	17	629
Guatemala	1	3,084
Honduras	1	273

LOCALITY.	Added to Herbarium 1919	Total now in Herbarium
SOUTH AMERICA:		
Brazil	5	596
Chile	2	255
Colombia	507	2,938
Ecuador	2	852
Hermite Island	2	2
Venezuela	1	708
EUROPE (in general)		
Austria	52	7,796
France	10	8,382
Germany	21	8,717
Great Britain (in general)	7	1,433
England	97	2,556
Ireland	1	172
Isle of Man	1	1
Scotland	35	587
Wales	16	99
Norway	5	1,213
Sardinia	1	20
Spain	1	635
Sweden	2	9,721
Switzerland	79	3,717
ASIA:		
India	15	1,081
Ceylon	1	69
Palestine	1	613
Philippines	1,791	12,444
AFRICA:		
Abyssinia	5	226
Bourbon Island	1	1
Sierra Leone	1	13
OCEANICA:		
Auckland	1	1
Borneo (British)	2	10
New Zealand	5	1,533
Sandwich Islands (in general)	26	26
Kauai	44	493
Lauai	28	28
Maui	22	23
Molokai	22	22
Oahu	120	613
Samoa	4	67
Horticultural	68	3,349
Illustrations mounted as Herbarium sheets	40	2,276

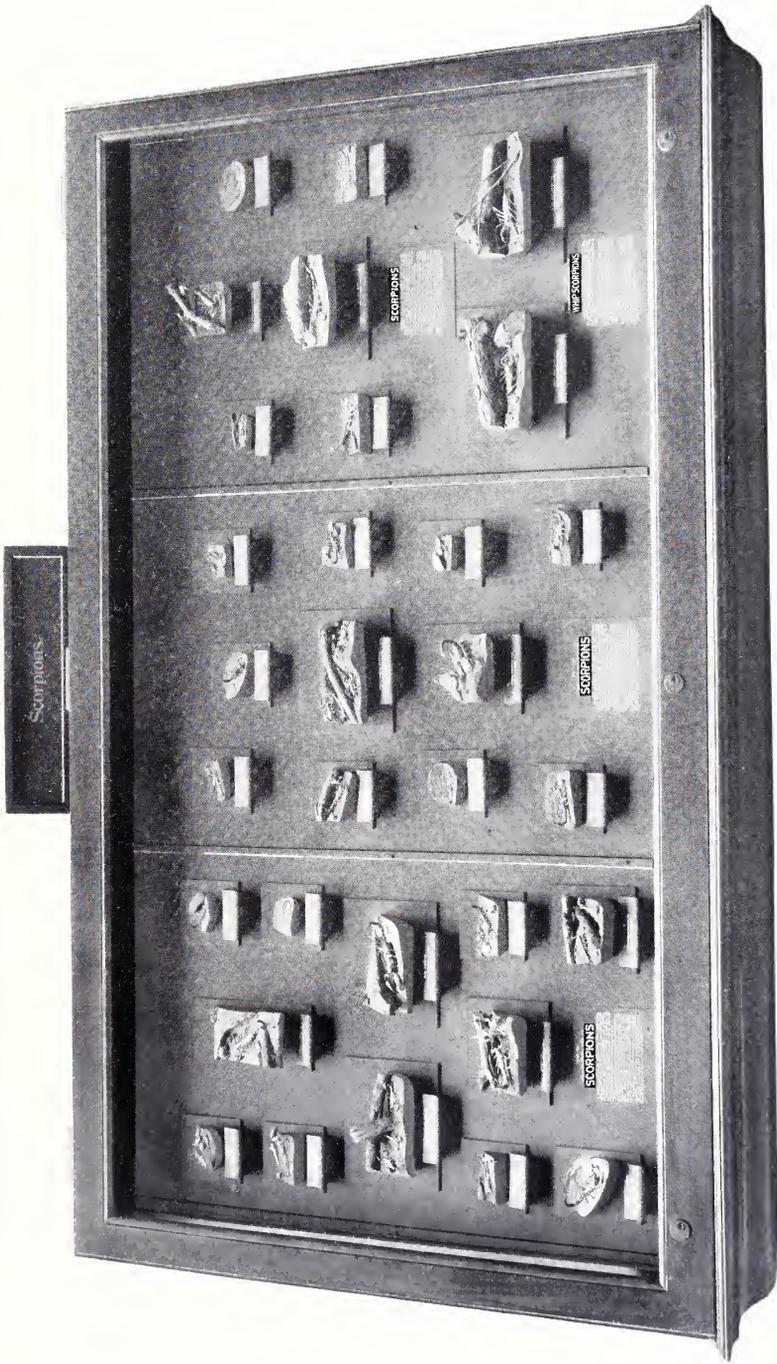
The most important accession received by the Department of Geology during the year was a large collection of vertebrate fossils presented by Mr. George Langford. This collection represents the results of many years of labor on the part of Mr. Langford, and is valuable, not

only for the amount of the material contained in it, but also for its well-prepared condition. The collection consists of two principal series, one chiefly of remains of mastodons obtained in Minooka, Illinois, and the other of specimens of mosasaurs from Kansas. The mastodon material includes remains of eight individuals, which range in age from a young calf to an adult. Of one large, adult male, portions of the skull, complete lower jaws, many limb bones, vertebrae, ribs and foot bones are preserved, as well as a tusk nine feet in length, probably the largest tusk of an animal of this species ever found. The other individuals of this series are represented by various skeletal parts, an especially important feature being that the entire tooth development of the mastodon is shown by specimens ranging from the first milk teeth to the ponderous, grinding molars of the male adult. Of the collection illustrating mosasaurs, the most important feature is two nearly perfect skulls, one two feet, the other eighteen inches in length which have been carefully excavated from their matrix and mounted free. These display in remarkable completeness the characters of the heads of these extinct "sea serpents." Some vertebrae are also associated with these skulls. A large jaw of a Columbian mammoth and a head of the fossil fish, *Gillicus*, also are included in the collection. Three complete individuals from the meteorite fall which occurred at Cumberland Falls, Kentucky, in April of this year, have been added to the meteorite collection, one being the gift of Mr. W. R. Jilison. The meteorites of this fall are of peculiar interest on account of their unique composition and structure. Of the meteorites of Richardton, North Dakota, which fell June 30, 1918, four individuals, aggregating about ten pounds in weight, were obtained, partly by purchase and partly by exchange with Professor T. T. Quirke. By exchange with the British Museum, representative specimens of the Baroti, Kuttipuram and Warbreccan meteorites were secured. A specimen of amethyst showing remarkable distribution of color, and two valuable crystals of scheelite were presented by Mr. W. J. Chalmers as additions to the Chalmers crystal collection. Several specimens of high-grade gold ore from Cripple Creek, Colorado, showing considerable free gold, were presented with other material by Mrs. G. Mace, and a collection containing, among other specimens, several minerals used in optical work was received by gift from Dr. Geo. M. Gill. By exchange with Prof. M. E. Kleckner, about one hundred specimens of crystallized celestite, fluorite, calcite and sphalerite from localities in Ohio and Michigan and of forms previously unrepresented in the Museum were obtained. Six specimens of typical Barbadoes earth and one of globigerina marl from the Barbadoes Islands were obtained by exchange with the University of Iowa. These illustrate deposits of

deep-sea origin which also have industrial uses. Dr. B. E. Dahlgren during his stay in Florida and other southern states collected for the department about one hundred and thirty geological specimens chiefly from Florida, but also from localities in Kentucky and Tennessee. These included sixteen specimens of varieties of soils, marls, mucks and sands characteristic of certain portions of Florida; several large specimens of coquina, illustrating the varieties and forms which characterize the structure of this peculiar aggregate, and ninety specimens of invertebrate fossils, partly from recent formations in Florida and partly from formations of Chester age in Kentucky and Tennessee.

The principal accession during the year in the Division of Mammalogy was secured by gift from Col. Dale Bumstead of Oak Park. It consists of three well-prepared skins and skulls of the Lower California mountain sheep and several skulls of mule deer. The Division of Ornithology received 217 bird skins, 67 of which represent a part of the Museum's share from the Collins-Day expedition. An African elephant skull and a white rhinoceros skull were received as an exchange from the American Museum of Natural History. Among the additions made to the shell collection is a gift from Mr. Giuseppe Despott of the Natural History Museum in Malta, which consists of 433 named and well labeled specimens from the Maltese Islands. The fact that the Museum had few shells from these islands adds to the value of this acquisition. There were 949 shells and 10 crustaceans added to the Department during the year. A total of 63 specimens of insects was received, of which number 57 were a gift and 6 an exchange. The accessions in the Division of Ichthyology and Herpetology consisted chiefly of gifts, totaling 284 specimens. The most important of these is a collection of thirty amphibians and reptiles from the Mississippi River Valley, presented by Mr. J. W. Mackelden of St. Louis. Mr. Leon L. Pray, Mr. William J. Gerhard, Mr. Herbert L. Stoddard, and others, added a number of desiderata to the collection of Illinois and Indiana snakes. Mr. Stoddard also donated a collection of wall lizards, taken by him while in the service in France. Mr. J. G. Sinclair presented a few amphibians and reptiles from Arizona, Mr. M. H. Sackheim three from New Mexico, and Mr. Charles L. Hubbs several from southern California.

EXPEDITIONS AND FIELD WORK.—Finds of remains of mastodon at two localities, Monee, Illinois, and Leiter's Ford, Indiana, were investigated by Assistant Curator Riggs. The mode of the occurrence of the bones at these localities was studied, some exploration conducted at the sites and negotiations entered into with the owners of the specimens which may result in securing desirable material later. As a result of a trip to Porcupine, Ontario, Canada, gold-mining district, a number of typical



SCORPIONS AND WHIP SCORPIONS.
Installed on tablet mounts with a suggestion of the habitat of these poisonous creatures.

ores and rocks of the region were secured by Assistant Curator Nichols. Assistant Curator Hubbs carried on some local field work for the Department of Zoölogy, obtaining a number of specimens for mounting in small groups, as well as a series of certain species for the study collection.

INSTALLATION, REARRANGEMENT, PERMANENT IMPROVEMENT—Most of the time of the members of the staff of the Department of Anthropology was consumed by the complex preparations in connection with the moving operations, chiefly assembling, sorting, and arranging material for packing, dismantling and charting cases, preparing and labeling material for future installation in the new building, and keeping exact records of the location of packed material. As a sequel to this labor, all plans previously prepared for the halls of the new building were subjected to a thorough revision and to numerous modifications. Frequent visits were made to the new building by members of the staff, and the study of actual conditions permitted the visualizing of the situation more correctly than was possible from the floor plans. The total result of this year's packing in the Department of Anthropology may be summed up in dry figures as follows: 615 exhibition cases, 320 boxes, 457 crates, 76 cartons, 80 bundles or packages in burlap, and 27 kegs and barrels. All these items have been properly labeled and numbered. The process of packing may be regarded as practically completed. There were prepared for installation in the new building 101 cases, covering the Eskimo and the tribes of the northwest Coast of America, the Coast and Interior Salish, and the Plateau Indians. This required the complete or partial dismantling of 123 cases formerly on exhibition. In conformity with the new principles of installation, all duplicate material was eliminated, which has resulted in a net saving of twenty-two cases. In the new arrangement, also a considerable quantity of material formerly in storage is placed on exhibition, while many large specimens which have stood in the open, or have been attached to the walls, are now safely sheltered behind glass. It has been the endeavor to arrange the material in geographical and cultural sequence using an adequate number of specimens to illustrate the every-day, esthetic, and religious life of the people. In the Divisions of Archaeology and Ethnology twenty-two cases were arranged for future installation in the new building. These refer to the archaeology of Colombia and Mexico and to the ethnology of the Upper Amazon, Central Brazil and Paraguay. In most instances, all available material was selected for exhibition, but surplus and duplicate objects have been relegated to study and exchange collections. Special care has been taken of the group cases. A detailed plan of each has been made to be utilized in the new building for the reconstruction of the groups. Reproductions

of three Hopi altar-mosaics of the Powamu ceremony in papier-maché and in their correct colors have been made, which may eventually replace the present mosaics of sand. In view of the importance of the packing operations, the repair section of the Department was temporarily closed until October 1st. Careful attention was devoted to the treatment of the Egyptian sculptural stones in the Department, which was carried on under the supervision of the Curator of Geology. The results thus far obtained are very satisfactory. Seventy-five cases were cleaned and poisoned during the year. The appointment of Miss Helen C. Gunsaulus as Assistant Curator of Japanese Ethnology, permits the systematic and intelligent study and disposition of considerable material in this division already in the possession of the Department of Anthropology. Miss Gunsaulus brings to the work she has undertaken, studious habit and special training, with enthusiasm and aptness for museum practice, as the work thus far done upon the collections in this division gives evidence.

The Department of Botany installed no cases during the year, the time of the staff being expended in packing for removal to the new building. All the exhibition cases in the department were securely packed for transportation; this packing being so done that the contents of each case may be returned thereto with a minimum of time expended. Such specimens as could not be fastened securely *in situ* in the cases, were enclosed in cartons and packed in the lockers of the cases to which they pertain. The base lockers in each case were utilized for packing. In them were placed all duplicate and study specimens, each in an individual paper box or corrugated paper parcel, and all bottles enclosed in "egg-case" partitioned cartons designed to fit the bottles. Thus the specimens of each case remain with the case to which they pertain. Lockers not needed for the case contents were packed with bundles of mounted plants belonging to the herbarium collections. The exhibition cases are now all ready for removal and labeled as to the hall and spot on the floor of each hall that they are to occupy in the new building. Notwithstanding this packing, a large number of the cases are still on creditable exhibit, not materially disturbed though fully ready for transportation. In addition to the exhibition case packing, over 480 numbered boxes and crates of material have been packed for removal. In all cases a complete record has been kept of the packages and their contents. While the herbarium has not yet been disorganized, it has been made ready for packing while still referable. This and the appurtenances of the offices and laboratories can be prepared for removal promptly after transportation actually begins. The plant reproductions made in the Mrs. Stanley Field Laboratories, have been

left on exhibition in their regular places in each case. These will remain so installed until the moving force begins operations. The work of the staff of the Mrs. Stanley Field Laboratories has not been interrupted. The first four and a half months of the year were spent in Miami, Florida, where the laboratory and garden of the Plant Introduction Station of the U. S. Department of Agriculture served as headquarters and furnished facilities and accommodation. For this the Museum is indebted to Mr. David Fairchild, Agricultural Explorer in charge of the Plant Introduction Bureau of Plant Industry in Washington, and to Mr. Edward Simmonds, Superintendent of the Garden and Field Station in Miami, to the former for liberally extending to the Museum the privileges of the laboratory and station, and to the latter for innumerable acts of kindness and assistance, which made it possible to pursue the work successfully here. Thanks are also due to Mrs. Simmonds and the members of the staff of the Department of Agriculture who were stationed at the Laboratory during the past winter, viz., Dr. J. Rosenbaum, plant pathologist, Mr. Chas. E. Sando, plant physiologist, and Mr. Max Kisliuk, entomologist. The friendly and helpful attitude of all these men was a matter greatly to be appreciated in the rather narrow quarters of the laboratory. The main object of transferring the work to Florida for the winter was to secure studies and material for certain desirable plants which could be had and handled there more readily and economically than anywhere, namely: the Cocomanut palm, the Banana, the Pineapple, the Florida Cycad (*Zamia*), etc. The material needed for the reproduction of the specimens was secured. The most perishable parts were cast and colored and plaster moulds were made of other parts, formalin material packed and sent to the Museum, and photographs, color sketches and detail studies secured for use after return. At the same time there were found in the Plant Introduction Garden a number of interesting plants which fitted exactly into the plans for the Museum botanical exhibits. Such were, for instance, the South African *Carissa* or Natal Plum, introduced into the United States in 1901 by Mr. Fairchild and now grown as a hedge plant in many places in southern Florida. This is an excellent example of the type of plant which can scarcely be reproduced successfully except in the field, where it can be studied from day to day as the work progresses. The Silk Cotton tree, *Bombax*, with its large crimson flowers furnishes another such illustration. One of these flowers was made on the spot during the week or ten days the tree was in blossom. On the strength of this and the moulds which were made at the same time, a splendid branch of the Silk Cotton tree has been added to the exhibits. Another introduced South African plant of much interest found growing in the

subtropical garden was a scrubby tree of the Strychnine family, *Strychnos spinosus*, with large green or yellow fruit superficially resembling a grapefruit, but with a hard shell and chocolate colored pulp of pleasant taste and a clove like fragrance. A flowering and fruiting branch of this has also been added to the exhibits. One of the main lines of investigation and experimental culture pursued at the garden concerns Avocadoes, or Alligator Pears. Numerous varieties from diverse localities are being tried out here, with a view to the introduction into Florida of those found most suitable and valuable for general cultivation. Three thoroughly well-defined types, a Guatemalan, a Mexican and a West Indian, together with a Guatemalan-Mexican hybrid, were considered of sufficient public interest to be added to the collection. Of these reproductions were made. A number of other plants especially desired by the Department for its exhibits were collected and cast or modeled in part during the period in Miami. Such are the Seven-year Apple (*Casasia*), *Pandanus*, the Screw-pine, in flower; *Casuarina* Australian Pine or Beef-wood tree, Long staple Cotton, Water Hyacinth, etc. A pitcher-plant of the southern large-leaved, yellow flowered species, *Sarracenia flava*, was collected on the return to Chicago in the latter part of May. A single pitcher of this plant, measuring 38 inches, has since been reproduced and placed on exhibition. Some tubers and plants which were brought back in a living condition are being grown for the Museum by the Garfield Park greenhouse. Among these are a large Yam, a *Zamia*, etc. A Spider Lily (*Hymenocallis caribæa*) from Florida, grown at Garfield Park, has been reproduced as a type of Amaryllid lily. Within the last few months a Banana plant (a flowering and fruiting specimen) has been reproduced complete and has been installed temporarily on the gallery. Also a sprouted Coconut showing the relation of the seedling plant to the seed and old husk; a Coconut flower enlarged; the flowers of *Casuarina* enlarged; enlarged flowers of *Scrophularia*; enlarged flowers of *Sagittaria*; a branch of a Quince from Fort Valley, Georgia; a witches'-broom on the Sand pine; a mounted dry specimen of air plant (*Tillandsia*); a reproduction of the Natal Plum, a branch with fruits and flowers. A set of tomatoes, parasitized by the different fungi that constitute the main pests of this industry, were obtained at the Miami Laboratory, where this matter was being investigated, and were reproduced for the economic collections. At the same time pure cultures of the fungi in question were furnished by the plant-pathologist, and it is the intention of the Department to exhibit in connection with the affected fruit a model of each fungus sufficiently enlarged to make its structure plain to the naked eye. A longitudinal section of a common Fig enlarged, together with a corresponding model of the male fig, or

capri-fig, has just been completed. It shows as plainly as such models can the interesting and peculiar story of the pollination of the fig, and the intricate life-history of the minute hymenopterous insect concerned. A flowering branch of *Grevillea robusta* Australian oak, with the enlarged flowers modeled last year, completes the illustration of the Proteaceae. A summary of the results of the year's work in this Section is as follows: Reproductions completed and placed on exhibition: Banana, entire plant in flower and leaf; Sprouting cocoanut, entire plant; *Carissa grandiflora*, fruit and flower branch of leaf; *Cydonia japonica*, branch in fruit and leaf; *Scrophularia Marylandica*, flower enlarged; *Hymenocallis caribæa*, entire plant; *Strychnos spinosus*, fruit and flower in leaf; *Sagittaria latifolia*, flower enlarged; *Casuarina equisetifolia*, flower enlarged; *Casasia clusiifolia*, branch fruiting and leafing; *Bombax grandiflora*, branch flowering and leafing; *Grevillea robusta*, branch flowering and in leaf; *Rhizoctonia solani*, *Macrosporium solani*, *Phytophthora infestans*, *Phoma destructiva*, on *Lycopersicum esculentum*; also parts of *Zamia*, *Cocoa*, *Amanas* and *Gossypium*.

In the Department of Geology some installation has been performed, chiefly for the purpose of putting some mounts into such condition that they could be moved with safety. To this end, mounting of a large skeleton of Megacerops was completed and the mount placed in a case in which it is at present exhibited and can probably be transported. This skeleton is made up entirely of the bones of a single individual and is very nearly anatomically complete, only two or three vertebrae being missing. A few of the limb bones were modeled from corresponding parts on the opposite side, but this was done with entire accuracy by casting. The skeleton is the only one of this genus which has as yet been mounted in any museum, and is the first specimen to show that the members of the genus were long-tailed animals. It was among the most primitive of the Oligocene titanotheres and was about the size of the modern black rhinoceros. The skeleton is mounted in three-quarters relief. The matrix, base and background against which the skeleton is shown have been made of plaster, colored to imitate the greenish clay in which the specimen was found. The plaster has also been tooled in such a manner as to suggest the excavation of the skeleton from the matrix. The posture is that of an animal in life, the skeleton being supported on its feet. The head, neck, torso and right limbs are, however, connected with the background for support, and the feet are partially enclosed in the matrix. Iron rods, made as inconspicuous as possible, have been introduced to support the left limbs. The specimen was collected in South Dakota in 1898 by a Museum expedition. After dismounting some of the dinosaur specimens for packing, the opportunity was im-

proved to make some modifications in the positions of the bones which study had shown would more correctly represent their relations. Some readjustments of the installation of the meteorite collection have been made in order to introduce new specimens and group more closely the different classes. Packing of exhibited specimens has been carried on as rapidly as possible during the year, and as a result the contents of two hundred and forty-one cases have been made ready for shipment, leaving only thirty-eight cases still to be packed. In addition, the work of packing the remaining study and stored collections has been carried on and brought to completion except for some specimens now stored in the basement. Practically all material exhibited on bases, such as the large fossil vertebrate mounts, has also, with the exception of the large dinosaur, been disassembled as far as was necessary and made ready for transportation. In choosing the sequence of collections for packing, those in halls somewhat removed from the main passageways were taken first, in order that the movements of visitors might be interfered with as little as possible while the work of packing was going on. All but three halls of the Department have now been closed to the public, and their contents packed. In these three remaining halls many of the specimens have been packed in such a way as to make them still available for observation. In packing, owing to the weight and hardness of many of the specimens on exhibition in the Department, it was found necessary to remove most of them from the cases and place them in boxes of sizes and shapes suitable for their transportation. In so doing considerable attention was paid to recording the position of the specimens in the cases in such a way as to ensure their rapid and accurate reinstallation on their arrival at the new building. For this purpose each case was given an arbitrary number which includes the temporary number of the hall to which the case is to be sent in the new building. This number has also an absolute value, and is to be retained for the case even if another location for the case should be decided upon. Before removing the specimens from the case, each specimen was given a number showing the location of the specimen within the case, the numbering being in a uniform order for each case, where the specimens were installed in such a manner as to permit. Thus a number 3-10 indicates that in reinstallation the specimen is to be placed on the third shelf from the top of the case and tenth in position from the left end of the shelf. A label bearing this installation number is wrapped with each specimen and on the reverse side of the corresponding printed label a similar number is penciled. In some cases the installation numbers of the specimens were marked on slips which were then fastened in the cases in the positions which the specimens occupied. In other cases, especially where the

installation did not fall into orderly lines, sketches were made on cross-section paper which showed in each case the amount and position of the space occupied by each specimen; the spaces were then numbered and corresponding numbers were wrapped with the specimens and penciled on the labels. The sketch itself was then in each instance fastened inside the corresponding case, so as to prevent its being transferred to any other exhibit. Specimens mounted upon tablets, which include most of the invertebrate fossils, were, for the most part, fastened securely in drawers underneath the cases. Sketches of the positions of the tablets in the cases were first made and numbered and corresponding numbers were penciled on the reverse sides of the tablets. Upon the outside of all packages and boxes containing specimens removed from cases, large department labels similar to those fastened inside the exhibition cases have been placed, giving the corresponding hall and case numbers, so as to insure constant connection of the specimens with the case. There is, further, painted on each package or box a brief label in the department color which describes the nature of the contents. A record has also been prepared in book form which shows in detail the numbers and forms of the exhibition cases and in adjoining columns the halls and alcoves in which the cases are to be placed. As containers for specimens to be packed, boxes and barrels were chiefly used, boxes of the size 36" x 20" x 14" being found especially suitable. Several thousand cartons and small wooden boxes were also employed, either as shipment units or for enclosing individual specimens or groups of specimens in larger boxes. Specimens which would be injured by moving in any other than an upright position were fastened in the exhibition cases. The method for fastening usually adopted was that of screwing metal studs into the metal strips used for supporting brackets at the back of the case and fastening wooden strips on the front of the studs in such a manner as to firmly enclose the specimen and its accompaniment of packing material. Other specimens of such shape that their transportation in boxes would be unsafe, were similarly packed in the cases, and the specimen labels have generally been packed in the cases in which they were originally exhibited. The packing of the fossil collections especially called for varied handling according to weight, mass and fragility. Much storage material which was still in the plaster and burlap wrapping in which it came from the field, was packed in strong boxes of $\frac{7}{8}$ inch lumber. The collections stored in wooden trays, consisting mostly of specimens that had partially been removed from the matrix, were packed in the trays. Specimens in smaller containers, such as paper trays, were wrapped with the trays, each with its label enclosed, and the whole packed snugly in wooden trays by the use of excelsior. These trays

were then stacked to form units of 15 inches in height, the uppermost tray being turned bottom up so as to form a cover. The whole was then formed into a bale. This proved not only the quickest and most effective means of packing, but had the advantage of keeping the specimens in the same trays which are to serve as storage for them in the new building. The large casts, such as those of *Megatherium* and *Hadrosaurus* were taken down and crated in sections. The head and legs were removed, and the thorax reenforced by longitudinal rods lashed across the ribs and secured at either end. All were then crated in units of such size as to permit easy transportation. Smaller skeletons, such as those of the Irish Deer, *Glyptodon* and *Uintatherium* were crated on their bases, with the heads removed when too large to be readily enclosed. Smaller skeletons of a fragile nature were, with their bases, placed in light crates, and were secured by a series of cordage stays running to the sides of the crates. Thus secured, the specimens were returned to the exhibition cases and fastened in position either by means of wires running to iron straps in the back of the case or by blocks screwed to the bottom of the case. Specimens packed in exhibition cases in this way are believed to be assured a safer handling than those placed in unprotected crates. Smaller specimens, such as skulls, were generally packed in paper cartons and secured in the exhibition cases either by blocks or by long, wooden braces fastened to iron studs screwed into the perforated and threaded strips designed to support the shelf-brackets. In some instances, however, the cartons were packed in large, wooden boxes. Very large skulls, such as those of *Titanotherium* and *Eobasileus*, were packed in special wooden crates and the whole returned to the exhibition cases to be moved in them. The Miocene camel skeleton was packed by disarticulating the legs, removing the head and pelvis, and supporting the torso on short, upright rods attached to a temporary base. The whole was then fastened firmly in an exhibition case. A number of heavy and fragile objects, such as specimens of *Daemonelix* and dinosaur bones, required re-enforcing. This was accomplished by the use of plaster and burlap, plaster and iron rods or a combination of all these. Since the spirals of *Daemonelix* made up of loosely-cemented sand, would little more than bear their own weight when in an upright position, they were, before removal from the exhibition case, reenforced with plaster and strips of burlap. To guard against possible breakage and crumbling, four quarter-inch rods were laid across the spirals parallel to their main axes. The peripheries of the spirals were then wound with plaster bandages which, crossing the rods at every turn, bound the whole firmly together. The mounts of dinosaur limbs were taken down and each large bone crated separately.

Previously to crating, the bones were covered with tissue paper to prevent the plaster from adhering to their finished surfaces, 2x4 inch timbers were fitted to the surfaces thus prepared, and all was lashed fast with plaster and burlap bandages. A similar treatment was given the large skull of Triceratops, which, owing to its thin and brittle substance, required especial care. Secure packing of the six hundred specimens of crude petroleum also presented a problem of some difficulty. These oils were exhibited in glass-stoppered bottles eighteen inches high and an inch and a quarter in diameter. No practicable method of sealing the stoppers oil-tight without defacing the bottles was found, since leakage was to be expected if the bottles were not maintained in an upright position. It was necessary also to avoid the use of excelsior or other finely divided packing material which might, in case of accident, become saturated with oil. Accordingly the stoppers were secured against loosening by tying caps of cheesecloth over them. The bottles were then placed in light, wooden boxes each of a size to hold thirty and of a height to allow one-quarter of the length of each bottle to project. To each box two pieces of heavy straw board were fitted, one two inches from the bottom and one over the top, and in these boards holes slightly larger than the diameter of the bottles were cut. When the bottles were threaded through these holes they were held flexibly but securely in position, and the upper quarter of the bottles projecting above the box was covered by crating which permitted a free view of the character of the contents and will protect the box from being inverted or roughly handled. To further facilitate carrying the bottles in proper positions, each box was equipped with suitable handles. The larger bottles of the collection, some of them eighteen inches in diameter, were similarly packed, though in specially made crates. Boxes of special sizes were also provided for the collection of marbles, the size chosen being such as to permit rapid packing and avoid too great weight. Of the series on exhibition in the West Court, the relief maps and the large model of the moon have been taken down and packed, leaving only the meteorite, crystal and gem collections now on exhibition.

Packing has been actively pursued in the Department of Zoölogy during the year. The only material in the Division of Mammalogy and Ornithology not ready for moving consists of the large habitat groups and the study collection of birds. The entire serial exhibition collections of mammals and birds have been secured *in situ* in their cases by means of cleats and braces or other devices to hold them securely in place. The study collection of mammals has been fully packed, mostly in original containers and the rooms in which they were kept have been dismantled. When not engaged in packing, one assistant has continued

in the preparation of plant accessories for the several large mammal groups still uncompleted, the Olympic elk group, the bison group, and the capybara group: The taxidermists have finished the preliminary models and manikins for a single Alaska moose. A giraffe and a hippopotamus are partly finished and practically ready for installation. The entire collection of the Division of Ichthyology and Herpetology was packed during the year and is now ready for shipment to the new building. The Section of Taxidermy has prepared the accessories for a number of small groups of local fishes and has been engaged in mounting certain fishes to fill in gaps in the synoptic series, which it is planned to make comparatively complete. In the Division of Entomology over three months at the beginning of the year were devoted to preparations for moving. As the entomological collections can be packed rather expeditiously and as it was unwise to render them inaccessible for any great length of time, the members of this Division assisted in the preparation of other material for removal. A large part of the year has been devoted to the making of two insect groups for a new case that was designed and built to accommodate them. One of the groups will represent the most conspicuous and characteristic insects of the sand dune region at Miller, Indiana, and the other will show the well known and destructive tomato worm in all its stages and with wax reproductions of its natural surroundings, etc. For specimens, casts of burrows, leaves and other accessory material, local field trips were made whenever they were considered necessary. While neither of the two groups has yet been finished, both have been so far advanced toward completion that they will be ready for installation by the latter part of January. The Division of Osteology packed fifteen exhibition cases with mounted skeletons and eighty-nine crates and boxes of various sizes, such as those for the whale, elephant, rhinoceros, hippopotamus and camel, including small ones for small ligamentary skeletons and skulls, which are now ready for removal. The skeletons, numbering twenty-seven (mostly ligamentary), that could not be packed in the condition they were in, were remounted.

THE N. W. HARRIS PUBLIC SCHOOL EXTENSION OF FIELD MUSEUM OF NATURAL HISTORY. — At the close of the year there were 646 cases available for circulation among the public schools of Chicago. In view of the painstaking methods employed in the taxidermy and accessory work of all zoölogical groups, it is with pride and pleasure that attention is called to the fact that of the total cases available for circulation, fifty-eight zoölogical cases were completed during the past year.

When plans were being formulated for the actual loaning of cases to the public schools, it was the opinion of a committee composed of school

principals that only schools of elementary grades would be best served with loan cases. This idea has been followed out from the inauguration of the system up to the present time. During the next scholastic year the high schools, at the written request of Mr. J. E. Armstrong, Assistant Superintendent of Schools, will be scheduled to receive cases. In his request Mr. Armstrong said of the cases, "I have studied them with great interest and am firmly of the opinion that they would be of very great assistance in the high schools."

The Superintendent of the Municipal Pier formally requested cases be placed on exhibition on the pier during the period of school vacation, as was done last year. His request was granted and twenty-four cases were placed on exhibition there during the time specified. When the cases were returned to the Museum the Superintendent expressed his thanks and added, "I believe I am voicing the thanks also of a large body of visitors who found entertainment and instruction in leisurely contemplating your beautiful exhibits and the lessons they teach."

In reptile and similar branches of taxidermy the employment of the skin of a specimen for mounting has not given satisfactory results. The effects usually obtained being a shrunken and parchment-like surface and a fading and disappearance of the natural colors. As these faults seemed impossible to remedy, the use of the specimen's skin for mounting purposes has practically been abandoned. Better, though not entirely approved results, have been derived by making, in plaster, celluloid and other materials, casts of specimens, which were afterwards painted to represent the natural colors. Painting on the surface of a skin or on a cast has never brought an effect comparable with the living model. In order to produce an effect more natural in appearance than that accomplished by the use of the skin or by casts, this Department has been, at intervals during the past year, experimenting with pyralin, celluloid and similar materials. With celluloid as a medium it is found possible to make reproductions of a character so closely resembling the structure and coloring of the skin of the living specimen as to eliminate the necessity of painting it, thus displacing the objectionable appearance of paint as it is usually employed. Experiments have also been made in foliage reproducing in celluloid, using electro-deposited metal molds which possess strength sufficient to withstand the pressure required in the molding operations. The strength and elasticity of the celluloid is such as to correct the objectionable necessity of making the artificial leaf unnaturally thick.

During the year a request was received from Mr. H. Bolton, Director, Museum and Art Gallery, Bristol, England, and Secretary, Educational Section, The British Association for the Advancement of Science, for

information concerning the work and scope of this Department, the data thus provided to be placed before the Association's meeting at Bournemouth in September. A request was made for the loan of several cases by the Woodlawn Branch of the Chicago Public Library.

The Director of the Orthogenic Department of Rush Medical College, University of Chicago, visited this Department and after making a careful study of the cases on hand, requested the loan from time to time of several of them, stating that they would be very helpful in instructing backward children, classes of which are conducted by that college. The request was granted and two cases of economic material were loaned.

PHOTOGRAPHY AND ILLUSTRATION.—The following is a tabulation of the work performed in this section:

	Number of Negatives made	Number of Prints made	Number of Enlarge- ments made	Number of Negatives developed for Field Expeditions	Number of Positives made. Used in making Enlarge- ments
General	45	146	..	..	..
Anthropology	278	470	2	..	I
Botany	6	339	..	..	..
Geology	18	42	..	..	..
Zoölogy	98	..	..	..	..
Harris Extension	5	79	..	46	..
Distribution . . . . .	...	...	..	..	..
Gift . . . . .	...	23	..	..	..
Sale . . . . .	...	108	..	..	..
Totals	450	1,207	2	46	I

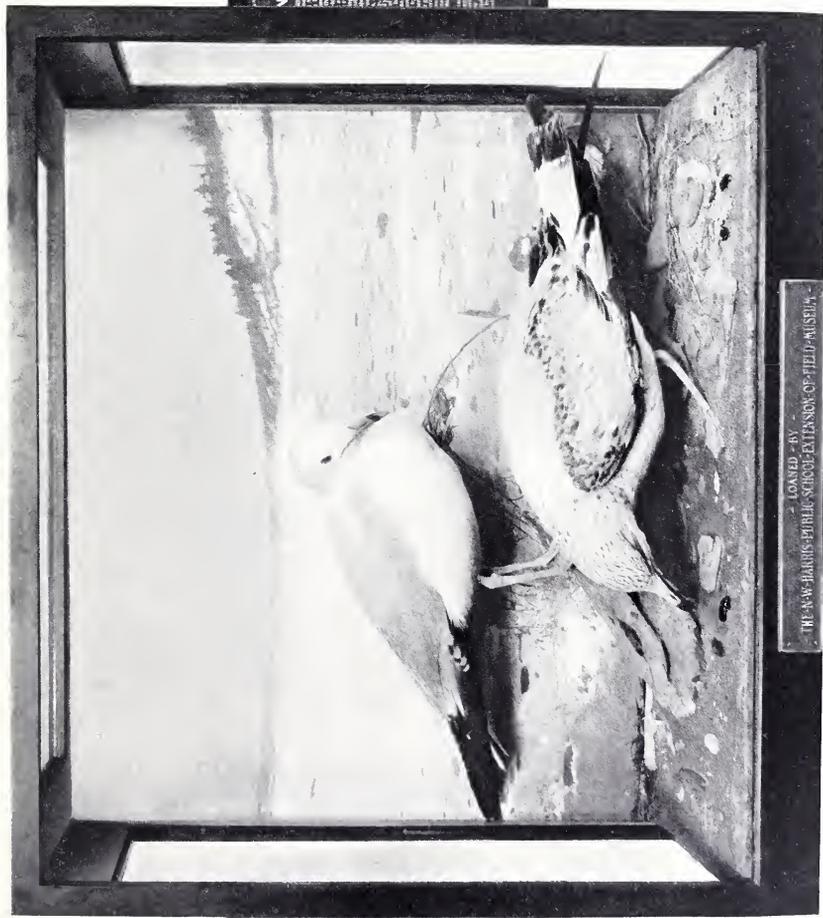
Total number of Catalogue entries during year 1919	1,706
Total number of Catalogue entries to December 31, 1919	120,844
Total number of Record Books	20

PRINTING.—The number of labels and other impressions made by the Section of Printing is as follows:

	Exhibition Labels	Other Impressions
Anthropology	5,921	1,200
Botany	91	4,650
Geology	610	2,100
Zoölogy	41	4,716
Harris Extension	355	800
General . . . . .	....	16,250
Library . . . . .	....	2,250

Herewith are also submitted financial statements, list of accessions, names of members, etc., etc.

FREDERICK J. V. SKIFF, Director.



RING-BILLED GULL
 The Ring-billed Gull is one of the most common and hardy of our birds. It is found in all parts of the United States, from the Gulf of Mexico to the Arctic Ocean. It breeds in large numbers on the shores of lakes and rivers, and on the coasts of the Atlantic and Pacific Oceans. The young are called "herring gulls" and are much valued for their eggs and meat. The adult birds are also used for food in some parts of the world. The Ring-billed Gull is a very intelligent and curious bird, and is often seen in the company of man. It is a very hardy and long-lived bird, and is able to withstand the most severe winters. It is a very common and useful bird, and is one of the most interesting and valuable of our birds.

NG-BILLED GULL
 The NG-billed Gull is one of the most common and hardy of our birds. It is found in all parts of the United States, from the Gulf of Mexico to the Arctic Ocean. It breeds in large numbers on the shores of lakes and rivers, and on the coasts of the Atlantic and Pacific Oceans. The young are called "herring gulls" and are much valued for their eggs and meat. The adult birds are also used for food in some parts of the world. The NG-billed Gull is a very intelligent and curious bird, and is often seen in the company of man. It is a very hardy and long-lived bird, and is able to withstand the most severe winters. It is a very common and useful bird, and is one of the most interesting and valuable of our birds.

LOANED BY
 THE N. W. HARRIS PUBLIC SCHOOL EXTENSION, CP. FIELD MUSEUM.

TYPE OF CASE LOANED TO PUBLIC SCHOOLS BY THE N. W. HARRIS PUBLIC SCHOOL EXTENSION OF FIELD MUSEUM.

FINANCIAL STATEMENT.

RECEIPTS AND DISBURSEMENTS.

January 1, 1919, to December 31, 1919.

RECEIPTS

Cash in Treasurer's hands December 31, 1918:		
General Fund	\$3,103.19	
Picture Postal Cards Fund	42.32	
Sinking Fund	347.96	\$ 3,493.47
Petty Cash on hand December 31, 1918		739.95
Dues of Annual Members		750.00
Dues of Life Members		17,600.00
Admissions and Check Rooms		3,780.15
South Park Commissioners		15,000.00
Interest on Investments and Bank Balances		9,990.83
Field Endowment Income		131,500.00
Field Endowment Sinking Fund		4,573.68
Field Endowment Sinking Fund — Income		1,567.27
New Building Moving and Furnishing Fund		23,235.00
Picture Postal Cards — Sales		693.32
Mrs. Stanley Field Plant Reproduction Fund		8,490.00
Sale of Publications — Special		468.88
William J. Chalmers Crystal Collection		500.00
Sundry Funds — Investment Income		7,026.60
Donations — Special:		
Charles R. Crane	\$ 500.00	
Mrs. T. B. Blackstone	2,500.00	
Dr. Frank W. Gunsaulus	300.00	
Chauncey Keep	300.00	
Edward E. Ayer	100.00	
Martin A. Ryerson	25.00	3,725.00

\$233,134.15

DISBURSEMENTS

Salaries	\$ 78,823.06
Guard Service	11,981.60
Janitor Service	7,016.15
Fire Protection	3,817.10
Heat and Light	19,912.61
Repairs and Alterations	9,811.79
Packing Supplies	1,531.84

332 FIELD MUSEUM OF NATURAL HISTORY — REPORTS, VOL. V.

Furniture and Fixtures:		
Exhibition Cases	\$ 168.00	
Herbarium Cases	512.00	680.00
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The Library:		
Books and Periodicals	\$ 628.85	
Binding, etc.	167.96	796.81
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Collections Purchased		476.15
Installation Supplies		887.21
Publications		1,150.20
Photography and Printing Supplies		409.61
General Expense:		
Freight, Expressage and Teaming	\$1,478.69	
Stationery, Postage and Telephone	647.11	
Liability Insurance	693.43	
Sundries	1,059.30	3,878.53
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Mrs. Stanley Field Plant Reproduction Fund		7,632.49
Stanley Field Ornithology Fund		50.00
William J. Chalmers Crystal Collection Fund		280.25
Joseph N. Field South Pacific Islands Fund		286.20
Employes Liberty Loan Bonds		1,399.60
New Building Moving and Furnishing Fund — Invest- ments		26,965.00
Life Memberships Fund — Investments		18,220.00
General Fund Investments — Suspense		17,600.00
Sinking Fund — Investments		6,265.00
Picture Postal Cards Fund — Investments		800.00
Sundry Funds — Investments		1,150.00
<hr/>		
		\$221,871.20
In Treasurer's hands, December 31, 1919:		
General Fund	\$9,590.90	
Picture Postal Cards Fund	12.10	
Foreign Exchange	920.00	10,523.00
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Petty Cash on hand December 31, 1919		739.95
<hr/>		
		\$233,134.15

ATTENDANCE AND RECEIPTS FROM JANUARY 1, 1919, TO
DECEMBER 31, 1919.

ATTENDANCE

Paid Attendance:		
Adults	13,069	
Children	1,465	14,534
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Free Admission on Pay Days:		
School Children	4,637	
Students	2,645	
Teachers	345	
Members	52	
Officers' Families	84	
Press	8	
Special	731	8,502
<hr/>		
Admission on Free Days:		
Saturdays	20,975	
Sundays	79,788	100,763
<hr/>		
Total Attendance		123,799
Highest Attendance on any one day (July 6, 1919)		4,634
Highest paid Attendance on any one day (September 1, 1919)		667
Average Daily Admissions (363 days)		341
Average Paid Attendance (259 days)		56

RECEIPTS

Articles checked — 7,560 at 5 cents each	\$ 378.00
Admissions	3,402.15
	<hr/>
	\$3,780.15

ACCESSIONS.

DEPARTMENT OF ANTHROPOLOGY.

- ANDERSON, MARY LOUISE, Chicago.
 1 piece of cartonage from mummy-wrappings, 3 hands and 1 lower leg from mummy — Egypt (gift).
- AYER, EDWARD E., Chicago.
 6 Malayan kris — Borneo and Palawan (gift).
 White-deer dance ceremonial feather head-band — Hupa, California (gift).
 1 Sioux beaded buckskin dress — United States (gift).
 1 stone mortar with pestle, 1 child's metate with muller — Southern California (gift).
- BROWN, ALFRED REGINALD, Tonga, South Pacific.
 Ethnographical material, chiefly basketry, weapons, headdresses, ornaments, 2 wooden images, altogether 113 specimens — Andamans and Nicobars (gift).
- JOSEPH N. FIELD SOUTH PACIFIC ISLANDS FUND.
 Wood-carvings, images, weapons, implements, clothing, ornaments, and other ethnographical material — North Coast of Dutch New Guinea (gift).
- FIELD, STANLEY, Chicago.
 Cloisonné portrait statue of a Tibetan Grand Lama, presumably Paldan-ye-she (1738-1780) — Peking (gift).
- FITZ-WILLIAM, G. L., Hammond, Indiana.
 Ethnographical objects from the San Blas Indians — Panama (gift).
- GUNSAULUS, FRANK W., Chicago.
 Ethnological objects: 2 costumes, textiles, necklaces, ornaments, sword, wood carvings, etc. — Formosa (gift).
 1 decorated metal shield — India (gift).
 4 glazed pottery tiles — Persia (gift).
 1 celadon flower-vase in shape of an elephant — Japan (gift).
- GUNSAULUS, HELEN C., Chicago.
 1 dagger with ornamented sheath and hilt — Japan (gift).
- LORD, J. B., Chicago.
 Buddhist bronze statuette — China (gift).
- MASON, J. A., Chicago.
 Ethnological and archæological material from the Papago Indians, Piman stock — Santa Rosa, Arizona (gift).
- MCCAULEY, MRS. CHAS. A. H., Highland Park, Illinois.
 Miscellaneous ethnographical collection from Philippines and American Indians — Philippines, Aden, America (gift).
- MORRIS, JOSEPH R., Deerfield, Illinois.
 Ethnographical objects from Sioux Indians — Fort Peck, Montana (gift).



SALISH BLANKET MADE AT SPUZZUM, B. C., ABOUT 1863.
Gift of Mr. Homer E. Sargent.

PATTEN, MRS. HENRY J., Evanston, Illinois.

Ancient feather blanket of Maori chief — Rotorua, New Zealand (gift).

RYERSON, MARTIN A., Chicago.

1 slate carving — Queen Charlotte Islands, B. C. (gift).

SARGENT, HOMER E., Pasadena, California.

2 Navajo blankets (gift).

4 blankets — Southwest and Northwest Coast, U. S. A. (gift).

VIVIAN, G. F., Chicago.

7 bows, 36 arrows — Demerara, British Guiana (gift).

WOODWARD, MRS. MORGAN S., Chicago.

1 jingal, 5 rifles, 10 swords, 3 cartridge-belts, 2 cannon-balls,
2 spears, 2 flags, 1 fireman's coat, 1 bamboo jacket, 1 bow, 1 printing-
block, 2 musical instruments — Peking, China (gift).

WRIGLEY, WILLIAM JR., Chicago.

Pre-Columbian gold ornaments — Mound on Nechi River, Colombia
(gift).

DEPARTMENT OF BOTANY.

BENKE, H. C., Elgin, Illinois.

1 herbarium specimen — Illinois (gift).

BERNICE PAUAAHI BISHOP MUSEUM, Honolulu, Hawaiian Isls.

262 herbarium specimens — Hawaiian Isls (exchange).

BUSH, B. F., Courtney, Missouri.

102 herbarium specimens — Missouri (gift).

COOK, A. T., Hyde Park, New York.

1 specimen potato seed balls — New York (gift).

DAHLGREN, B. E., Chicago.

1 fruit of Traveller's tree — Florida (gift).

DEAM, CHARLES C., Bluffton, Indiana.

22 herbarium specimens — Indiana and Michigan (gift).

DENSLOW, H. M., New York City, New York.

73 herbarium specimens — New York, Vermont and New Jersey
(exchange).

FIELD MUSEUM OF NATURAL HISTORY.

Collected by E. T. Harper:

Various fungi.

Collected by C. F. Millspaugh:

4 herbarium specimens — California.

Purchases:

285 herbarium specimens — Mexico.

Mrs. Stanley Field Plant Reproduction Laboratory:

135 herbarium and economic specimens — Miami, Florida.

4 herbarium specimens — Georgia.

16 models — various localities.

Reproductions of *Ficus carica*, *Cassia clusifolia*, *Strychnos spinosus*,
Persea Persea.

GAUMER, DR. GEO. F., Izamal, Mexico.

2 herbarium specimens — Yucatan (gift).

GEOLOGICAL SURVEY OF CANADA, Ottawa, Canada.

248 herbarium specimens — various localities (exchange).

23 herbarium specimens — various localities (gift).

- HALL, ELIHU, THE FAMILY OF, Athens, Illinois.
Private herbarium Elihu Hall — various localities (gift).
- JAPANESE COMMISSIONERS — W. C. E., Chicago.
50 specimens of tea (gift).
- JONES, ARTHUR B., Evanston, Illinois.
1 herbarium specimen — New York (gift).
- KING, ANNA, Ottawa, Illinois.
300 herbarium specimens — Illinois (gift).
- LANSING, O. E., JR., Chicago.
76 herbarium specimens — Illinois (gift).
- LUDWIG, C. A., Washington, D. C.
2 herbarium specimens — Virginia (gift).
- MCDONALD, F. E., Peoria, Illinois.
63 herbarium specimens — Illinois (gift).
- McLAIN, A. O., Chicago.
1 section of bark of Big tree, 2 cones of Coulter's pine — California (gift).
- MILLSPAUGH, CHARLES F., Chicago.
7 seeds — various localities (gift).
26 illustrations and descriptions (gift).
65 herbarium specimens — Wisconsin (gift).
- NEW YORK BOTANICAL GARDEN, Bronx Park, New York City.
507 herbarium specimens — Colombia (exchange).
11 herbarium specimens — New Providence, Bahamas (exchange).
- PARKE, DAVIS & CO., Detroit, Michigan.
6 herbarium specimens — Michigan (gift).
- PETERSEN, N. F., Reno, Nevada.
2 herbarium specimens — Nevada (gift).
- PHILIPPINE BUREAU OF SCIENCES, Manila, P. I.
180 herbarium specimens — Philippine Isls. (exchange).
466 herbarium specimens — various localities (exchange).
- RIDGWAY, ROBERT, Olney, Illinois.
5 herbarium specimens — Illinois (gift).
- SHERFF, EARL E., Chicago.
20 herbarium specimens — University of Chicago greenhouse (gift).
8 herbarium specimens — Illinois (gift).
Original description of *Taraxacum ceratophorum* and *Taraxacum lyratum* (gift).
7 original descriptions of *Xanthium* (gift).
1 herbarium specimen — Chicago, Illinois (gift).
Original description of genus *Taraxacum* (gift).
1 description of *Xanthium* and 1 specimen of *Xanthium* — Kansas (gift).
10 herbarium specimens — Illinois and Mexico (gift).
- TONDUZ, ADOLPH, Costa Rica.
6 herbarium specimens — Costa Rica (gift).
- UNITED STATES CUSTOMS HOUSE, APPRAISER'S STORE, Chicago.
2 samples gourd seed — Custom House (Africa) (gift).
- UNITED STATES NATIONAL MUSEUM, Washington, D. C.
94 herbarium specimens — various localities (exchange).

DEPARTMENT OF GEOLOGY.

- BRITISH MUSEUM (NATURAL HISTORY), London, England.
4 specimens of Baroti, Kuttipuram and Warbreccan meteorities (exchange).
- BUCKSTAFF, RALPH, Oshkosh, Wisconsin.
1 specimen obsidian — Mexico (gift).
2 specimens Cumberland Falls meteorite — Cumberland Falls, Kentucky (gift).
- CHALMERS, W. J., Chicago.
1 amethyst crystal — Mount Pleasant, Maine (gift).
2 scheelite crystals — Arizona (gift).
- CHAMBERLAIN, MRS. COL., Los Gatos, California.
2 specimens fossil wood partly altered to lignite — Los Gatos, California (gift).
- FIELD MUSEUM OF NATURAL HISTORY.
Collected by B. E. Dahlgren:
90 specimens invertebrate fossils, 35 specimens soils, coquina and products of weathering — Florida, Kentucky and Tennessee.
Collected by H. W. Nichols:
8 specimens of ores, minerals and rocks — Porcupine, Ontario.
Purchases:
1 specimen Richardton meteorite — Richardton, North Dakota.
2 specimens Cumberland Falls meteorite — Cumberland Falls, Kentucky.
- GALLAGHER, J. F., Chicago.
7 specimens mineral abrasives and roofing material — various localities (gift).
- GILL, DR. GEO. M., Chicago.
10 specimens minerals (gift).
- JILLSON, W. R., Frankfort, Ky.
1 specimen Cumberland Falls meteorite — Cumberland Falls, Kentucky.
- KANST, EDWIN A., Chicago.
1 group gypsum crystals in clay — 95th St. & Stony Id. Ave., Chicago (gift).
- KLECKNER, M. E., Tiffin, Ohio.
109 specimens calcite, fluorite and celestite — Ohio and Michigan (exchange).
- LANGFORD GEORGE, Joliet, Ills.
130 specimens of vertebrate fossils, chiefly remains of mastodons and mosasaurs — Illinois and Kansas (gift).
- MACE, MRS. G., Oak Park, Ills.
31 specimens of ores and minerals — various localities (gift).
- MARINER & HOSKINS, Chicago.
1 specimen arsenic crystals (gift).
1 group crystals of metallic arsenic — Chicago (artificial) (gift).
- MORRIS, J. R., Deerfield, Illinois.
1 fossil coral — Petoskey, Michigan (gift).
- QUIRKE, T. T., Minneapolis, Minnesota.
3 specimens Richardton meteorite — Richardton, North Dakota (exchange).
- RENNINGER, EDW., Chicago.
65 specimens fossils and concretions — various localities (gift).

SCHAEFER, WALTER, Chicago.

1 specimen Calymene — near Lemont, Illinois (gift).

SKINNER, WM. G., South Porcupine, Ontario.

2 specimens barite — Langmuir, near Porcupine, Ontario (gift).

UNIVERSITY OF IOWA, Iowa City, Iowa.

6 specimens Barbadoes earth, 1 specimen Globigerina marl — Barbadoes Ids. (exchange).

DEPARTMENT OF ZOOLOGY.

AMERICAN MUSEUM OF NATURAL HISTORY, New York City.

Skulls of African elephant and white rhinoceros — (exchange).

AYER, EDWARD E., Chicago.

1 snake skin, without head — (gift).

BEATY, W. L., South Butte, Montana.

1 specimen American goshawk — South Butte, Montana (gift).

BRANDLER, CHARLES, Chicago.

1 sculpin — Lake Michigan (gift).

3 lake-herring — Chicago (gift).

BUMSTEAD, COL. DALE, Oak Park, Illinois.

3 mountain sheep (skins and skulls), 3 deer (skulls) — Lower California (gift).

COALE, HENRY K., Highland Park, Illinois.

6 specimens Japanese birds — Japan (gift).

COOPER, A. R., Chicago.

3 cottoid fishes — Port Credit, Ontario (gift).

CORY, CHARLES B., Chicago.

1 ruffed grouse — Grandview, Wisconsin (gift).

CROZIER, W. J., Chicago.

Shells of two specimens of *Chiton tuberculatus*, having the seventh and eighth valves fused — Cross Bay, Bermuda (gift).

DESPOTT, GIUSEPPE, Malta.

433 shells — Maltese Islands (gift).

FIELD MUSEUM OF NATURAL HISTORY.

Collected by C. L. Hubbs and L. L. Pray:

6 sunfishes of rare species — Jackson Park Lagoon.

Collected by C. L. Hubbs, L. L. Pray and L. L. Walters:

27 fishes for mounting — Jackson Park Lagoon.

Transfer from Department of Anthropology.

1 lizard — Egypt.

Purchases:

42 specimens marine invertebrates, marine fishes, treefrog, frog, lizards, young alligator — Florida.

1 specimen gar — Wisconsin.

27 specimens nematodes, centipedes, millipedes and snakes — Illinois.

STANLEY FIELD ORNITHOLOGY FUND.

190 specimens birds — various localities (gift).

3 mammals (skins and skulls) — various localities (gift).

FISHER, MRS. H. S., Chicago.

500 shells (approx.) — near St. Petersburg, Florida (gift).

- FORBIS, HOMER, Albany, Missouri.
1 ichneumon fly — Albany, Missouri (gift).
1 cicada — Albany, Missouri (gift).
- FRIESSER, JULIUS, Chicago.
3 turtles — Michigan (gift).
- FRISON, THEO. H., Champaign, Illinois.
6 bumble-bees — Massachusetts, New York, Illinois and Nova Scotia (exchange).
- GERHARD, WM. J., Chicago.
1 ribbon snake — northern Indiana (gift).
9 garter snakes — Illinois (gift).
1 snake — New Lenox, Illinois (gift).
- GUERET, E. N., Chicago.
2 robber-flies — Chicago (gift).
12 sphinx moths — Chicago (gift).
- GUNSAULUS, HELEN C., Chicago.
1 snowy heron mounted in a frame with a curved, painted background — near Glenwood Springs, Colorado (gift).
- HAWKINS, F. P., Chicago.
1 walrus skull and tusks — (gift).
- HUBBS, CHARLES L., San Diego, California.
3 velvet ants — San Diego, California (gift).
2 lizards, 5 snakes — San Diego County, California (gift).
- HUBBS, CARL L., Chicago.
1 garter snake — Chicago (gift).
1 turtle — Chicago (gift).
31 fishes, 3 snakes — Illinois (gift).
3 waterbugs — Dune Park, Indiana (gift).
20 waterbugs — Miller, Indiana (gift).
- HUBBS, C. L. & L. L. WALTERS, Chicago.
25 fishes, 5 toads, 1 lizard — Lake County, Indiana (gift).
- HYMAN, C. H., Chicago.
1 king rail — Jackson Park, Chicago (gift).
- KLEINPASTE, J. B., Chicago.
1 praying mantis — in Chicago, on a load of lumber from the South (gift).
- LILJEBLAD, EMIL, Chicago.
1 lizard, 4 snakes, 1 bryozoan colony — Illinois (gift).
- MACKELDEN, J. W., St. Louis, Missouri.
30 amphibians and reptiles — Mississippi basin (gift).
- McCAULEY, MRS. C. A. H., Highland Park, Illinois.
1 glass sponge — Philippine Islands (gift).
- MORRIS, JOSEPH R., Deerfield, Illinois.
12 shells — (gift).
- OLIVER, J. K., Monterey, California.
1 abalone shell — Monterey, California (gift).
- PEACOCK, CHARLES, Chicago.
1 mounted green turtle — southern Florida (gift).
- PRAY, LEON L., Chicago.
1 snake — Beverly Hills, Illinois (gift).

- REEVE, REX W., Chicago.
 1 milk snake — Tremont, Indiana (gift).
- RENNINGER, EDW., Chicago.
 3 shells — Florida (gift).
- ROTHSCHILD & COMPANY, Chicago.
 1 cichlid fish (gift).
- SACKHEIM, M. H., Santa Fe, New Mexico.
 3 lizards — vicinity of Santa Fe, New Mexico (gift).
- SIEGEL, FRANK R., Chicago.
 1 muskallunge weighing 42 pounds — Cat-fish Lake, Wisconsin (gift).
- SINCLAIR, J. G., Chicago.
 1 spade-foot toad, 4 lizards, 1 snake — Arizona (gift).
 2 scorpions, 10 beetles — Tucson, Arizona (gift).
- STODDARD, HERBERT L., Chicago.
 1 garter snake — northern Indiana (gift).
 8 snakes, 3 lizards — northern Indiana (gift).
 35 wall lizards — France (gift).
- TOWNSLEY, F. O., Yosemite City, California.
 1 snake skin (gift).
- U. S. NATIONAL MUSEUM, Washington, D. C.
 7 mammals — various localities (exchange).
- WALTERS, LEON L., Chicago.
 1 garter snake — South Chicago, Illinois (gift).
 20 snakes, 1 turtle — Indiana and Illinois (gift).
- WELD, L. W., Evanston, Illinois.
 4 gall-insects (& 4 galls) — Williams, Arizona (gift).
- WESTFALL, C. C., Chicago.
 10 wood-boring isopods — Manchac pass, between Lakes Maurepas and Pontchartrain, Louisiana (gift).
- WOLCOTT, MRS. A. B., Chicago.
 1 spider — (gift).

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156 negatives plants, views, etc. — Southern Florida.

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1706 negatives and prints of Museum specimens.

HIGGINS, JOHN A., University of Illinois College of Medicine.

1 negative of Areca Catechu nuts — Philippine Islands.

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University of California, Berkeley	16
COLORADO	
Bureau of Mines, Denver	3
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Agricultural Experiment Station, Manhattan	3
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Springfield Natural History Museum	1
Tufts College, Boston	1
Williams College, Williamstown	2
Worcester County Horticultural Society, Worcester	1
MICHIGAN	
Academy of Sciences, Ann Arbor	1
Agricultural Experiment Station, Agricultural College	3
Department of Parks and Boulevards, Detroit	1
Detroit Institute of Art	1
Geological and Biological Survey, Lansing	3
Grand Rapids Public Library	1
Michigan College of Mines, Houghton	1
Michigan State Library, Lansing	1
State Board of Agriculture, Lansing	1
State Board of Library Commissions, Lansing	1
University of Michigan, Ann Arbor	6
MINNESOTA	
Agricultural Experiment Station, St. Paul	5
Minneapolis Institute of Fine Arts	1
Minnesota Historical Society, St. Paul	3
University of Minnesota, Minneapolis	7
MISSISSIPPI	
Agricultural Experiment Station, Agricultural College	1
State Geological Survey, Jackson (gift)	2
MISSOURI	
Agricultural Experiment Station, Columbia	1
Bureau of Geology and Mines, Jefferson City	2
City Art Museum, St. Louis	1
Missouri Botanical Garden, St. Louis	1
Missouri Historical Society, Columbia	2
St. Louis Academy of Sciences	1
St. Louis Natural History Museum Association (gift)	1
St. Louis Public Library	1
St. Louis University	1
State Historical Society, Columbia	1
Washington University, St. Louis	2
MONTANA	
State Forester, Helena (gift)	3
NEBRASKA	
Agricultural Experiment Station, Lincoln	1
University of Nebraska, Lincoln	2
NEVADA	
Agricultural Experiment Station, Carson City	2
State University, Reno	2
NEW HAMPSHIRE	
Forestry Commission, Concord	1

NEW JERSEY

Agricultural Experiment Station, Trenton	38
Department of Conservation and Development, Trenton	2
Geological Survey, Trenton	2
Newark Museum Association	1
Princeton University	1
State Museum, Trenton	1
Stevens Institute, Hoboken	1

NEW MEXICO

New Mexico Museum, Santa Fé	1
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NEW YORK

Agricultural Experiment Station, Geneva	3
American Geographical Society, New York City	2
American Hellenic Society, New York City (gift)	1
American Institute of Mining Engineers, New York City	1
American Museum of Natural History, New York City	15
Brooklyn Botanic Garden	3
Brooklyn Institute of Arts and Sciences	3
Carnegie Foundation for the Advancement of Teaching, New York City (gift)	1
Columbia University, New York City	4
Cooper Union for the Advancement of Science and Art, New York City	1
Cornell University, Ithaca	3
Forest and Stream Publishing Company, New York City	1
Inter-American Magazine, New York City (gift)	2
Japan Society, New York City	1
Metropolitan Museum of Art, New York City	2
Museum of the American Indian, New York City	1
New York Academy of Sciences, New York City	1
New York Botanical Garden, New York City	1
New York Historical Society, New York City	1
Pratt Institute Free Library, Brooklyn	1
Public Library, New York City	1
Rochester Academy of Sciences	1
Rockefeller Foundation, New York City	1
State College of Forestry, Syracuse	2
State Library, Albany	1
State Museum, Albany	7
Staten Island Institute of Arts and Sciences, New York City	2
Stone Publishing Company, New York City	1
Zoological Society, New York City	2

NORTH CAROLINA

Elisha Mitchell Scientific Society, Chapel Hill	1
Geological and Economic Survey, Raleigh	1

NORTH DAKOTA

University of North Dakota, University	1
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OHIO

Agricultural Experiment Station, Wooster	2
Cincinnati Museum Association	1
Cleveland Museum of Art	1
Cleveland Public Library	2

Denison University, Granville	I
Geological Survey, Columbus	I
State Archæological and Historical Society, Columbus	I
State University, Columbus	12
University of Cincinnati	8
Wilson Ornithological Club, Oberlin	I
OREGON	
Agricultural Experiment Station, Corvallis	I
University of Oregon, Eugene	I
PENNSYLVANIA	
American Journal of Pharmacy, Philadelphia	I
American Philosophical Society, Philadelphia	I
Association of Engineering Societies, Philadelphia	I
Bryn Mawr College	I
Carnegie Institute, Pittsburgh	I
Carnegie Library, Pittsburgh	2
Carnegie Museum, Pittsburgh.	2
Delaware County Institute of Science, Media	I
Engineers' Society of Western Pennsylvania, Pittsburgh	I
Franklin Institute, Philadelphia	2
Numismatic and Antiquarian Society, Philadelphia	I
Pennsylvania Museum and School of Industrial Art, Philadelphia	I
Philadelphia Academy of Natural Sciences	I
Philadelphia Commercial Museum	I
Sullivant Moss Society, Pittsburgh	16
University of Pennsylvania, Philadelphia	3
University of Pennsylvania Museum, Philadelphia	2
Wagner Free Institute of Science, Philadelphia	I
Wistar Institute of Anatomy and Biology, Philadelphia	20
Wyoming Historical and Geological Society, Wilkes-Barre	I
PHILIPPINE ISLANDS	
Bureau of Education, Manila	I
Department of Agriculture, Manila	I
Department of Interior, Bureau of Science, Manila	6
Department of Public Instruction, Manila	I
RHODE ISLAND	
Agricultural Experiment Station, Kingston (gift)	I
Park Museum, Providence	I
SOUTH CAROLINA	
Charleston Museum	I
SOUTH DAKOTA	
Agricultural Experiment Station, Brookings	I
Geological and Natural History Survey, Vermilion	I
South Dakota School of Sciences, Rapid City	I
TENNESSEE	
State Board of Entomology, Nashville	I
State Geological Survey, Nashville	I
TEXAS	
Agricultural Experiment Station, College Station	I

VIRGINIA

University of Virginia, Charlottesville	1
Virginia Geological Survey, Charlottesville	2
Virginia State Forester, Charlottesville	2

WASHINGTON

Laboratory of Forest Pathology, Spokane	1
Puget Sound Biological Station, Washington University, Seattle	2
Washington University, Seattle	3
Washington University, Historical Society, Seattle	1

WASHINGTON, D. C.

American Mining Congress	1
Carnegie Endowment for International Peace (gift)	1
Federal Board of Vocational Education, Washington (gift)	1
National Education Association (gift)	2
National Zoological Park	1
Pan American Union	2
United States Government426

WEST VIRGINIA

Agricultural Experiment Station, Morgantown	2
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WISCONSIN

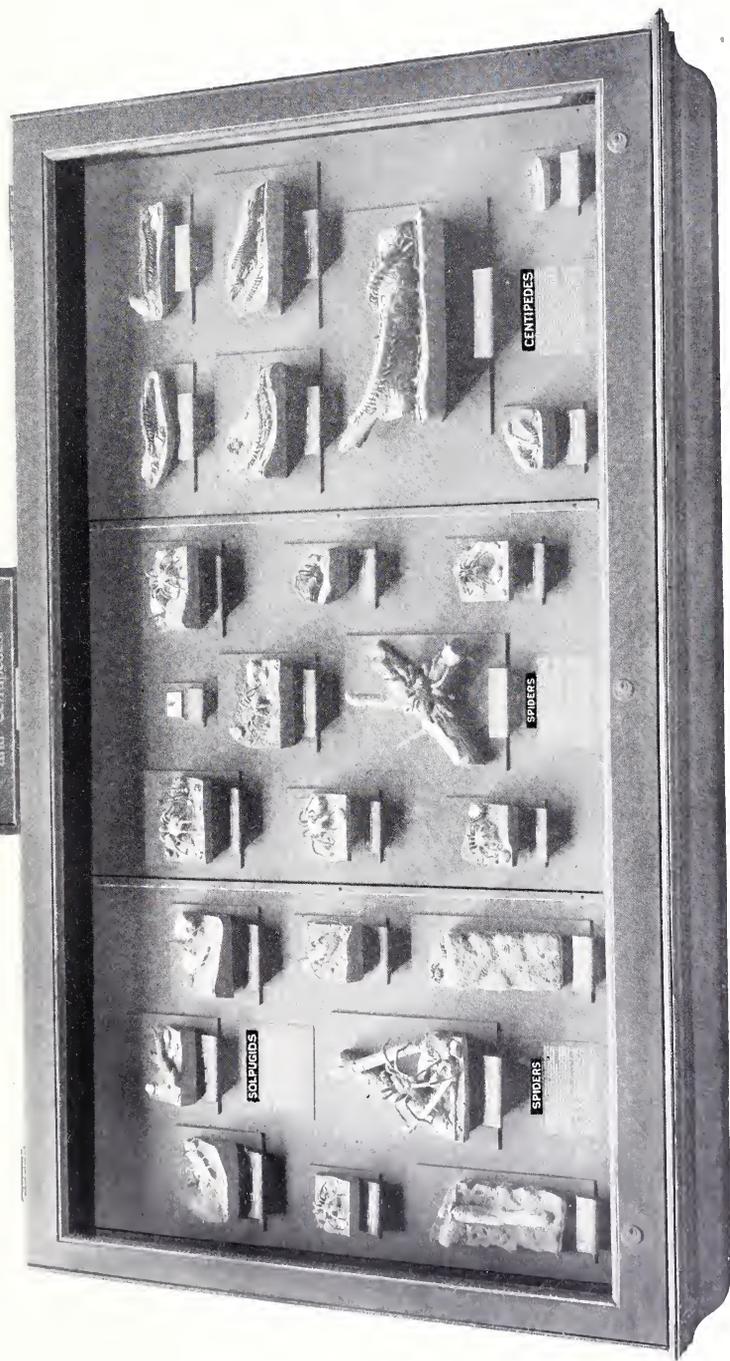
Academy of Sciences, Madison	2
Agricultural Experiment Station, Madison	2
Archæological Society, Milwaukee	1
Beloit College	1
State Historical Society, Madison	2
State Horticultural Society, Madison	1
University of Wisconsin, Madison	1

WYOMING

Agricultural Experiment Station, Laramie	1
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Arthur, Joseph C., Purdue, Indiana	1
Ayer, Edward E., Chicago (gift)	6
Bergman, H. F., Washington, D. C.	4
Blatchley, W. S., Indianapolis, Indiana	1
Booy, Theodoor de, Yonkers, New York	1
Brandege, Townshend S., Berkeley, California	1
Cook, Melville T., New Brunswick, New Jersey	4
Detmers, Freda, Columbus, Ohio	1
Eigenmann, Carl H., Bloomington, Indiana	1
Farwell, Oliver A., Detroit, Michigan	7
Gerhard, W. J., Chicago	13
Goldsmith, William M. (gift)	2
Goodspeed, Edgar J. Chicago (gift)	1
Gunsaulus, Dr. F. W. (gift)	3
Hall, Ivan C., Berkeley, California (gift)	5
Harper, Edward T., Geneseo, Illinois (gift)	6
Harris, G. D., Ithaca, New York (gift)	1
Hubbs, Carl L., Chicago . . . . .	.150

Scolopendras, Tarantulas
and Centipedes.



SOLPUGIDS, TARANTULAS AND CENTIPEDES.

Installed on tablet mounts, the upper surface of which suggests the habitat of these much feared arthropods.

Kroeber, A. L., Berkeley, California	1
Lauer, Berthold, Chicago	4
McGregor, E. A., Chapel Hill, North Carolina (gift)	1
Mason, J. Alden, Chicago	3
Millspaugh, C. F., Chicago	43
Moorehead, Warren K., Andover, Massachusetts	1
Morse, Edward S., Salem, Massachusetts	2
Muttkowski, Richard Anthony, Milwaukee, Wisconsin	1
Nichols, H. W., Chicago	4
Osborn, Henry Fairfield, New York City	4
Penrose, R. A. F., Jr., Philadelphia	1
Roberts, Thomas S., Minneapolis, Minnesota	1
Rowlee, W. W., Ithaca, New York (gift)	4
Slonaker, James R., Palo Alto, California (gift)	2
Strong, R. M., Chicago (gift)	2
Townsend, Charles H., New York City	1
Van Perborgh, Louis, New York City (gift)	1
Van Rippen, Bene, Cambridge	2
Wolcott, A. B., Chicago (gift)	1
Weir, James R., Missoula, Montana (gift)	23

ARTICLES OF INCORPORATION.

STATE OF ILLINOIS.

DEPARTMENT OF STATE.

WILLIAM H. HINRICHSEN, *Secretary of State.*

TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETING:

Whereas, a Certificate duly signed and acknowledged having been filed in the office of the Secretary of State, on the 16th day of September, A. D. 1893, for the organization of the COLUMBIAN MUSEUM OF CHICAGO, under and in accordance with the provisions of "An Act Concerning Corporations," approved April 18, 1872, and in force July 1, 1872, and all acts amendatory thereof, a copy of which certificate is hereto attached.

Now, therefore, I, William H. Hinrichsen, Secretary of State of the State of Illinois, by virtue of the powers and duties vested in me by law, do hereby certify that the said COLUMBIAN MUSEUM OF CHICAGO is a legally organized Corporation under the laws of this State.

In Testimony Whereof, I hereto set my hand and cause to be affixed the Great Seal of State. Done at the City of Springfield, this 16th day of September, in the year of our Lord one thousand eight hundred and ninety-three, and of the Independence of the United States the one hundred and eighteenth.

W. H. HINRICHSEN,
Secretary of State.

[SEAL.]

TO HON. WILLIAM H. HINRICHSEN,

SECRETARY OF STATE:

SIR:

We, the undersigned citizens of the United States, propose to form a corporation under an act of the General Assembly of the State of Illinois, entitled "An Act Concerning Corporations," approved April 18, 1872, and all acts amendatory thereof; and that for the purposes of such organization we hereby state as follows, to-wit:

1. The name of such corporation is the "COLUMBIAN MUSEUM OF CHICAGO."

2. The object for which it is formed is for the accumulation and dissemination of knowledge, and the preservation and exhibition of objects illustrating Art, Archæology, Science and History.

3. The management of the aforesaid museum shall be vested in a Board of FIFTEEN (15) TRUSTEES, five of whom are to be elected every year.

4. The following named persons are hereby selected as the Trustees for the first year of its corporate existence:

Edward E. Ayer, Charles B. Farwell, George E. Adams, George R. Davis, Charles L. Hutchinson, Daniel H. Burnham, John A. Roche, M. C. Bullock, Emil G. Hirsch,

James W. Ellsworth, Allison V. Armour, O. F. Aldis, Edwin Walker, John C. Black and Frank W. Gunsaulus.

5. The location of the Museum is in the City of Chicago, County of Cook, and State of Illinois.

(Signed),

George E. Adams, C. B. Farwell, Sidney C. Eastman, F. W. Putnam, Robert McMurdy, Andrew Peterson, L. J. Gage, Charles L. Hutchinson, Ebenezer Buckingham, Andrew McNally, Edward E. Ayer, John M. Clark, Herman H. Kohlsaat, George Schneider, Henry H. Getty, William R. Harper, Franklin H. Head, E. G. Keith, J. Irving Pearce, Azel F. Hatch, Henry Wade Rogers, Thomas B. Bryan, L. Z. Leiter, A. C. Bartlett, A. A. Sprague, A. C. McClurg, James W. Scott, Geo. F. Bissell, John R. Walsh, Chas. Fitzsimmons, John A. Roche, E. B. McCagg, Owen F. Aldis, Ferdinand W. Peck, James H. Dole, Joseph Stockton, Edward B. Butler, John McConnell, R. A. Waller, H. C. Chatfield-Taylor, A. Crawford, Wm. Sooy Smith, P. S. Peterson, John C. Black, Jno. J. Mitchell, C. F. Gunther, George R. Davis, Stephen A. Forbes, Robert W. Patterson, Jr., M. C. Bullock, Edwin Walker, George M. Pullman, William E. Curtis, James W. Ellsworth, William E. Hale, Wm. T. Baker, Martin A. Ryerson, Huntington W. Jackson, N. B. Ream, Norman Williams, Melville E. Stone, Bryan Lathrop, Eliphalet W. Blatchford, Philip D. Armour.

STATE OF ILLINOIS }
 COOK COUNTY } ss.

I, G. R. MITCHELL, a NOTARY PUBLIC in and for said County, do hereby certify that the foregoing petitioners personally appeared before me and acknowledged severally that they signed the foregoing petition as their free and voluntary act for the uses and purposes therein set forth.

Given under my hand and notarial seal this 14th day of September, 1893.

G. R. MITCHELL,

[SEAL.]

NOTARY PUBLIC, COOK COUNTY, ILL.

CHANGE OF NAME.

Pursuant to a resolution passed at a meeting of the corporate members held the 25th day of June, 1894, the name of the COLUMBIAN MUSEUM was changed to FIELD COLUMBIAN MUSEUM. A certificate to this effect was filed June 26, 1894, in the office of the Secretary of State for Illinois.

CHANGE OF NAME.

Pursuant to a resolution passed at a meeting of the corporate members held the 8th day of November, 1905, the name of the FIELD COLUMBIAN MUSEUM was changed to FIELD MUSEUM OF NATURAL HISTORY. A certificate to this effect was filed November 10, 1905, in the office of the Secretary of State for Illinois.

AMENDED BY-LAWS.

(JUNE 12, 1916.)

ARTICLE I.

MEMBERS.

SECTION 1. Members shall be of five classes, Annual Members, Corporate Members, Life Members, Patrons and Honorary Members.

SEC. 2. Annual Members shall consist of such persons as are selected from time to time by the Board of Trustees at any of its meetings, and who shall pay an annual fee of ten dollars (\$10.00), payable within thirty days after notice of election, and within thirty days after each recurring annual date. The failure of any person to make such initiatory payment and such annual payments within said time shall, at the option of the Board of Trustees, be sufficient grounds for the forfeiture of an annual membership.

This said annual membership shall entitle the member to:

First.— Free admittance for the member and family, to the Museum on any day.

Second.— Ten tickets every year, admitting the bearer to the Museum on pay days.

Third.— A copy of all publications of the Museum when requested.

Fourth.— Invitations to all special exhibits, receptions, lectures, or other functions which may be given at the Museum.

SEC. 3. The Corporate Members shall consist of the persons named in the articles of incorporation, and of such other persons as shall be chosen from time to time by the Board of Trustees at any of its meetings, upon the recommendation of the Executive Committee; provided, that such persons named in the articles of incorporation shall, within ninety days from the adoption of these By-Laws, and persons hereafter chosen as Corporate Members shall, within ninety days of their election, pay into the treasury the sum of twenty dollars (\$20.00) or more. The failure of any person to make such payment within said time, shall, at the option of the Board of Trustees, be ground for forfeiture of his corporate membership. Corporate Members becoming Life Members, Patrons or Honorary Members shall be exempt from dues. Annual meetings of said Corporate Members shall be held at the same place and on the same day that the annual meeting of the Board of Trustees is held.

SEC. 4. Any person paying into the treasury the sum of five hundred dollars (\$500.00), at any one time, shall, upon the unanimous vote of the Board, become a Life Member. Life Members shall be exempt from all dues.

SEC. 5. Patrons shall be chosen by the Board upon recommendation of the Executive Committee from among persons who have rendered eminent service to

the Museum. They shall be exempt from all dues, and, by virtue of their election as Patrons, shall also be Corporate Members.

SEC. 6. Honorary Members shall be chosen by the Board from among persons who have rendered eminent service to science, and only upon unanimous nomination of the Executive Committee. They shall be exempt from all dues.

ARTICLE II.

BOARD OF TRUSTEES.

SECTION 1. The Board of Trustees shall consist of fifteen members. The respective members of the Board now in office, and those who shall hereafter be elected, shall hold office during life. Vacancies occurring in the Board shall be filled at a regular meeting of the Board, upon the nomination of the Executive Committee made at a preceding regular meeting, by a majority vote of the members of the Board present.

SEC. 2. Regular meetings of the Board shall be held on the second Monday of each month. Special meetings may be called at any time by the President, and shall be called by the Secretary upon the written request of three Trustees. Five Trustees shall constitute a quorum, except for the election of officers or the adoption of the Annual Budget, when seven Trustees shall be required, but meetings may be adjourned by any less number from day to day, or to a day fixed, previous to the next regular meeting.

SEC. 3. Reasonable written notice, designating the time and place of holding meetings, shall be given by the Secretary.

ARTICLE III.

HONORARY TRUSTEES.

SECTION 1. As a mark of respect, and in appreciation of services performed for the Institution, those Trustees who by reason of inability, on account of change of residence, or for other cause or from indisposition to serve longer in such capacity shall resign their place upon the Board, may be elected, by a majority of those present at any regular meeting of the Board, an Honorary Trustee for life. Such Honorary Trustee will receive notice of all meetings of the Board of Trustees, whether regular or special, and will be expected to be present at all such meetings and participate in the deliberations thereof, but an Honorary Trustee shall not have the right to vote.

ARTICLE IV.

OFFICERS.

SECTION 1. The officers shall be a President, a First Vice-President, a Second Vice-President, a Secretary, an Assistant Secretary and a Treasurer. They shall be chosen by ballot by the Board of Trustees, a majority of those present and voting being necessary to elect. The President, the First Vice-President, and the Second Vice-President shall be chosen from among the members of the Board of Trustees. The meeting for the election of officers shall be held on the second Monday of January of each year, and shall be called the Annual Meeting.

SEC. 2. The officers shall hold office for one year, or until their successors are elected and qualified, but any officer may be removed at any regular meeting of the

Board of Trustees by a vote of two-thirds of all the members of the Board. Vacancies in any office may be filled by the Board at any meeting.

SEC. 3. The officers shall perform such duties as ordinarily appertain to their respective offices, and such as shall be prescribed by the By-Laws, or designated from time to time by the Board of Trustees.

ARTICLE V.

THE TREASURER.

SECTION 1. The Treasurer shall be custodian of the funds of the Corporation except as hereinafter provided. He shall make disbursements only upon warrants drawn by the Director and countersigned by the President. In the absence or inability of the Director, warrants may be signed by the Chairman of the Finance Committee, and in the absence or inability of the President, may be countersigned by one of the Vice-Presidents. But no warrants shall be issued, except in conformity with a regularly prepared voucher, giving the name of the payee and stating the occasion for the expenditure, and verified and approved as hereinafter prescribed. It shall be no part of the duties of the Treasurer to see that the warrants have been issued in conformity with such vouchers.

SEC. 2. The securities and muniments of title belonging to the corporation shall be placed in the custody of some Trust Company of Chicago to be designated by the Board of Trustees, which Trust Company shall collect the income and principal of said securities as the same become due, and pay same to the Treasurer, except as hereinafter provided. Said Trust Company shall allow access to and deliver any or all securities or muniments of title to the joint order of the following officers, namely: The President or one of the Vice-Presidents, jointly with the Chairman, or one of the Vice-Chairmen, of the Finance Committee of the Museum.

SEC. 3. The Treasurer shall give bond in such amount, and with such sureties as shall be approved by the Board of Trustees.

SEC. 4. All vouchers executed for the payment of liabilities incurred in the administration of the Museum, shall be verified by the Auditor, and approved for payment by the Director, and the Chairman of the Administration Committee. All vouchers executed for expenditures for the construction or reconstruction of the Museum building, or buildings, shall be verified by the Auditor and approved for payment by the Chairman of the Building Committee. All vouchers executed in connection with the investments of the Corporation, or, in any way having to do with the endowment funds of the Corporation, shall be verified by the Auditor and approved for payment by the Chairman of the Finance Committee.

SEC. 5. The Harris Trust and Savings Bank of Chicago shall be Custodian of "The N. W. Harris Public School Extension of Field Museum" fund. The Bank shall make disbursements only upon warrants drawn by the Director and countersigned by the President. In the absence or inability of the Director, warrants may be signed by the Chairman of the Finance Committee, and in the absence or inability of the President, may be countersigned by one of the Vice-Presidents. But no warrant shall be issued, except in conformity with a regularly prepared voucher, giving the name of the payee and stating the occasion for the expenditure, and verified and approved by the Auditor, the Director and Chairman of the Administration Committee. It shall be no part of the duties of the said Custodian to see that the warrants have been issued in conformity with such vouchers.

ARTICLE VI.

THE DIRECTOR.

SECTION 1. The Board of Trustees shall elect a Director of the Museum, who shall remain in office until his successor shall be elected. He shall have immediate charge and supervision of the Museum, and shall control the operations of the institution, subject to the authority of the Board of Trustees and its Committees. The Director shall be the official medium of communication between the Board, or its Committees, and the scientific staff and maintenance force.

SEC. 2. There shall be four scientific departments of the Museum — Anthropology, Botany, Geology and Zoölogy, each under the charge of a Curator, subject to the authority of the Director. The Curators shall be appointed by the Board upon the recommendation of the Director, and shall serve during the pleasure of the Board. Subordinate staff officers in the scientific departments shall be appointed and removed by the Director upon the recommendation of the Curators of the respective Departments. The Director shall have authority to employ and remove all other employees of the Museum.

SEC. 3. The Director shall make report to the Board at each regular meeting, recounting the operations of the Museum for the previous month. At the Annual Meeting, the Director shall make an Annual Report, reviewing the work of the Museum for the previous year, which Annual Report shall be published in pamphlet form for the information of the Trustees and Members, and for free distribution in such number as the board may direct.

ARTICLE VII.

AUDITOR.

SECTION 1. The Board shall appoint an Auditor, who shall hold his office during the pleasure of the Board. He shall keep proper books of account, setting forth the financial condition and transactions of the Corporation, and of the Museum, and report thereon at each regular meeting, and at such other times as may be required by the Board. He shall certify to the correctness of all vouchers for the expenditure of the money of the corporation.

ARTICLE VIII.

COMMITTEES.

SECTION 1. There shall be six Committees as follows: Finance, Building, Auditing, Pension, Administration and Executive.

SEC. 2. The Finance, Auditing and Pension Committees shall each consist of three members, and the Building and Administration Committees shall each consist of five members. All members of these five Committees shall be elected by ballot by the Board at the Annual Meeting, and shall hold office for one year, and until their successors are elected and qualified. In electing the members of these Committees, the Board shall designate the Chairman and Vice-Chairman by the order in which the members are named in the respective Committee; the first member named shall be Chairman, the second named the Vice-Chairman, and the third named, Second Vice-Chairman, succession to the Chairmanship being in this order in the event of the absence or disability of the Chairman.

SEC. 3. The Executive Committee shall consist of the President of the Board, the Chairman of the Finance Committee, the Chairman of the Building Committee,

the Chairman of the Administration Committee, the Chairman of the Auditing Committee, the Chairman of the Pension Committee, and two other members of the Board to be elected by ballot at the Annual Meeting.

SEC. 4. Four members shall constitute a quorum of the Executive Committee; three members shall constitute a quorum of the Administration Committee, and in all other standing Committees, two members shall constitute a quorum. In the event that, owing to the absence or inability of members, a quorum of the regularly elected members cannot be present at any meeting of any Committee, then the Chairman thereof, or his successor, as herein provided, may summon any member of the Board of Trustees to act in place of the absentee.

SEC. 5. The Finance Committee shall have supervision of investing the endowment and other permanent funds of the Corporation, and the care of such real estate as may become its property. It shall have authority to invest, sell, and re-invest funds, subject to the approval of the Board.

SEC. 6. The Building Committee shall have supervision of the construction, reconstruction, and extension of any and all buildings used for Museum purposes.

SEC. 7. The Executive Committee shall be called together from time to time as the Chairman may consider necessary, or as he may be requested to do by three members of the Committee, to act upon such matters affecting the administration of the Museum as cannot await consideration at the Regular Monthly Meetings of the Board of Trustees. It shall, before the beginning of each fiscal year, prepare and submit to the Board an itemized Budget, setting forth the probable receipts from all sources for the ensuing year, and make recommendations as to the expenditures which should be made for routine maintenance and fixed charges. Upon the adoption of the Budget by the Board, the respective Committees shall be considered as authorized to make the expenditures detailed therein. No increase in the expenditures under any items of the Budget shall be made, except by authority of the Board of Trustees, but the Executive Committee shall have authority, in cases of emergency, to expend a further total sum not exceeding two thousand dollars in any one month.

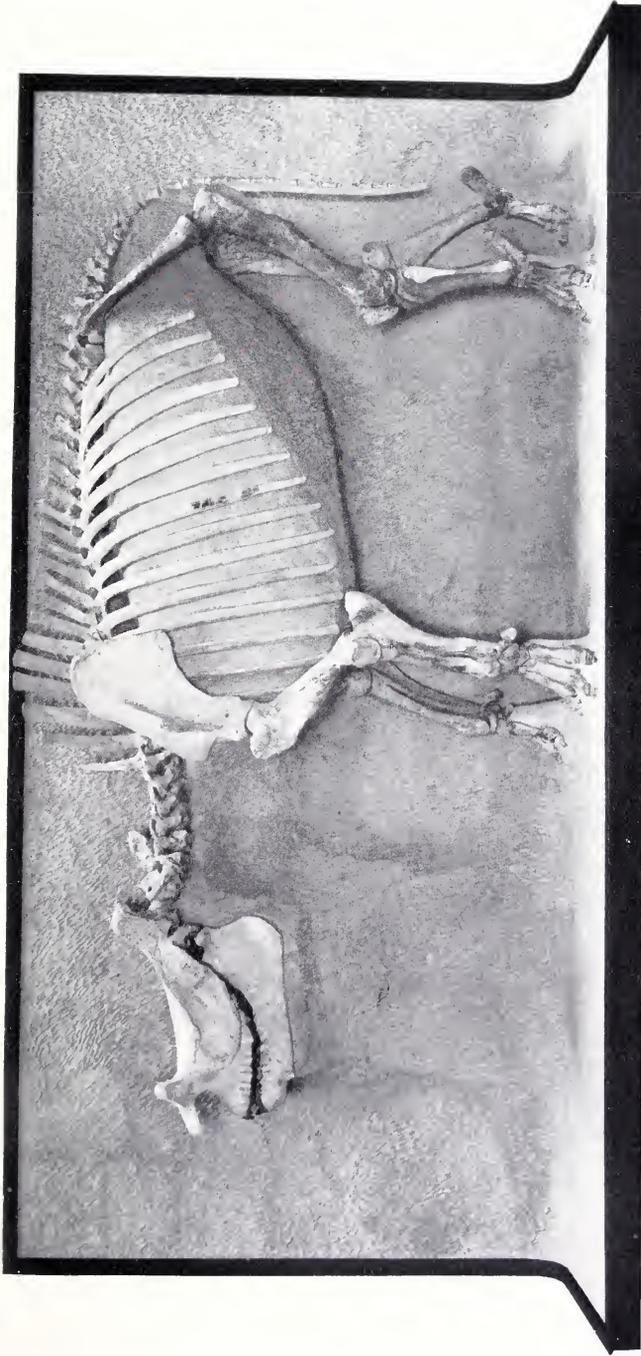
SEC. 8. The Administration Committee shall have general supervision of the affairs of the Museum. The Committee shall hold one meeting each month with the Director at the Museum within a week preceding each Monthly Meeting of the Board of Trustees.

SEC. 9. The Auditing Committee shall have supervision over all accounting and bookkeeping, and full control of the financial records. It shall cause the same, once each year, or oftener, to be examined by an expert individual or firm, and shall transmit the report of such expert individual or firm to the Board at the next ensuing regular meeting after such examination shall have taken place.

SEC. 10. The Pension Committee shall determine by such means and processes as shall be established by the Board of Trustees to whom and in what amount the Pension Fund shall be distributed. These determinations or findings shall be subject to the approval of the Board of Trustees.

SEC. 11. The Chairman of each Committee shall report the acts and proceedings thereof at the next ensuing regular meeting of the Board.

SEC. 12. The President shall be ex-officio a member of all Committees and Chairman of the Executive Committee. Vacancies occurring in any Committee may be filled by ballot at any regular meeting of the Board.



SKELETON OF EXTINCT UNGULATE, ALLOPS MARSHI, SOUTH DAKOTA BAD LANDS.
The mount is constructed from the bones of a single individual.

ARTICLE IX.

NOMINATING COMMITTEE.

SECTION 1. At the November meeting of the Board, each year a Nominating Committee of three shall be chosen by lot. Said Committee shall make nominations for membership of the Finance Committee, the Building Committee, the Administration Committee, the Auditing Committee, and the Pension Committee, and for two members of the Executive Committee, from among the Trustees, to be submitted at the ensuing December meeting and voted upon at the following Annual Meeting in January.

ARTICLE X.

SECTION 1. Whenever the word "Museum" is employed in the By-Laws of the Corporation, it shall be taken to mean the building in which the Museum as an Institution is located and operated, the material exhibited, the material in study collections, or in storage, furniture, fixtures, cases, tools, records, books, and all appurtenances of the Institution, and the workings, researches, installations, expenditures, field work, laboratories, library, publications, lecture courses, and all scientific and maintenance activities.

SEC. 2. These By-Laws may be amended at any regular meeting of the Board of Trustees by a two-thirds vote of all the members present, provided the amendment shall have been proposed at a preceding regular meeting.

HONORARY MEMBERS.

EDWARD E. AYER	CHARLES B. CORY
MRS. TIMOTHY B. BLACKSTONE	STANLEY FIELD
	STANLEY McCORMICK

DECEASED.

HARLOW N. HIGINBOTHAM

PATRONS.

ALLISON V. ARMOUR	GEORGE MANIERRE
EDWARD B. BUTLER	CHARLES H. MARKHAM
ALFRED M. COLLINS	JOHN S. MILLER
LEE GARNETT DAY	JOHN BARTON PAYNE
ERNEST R. GRAHAM	HOMER E. SARGENT
FRANK W. GUNSAULUS	JAMES SIMPSON
CHARLES L. HUTCHINSON	FREDERICK J. V. SKIFF
VERNON SHAW KENNEDY	WILLARD A. SMITH
	JOHN P. WILSON

CORPORATE MEMBERS.

ALDIS, OWEN F.	JONES, ARTHUR B.
ARMOUR, ALLISON V.	KEEP, CHAUNCEY
AYER, EDWARD E.	KENNEDY, VERNON SHAW
BARTLETT, A. C.	KOHLSAAT, HERMAN H.
BLAIR, WATSON F.	McCORMICK, CYRUS H.
BUTLER, EDWARD B.	MARKHAM, CHARLES H.
CHALMERS, W. J.	MANIERRE, GEORGE
CHATFIELD-TAYLOR, H. C.	MILLER, JOHN S.
COLLINS, ALFRED M.	MITCHELL, JOHN J.
CRANE, RICHARD T.	PAYNE, JOHN BARTON
DAY, LEE GARNETT	PECK, FERD W.
EASTMAN, SIDNEY C.	PORTER, GEORGE F.
ELLSWORTH, JAMES W.	RYERSON, MARTIN A.
FIELD, MARSHALL	SARGENT, HOMER E.
FIELD, STANLEY	SIMPSON, JAMES
GAGE, LYMAN J.	SKIFF, FREDERICK J. V.
GETTY, HENRY H.	SMITH, WILLARD A.
GRAHAM, ERNEST R.	SPRAGUE, A. A.
GUNSAULUS, FRANK W.	STONE, MELVILLE E.
GUNTHER, C. F.	WILSON, JOHN P.
HUTCHINSON, CHARLES L.	WRIGLEY, WILLIAM, JR.

DECEASED, 1919.

HIGINBOTHAM, H. N.

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ALDIS, OWEN F.
 ALLEN, BENJAMIN
 ALLERTON, ROBERT H.

BAKER, MISS ISABELLE
 BANKS, ALEXANDER F.
 BARRELL, FINLEY
 BARRETT, MRS. A. D.
 BARRETT, ROBERT L.
 BARTLETT, A. C.
 BASSFORD, LOWELL C.
 BEALE, WILLIAM G.
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 BILLINGS, C. K. G.
 BILLINGS, FRANK
 BLACKSTONE, MRS. T. B.
 BLAINE, MRS. EMMONS
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 BLAIR, WATSON F.
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 BORDEN, JOHN
 BOYNTON, C. T.
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 BROWN, WILLIAM L.
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 BYLLESBY, H. M.

CARR, CLYDE M.
 CARRY, EDWARD F.
 CARTON, L. A.
 CHALMERS, WILLIAM J.
 CLAY, JOHN
 COBE, IRA M.
 CRAMER, CORWITH
 CRANE, CHARLES RICHARD
 CRANE, RICHARD T.
 CUDAHY, JOSEPH M.
 CUMMINGS, D. MARK

DAU, J. J.
 DAWES, CHARLES G.

DAY, ALBERT M.
 DEERING CHARLES
 DEERING, JAMES
 DELANO, FREDERIC A.
 DICK, ALBERT BLAKE
 DONNELLEY, REUBEN H.
 DONNELLEY, THOMAS E.
 DRAKE, JOHN B.
 DRAKE, TRACY C.

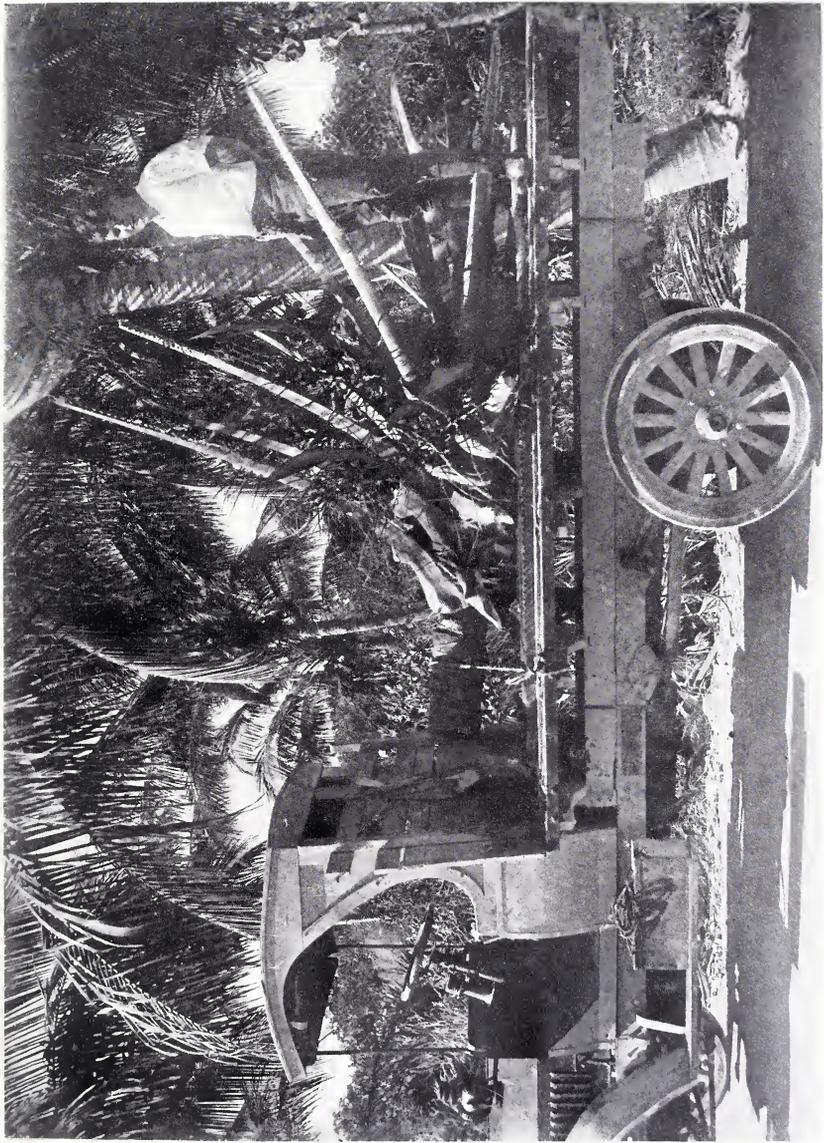
ECKHART, B. A.

FAIR, ROBERT M.
 FARWELL, JOHN V.
 FARWELL, WALTER
 FAY, C. N.
 FIELD, MARSHALL
 FIELD, STANLEY
 FORSYTH, ROBERT
 FULLER, WILLIAM A.

GARTZ, A. F.
 GARY, JOHN W.
 GODDARD, LEROY A.
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 GRISCOM, CLEMENT A.
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 HIBBARD, FRANK
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 HOPKINS, L. J.
 HOROWITZ, L. J.
 HOXIE, MRS. JOHN R.
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 HULBURD, CHARLES H.
 HUTCHINS, JAMES C.
 HUTCHINSON, C. L.

INSULL, SAMUEL



BOTANICAL COLLECTING IN FLORIDA. THE OBJECT ON THE TRUCK IS THE FLOWERING STEM OF A COCOANUT PALM.

JOHNSON, MRS. ELIZABETH
AYER

JOHNSON, FRANK S.

JONES, ARTHUR B.

JONES, DAVID B.

JONES, THOMAS D.

KEEP, CHAUNCEY

KELLEY, WILLIAM V.

KING, FRANCIS

KING, JAMES G.

KIRK, WALTER RADCLIFFE

LAMONT, ROBERT P.

LAWSON, VICTOR

LOGAN, SPENCER H.

LORD, JOHN B.

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LYTTON, HENRY C.

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McCORMICK, HAROLD F.

McELWEE, ROBERT H.

McLAUGHLIN, FREDERIC

McLENNAN, D. R.

McWILLIAMS, LAFAYETTE

MacVEAGH, FRANKLIN

MARK, CLAYTON

MASON, WILLIAM S.

MITCHELL, JOHN J.

MOORE, EDWARD S.

MORTON, JOY

MORTON, MARK

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PATTEN, HENRY J.

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PORTER, H. H.

RAWSON, FREDERICK H.

REAM, MRS. CAROLINE P.

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ROBINSON, THEODORE W.

ROSENWALD, JULIUS

RUNNELLS, JOHN S.

RUSSELL, EDMUND A.

RUSSELL, EDWARD P.

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RYERSON, MARTIN A.

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SMITH, SOLOMON A.

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SWIFT, G. F., JR.

SWIFT, LOUIS F.

THORNE, CHARLES H.

THORNE, ROBERT J.

WHEELER, CHARLES P.

WILLARD, ALONZO J.

WILLITS, WARD W.

WILSON, THOMAS E.

WILSON, WALTER H.

WINSTON, GARRARD B.

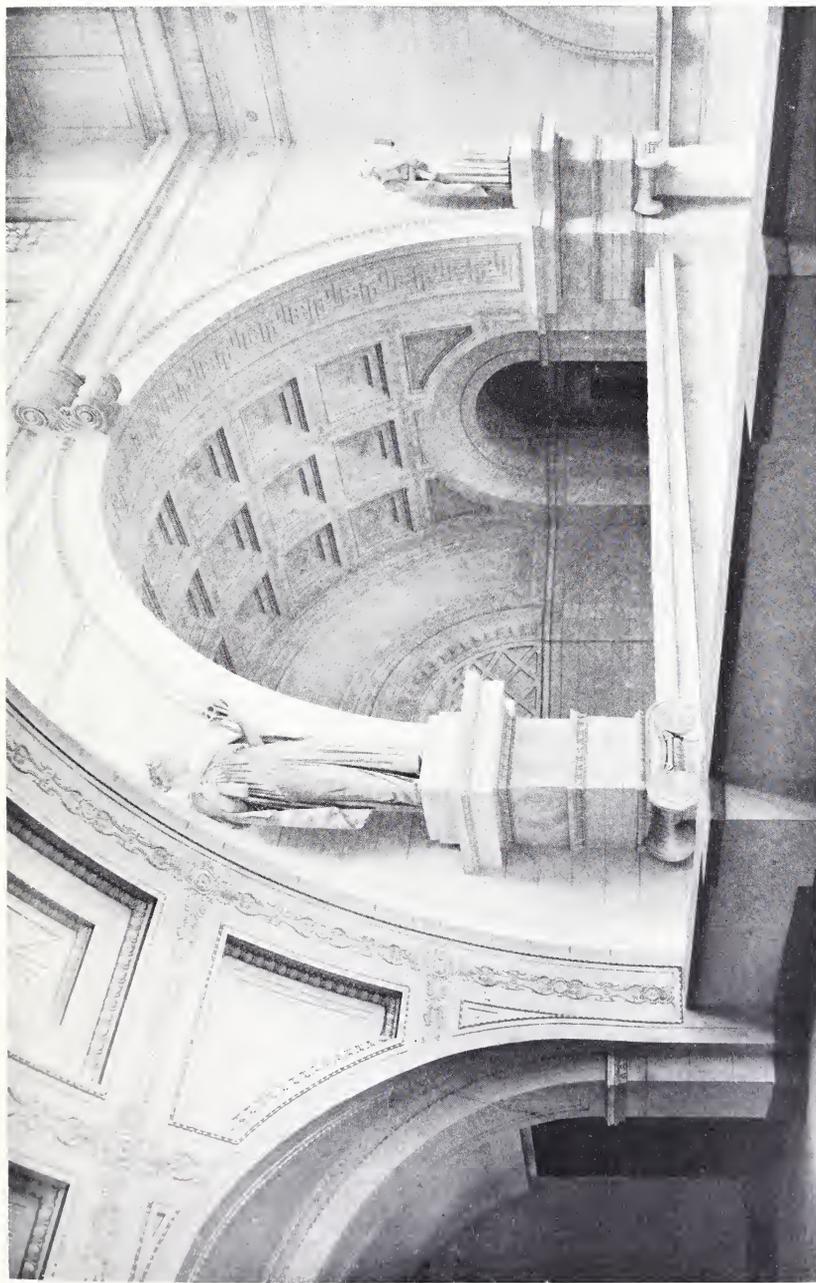
WINTER, WALLACE C.

ANNUAL MEMBERS.

- ADAMS, CYRUS H.
 ADAMS, MILWARD
 ALLERTON, ROBERT H.
 ARMOUR, GEORGE A.
 BAILEY, EDWARD P.
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 BOAL, CHARLES T.
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 COMSTOCK, WILLIAM C.
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 STOCKTON, JOHN T.
 STUART, ROBERT
 UIHLEIN, EDWARD G.
 WACKER, CHARLES H.
 WALKER, JAMES R.
 WALKER, WILLIAM B.
 WALLER, EDWARD C.
 WHITEHEAD, W. M.
 WILSON, MRS. E. C.
 WILSON, M. H.
 WORCESTER, MRS. C. H.

DECEASED.

SEIPP, MRS. C.



DETAIL, STANLEY FIELD HALL, SHOWING STATUARY—SCIENCE AND DISSEMINATION OF KNOWLEDGE.



WEST COLONNADE, SECOND FLOOR OVERLOOKING STANLEY FIELD HALL LOOKING SOUTH.

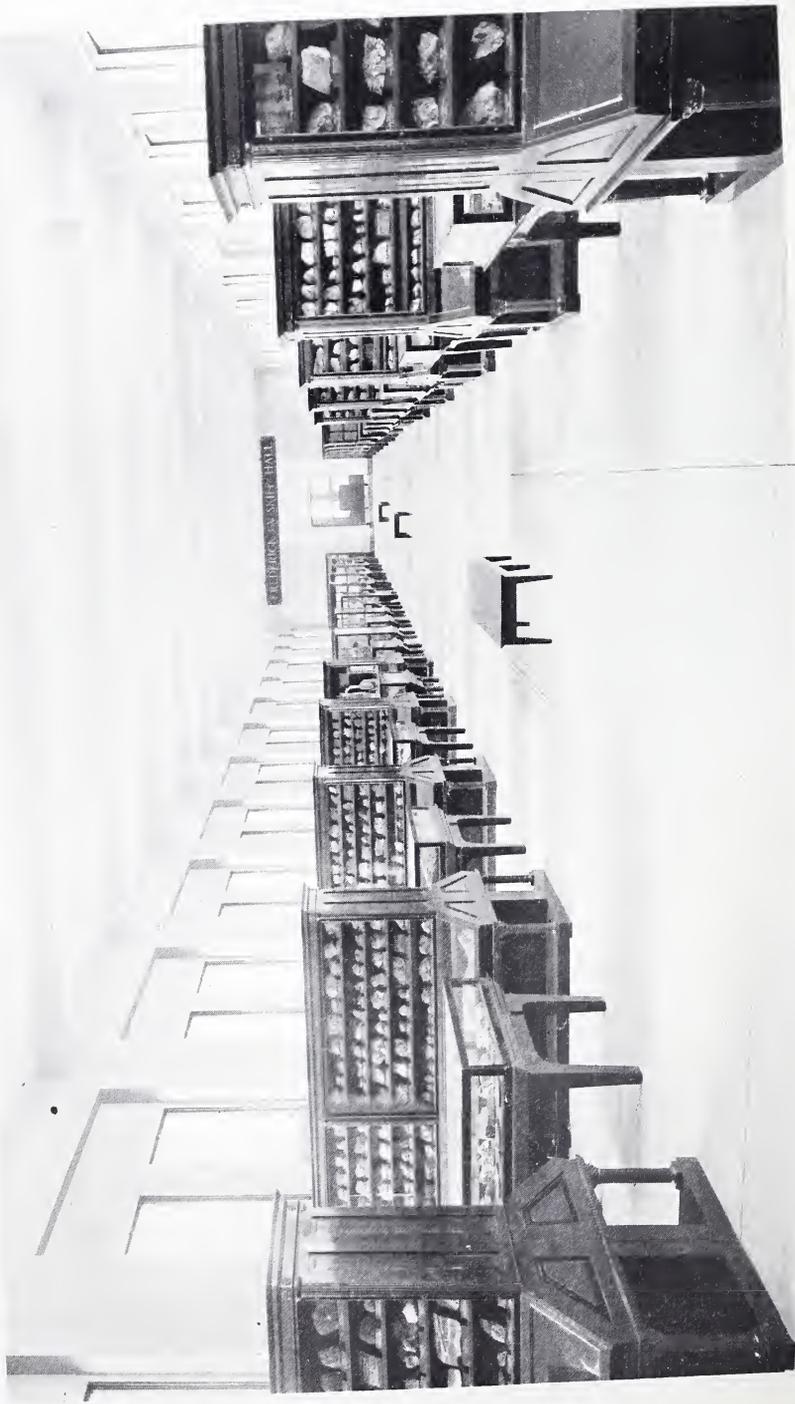


WEST COLONNADE PARALLELING STANLEY FIELD HALL, FIRST FLOOR LOOKING SOUTH.



AN EXHIBITION HALL, NEW MUSEUM BUILDING.





FREDERICK J. V. SKIFF HALL.

This hall contains ores of the precious and base metals, building stones and marbles and various non-metallic minerals of economic importance.

FIELD MUSEUM OF NATURAL HISTORY.

PUBLICATION 206.

REPORT SERIES.

VOL. V, No. 6.

ANNUAL REPORT OF THE
DIRECTOR

TO THE

BOARD OF TRUSTEES

FOR THE YEAR 1920.



CHICAGO, U. S. A.

January, 1921.



BEQUESTS.

Bequests to Field Museum of Natural History may be made in securities, money, books or collections. For those desirous of making bequests to the Museum, the following form is suggested:

FORM OF BEQUEST.

I do hereby give and bequeath to "FIELD MUSEUM OF NATURAL HISTORY" of the City of Chicago, State of Illinois, _____

Cash Contributions made within the taxable year to Field Museum of Natural History to an amount not in excess of 15% of the tax payer's net income are allowable as deductions in computing net income under the Revenue Law.



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WILLIAM WRIGLEY, JR.

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OWEN F. ALDIS.

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WATSON F. BLAIR, *Second Vice-President.*

FREDERICK J. V. SKIFF, *Secretary.*

D. C. DAVIES, *Assistant Secretary and Auditor.*

SOLOMON A. SMITH, *Treasurer.*

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WILLIAM J. CHALMERS.

MARSHALL FIELD.

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CHAUNCEY KEEP.

PENSION COMMITTEE.

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ALBERT A. SPRAGUE.

FREDERICK J. V. SKIFF.

STAFF OF THE MUSEUM.

DIRECTOR.

FREDERICK J. V. SKIFF.

DEPARTMENT OF ANTHROPOLOGY.

BERTHOLD LAUFER, *Curator.*

CHARLES L. OWEN, *Assistant Curator Division of Archæology.*

FAY COOPER COLE, *Assistant Curator Physical Anthropology
and Malayan Ethnology.*

ALBERT B. LEWIS, *Assistant Curator of African and Melanesian
Ethnology.*

J. ALDEN MASON, *Assistant Curator of Mexican and South
American Archæology.*

HELEN C. GUNSAULUS, *Assistant Curator of Japanese
Ethnology.*

DEPARTMENT OF BOTANY.

CHARLES F. MILLSPAUGH, *Curator.*

B. E. DAHLGREN, *Assistant Curator Economic Botany.*

EDWARD T. HARPER, *Assistant Curator of Cryptogamic Botany.*

DEPARTMENT OF GEOLOGY.

OLIVER C. FARRINGTON, *Curator.* H. W. NICHOLS, *Assistant Curator.*

ELMER S. RIGGS, *Assistant Curator of Paleontology.*

DEPARTMENT OF ZÖÖLOGY.

CHARLES B. CORY, *Curator.*

WILFRED H. OSGOOD, *Assistant Curator of Mammalogy and Ornithology.*

WILLIAM J. GERHARD, *Assistant Curator of Entomology.*

EDMOND N. GUERET, *Assistant Curator of Osteology.*

R. MAGOON BARNES, *Assistant Curator of Oölogy.*

ALFRED C. WEED, *Assitant Curator of Ichthyology and Herpetology.*

THE N. W. HARRIS PUBLIC SCHOOL EXTENSION.

S. C. SIMMS, *Curator.*

RECORDER.

D. C. DAVIES.

ASSISTANT RECORDER.

BENJ. BRIDGE.

THE LIBRARY.

ELSIE LIPPINCOTT, *Librarian.*

EMILY M. WILCOXSON, *Assistant Librarian.*

January 1, 1921.

ANNUAL REPORT OF THE DIRECTOR.

1920

To the Trustees of Field Museum of Natural History:

I have the honor to present a report of the operations of the Museum for the year ending December 31, 1920.

In every respect the year just closed must be considered as the most important and momentous in the history of the organization. The completion of the New Building, with the exception of the terrace, approximately five years from the date when construction operations were inaugurated, and its occupancy are two factors which make the period not alone noteworthy, but also establish a new epoch in the dissemination of scientific knowledge. The Building may be said to have been completed on or about June 1, 1920, but the transfer by rail of the collections and equipment commenced on the 26th day of April and was practically concluded by June 4th. The actual moving operations by railroad thus consumed thirty-four working days. The plans for moving and the organization for carrying on the task had been given careful consideration before work was begun and it is a matter of congratulation that the undertaking was carried through to its consummation without an untoward occurrence of any nature and without serious damage to the material transported. As it was thought advisable to move the heavier objects by motor trucks, this method of transfer was inaugurated early in March and continued with few interruptions daily until the beginning of September. In all 354 loads were handled in this manner and these were carried with the same satisfactory result as the loads transported by railroad. As soon as moving operations were concluded, installation was immediately undertaken as reviewed elsewhere in this report. It may be said at this date that fully one-third of the exhibition cases in the Museum have been finally placed, reinstalled and in a great many instances entirely relabeled. There is every indication that the entire exhibition area will be completely installed on or about the first of May 1921, when it is intended that the Museum shall be re-opened to the public.

During the year the President of the Museum, Mr. Stanley Field, contributed the sum of \$100,000.00 toward the deficit in the New

Building Fund. The Board of Trustees in accepting this very generous gift, expressed their appreciation with more than ordinary emphasis.

It is a pleasure also to announce that a contribution of \$50,000.00 in the form of 500 shares of 7% preferred stock has been made by Mr. Edward E. Ayer, the income of which after the death of Mrs. Ayer and the donor is to be expended for the purchase of scientific books, pamphlets and publications for the general Library of the Museum. This provision for the future development of the Museum Library is only another instance of Mr. Ayer's life-long devotion and generosity to the Museum. In view of the continued interest manifested by Mr. Ayer in the expansion of the Library and especially on account of his contributions in money and books to the ornithological section, it has been decided to name the ornithological Library of the Museum the "Edward E. Ayer Ornithological Library."

Grateful acknowledgment is made of the contribution of the sum of \$20,000.00 from the Honorable Charles R. Crane, or so much thereof as may be necessary to complete the publication of the work being prepared by the Curator of Zoölogy on "The Birds of the Americas."

The additions to the scientific staff and maintenance forces during the latter part of the year, having caused a deficit in the available funds for the operation of the Museum, amounting to \$19,755.32, at the December meeting of the Board, the President announced that Mr. Marshall Field had volunteered to assume this deficit.

President Field has further contributed the sum of \$1,000.00 toward the publication of a "Record of the Life of the North American Indian," which is to consist of twenty volumes of text and illustrations and twenty accompanying portfolios of copper plates and photogravures, with the understanding that the Museum Library is to receive a set of the work when completed.

The Corporate Members at a meeting held in May, decided to amend the Articles of Incorporation, so as to provide for an increase in the Board of Trustees of the Museum from fifteen to twenty-one members. At this date four of the created vacancies have been filled by the election of Mr. John Borden, Mr. Albert W. Harris, Mr. Solomon A. Smith and Mr. James Simpson.

Through the further efforts of President Field to increase the Life Memberships of the Institution, the following were elected during the year: J. B. Lord, Thomas W. Hinde, Adolph Nathan, George D. McLaughlin, Lawrence M. Viles, D. W. Buchanan, Frank O. Wetmore, Alexander Smith, David M. Yates, Clifford M. Leonard, Frank W. Porter, Charles H. Schweppe, William Wrigley, Jr., Charles Piez, James B. Forgan, John McKinlay, Potter Palmer, Francis S. Peabody,

Charles H. Morse, Jr., George Alexander McKinlock, John C. Shaffer, Dorr E. Felt, A. Watson Armour, Theodore C. Keller, E. D. Hulbert, Frank S. Cunningham, Henry W. Farnum, B. E. Sunny, John Barton Payne, Honore Palmer, Alfred Decker, David R. Forgan, George F. Getz, Clarence M. Woolley, John Burnham, Augustus S. Peabody, Samuel M. Hastings, P. D. Block, Joseph H. Defrees, Arthur T. Aldis, John F. Jelke, E. J. Lehmann, George L. Veatch, Eugene B. Clark, Oliver T. Wilson, Norman Bridge, W. H. Miner, Clive Runnells, N. Landon Hoyt, William P. Martin, Robert Stuart, Robert W. Stewart, Henry P. Crowell, Gustavus S. Fernald and William E. Clow.

Mr. James Simpson was elected a Patron of the Museum, in recognition of the eminent service he has rendered to the Institution.

Amendments to the By-Laws made during the year have created two new classes of memberships, Associate Members and Sustaining Members, and have also provided additional privileges for all classes of memberships. These privileges are indicated in the revised By-Laws which will be found in this report. In this connection also, an agreement has been entered into with other contemporary institutions for an interchange of courtesies and privileges for Life and Annual Members.

The Board of Trustees had presented for their consideration during the year a proposal from the South Park Commissioners, asking the consent of the Trustees to the erection by the Commissioners of a Stadium, which it is proposed to construct on the south side of the Museum building and which would encroach one hundred and twenty feet, approximately, upon the restricted areas, which under the terms of the contract between the Museum Trustees and the South Park Commissioners providing a site for the Museum building, it was agreed should remain free of structures unless otherwise concurred in by the Museum. After full consideration of the request, the Trustees gave their consent to the construction of the Stadium as shown on the plans submitted.

The ordinance under which the South Park Commissioners set aside a tract of land in Grant Park for the site of the new building, in consideration of which dedication the Institution is to be open free to the public three days in each week, having been brought to the attention of the Board of Trustees, it was decided that the Museum should be open free to the public on Thursdays, Saturdays and Sundays.

During the year arrangements were made with the Illinois Central Railroad to construct a foot-bridge over the tracks of the railroad at Park Row which would permit foot passage from the Park Row station platform, or from the Park just outside of the retaining walls east and west of the tracks, the Museum to assume the cost of the structure.

This bridge has been completed and has greatly increased the means of access to the Museum.

The scope of the Stanley Field Museum Employes Pension Fund has been enlarged by its founder, the execution of an insurance contract with the Aetna Insurance Company covering the lives of the personnel of the Museum, with the premium paid out of this Fund, having been authorized. In this contract it is stipulated that continuous service for one complete year is pre-requisite to securing any insurance and that the insurance automatically ceases upon the termination of the services of the insured. Employes, who on February 1, 1920, had not been in the service of the Museum for one complete year, automatically become insured at the conclusion of that period, and are progressively entitled to increasing benefits as set forth in the schedule adopted. This insurance is without cost to the insured and imposes no obligation not already attending the services of the employe.

MAINTENANCE.—The sum of \$170,200.00 was appropriated by the Board of Trustees for the necessary expenses of maintenance during the fiscal year. The cost of maintenance, however, amounted to approximately \$190,000.00, thus creating a deficit of approximately \$20,000, which, as referred to elsewhere in this report, was contributed by Mr. Marshall Field.

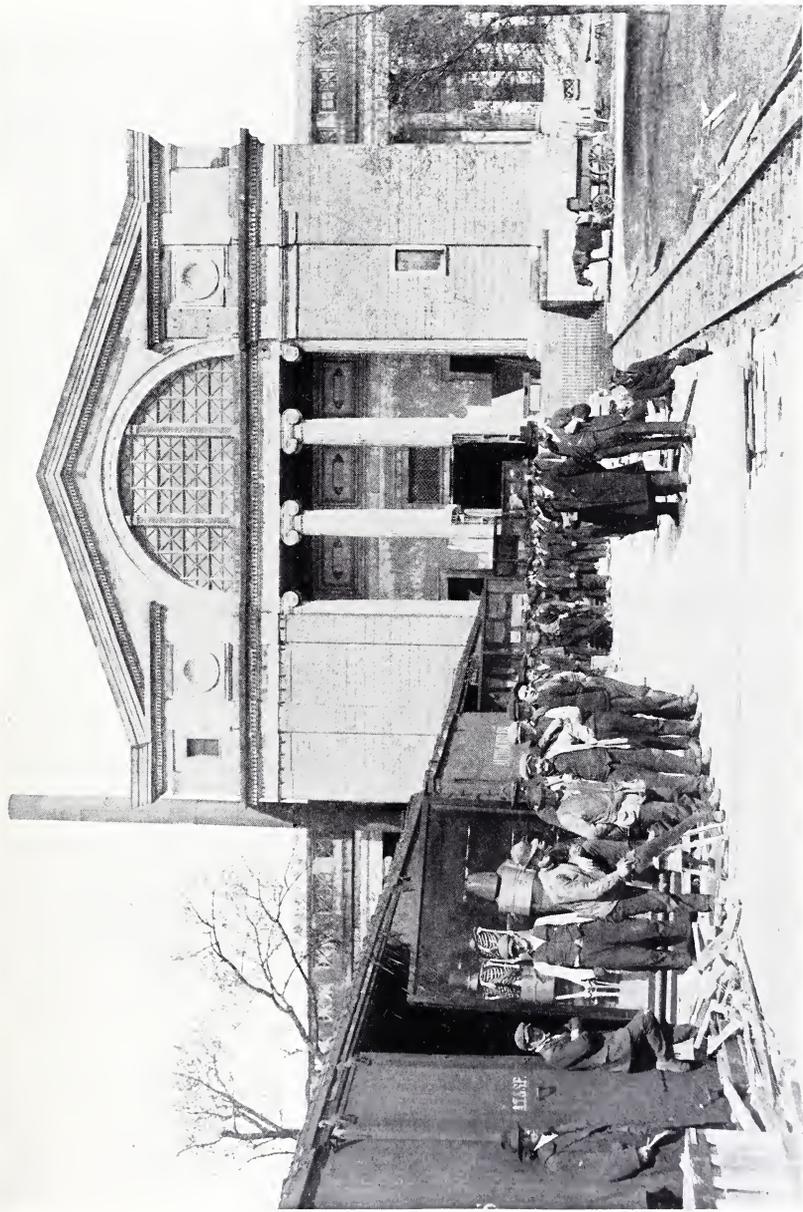
MOVING OPERATIONS.—The following is a brief summary of the extent and cost of the transfer of all collections, material and equipment from the old building in Jackson Park to the new building in Grant Park.

Time:

Duration of transportation by rail, April 26, 1920, to June 4, 1920, inclusive, omitting Sundays and one holiday	34 days
Duration of transportation by auto truck (capacity five ton), March 3, 1920, to October 2, 1920 (not continuous)	132 days

Quantities:

Number of freight cars loaded and unloaded . . .	321
Number of motor truck loads (loaded and unloaded)—capacity 5 tons	354
Glazed and unglazed exhibition cases moved—average size twelve feet in length and eight feet in height . .	1,727
Number of cases “knocked-down” and partly dismantled	98



MOVING OPERATIONS

Loading cars at Jackson Park, Old Building. Platform capacity, ten fifty-foot cars.

Number of boxes, crates, barrels, packages, and other parcels specially prepared for transporting	11,645
Office furniture and effects, books and publications in carriers, maintenance equipment, photographic equipment, printing shop equipment, pieces and objects	8,006

Cost:

Cost of packing supplies, covering a period of two years \$	4,897.52
Total cost of moving operations not to exceed—(some unrendered bills estimated)	70,000.00

Damage:

Repairing material damaged in actual transit	1,250.00
Repairing material damaged during packing operations including the replacing of all broken glass	2,800.00

Remarks:

The plan of the operation provided placing the cases and objects transported upon a definite floor area or in a particular room or a designated section, where it is intended they shall remain in the new building.

The number of checkers employed at loading platform at old building and at unloading platform at new building 11
 (All volunteered from the personnel of the Museum)

Comparison of the loading sheets with the unloading sheets both by rail and truck, shows not one article or object has apparently been lost or misplaced in the process of the transfer.

Estimated cost of glass moved, at present day prices \$753,000.00

PUBLICATIONS.—During the year one publication was issued, detail of which follows:

Pub. 205.—Report Series, Vol. 5, No. 5. Annual Report of the Director for the year 1919. January 1920. 69 pages, 14 halftones, edition 2,000.

THE LIBRARY.—Notwithstanding the limitations that existing conditions have imposed, the customary activities of the Library have been carried on with a fair measure of success. There have been received by gift, exchange and purchase 1,088 books and pamphlets. The Library contains 73,824 books and pamphlets. Cards written and filed in the catalogues number 6,690. The transfer of the contents of the library to the new building was accomplished by using cartons, large wooden containers and motor trucks. The space at present assigned

to the office of the Library and the stack room is on the second floor. The four departmental libraries are located on the third floor in rooms adjoining each of the departments. The task of installing the exhibition halls has employed all assistance available and the work of shelving the libraries is in abeyance until the stack rooms can be completed when considerable time and labor will be necessary to reestablish the sequence of the original classification. The decision to have all literature pertaining to the work of the departments placed in their respective libraries necessitates a number of transfers and until these transfers are effected and inventories taken it is not possible to accurately state the number of books and pamphlets in each library. The books of the anthropological and botanical departments have been placed on the shelves. In the Department of Anthropology discarded exhibition cases were converted into book cases and used to good advantage. The library's generous patron, Mr. Edward E. Ayer, presented the rare eight volume edition of Audubon's Birds of North America. During the year Mr. Ayer caused to be ordered one hundred and fourteen volumes of ornithological works. Of these eighty-one volumes have been received, a number of which are rare copies dating back to 1776, and all are beautifully illustrated. A catalogue of all the ornithological works in the library is in preparation, at the request of Mr. Ayer, who has expressed a desire to supplement his already splendid collection until it provides workers and students with as complete an ornithological reference library as is obtainable. Gifts, gratefully received from other sources, are acknowledged as such in the list of accessions appended to the report. Exchanges were received from four hundred and ninety-six institutions and individuals. The first consignment of the publications of the Museum, since pre-war days, was forwarded during the year to all countries where international exchange service has been resumed. The continued upward trend of the cost of all publications very seriously affects scientific literature. Various societies that have existed mainly for the publication of the results of scientific research have had to either suspend publishing for the time being or discontinue exchange relations and ask for subscriptions to enable them to continue their work. Five new exchanges were effected with the following: Federated Malay States Museums, Kuala Lumpur; Museo de Etnología y Antropología de Chile, Santiago de Chile; Ornithological Society of Japan, Tokyo; Manchester Geographical Society of England; R. Academia de Ciencias y Artes, Barcelona. Comparatively few purchases of books have been made as the time of the staff has been wholly occupied with installation work. Subscriptions were entered for seventy-eight periodicals.

DEPARTMENTAL CATALOGUING, INVENTORYING, AND LABELING.—During the year the work of cataloguing in the Department of Anthropology has been carried on as new accessions were acquired. In the division of Mexican and South American archæology, the remainder of the Zavaleta collection, as well as the material from Ecuador and the West Indies received last year, as an exchange, from the Museum of the American Indian, New York, has been catalogued. The total number of catalogue cards prepared amounts to 1,646. These cards are distributed over the divisions as follows: Southwest, Mexican and South American Archæology 1,501; North American Ethnology 4; Malayan Ethnology 118; China, Japan and India 16; Near East Archæology and Ethnology 3; and African Ethnology 4. These cards have been entered in the inventory books of the Department, which now number thirty-eight. The number of annual accessions amounts to twenty, eighteen of which have been entered. The total number of catalogue cards entered from the opening of the first volume amounts to 155,194. A new and vigorous campaign in label writing and printing was inaugurated during the last months of the year. The progress made so far has been entirely satisfactory, numerous new labels having been added to the exhibition cases. The total number of these labels amounts to 4,139, distributed as follows: North West Coast 96; New Guinea 870; Mexico and South America 2,316; Philippines 173; China, Tibet and Korea 442; Ainu and Siberia 239; Japan 3. There were 393 new label cards added to the label file. The printer supplied the department with 975 catalogue cards.

As very little new material has been added to the organized collections in the Department of Botany during the year, on account of the necessities contingent upon moving, only 231 incidental entries have been made in the department catalogues, bringing the total entries up to 482,310. The card indices of the department have been augmented as follows:

	No. of Cards	
	Augmented 1920	Total
Index to Botanical Species	4,585	156,618
Index to Common Names	76	20,375
Index to Yucatan Plants	5	6,367
Index to Euphorbiae	7	4,232
Index to Department Labels	36	3,136
Index to Geographic Localities	11	2,767
Index to Collectors	2	9,864
Index to Botanical Titles	75	1,575
Index to Department Library . . . . .	.....	8,800
Index to Illinois Flora	110	910
Index to Hand Specimens of Wood	1,646	2,446
Index to Installations . . . . .	.....	595
Index to Photographs . . . . .	.....	600

All accessions in the Department of Geology have been fully catalogued as received, the largest number appended being obtained by the addition of the specimens of the Frederick J. V. Skiff collection. In packing or installing the older collections specimens occasionally were found which had been overlooked in previous cataloguing, and the opportunity was improved to record these also. The total number of entries made during the year was 452. During the installation of the cases in the new building, all missing or soiled labels have been replaced as fast as the cases were installed, by new ones. As considerable care was taken in packing the labels from the old installation so that loss or injury should be avoided, the instances where such labels needed replacement were fortunately few. New labels were also provided for any specimens added that had not previously been installed, and the form, wording or size of some of the old labels was changed in instances where this seemed desirable. The total number of re-installed cases completely labeled during the year is 70 and the total number of new labels that have been prepared is 668.

Cataloguing in the Department of Zoölogy during the year was reduced to that which was absolutely necessary, namely 43 entries in Mammalogy and 247 in Ornithology. Many exhibition labels have been prepared, including an entirely new set for the large habitat groups of mammals.

The following table shows the work performed on catalogues and inventorying accomplished:

	No. of Record Books	Total No. of Entries to Dec. 31, 1920	Entries During 1920	Total No. of Cards Written
Department of Anthropology.....	38	155,194	1,646	155,334
Department of Botany.....	58	482,310	234	87,409
Department of Geology.....	22	141,472	452	8,456
Department of Zoölogy.....	40	101,304	290	34,696
The Library.....	14	117,766	6,690	283,716
Section of Photography.....	20	121,239	395	.....

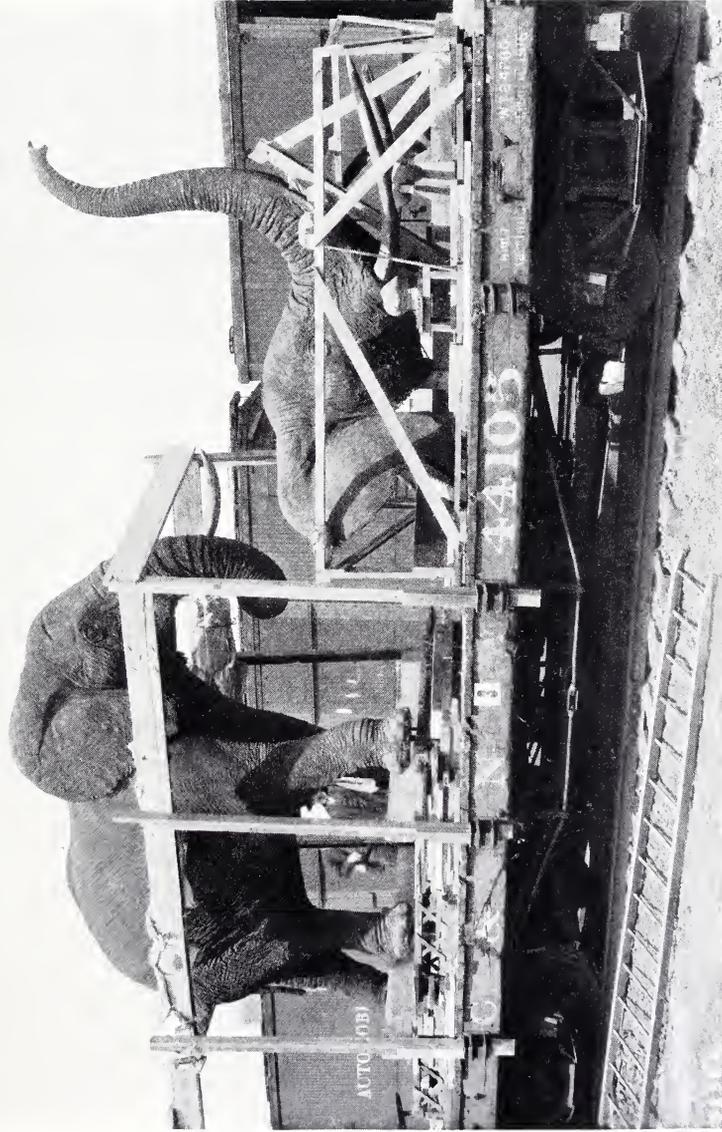
ACCESSIONS.—The most notable gift of the year in the Department of Anthropology is the valuable collection of Indian baskets from British Columbia and California made by Mr. Homer E. Sargent in the course of fifteen years and presented by him to the Museum. The present contribution of 342 baskets is merely the first installment; there are several hundred more to come by next spring. This extensive collection comprises excellent and partially old specimens from the Hupa, Pomo, Paiute, Panamint, Maidu, Mono, Chumashan, Diegeno, Chemehuevi, Navaho, and other tribes. Mr. Edward E. Ayer presented to the department a kris from the Moro on the Philippines, a Pima basket from California, several interesting objects from the Tlingit and Eskimo

of Alaska, and a Pomo feather headband. Mr. George A. Crofts of Tientsin, China, remembered the Museum with a gift of two large, remarkable clay statuettes of the T'ang period (A.D. 618-906), which have been added to the Blackstone Collection, and are placed on exhibition in a case of mediæval clay figures. The gift of Mr. and Mrs. Edwin F. Gillette of a set of Japanese dolls for the Dolls' Festival (*Hina Matsuri*) is a distinct addition to the Division of Japanese Ethnology. The group, illustrated in this Report, consists of a painted screen and nine dolls representing the emperor and empress of Japan, the elder and younger ministers of state, and an orchestra of five court-musicians, exactly as it would appear in a Japanese home on the occasion of the Dolls' Festival held each year for the pleasure and instruction of little girls. Such sets, handed down as family heirlooms, are taken out of the storehouse annually, carefully unpacked, and displayed for a week on a series of shelves covered with scarlet cloth. There are generally arrayed before the dolls miniature pieces of furniture, various articles for the house reproduced oftentimes in gold lacquer or in porcelain, such as tiny tables upon which are placed offerings of food prepared by the little girls, an act which in itself tends toward promoting a deep reverence for the emperor and a knowledge of the old court and its customs. The sixfold screen, which serves as a background, possesses great merits in color and decoration. Above a stream, near which grow iris, peonies, and a sturdy pine; a white crane flies downward toward two others standing on the bank. The golden-flecked clouds and the soft greens and reds in decoration blend admirably with the brocade costumes of the dolls immediately in front of the screen. These figures, made of enameled wood, are modeled with remarkable care, each expressing a distinct personality. As an illustration of the exactitude of execution, the hands and wrists of the old minister of state, which delineate real age, are truly of admirable workmanship. The costumes are all of brocade, probably a hundred years or more in age, which in itself is of value for the study of textiles and design. The head-dresses, of which there are three distinct types, besides the elaborate head-dress of the empress, are removable and exact copies of the style worn at court by the various characters here represented. The emperor and empress sit upon raised platforms, magnificently clothed, each possessing emblems characteristic of their offices. The empress holds a small folding-fan of wood painted with the favorite decoration of the crane flying above the pine, bamboo and plum, a combination emblematic of long life. The emperor, wearing a large sword, holds in his right hand a flat wooden baton of tablet shape (*shaku*), generally carried by all noblemen at the court. The old and young ministers are equipped with

bows, arrows, and swords. Swords are also thrust in the belt of each of the five court-musicians, two of whom sit upon lacquered stands while the other three squat upon the ground. The musical instruments, the flute, the hand-drum, and flat-drum, are faithfully reproduced in miniature. Under the auspices of Mr. William Wrigley, Jr., the Museum entered into an agreement with the Museum of the American Indian of New York City, for the purpose of organizing an extensive archaeological survey of Catalina Island on the Californian coast. The understanding was that the material resulting from this exploration should be equally divided between the two institutions. The field-work was placed in charge of Mr. George G. Heye, Director of the Museum of the American Indian, and conducted during last summer. As a result of these excavations, the Museum received from Mr. Heye in November a large quantity of archaeological material, consisting chiefly of pestles, mortars, and other implements of stone, particularly steatite, bone, shell, and clay. The collection is thoroughly representative of that culture-area. In order to make this collection more interesting and to illustrate some of the adjacent cultures in connection with it, Mr. Heye added to it as a gift to the Museum a considerable collection from San Nicholas and San Miguel islands, California, which contains a number of fine prehistoric shell and bone ornaments.

The notable additions to the herbaria during the year are: the first installment of the E. T. and S. A. Harper mycologic collection, consisting of about 10,000 specimens; the Santa Catalina Island collections of C. F. Millspaugh (595) and L. W. Nuttall (946 specimens); Pennell's North American (55) and U. S. Colombian (33) Scrophulariaceæ; Mrs. Wilcoxson's Massachusetts plants (95 specimens); Howe's distribution of Marine Algæ, principally West Indian and Bahaman (146 specimens); Maxon & Killip's Jamaican Plants (1,128 specimens); E. T. & S. A. Harper's Virginia and Massachusetts fungi of 1920 (210 specimens); and Ames' Bornean Orchids.

Of especial importance among the accessions of the year in the Department of Geology the Curator of the department reports that the collection of ores and minerals presented by Dr. Frederick J. V. Skiff is of especial interest and value. The Curator states: "This collection contains not only many specimens unique in beauty and rarity, but also some which since they came from localities from which it would be impossible, at the present time, to obtain specimens, may be considered priceless. Series of special interest and value in the collection are the following: A number of specimens of free gold, especially from South American localities and specimens of placer gold from Colorado and Idaho; other gold ores; platinum from the Urals; some fine speci-



AFRICAN ELEPHANTS IN TRANSIT TO NEW BUILDING.
One specimen required removal of the head; the other traveled intact.

mens of amethyst; excellent specimens of turquoise, tiger eye and thomsonite; some unique crystals of calcite from Joplin, Mo., showing a new crystal habit; silver ores showing free silver from several localities; and concentrates from various ores. The total number of specimens in the collection is 277." Mr. William J. Chalmers presented for addition to the William J. Chalmers crystal collection a remarkable pseudomorph of quartz after crystallized spodumene from Greenwood, Maine. Mr. Chalmers also presented a valuable book of photographs of the diamond mines at Kimberley, South Africa. This book contains 114 original prints illustrating various phases of the processes of mining at the Kimberley mines and covering chronologically nearly the entire history of the mines. The United Verde Company and United Verde Extension Company of Bisbee, Arizona, and the New Cornelia Copper Company of Ajo, Arizona, presented full series of the various ores mined by them and specimens of the associated rocks. These series in connection with specimens previously presented by the Utah Copper Company, afford material for fully illustrating the developments which have taken place in recent years in the utilization of the low-grade copper ores, usually known as "porphyry coppers." Specimens of both leaching and flotation ores are included in the series. These series all form important additions to the collection of copper ores. The kind offices of Mr. William J. Chalmers in assisting in procuring these gifts are gratefully acknowledged. A cast of the Yenberrie, Australia, iron meteorite was presented by the United States National Museum and a full-sized, polished section of the meteorite was purchased. Dr. A. de Chairmont presented nine individual aerolites of the Holbrook, Arizona, fall. By exchange with the University of Chicago a nearly complete skeleton in matrix of the rare Permian, lizard-like reptile, *Varanosaurus*, from Texas, was obtained, also from the same institution and in a similar way a prepared male skull and dentition of the extinct ungulate *Diceratherium*, from the Miocene of Nebraska.

The principal accession in the Department of Zoölogy during the year was the collection of 676 specimens, chiefly mammals and birds, obtained by Assistant Curator Osgood and Mr. H. B. Conover on the expedition to Venezuela of which mention is made elsewhere. Mr. Conover also presented to the Museum skulls and scalps of one moose and two caribou from northwest Canada. An important addition to the exhibition collection of mammals was a mounted giraffe presented by Mrs. Mollie Netcher Newbury. A collection of 270 salt and fresh water fishes from Louisiana was received in exchange from the Southern Biological Supply Company of New Orleans. The invertebrates received during the year consisted of a donation of over 8,800 shells

and 49 sea-urchins, starfish, etc., mostly collected by the late Mrs. Fanny Sonshine and presented to the Museum by her daughter, Miss B. Sonshine. A temporary addition to the Division of Entomology consisted of the twenty-year deposit of the Garry de N. Hough Collection of flies, received from the University of Chicago. The value of this material is mainly due to the fact that it is rich in authentically named species of certain families of European and North American muscid-like flies. This collection will prove useful for comparison when naming some of the Museum material. It will also be helpful to students who are interested in the families represented.

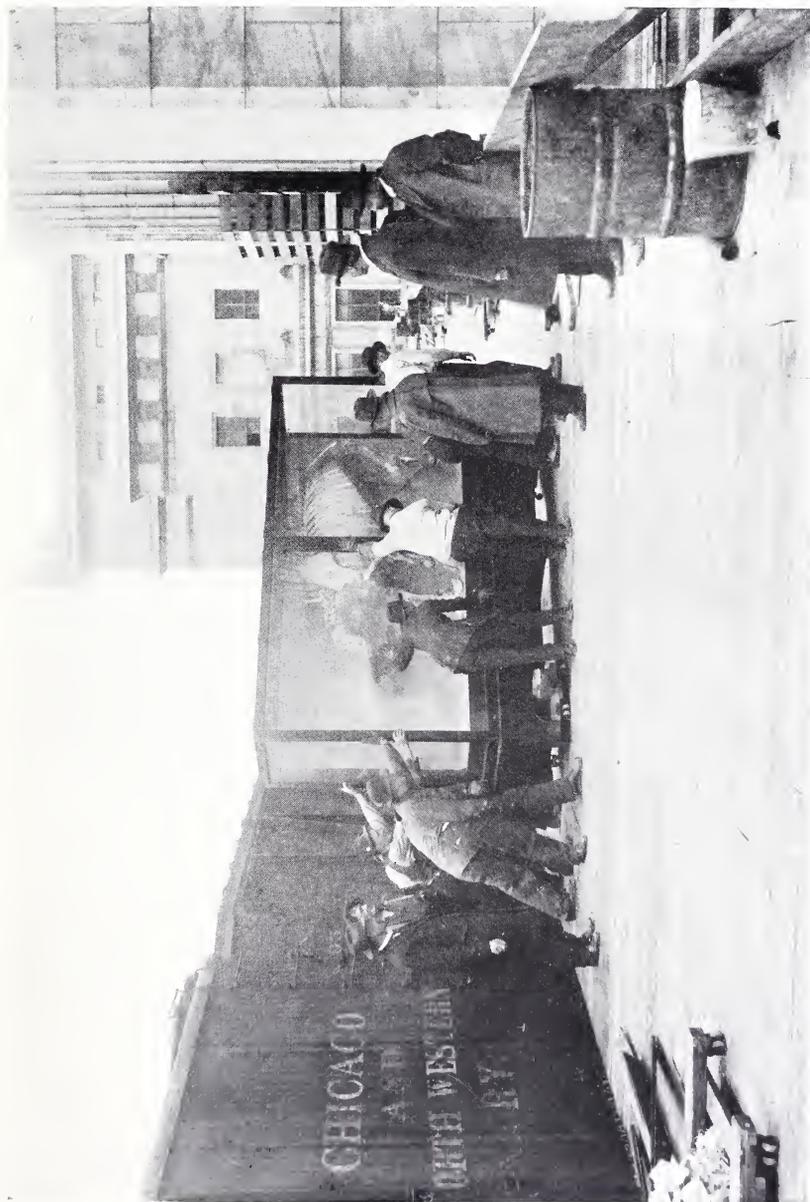
EXPEDITIONS AND FIELD WORK.—Through the generous co-operation of Mr. H. B. Conover it was possible to make one short but important expedition during the year. Assistant Curator Osgood, accompanied by Mr. Conover, left late in January for northwestern Venezuela and returned to the Museum in the latter part of May. They worked in the tropical lowlands surrounding Lake Maracaibo and in the Sierra de Perijá near the boundary between Venezuela and Colombia. Later they penetrated the interior south of Lake Maracaibo to the highlands of the Sierra de Merida, working at various levels up to an elevation of 15,000 feet. The collections and physical data obtained supplement the results of previous expeditions in an important way and make the Museum collection of the vertebrates of this general region the most comprehensive in existence. In prosecuting this work, the members of the expedition were greatly assisted by officials of the Caribbean Oil Company, notably Mr. F. R. Bartlett. They were much indebted also to Señor Juan E. Paris, a prominent and public-spirited citizen of Maracaibo.

INSTALLATION, REARRANGEMENT, AND PERMANENT IMPROVEMENT.—The Department of Anthropology was engaged during the first half of the year in packing material for removal to the new building. The method of packing adopted proved so efficient that no essential damage was done to any specimen, whether large or small, during the removal. On moving into the new building in June, the staff put in order and arranged the offices, work-rooms, store-rooms, and laboratories assigned to the department on the third floor. An immense number of crates, boxes, and packages had been accumulated in Installation Room 34, during moving-time. These were checked up with the records, sorted, and relegated to the various sections to which the material belongs. Cabinets for storage were placed in work-rooms, several storage racks and seven layout tables were made. Hundreds of exhibition cases were stripped of packing

material, numerous crates and boxes were opened, and the material arranged either for exhibition or study and exchange collections. The best possible use has been made of the space available on the third floor. Rooms 65 and 66 are utilized for the storage of East Asiatic collections. Room 50 contains Japanese material, Room 48 Melanesian collections, the greater part of which are stored in the Installation Hall, Room 46 North American archæology, Room 44 Indian blankets and baskets, Room 42 Hopi material, Room 43 Southwest, Navaho and Mission Indians material, Room 40 Mexican and South American archæology, Room 33 Northwest Coast collections, and Room 34 Malayan material. Exchange material is placed in Rooms 30 and 31. Room 28 is allotted to study collections. Work on actual installation of exhibition cases was begun on September 20th. During this brief period of three months a total of 249 cases was installed or re-installed. These cover all sections of the department. The Philippine Hall, 55 cases, with the exception of the large group-cases, the Chinese collections on the East Gallery Hall of the second floor, 64 cases, save several large wall cases, and the greater portion of the West Gallery Hall, can now be reported as being completely installed. Hopeful progress has been made in the Joseph N. Field Hall (Melanesia), the Mexican and South American Hall, the Southwest Hall, and the hall allotted to Egyptian and classical archæology. In the Mexican and South American Hall, nine cases have been newly installed; these illustrate Calchaqui stone work, ethnology of the Upper Amazon, Brazil, Paraguay, Peru, and Ecuador, and Maya and Mexican archæology. In every instance, exhibition material was carefully sifted, and the new arrangement is considerably improved upon the old system. A special hall, located on the ground floor along the east side of the building, having been assigned to the department for the exhibition of primitive means of navigation, 82 boats were placed and arranged in the hall during August. Five exhibition cases, two illustrating boat-models from China, two with boat-models and other means of transportation from India and Burma, and one with similar material from New Guinea, were moved in and placed at a somewhat later date. When completed this hall will prove an attractive feature in the building. It was decided to discard from exhibition all table and upright cases which were found to be no longer serviceable and hardly in harmony with the character of the new halls. This step necessitated a complete vacating of these cases containing large storage bases in which a large quantity of material had been packed for transportation. This material has been temporarily stored in Room 45 on the third floor. The Departmental Library has been completely arranged and set in order in twenty-three cabinets in Room

39. With the co-operation of the departmental staff, the Museum librarians completed this task within a few weeks. As all books pertaining to anthropology, also those formerly stacked in the main library, are now assigned to the departmental collection, it was necessary to prepare a new set of catalogue cards in conformity with this new arrangement, and the number of the cabinet in which a book is placed has been added to each card, so that it is possible to promptly locate a volume. The Bagobo group has been completed and the figure of the Hopi boomerang-thrower remodeled.

In the Department of Botany the entire staff of the department proper was employed during the first five months of the year in finishing preparation for moving into the halls and rooms set aside for it in the new building. The specimens in all those exhibition cases not prepared during the closing months of the previous year were secured in place, or packed in containers, and properly marked and labeled to designate the position they were destined to occupy. The entire herbaria and all other material, supplies, appliances, etc., were, in like manner, prepared for transportation. The month of May and part of June were employed in superintending the removal of the packed material from the old building and the placing of the same in position in the new. In September re-installation began both in the exhibition halls and the working rooms. Since that date the books of the Department Library have been temporarily shelved and arranged, the phanerogamic herbarium fully organized, and most of the laboratories at least partly equipped for work. On account of alterations deemed expedient in the departmental arrangement as originally planned, it became necessary to change the installation of a large number of cases previously considered complete. These re-installations have consumed a large amount of time and rendered re-installation far slower than was expected, setting back the anticipated completion of the department at least five months. Contributory to this extra work has been the elements of the unfinished character of the halls and the dust raised in the work of their completion. This has caused more cleaning of specimens and repainting of case interiors than could have been foreseen. In Hall 28 one hundred and ten case units have been placed. These are devoted entirely to all those plant families the elements of which are on hand at this time. The installation will comprise plant reproductions and natural specimens embracing the taxonomy of about 100 families. Of these 81 are now installed. Hall 27, Foreign Woods: In this hall the cases have not yet been shifted to their intended position. They will require comparatively little interior arrangement when once set, as the contents are now in place. Hall 26, North American Trees: The



MOVING MOUNTED SKELETON OF EXTINCT UNGULATE (ALLOPS MARSHI) INTO NEW BUILDING.



cases in this hall are in position. They will require little interior work done upon them. Halls 25 and 29, Economic Botany: The cases in these two halls are substantially all placed and 71 units have been re-installed complete. The herbarium, in its organization, had been separated into four great divisions: (1) *Flowering Plants*, completely organized; (2) *Fungi*; (3) *Cryptogams in General*, ferns, mosses, lichens, hepatics, etc.; (4) *Plants of Illinois*. Each of these herbaria occupy contiguous rooms. As the plants of Illinois are more frequently consulted by amateurs in botany than those of the general herbaria, it has been considered best to segregate them, thus securing the main herbaria against disorganization by untrained botanists. During the first four months of preparation for moving the Section of Plant Reproduction continued its regular work with but little interruption. The months of May and June were then utilized entirely in the work of packing, dismembering, moving and re-establishment in the laboratories in the new building. In July the work of the section was again established, though during the last few months of the year it has been greatly interfered with through the necessity of utilizing a large part of the effort of the staff in the re-installation of cases in the exhibition halls. No damage whatsoever was sustained by the large number of delicate models and reproductions packed, or secured against the anticipated rough handling of the cases and packages during transportation. Notwithstanding the large amount of time consumed in these necessary interruptions to the regular work of the staff, the section finished the following productions, all of which are now installed in the exhibit cases of Hall 28: The Fig (*Ficus carica*). A natural size branch of the tree in full leaf and fruit; an enlarged section of the edible fig revealing the numerous flowers enclosed within the fleshy, hollow receptacle; an enlarged section of the Caprifig with male and female flowers; an enlarged female flower in section; an enlarged male flower with its bracteal envelope; an enlarged gall-flower showing the female caprifying insect emerging; and full descriptive labels detailing "caprification." The Seven-year Apple (*Casasia clusiiifolia*). A small branch of the shrub with fully matured fruit fallaciously said to "require seven years to ripen." The Kaffir Orange (*Strychnos spinosus*). A flowering and fruiting portion of this shrub of the Strychnine Family. While nearly all species of this group are virulently poisonous this particular one develops an edible, spicy fruit. An enlarged flower of this plant reveals the essential organs characteristic in the family. Avocadoes or Alligator Pears (*Persea Persea*): fruits of four characteristic varieties of this delicious "Salad Fruit" now becoming noticeable in our markets through its cultivation in southern Florida. The four

varieties reproduced are: The West Indian; The Guatemalan; The Mexican; and a hybrid secured by crossing the Guatemalan and the Mexican. The Coconut (*Cocos nucifera*): enlarged male and female flowers together with a section of the female flower revealing its essential characters. The Spider Lily (*Hymenocallis caribaea*): a full size flowering plant. Cotton plant (*Gossypium barbadense*): an entire plant in full leaf, flower and ripe boll, natural size; an enlarged flower, in section, revealing the essential organs. *Zamia* (*Zamia floridana*): enlarged sporophylls and a fruiting cone of this species illustrating the floral characteristics of the cycads. Mangoes (*Mangifera indica*): three varieties of this delicious fruit of the Sumac Family, now being cultivated for the market in southern Florida: "The Mulgoba," "The Haden," and "The Amiri." A Green Alga (*Oedogonium*): eight enlargements illustrating reproduction in this group; whole mass of the plant, magnified; asexual reproduction, the oögonia; the sperm cells; dwarf males; resting stage, oöspore; germination, zoöspores; fertilization. A Green Alga (*Ulothrix*): four enlargements illustrating this genus: A piece of a filament, spore formation; swarm-spores, germination; conjugation; zygosporos. More or less work has also been done on the following studies now in process of production: Coconut (*Cocos nucifera*); reproduction of a natural size tree top in leaf, full flower and fruit. *Zamia* (*Zamia floridana*); a full size plant of this important starch-producing cycad. Four-'o-Clock (*Mirabilis jalapa*); a portion of a natural size plant and a number of various colored flowers, designed to illustrate Mendelian principles of heredity. Screw Pine (*Pandanus utilis*); reproduction of a portion of the plant, natural size. Pride-of-India (*Melia Azedaracha*); an enlarged flower revealing the essential organs, to illustrate characteristics of the Mahogany Family. Alga (*Bryopsis plumosa*); an enlarged tip of a frond.

During the first part of the year packing in the Department of Geology of all material and cases intended for the new building was completed. This included packing of the contents of forty-two exhibition cases remaining installed at the close of last year, a large quantity of material belonging to the study collections, furniture and equipment of the offices and laboratories of the department and some collections and objects that for lack of exhibition space had been stored in the basement. As noted in a previous report, the nature of nearly all the specimens in the exhibition cases made it necessary to remove them from these cases in order to put them in a safe condition for transportation. In some instances after being packed in proper receptacles, the specimens were returned to the cases and the cases used as carriers, but it was found possible to move only three cases and contents without

removal of the specimens. During the period of packing as a whole two hundred and eighty exhibition cases were emptied of their contents and all fittings made fast so that there would be no danger of injury to any part in moving. It is gratifying to report that this work was so carefully and thoroughly done that with the exception of one case which failed owing to faulty construction, no cases or contents suffered any breakage of glass or other marked injury during the moving to the new building and placing in position there.

One of the most difficult specimens to prepare for moving was the skeleton of the large dinosaur. Because of its great weight and fragile nature this could not be transported as a whole. It was therefore necessary to disarticulate the skeleton and handle each bone as a unit. The leg bones and most of the pelvic bones were crated separately without additional reinforcement. The foot bones and the smaller bones of the tail were separated and packed in tight boxes. The ribs required additional strengthening. Each rib was first wound spirally with tough paper to protect its finish. It was then covered with plaster and burlap, as fossils are treated for shipment from the field. In turn each rib was further reinforced by means of iron rods, either bent to conform to the outline or extending across the arc as a chord. The entire series was then crated. The vertebrae were handled singly. Before removing from their position on the frame-work the spines and lateral processes were braced by means of light, iron rods. These braces, extending from each centrum to the lateral processes and thence to the crest of the spine of each vertebra, were attached by the use of plaster. This done, the screws holding each vertebra to the steel frame-work were removed, leaving the immediate support attached to the specimen. The vertebrae were then placed separately on light, wooden frame-works which acted as temporary bases, and were firmly anchored to them in an upright position by means of wires attached to the four corners of the base and drawn tightly through the neural canal. The vertebrae were then placed, two each, in wheeled carriers padded at the bottom to protect from jar. Each vertebra was firmly attached to the bottom of the carrier by means of long screws driven through the temporary base. By the use of all these means the entire skeleton was well protected and was transported to the new building with comparatively little breakage. The steel framework on which the skeleton was installed was unbolted and moved as lengths of structural steel and the wooden base above the frame-work was taken apart and carefully crated for transportation.

The safe transportation of the large fulgurite also presented a somewhat difficult problem. The specimen is an exceedingly irregular hollow

tube about nine feet long and an inch in diameter, with walls of about the thickness and strength of an egg shell. This had been mounted on hangers which held it about six inches from the back of its case. In order to move this specimen with its supporting wooden rod it was placed in a horizontal position in a special packing case. It was then well wrapped with paraffined tissue paper and a thin fin of tow and plaster was built up from an anchorage on the packing case floor to the specimen, supporting it throughout its entire length. At intervals of perhaps a foot, a narrow ring of tow and plaster was also passed around the specimen to connect it securely to the fin. The paraffined tissue not only prevented staining by the plaster but also checked any adhesion of the plaster or dovetailing to any rough portions of the specimen. Protected in this manner the specimen was safely transported to the new building and after unpacking was readily mounted and installed.

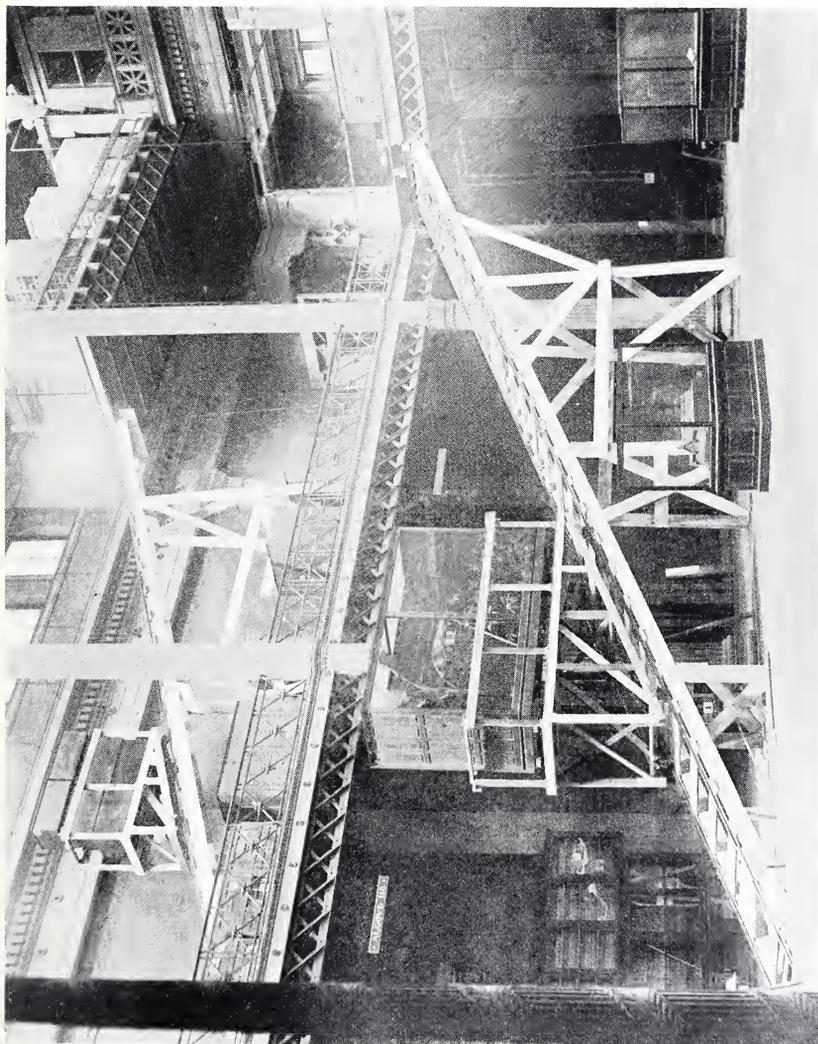
Besides the exhibition cases, the departmental material transported to the new building was contained in 226 barrels, 1,086 large boxes and crates and several thousand small boxes and cartons. Packing, transportation and unpacking of this material was accomplished with practically no loss whatever from breakage or other injury, a fact which gives proof of the care with which the packing and handling was done. The large skeleton of the Northern Mammoth presented to the Museum some years ago by Mr. George Manierre and temporarily housed at the Chicago Academy of Sciences through the courtesy of that institution, was also transferred to the new building.

In order to facilitate placing of the exhibition cases in the new building, installation numbers were given to each hall of the portion of the building assigned to the department and to each alcove in each hall. The cases designated for these alcoves were then correspondingly marked, so that on arrival at the new building each case was taken directly to its assigned alcove. Before installation all the glass of all the cases was cleaned, the wood-work of the exteriors was refinished and that of the interiors repainted. Any injuries to the exterior wood-work of the cases that were too deep to be rubbed out, were carefully chiseled out and new wood inserted and the whole refinished in such a manner as to restore the cases to their original appearance. The cases forming the sides of the alcoves were carefully fitted to one another in such a manner as to make the line of joining as narrow and inconspicuous as possible and they were then securely fastened together. A greater rigidity and stability of the cases was thus gained, and a pleasing appearance of the cases as seen from the aisle was produced. The number of cases so joined was 126. Twenty of the flat cases having shown in moving that the method of attachment of the legs was not as secure as was desirable,

these were thoroughly overhauled and stout fastenings provided. Also, from fourteen of the cases in Frederick J. V. Skiff Hall the burlap linings which had become torn and discolored from long usage, were removed and new, freshly dressed linings substituted. Blocks numbering 2,600 used for mounting individual specimens and various other mounts used in this hall were also repainted and the shelves of many of the cases were braced with strong wooden supports so as to guard against possible breakage of the shelves from the weight of specimens. A large number of other supports or fixtures, such as easels, frames, pedestals, etc., used in this and other halls of the department were also repainted.

The space assigned for the exhibition cases of the department in the new building consists of five halls on the second floor of the western section of the building. Four of these halls, 180 ft. by 42 ft., in dimension, have their greatest length in an east and west direction and one, 317 ft. by 48 ft., has a principal north and south range. Of the four halls extending east and west, that on the north side of the building contains the systematic collection of minerals, the meteorite collection and part of a collection illustrating physical geology. The systematic mineral collection occupies the eastern half of the hall. It is installed in 32 cases, 16 of which are of a sloping-top type and 16 of a tall, upright type. The cases are arranged on either side of the hall so as to form alcoves, each alcove except the first being bounded by a tall case on each side and containing a sloping-top case in the center. Each alcove is twelve feet deep and including the side cases, fourteen feet wide. Each is lighted by a pair of windows at one end. The sides of the alcoves are made by the tall cases being placed at right angles to the length of the hall, one end of each resting against a pilaster of the wall between the windows. A broad, middle aisle sixteen feet in width permits free passage through the center of the hall. The mineral collection is arranged in these cases according to the order of Dana's system, a number on the label of each specimen showing the position of the specimen in the system. For the most part, the large specimens are shown in the tall cases at the sides of the alcoves and the smaller specimens in the lower, central cases. The re-installation of this collection was completed during the year, the specimens being for the most part installed in the positions and cases which they had occupied in the old building, but some alterations necessitated by changes of orientation of the cases were made. The total number of specimens now on display in this collection is 4,476. In the re-installation of all the collections of the department, the system of marking described in a previous report, by which the position of each specimen in installation was indicated by a label wrapped with the specimen, proved of great assistance in securing rapid and accurate

placing of the specimens. Following this collection, two cases of a combined upright and flat form are devoted to the William J. Chalmers crystal collection and two similar cases contain collections illustrating varieties of amber and ornamental objects carved from semi-precious stones. Following these, six large oblong cases, three square cases and two narrow, upright cases contain the meteorite collection. In the square cases are placed large, single specimens of the Davis Mts., Long Island and Brenham falls, respectively, while the remaining meteorites which are exhibited are to be disposed on pyramids or shelves in the other cases. The remainder of the hall is devoted to four upright cases arranged in alcove form containing collections of concretions and septaria, and specimens illustrating glacial phenomena, weathering, etc. Two large, glaciated slabs from Kelley Island and Amherst, Ohio, are to be installed on individual bases in opposite alcoves in connection with this series. In the next hall south there have been placed at the east end eight upright cases. These are to contain the collections illustrating various rock structures, such as dikes, veins, cave formations, rock markings, etc. These cases are arranged in alcove form disposed in a manner similar to that already described for the cases containing the systematic mineral collection. A case devoted to large gypsum crystals and one containing a fulgurite nine feet in length are also placed in this hall. Following these, eight sloping-top cases are devoted to the collection of systematic petrology. Each specimen in these cases is mounted on an individual block screwed to a pyramidal screen. The installation of this collection is complete, 872 specimens being now on display. The remainder of this hall extending eastward is to be devoted to the exhibition of the map collection, consisting of about seventy-five relief and other maps, also globes and other geographic material. The maps are to be exhibited on tables which are to be arranged in positions similar to those of the cases which form the alcoves in other halls of the department. The maps have been unpacked and partially placed, but have not yet been finally installed. The following hall south contains collections of an economic character, chiefly of coal, petroleum and other hydrocarbons, and sands, clays and soils. Of these collections, those of the first group will occupy the eastern half of the hall, those of the second group, the western half. The eastern half is installed according to the alcove plan, similar to that adopted in the department as a whole, eighteen upright cases forming nine alcoves. In these alcoves and adjacent to them ten table and other low cases are placed, and in one double-spaced alcove a large case containing an exhibit of coal-tar products. A model of the original Rockefeller oil refinery which,



GRAVITY TRAMWAY FROM UPPER GALLERIES TO MAIN FLOOR, OLD BUILDING.
Lower car conveying twelve-foot exhibition case with installation intact.



from lack of space has not been shown for some years, will be placed in another alcove. In the sixteen-foot center aisle two table cases four by six feet in size are placed. These contain the diamond and part of the asphalt exhibits. Against the south wall of the hall and adjacent to the passage southward, a large section of an Australian coal seam will be placed. In the western half of the hall the installation is composed chiefly of table cases. As these do not readily lend themselves to a true alcove arrangement, distribution of the cases in a manner consistent with the alcove plan of the rest of the hall has been adopted. The cases are placed in pairs, each pair extending from the windows toward the center of the hall. There is left a twelve-foot center aisle and a narrower passage between the cases of each pair. The arrangement is broken in one place to give space for a diagrammatic collection of clays which requires a linear arrangement of four cases. Beyond this installation of twenty-two table cases at the extreme west of the hall, two square cases containing large specimens have been placed, and bordering the west wall an upright case and a large model of an iron mine. The specimens in the hall as a whole transferred from installation in the old building are to be re-installed in the same cases and with the same arrangement as before. There will also be added, however, many specimens which had been withdrawn from exhibition for several years on account of lack of room. The entire coal collection is one group of such material and substantial additions will also be made to the exhibited collections of clays, sands and soils. The most southerly of the halls of the department has been named Frederick J. V. Skiff Hall. The hall contains the principal economic collections of the department. It includes the ores of the precious and base metals, building stones and marbles and a part of the collection of non-metallic minerals of economic importance. The cases in the hall are arranged according to the alcove plan, broken for a space midway of the hall by the substitution of tall, square cases for the long, upright cases which outline the regular alcoves. These square cases are so disposed, however, that the general alcove effect is retained. A center aisle fourteen and a half feet wide has been left unobstructed through the entire length of the hall. The predominant type of cases used in the installation of the hall is that of those which form the sides of the alcoves. These are materially different in form from those employed in any other hall. They are designed to keep the specimens as near the eye of the spectator as possible even at sacrifice of capacity. They are seven feet high, and at a height of two feet from the floor the exhibition space is extended forward in a horizontal bay which not only keeps the

specimens nearer the eye, but also affords room for larger specimens and those that should be examined from above. The length of the cases is twelve feet, except for six which measure fourteen feet. Each alcove is outlined by two of these cases, one being placed on each side of a window. The cases stand with one end against the wall and extend toward the aisle in the center of the hall. Including the side cases, each alcove is fourteen feet wide, the open space in the center being four feet narrower. On the south side of the hall, the alcoves are twelve feet deep. On the north side they are fourteen feet deep. In the center of each alcove one or two table cases, four by six feet, are placed. Midway of the hall, opposite the passage connecting with the next hall to the north, the character of the alcoves is varied, the principal change being the replacement of some of the long cases by two tall cases, four feet square. These cases are glazed on all sides, except the base, and contain massive specimens and materials of special character. There are twenty-six alcoves in the hall as a whole and they contain forty-two twelve-foot and forty-four other cases. The ores of the heavy metals and the building stone collections are for the most part re-installed in their original cases and in their original positions in the cases. The exigencies of re-installation have compelled some changes, but they are relatively few. The addition of two cases against the east wall has made possible the re-display of a case and a half of ores which had been withdrawn from exhibition for a number of years on account of lack of space. Except for the building stones and alkalis, that part of the non-metallic economic collections which appears in upright cases in this hall has been transferred to cases of a different type from those formerly used. This has made some re-arrangement necessary, owing to the different capacities of the two types of cases, and withdrawal of some of the material has been unavoidable, but for the most part the original arrangement of the specimens has been retained. It was necessary to spend much time and labor in cleaning the specimens of ores. The method employed has been first to remove the dust by use of a vacuum cleaner, then to wash and dry the specimens. As water alone or soap and water was found not to attack a sooty coating which had sometimes formed through exposure to a smoky atmosphere, and as the more corrosive detergents could not be used, some care in selecting a suitable cleansing agent was found imperative. Satisfactory results were, however, secured by use of cold water containing a moderate quantity of carbonate of ammonia. As the collections in this hall are now arranged, there are shown at the east end and extending from the east entrance about half way down the hall, the ores of the precious and base metals. These are arranged in the order of the installation employed in the old building;

first, synoptic collections of gold, silver and lead minerals and ores and secondly, collections of these ores geographically arranged. Platinum ores occupy one table case at the head of the series. The gold, silver and lead collections are followed by ores of the other metals with the specimens geographically arranged under each metal. Interspersed with these ores at convenient points are placed models illustrating methods of mining and of extracting the metals from the ores. The metallurgy of some of the more important metals is also illustrated by specimens. Following the ore collections are placed those of the building stones and marbles. These are shown in the form of polished slabs in upright cases and of four-inch cubes in table cases. To them are added specimens of materials adapted to ornamental uses cut in forms intended to display their fitness for such uses. The western end of the hall is filled with a variety of minerals of economic interest, including mica, asbestos, and abrasive materials, and at the extreme end the alkali collections are placed. The western hall, which is the largest of the exhibition halls of the department, is devoted to the paleontological collections. This hall, as already stated, is 48 feet in width and 317 feet in length. Its size and proportions have enabled a unique installation of the paleontological collections to be made, the most important feature being that it has been possible to place all the collections in the hall in chronological order. Thus an epitome of the history of life upon the earth, beginning with the remains of living forms of the earliest period and passing in order to the life of Recent time is presented to the observer. The characteristic fossils or life forms of any particular period can be seen in whatever portion of the hall corresponds in position to the place of the period in time, or the course and development of life as a whole can be studied. The earlier forms have been placed at the south end of the hall, and from this point the progression in time advances to the north end. Introductory to the series, two cases contain, one a collection illustrating methods of fossilization and the other a collection showing contrasting forms of ancient and modern plants and animals. As in the other halls of the department, the cases in this hall are arranged to form alcoves, the sides of the alcoves being made by upright cases twelve feet in length by eight feet in height and usually two feet in depth. Two of these placed back-to-back with ends resting against the pilasters which separate the windows of the hall form the alcoves. Within these alcoves for the most part, single sloping-top cases designed for specimens which require close inspection are placed. These cases occupy a floor space of four by five feet each, leaving an aisle three feet wide between them and the sides of the alcoves and four feet wide between them and the windows. Occasionally the alcove space is doubled or trebled in

order to permit the placing of large objects. The upright cases as a rule contain large specimens, slab mounts and single skeletons. Altogether twenty-two alcoves of this form have been placed in the hall. A central aisle, twenty-two feet in width, passes through the hall between the alcoves, and this is utilized to some extent for the exhibition of large mounts, such as those of the two dinosaurs *Apatosarus* and *Triceratops*, the cast of the *Megatherium* skeleton and some single cases. The installation of all cases in the hall, numbering sixty-six, has been essentially completed. In general, the specimens were placed in the cases in the same order and positions which they had occupied before removal, but wherever some improvement in sequence or appearance could be made this was carried out. The precaution which had been adopted to secure the safe transportation of some of the more fragile material, such, especially, as wrapping dinosaur and other bones with paper and covering them with burlap and plaster, proved on unpacking to have been very successful, practically no breakage having occurred and the appearance of the specimens not having been injured. This was especially gratifying in the case of the large *Triceratops* skull, the thin, expanded bones of which were exceedingly fragile. The specimens yet to be installed in this hall are chiefly large and massive ones, such as the great dinosaur, *Apatosaurus*, the skeletons of the mastodon and mammoth and some large casts. The iron frame-work for the dinosaur has been assembled but the erection of the specimen upon it has not yet been accomplished. The energies of the staff were devoted so largely to installation, that little opportunity was available for work upon the study collections or in the laboratories. The study collection of systematic minerals has, however, been placed in trays, labeled and arranged in order in drawers contiguous to the exhibit series. Work in the laboratories has largely been confined to repairs upon specimens, but in the early part of the year opportunity was found to remove from matrix and prepare for exhibition two large ribs, nine feet in length, of the type specimen of *Brachiosaurus*. This material, as it came from the field, is in so fragmentary a condition, that the task of preparing it is a difficult and tedious one, but the unique character of the material makes its preservation highly important.

In the Department of Zoölogy, the year was devoted almost exclusively to the work in connection with the removal to the new building. Packing continued until April and was followed by the period of actual moving during which members of the staff, office, and taxidermists' force were assigned to specific tasks in checking the pieces out of the old building and into the new and in giving special care to such material as required it. The entire collections of the department were moved



NATAL PLUM.

(*Carissa grandiflora*.)

A reproduction of a branch of this attractive fruit, introduced into Florida in 1902, for its pleasant cranberry-like fruit and jasmine-scented flowers.

without serious damage. The smaller exhibition cases were transported intact with specimens of light weight *in situ* securely fastened to the shelves or to the floor. Even the extensive osteological exhibits traveled largely in this way, although small skeletons and crania were specially packed in cartons and very large ones were crated. Heavy material, as corals and other fragile invertebrates, was removed from the cases and packed in boxes, cartons, and barrels. Exhibition cases of medium size (more than 4 feet in width) were transported after removal of all or part of the glass and with the specimens covered with a temporary protecting cloth. In this way certain habitat groups, as the hyaenas and warthogs, were handled simply and successfully. Very large cases, including many of the habitat groups, as moose, mountain sheep, koodoo, zebra, etc., required the complete dismantling of the case and the dismemberment of the group, the animals being placed individually on special temporary bases and the ground work and accessories being divided and crated. The African elephants, after removing the head of the one mounted with its trunk elevated, were placed on an open flat-car and came through without mishap. The study collections of mammals and birds packed in original containers offered no difficulty. Fishes and reptiles in glass jars, which were wrapped in corrugated cardboard and packed tightly in cartons, suffered no breakage whatever. Even pinned insects, which were subjected to much vibration, show no injury so far as examined. Since removal to the new building steady progress has been made in the re-installation of the exhibition material. The first hall to be finished was the west colonnade (George M. Pullman Hall) which has been devoted to ungulate mammals, the deer, antelope, sheep, goats, and wild oxen. These are mostly game animals of considerable popular interest and have been arranged to form a unit with allowance for slight expansion in the future. The hall of systematic mammals followed and then that of systematic birds and the habitat groups of birds. A number of groups of African mammals also were completely installed before the end of the year. Over two months were devoted to the re-installation of the shell exhibit. Besides re-installing the shells which were on exhibition in the old building, good progress has also been made on the installation of the four new A-cases that had not been in use heretofore. In order that there should be uniformity in color of all the shell tablets and labels, it was decided to blacken the edges of the yellow shell tablets and to reprint all of the buff-colored labels in the six so-called table cases. Some progress has also been made in the installation of the sponge and coral exhibit. There have now been re-installed and completed twelve A-cases of shells and two standard cases of sponges and corals. Several other cases also are far advanced

toward completion. All of the skeletons have been unpacked and four cases have been installed and two are under way. The large skeletons are being installed on bases in the exhibition halls.

THE N. W. HARRIS PUBLIC SCHOOL EXTENSION OF FIELD MUSEUM OF NATURAL HISTORY. —At the end of the present year there were 677 cases available for circulation among the public schools of Chicago. Of this number, thirty-one were prepared during the year. This is a falling off from the previous annual production of cases for circulation. This decrease in cases prepared is attributed to causes which the department could not avert. The principal causes were the resignation of an assistant taxidermist, and the transfer of a preparator to another department. Another cause was the abandonment for several weeks of practically all productive work for preparations necessary for the removal from the old building to the new one, and the installation there of fixtures for office and work-rooms. The removal of the department to the new building was accomplished largely by the use of the delivery truck, and without the loss of a day in the delivery of cases to schools. Rather than increase the production of cases by sacrificing past standards, the usual care with the details of each was employed. When arranging the schedule for the loaning of cases to schools during the scholastic year of 1920-1921, the latest issue (1919-1920) of the Directory of the Public Schools of the City of Chicago was used. In this directory the names and addresses of 23 high, and 255 main elementary schools were given. In compliance with a formal request made last year that cases be also loaned to high schools, seventeen were included in the present operating loan schedule. For the reason that six of the listed high schools have technical courses, cases are not loaned to them. Cases are loaned to 253 main elementary schools. Because of the great distances to two of the main elementary schools, and of road conditions met with by the motor truck in delivering cases to them, they have been, it is hoped, only temporarily deprived of the uses of the loan cases. In addition to making loans to the 253 main elementary schools, cases are also loaned to 18 branches of elementary schools. Besides the 288 schools, made up of 17 high, 253 main elementary and 18 branch elementary schools, which are scheduled to receive cases, there are other schools to which cases are loaned when requested to do so. These are the practice, continuation and parental schools. Based on information received from the office of the Superintendent of Schools as to the number of pupils attending public schools, it is confidently believed that cases will be loaned during the present scholastic year to schools having a combined enrollment of fully 344,000 pupils. This estimate is com-

posed of 316,000 pupils of elementary and of 28,000 of high schools. In response to a formal request made by the Boys' Work Secretary of the Young Men's Christian Association for the loan of cases to that association's summer school, at 1621 Division Street, several cases were sent. That these cases proved to be of educational value and interest is evident, for, from the same source there came a subsequent request for cases, but in this instance it was asked that cases be loaned periodically throughout the year. This request is being complied with, and in doing so care has been and will be taken to prevent any interference with service to the public schools. The Supervisor of the Children's Department of the Chicago Public Library requested the loan of six cases of birds for the purpose of exhibiting them for a short time at the Public Library, to stimulate interest in books on birds. The cases were loaned, and it was reported that they rendered the service for which they were solicited. This year, as has been done during the past two years, twenty-four cases were on exhibition in the Art Gallery of the Municipal Pier during the months of July and August.

Mrs. Charles L. Hutchinson, President, Chicago Chapter, Wild Flower Preservation Society of America, asked that four cases be displayed at the annual exhibition held under the auspices of that society, at the Art Institute from the 6th to the 22nd of January 1920. This request was granted, as was a subsequent one for six cases for the same purpose, and at the same place from December 18th 1920 to January 18th 1921. In connection with a request for the temporary use of several cases for the purpose of rendering service in establishing a system of loaning cases to schools in St. Paul, Minnesota, the curator of the museum of Saint Paul Institute in that city wrote:—"While visiting the Field Museum some time ago, I was greatly impressed with the educational value of your school cases. The fact that they can be circulated through the various schools from time to time gives them added value." It is regretted that this request could not, at that time, be granted. The President of the San Diego Society of Natural History stated in a communication that a considerable donation had been made to that society for the purpose of popularizing natural history, especially in the schools of San Diego and, having seen this department's exhibit at the Panama-Pacific Exposition, he would like to have such data as would assist in establishing a similar system. It has since been learned that the museum of this society will build a number of small cases for containing birds, minerals, plants, etc., to loan to schools, as part of its educational work. Having in view the prospect of the U. S. Department of Agriculture aiding rural communities on subjects pertaining to agriculture, Professor Frank Lamson-Scribner, Special Agent and

Agrostologist of that department, and two of his departmental associates, conducted a careful examination of a great many loan cases, and made many inquiries as to methods employed in loaning and in recording them.

After having made a most careful inspection of many cases of natural history subjects, Doctor Paul Bartsch, Curator, Division of Marine Invertebrates, U. S. National Museum, stated in a communication to this department: "I wish there might be some way to actually determine the amount of good enterprises of this kind bring about. To me it seems the very foundation of things. I am sure that the citizens of Chicago will show much greater interest in outdoor studies, and a much closer touch with nature, than other citizens where such work is not undertaken. These youngsters do grow up so quickly, and it will only be a little while until the children that have had the benefit of your efforts will become parents who will rejoice with the little ones for the opportunity you give them . . ."

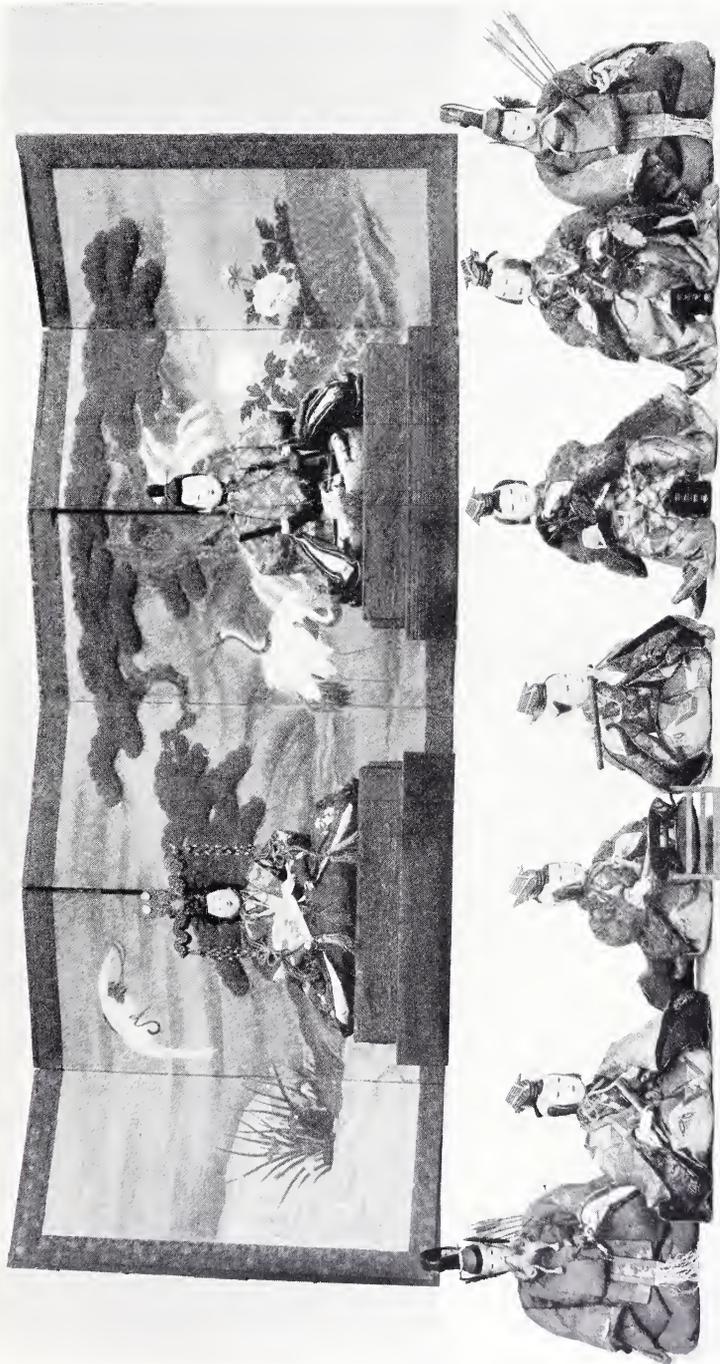
PHOTOGRAPHY AND ILLUSTRATION.—A large part of the year was spent by this section in packing negatives, lantern slides and photographic apparatus for transportation to the new building and in unpacking and arranging negatives and lantern slides after the removal so as to be readily accessible when required. The following is a tabulation of the work performed in this section:

	Number of Negatives Made	Number of Prints Made
General	212	6
Anthropology	6	56
Zoölogy . . . . .	...	115
Totals	218	177
Total number of Catalogue entries during year 1920		395
Total number of Catalogue entries to December 31, 1920		121,239
Total number of Record Books		20

PRINTING.—The number of labels and other impressions made by the Section of Printing is as follows:

	Exhibition Labels	Other Impressions
Anthropology	7,659	975
Botany	192	2,200
Geology	970	500
Zoölogy	376	500
Library . . . . .	....	1,500
Harris Extension	94	500
General . . . . .	...	15,010

Herewith are also submitted balance sheet, lists of accessions, names of members, etc., etc. FREDERICK J. V. SKIFF, Director.



SET OF JAPANESE DOLLS.

Presented by Mr. and Mrs. Edwin F. Gillette. Installed in center of Hall 32 (West Gallery, Second Floor).

ATTENDANCE FROM JANUARY 1, 1920, TO
FEBRUARY 23, 1920.

ATTENDANCE

Paid Attendance:		
Adults	443	
Children	24	467
<hr/>		
Free Admission on Pay Days		
School Children	93	
Students	100	
Teachers	22	
Members	4	
Officers' Families	2	
Press	3	
Special	9	
Free admissions for one week following the dis- continuation of admission charges	119	352
<hr/>		
		819
Admissions on Free Days:		
Saturdays	575	
Sundays		2,351
<hr/>		
Total Attendance		3,745

BALANCE SHEET

December 31, 1920.

ASSETS .

SPECIAL FUNDS

Marshall Field Bequest Endowment Fund:

Real Estate	\$3,200,000.00	
Investments	588,469.78	
Loss from Sale of Investments	26,430.22	
Cash	100.00	\$3,815,000.00

Sinking Fund:

Investments	\$ 47,290.00	
Cash	54.89	47,344.89

Marshall Field Bequest Building Fund:

Investments	\$ 282,456.11	
Loss from Sale of Investments	155,777.37	
Cash	21,350.88	

\$ 459,584.36

Paid for New Building construction	6,143,806.54	6,603,390.90
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The James Simpson Theatre Fund:

Cost of construction and equipment to date		86,157.31
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Stanley Field Museum Employees' Pension Fund:

Investments	\$ 176,550.00	
Cash	708.69	177,258.69

Mrs. Stanley Field Plant Reproduction Fund—

Provisional:

Investments	\$ 143,770.00	
Loss on sale of investments	7,503.00	
Cash	496.39	151,769.39

Edward E. Ayer Library Fund:

Investments		50,000.00
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Life Memberships Fund:

Investments	\$ 89,340.00	
Cash	507.64	89,847.64

Huntington W. Jackson Library Fund:

Investments	\$ 1,821.50	
Cash	27.08	1,848.58

(Continued on page 406.)

BALANCE SHEET

December 31, 1920.

LIABILITIES.

SPECIAL FUNDS

Marshall Field Bequest Endowment Fund			\$3,815,000.00
Sinking Fund:			
Amount of Accumulated Fund to December 31,			
1920	\$	41,061.82	
Income from Investments		6,283.07	47,344.89
Marshall Field Bequest Building Fund:			
Amount of Bequest	\$	4,000,000.00	
Income from Investments		2,256,891.11	
U. S. Government Refund—account Hospital-			
ization		87,215.16	
New Building Salvage		7,311.86	
Building Sinking Fund—Income		5,635.66	
Advances by Woman's Temple Realization			
Fund		146,181.69	
Accrued Interest		155.42	
Deficit Fund:			
Contribution by Mr. Stanley Field		100,000.00	6,603,390.90
The James Simpson Theatre Fund:			
Amount of Contribution to date	\$	36,339.00	
Advances by Woman's Temple Realization			
Fund		49,818.31	86,157.31
Stanley Field Museum Employes' Pension Fund:			
Contribution by Mr. Stanley Field	\$	150,000.00	
Income transferred to Pension Fund		25,000.00	
	\$	175,000.00	
Balance of Income from Invest-			
ments for 1920	\$	5,891.30	
Less Group Insurance Premiums			
and Pensions		3,904.90	1,986.40
Accrued Interest		272.29	177,258.69
Mrs. Stanley Field Plant Reproduction Fund:			
Amount of Provisional Deposit	\$	150,000.00	
Net Income—1920	\$	9,412.39	
Less Operating Costs for 1920		7,643.00	151,769.39

(Continued on page 407.)

New Building Moving and Furnishing Fund:			
Moving costs paid to date	\$	63,936.26	
New Furniture		3,068.27	
Investments		39,000.00	
Cash		7,325.95	113,330.48
<hr/>			
Illinois Central Foot-bridge Fund:			
Cost of Foot-bridge			17,175.48
Illinois Trust & Savings Bank stock—Liquidation Fund:			
Cash			1,436.00
Sundry Funds:			
Investments	\$	12,150.00	
Cash		822.68	12,972.68
<hr/>			
GENERAL FUND			
Investments	\$	120,024.67	
Investments—in suspense		3,980.00	
In Suspense:			
Cost of Fire Pump		8,864.11	
United States Victory Loan Bonds 4¾%			
Purchased for account of employes		474.60	133,343.38
<hr/>			
Collections—cash purchases only	\$	733,790.88	
The Library—books, pamphlets and binding		47,366.43	781,157.31
<hr/>			
Woman's Temple Realization Fund:			
Investments	\$	298,045.50	
In suspense		129,612.61	
Advances to other funds:			
Building Fund		146,181.69	
James Simpson Theatre Fund		49,818.31	
Illinois Central Foot-bridge Fund		17,175.48	
Accrued interest		427.71	
Cash		17.67	641,278.97
<hr/>			
Cases, bases, office furniture, etc.	\$	348,104.42	
Printing presses and type		2,876.20	
Photographic equipment		3,804.83	354,785.45
<hr/>			
Cash:			
General Fund in Treasurer's hands	\$	6,094.85	
Payroll Fund in Treasurer's hands		2,000.00	
Petty Cash in office		739.95	
In Suspense (Foreign Exchange)		735.00	9,569.80
<hr/>			
			<u>\$13,087,666.95</u>

Edward E. Ayer Library Fund:		
Amount of Bequest		50,000.00
Life Memberships Fund:		
Amount of Fees paid	\$ 79,600.00	
Income from Investments	10,247.64	89,847.64
Huntington W. Jackson Library Fund:		
Amount of Bequest	\$ 971.50	
Income from Investments	877.08	1,848.58
New Building Moving and Furnishing Fund:		
Amount of Fund at December 31, 1920	\$ 99,925.69	
Income from Investments	13,404.79	113,330.48
Illinois Central Foot-bridge Fund:		
Advances by Woman's Temple Realization Fund		17,175.48
Illinois Trust & Savings Bank Stock—Liquidation Fund:		
Interest Received		1,436.00
Sundry Funds:		
Amount of Sundry Funds at December 31, 1920		12,972.68

CAPITAL

Balance as at January 1, 1920	\$1,793,955.71	
Less Deductions (Authorized)	20,742.57	
	<u>\$1,773,213.14</u>	
Addition to Capital during 1920	126,350.54	
Net Income for year 1920—General Fund	9,199.44	
Woman's Temple Realization Fund—Income Accrued	11,371.79	1,920,134.91
		<u><u>\$13,087,666.95</u></u>

STATEMENT OF INCOME AND EXPENSES.

General Income Account Year Ending December 31, 1920.

 INCOME

Admissions and Check Rooms	\$	135.70	
Dues of Annual Members		590.00	
South Park Commissioners		11,250.00	
Sundry Receipts		141.31	
Dividends and Interest Collected—General Fund		11,300.84	
Woman's Temple Realization Fund—Income		15,135.00	
Endowment Fund—Income	\$137,154.00		
Less amount transferred to Sinking Fund for 1920	5,500.00	131,654.00	
			\$170,206.85
Contribution—Marshall Field			19,755.32
			<hr/>
Gross Income			\$189,962.17

EXPENSES

Salaries	\$	82,690.60	
Guard and Janitor Service		26,670.70	
Fire Protection Service		3,199.79	
Heat and Light		26,581.99	
Packing Supplies		1,736.61	
Maintenance Force and Supplies		21,933.95	
General Expense		5,630.48	
Department Installation Supplies		2,730.23	
Printing and Photography Supplies		1,696.32	
Publications		7,892.06	180,762.73
			<hr/>
Net Income for Year carried to Capital Account	\$		<u>9,199.44</u>

THE N. W. HARRIS PUBLIC SCHOOL EXTENSION.

BALANCE SHEET
December 31, 1920.

ASSETS			
Cases and Furniture		\$ 6,560.58	
Collections and Exhibits		1,195.72	
Investments—Endowment Fund		275,000.00	
Investments—Reserve Fund		29,080.00	
Cash:			
Endowment Fund	\$748.47		
Reserve Fund	262.95		
Petty Cash	250.00	1,261.42	\$313,097.72
LIABILITIES			
Endowment Fund			\$275,000.00
Reserve Fund:			
Balance December 31, 1919	\$ 8,120.78		
Income for the year 1920	1,209.67		
Amount transferred from Income Account	3,663.74		12,994.19
Surplus:			
Balance December 31, 1920			25,103.53
			\$313,097.72

STATEMENT OF INCOME AND EXPENSES FOR YEAR 1920.

INCOME			
Interest and Dividends on Investments	\$13,434.48		
Interest on Bank Balances	71.70		\$13,506.18
EXPENSES			
Group Accessories	\$ 20.39		
Field Work	44.08		
Expense of Distribution of Cases to Public Schools	2,018.12		
Salaries and Expenses	7,176.10		9,258.69
Gross Income			\$ 4,247.49
Deduction from Income (Depreciation of Automobile Delivery Car)			583.75
Balance transferred to Reserve Fund			\$ 3,663.74

CERTIFICATES OF AUDIT

January 12, 1921.

We have audited the accounts and records of Field Museum of Natural History for the year ending December 31, 1920, and certify that the foregoing Balance Sheet and Income Account for the year are in accordance therewith.

All the income from investments has been accounted for. The securities representing the invested portions of the various funds were verified by us and also the uninvested cash balances of the respective funds and petty cash funds.

All disbursements for the year have been examined and found to be supported by properly authorized vouchers and warrants.

ARTHUR YOUNG & COMPANY

Certified Public Accountants.

January 12, 1921.

We have audited the books of the N. W. Harris Public School Extension of Field Museum for the year ending December 31, 1920, and certify that the foregoing Balance Sheet and Income Account for the year are in accordance therewith.

The investment securities have been verified by us. All income from these securities has been accounted for. The cash in bank and on hand at December 31, 1920, has been verified by us.

We have examined all disbursements for the year and found them evidenced by duly authorized vouchers and warrants.

ARTHUR YOUNG & COMPANY

Certified Public Accountants.

ACCESSIONS.

DEPARTMENT OF ANTHROPOLOGY.

AYER, E. E., Chicago, Illinois.

- 1 Moro kris in wooden sheath—Philippine Islands (gift).
- 1 Pima basket with black designs—California (gift).
- 1 steatite kettle, 1 ivory snow-knife, 1 Eskimo ivory tobacco-pipe, 1 modern oil dish, 2 Tlingit rattles—Eskimo and Tlingit, Alaska (gift).
- 1 Pomo feather head-band—California (gift).

BIGGAR, H. HOWARD, Bureau of Plant Industry, United States Department of Agriculture, Bloomington, Illinois.

- 13 varieties of maize-cobs cultivated by American Indians (gift).

CROFTS, GEORGE, Tientsin, China.

- 2 clay statuettes of the T'ang period—China (gift).

ELLIOTT, MRS.

- 17 miscellaneous baskets and 1 coconut shell in net—Northwest Coast, California, Arizona, India, etc. (gift).

ENGLISH, EVELYN, Chicago, Illinois.

- 1 Navaho saddle-blanket obtained from Ute tribe (gift).
- 1 piece of Rio Grande Pueblo painted pottery—Santa Fe, New Mexico (gift).
- 1 piece of Rio Grande Pueblo black pottery—Santa Clara, New Mexico (gift).

GILLETTE, MR. and MRS. EDWIN F., Chicago, Illinois.

- 1 set of nine ancient dolls representing emperor and empress of Japan, surrounded by guards and orchestra of five musicians, all dressed in brocade, with painted screen as background—Tokyo, Japan (gift).

HARPER, MRS. PAUL V., Chicago, Illinois.

Collected by Bishop Vincent:

- 2 Chimu pottery vases—North Coast, Peru (gift).

HEYE, GEORGE G., New York City.

- 239 specimens of archæological material, chiefly of shell and bone—San Nicholas and San Miguel islands, California (gift).

HUDSON, DR. J. W., Ukiah, California.

- 1 polished stone hatchet—Port Discovery, Washington (gift).

McCAULEY, MRS. CHARLES A. H., Highland Park, Illinois.

- 1 Sioux peace-pipe—Dakota (gift).

MELCHIOR, J. E., Hankow, China.

- 2 Chinese pottery jars—China (gift).

RISDON, MRS. AMBROSE, Chicago, Illinois.

- 1 Japanese dagger (gift).
- 1 dagger and 1 bridle from Palestine (gift).
- 1 clay lamp from Ephesus (gift).
- 1 statuette and 1 necklace from Egypt (gift).
- 2 glass-bead necklaces from Cairo (gift).
- 4 fragmentary pieces of pottery—Mexico (gift).

SARGENT, HOMER E., Pasadena, California.

342 Indian baskets—California and British Columbia (gift).

SKIFF, DR. F. J. V., Chicago, Illinois.

2 prehistoric flint arrowheads—Rosiclare, Illinois (gift).

THOMAS, CHARLES B., Chicago, Illinois.

1 large celt of basaltic rock—Glenwood, Illinois (gift).

TISSERA, VINCENT L. (deceased), from W. N. GREEN, Chicago, Illinois.

1 silver jewel casket—Ceylon (gift).

WRIGLEY, WILLIAM J., JR. (from George G. Heye), Chicago, Illinois.

600 (approximately) archæological specimens, chiefly implements of steatite and other stone, bone, shell and clay—Catalina Island, California (gift).

DEPARTMENT OF BOTANY.

AMES, OAKES, Bussey Institute, Boston, Massachusetts.,

57 herbarium specimens of orchids—North Borneo (exchange).

BAILY, ALBERT L., Chicago.

3 herbarium specimens—Illinois (gift).

CHAMBERLAIN, CHARLES J., Chicago.

1 herbarium specimen—University of Chicago greenhouse (gift).

FIELD MUSEUM OF NATURAL HISTORY.

Collated by C. F. Millspaugh:

91 herbarium specimens.

Purchases:

7 economic specimens—LaJolla, California.

1 Lycopodium powder from drug store.

1 economic specimen—Ceylon.

400 herbarium specimens—Bolivia.

Mrs. Stanley Field Plant Reproduction Laboratory:

11 herbarium specimens—various localities.

1 reproduction of enlarged flowers of *Cocos nucifera*.

8 reproductions of Algae.

11 plant reproductions: cotton flower enlarged, cotton plant in flower and fruit, *Strychnos*, enlarged flower, *Zamia*, enlarged flower and fruit, *Ulothrix*, Alga (4 micro. enlarged), Mango: "Mulgoba" fruit, "Haden" fruit, "Amiri" fruit.

FISHER, GEORGE L., Houston, Texas.

6 herbarium specimens—Santa Catalina Island, California (gift).

GRAY HERBARIUM, Harvard University, Cambridge, Massachusetts.

3 herbarium specimens—various localities (exchange).

MINER LABORATORIES, Chicago.

1 economic specimen of *Mucherus* gum (gift).

MOXLEY, GEORGE L., Los Angeles, California.

5 herbarium specimens—Santa Catalina Island, California (gift).

12 herbarium specimens—California (gift).

NEW YORK BOTANICAL GARDEN, Bronx Park, New York City.

33 herbarium specimens (exchange).

146 herbarium specimens (exchange).

Herbarium specimens—United States of Colombia (exchange).

PANCOAST, THOMAS B., Miami Beach Development Co., Miami, Florida.

1 coconut palm—Miami, Florida.

SULTAN DRUG COMPANY, St. Louis, Missouri.

1 economic specimen of *Cactina* pillets—Mexico (gift).

UNITED STATES NATIONAL HERBARIUM, Smithsonian Institution, Washington, D. C.

Herbarium specimens (exchange).

610 herbarium specimens (exchange).

518 herbarium specimens—Jamaica (exchange).

UNIVERSITY OF CALIFORNIA HERBARIUM, Berkeley, California.

6 herbarium specimens—Santa Catalina Island (exchange).

WILCOXSON, MRS. E. M., Chicago.

95 herbarium specimens—Massachusetts (gift).

DEPARTMENT OF GEOLOGY.

ARNOLD, DR. L. H., Chicago.

1 specimen of gypsum geode—Colorado Springs, Colorado (gift).

AUMAN, JOHN P., Chicago.

2 specimens of crude and nodulized blast furnace flue dust—South Chicago (gift).

BASTIANI, D., Chicago.

2 specimens of tufa—Tuscany, Italy (gift).

CHALMERS, W. J., Chicago.

1 album of photographs of diamond mining—Kimberley, South Africa (gift).

1 specimen of crystallized quartz after spodumene—Greenwood, Maine (gift).

CHAIRMONT, DR. A. DE, Toledo, Ohio.

9 specimens of Holbrook meteorite—Holbrook, Arizona (gift).

COOPER, A. T., Webster, South Dakota.

7 specimens of free gold in silicified andesite, 1 specimen of tetrahedrite—Mills Mine, near Carbo, Sonora, Mexico (gift).

FIELD MUSEUM OF NATURAL HISTORY.

Collected by H. W. Nichols:

1 specimen of concretion, 1 specimen of ore—Schumacher, Ontario.

Purchases:

1 specimen section of Yenberrie meteorite—Yenberrie, North Australia.

GUNSAULUS, HELEN C., Chicago.

1 specimen of weather banded limestone—Lakeside, Michigan (gift).

NEW CORNELIA COPPER COMPANY, Ajo, Arizona.

11 specimens of copper ores—Ajo, Arizona (gift).

PHILLIPS COMPANY, W. S., Chicago.

1 specimen of oil shale—Parachute Creek, Colorado (gift).

1 specimen of bituminous limestone—Blue Island, Illinois (gift).

ROMANO, JOSPEH, Chicago.

1 specimen of pyrite—Jackson Park, Chicago (gift).

SKIFF, DR. FREDERICK J. V., Chicago.

277 specimens of ores and minerals—various localities (gift).

UNITED STATES NATIONAL MUSEUM, Washington, D. C.

1 cast of Yenberrie meteorite—Yenberrie, North Australia (gift).

UNITED VERDE COPPER COMPANY, Clarkdale, Arizona.

6 specimens of copper ores—Clarkdale, Arizona (gift).

6 specimens of copper ores—United Verde Mine, Jerome, Arizona (gift).

UNITED VERDE EXTENSION MINING COMPANY, Jerome, Arizona.

4 specimens of copper ores—Jerome, Arizona (gift).

UNIVERSITY OF CHICAGO, Chicago.

1 specimen of prepared skull of *Diceratherium*, 1 specimen dentition of *Diceratherium*—Agate, Nebraska (exchange).

1 skeleton of *Varanosaurus*—Texas (exchange).

DEPARTMENT OF ZOÖLOGY.

ABBAY, E. S., Chicago.

1 roach—Chicago (gift).

ARMSTRONG, EDWARD E., Chicago.

1 fly—Chicago (gift).

BAILEY, BERNARD, Elk River, Minnesota.

1 marmot, 1 pocket mouse, 6 bats (exchange).

BRANDLER, CHARLES, Chicago.

1 roach—Grant Park, Chicago (gift).

CONOVER, H. B., Chicago.

1 moose (skull and scalp), 2 caribou (skulls and scalps)—Yukon Territory (gift).

CORY, CHARLES B., Chicago.

1 free-tailed bat—Marshalltown, Iowa (gift).

FIELD MUSEUM OF NATURAL HISTORY.

Collected by W. H. Osgood:

1 grasshopper—Rio Cogollo (Perija), Venezuela.

Collected by W. H. Osgood and H. B. Conover:

408 mammals, 225 birds, 29 birds' eggs, 13 fishes, 1 frog—Venezuela.

LILJEBLAD, E., Chicago.

1 moth (and gall)—Mineral Springs, Indiana (gift).

1 moth—Chicago (gift).

NARBO, DR. S., Chicago.

20 birds' eggs—Stavanger, Norway (gift).

NEWBURY, MRS. MOLLIE NETCHER, Boston Store, Chicago.

1 mounted giraffe (gift).

OCHSNER, E. D., Prairie du Sac, Wisconsin.

1 least weasel (gift).

RYERSON, MARTIN A., and C. B. PIKE, Chicago.

1 albino striped gopher—Lake Geneva, Wisconsin (gift).

SONSHINE, MISS B., Chicago.

8,886 shells, 20 sea urchins, 14 starfish, 12 sand-dollars, 3 barnacles—California (gift).

VERES, GILBERT L., Lucena, Tayabas, Philippine Islands.

54 land shells—Philippine Islands (gift).

VIOSCA, PERCY, New Orleans, Louisiana.

270 specimens of salt and freshwater fishes—Southern Louisiana (exchange).

WILL, MISS JUANITA, Chicago.

1 jay (gift).

WILLIAMSON, E. B., Bluffton, Indiana.

1 paroquet—Western Venezuela (gift).



RESTORATION OF GIANT EXTINCT BIRD (MOA) FROM NEW ZEALAND.
Height, 13 feet.



SECTION OF PHOTOGRAPHY.

FIELD MUSEUM OF NATURAL HISTORY.

Made by Section:

218 negatives, most of them made during moving period.
177 prints.

THE LIBRARY.

BOOKS, PAMPHLETS, AND SERIALS.

(ACCESSIONS ARE BY EXCHANGE UNLESS OTHERWISE DESIGNATED.)

AFRICA

Durban Museum	I
East Africa and Uganda Natural History Society, Nairobi	I
Geological Society, Johannesburg	I
Institut d'Egypte, Cairo	4
Institut de Carthage, Tunis	I
Rhodesia Scientific Association, Bulawayo	I
Royal Society of South Africa, Cape Town	I
South African Association for Advancement of Science, Cape Town	I
South African Botanical Survey, Pretoria	I
South African Department of Agriculture, Pretoria	2
South African Museum, Cape Town	3

ARGENTINA

Ministerio de Obras Publicas de la Provincia. Dirección de las Obras de Ameghino, La Plata	2
Museo de La Plata, Buenos Aires	5
Sociedad Ornitológica del Plata, Buenos Aires	I

AUSTRALIA

Australian Museum, Sydney	4
Australian Ornithologists' Union, Melbourne	I
Botanic Gardens and Government Domains, Sydney	I
Commonwealth of Australia, Adelaide	I
Department of Agriculture, Adelaide	I
Department of Agriculture, Sydney	I
Department of Agriculture, Wellington	I
Department of Mines, Sydney	2
Field Naturalists' Club, Melbourne	2
Fish Commission of New South Wales, Sydney	I
Forestry Commission, Sydney (gift)	2
Government of the Commonwealth, Melbourne	I
Institute of Science and Industry, Sydney	I
Linnean Society of New South Wales, Sydney	2
Melbourne University	I
National Herbarium, Melbourne	I
Public Library, Museum and Art Gallery, Adelaide	I
Public Library, Museums and National Gallery of Victoria, Melbourne	I
Queensland Museum, Brisbane	I
Queensland Royal Society, Brisbane	I
Royal Australasian Ornithologists' Union, Melbourne	I
Royal Society of New South Wales, Sydney	I

Royal Society of South Australia, Adelaide	2
Royal Society of Tasmania, Hobart	4
Royal Society of Victoria, Melbourne	2
Royal Society of Western Australia, Perth	1
Royal Zoölogical Society, Sydney	1
South Australia Ornithological Society, Adelaide	1
Technological Museum of New South Wales, Sydney	1
Victoria Department of Agriculture, Melbourne	2
Western Australia Geological Survey, Perth	5
BELGIUM	
Académie Royale de Belgique, Brussels	3
Institut Botanique Leo Errera, Brussels	1
Jardin Botanique de l'Etat, Brussels	1
Musée du Congo, Brussels	1
Musée Royale d'Histoire Naturelle, Brussels	1
Société Royale d'Archéologie, Brussels	2
BRAZIL	
Bibliotheca Nacional, Rio de Janeiro	1
Instituto Agronomico de Estado, Sao Paulo	1
Ministerio de Agricultura, Industria e Commercio, Rio de Janeiro	1
Museo Goeldi de Historia e Ethnographia, Para	1
Servico Geologico e Mineralogico, Rio de Janeiro	1
CANADA	
Chief Game Guardian of Saskatchewan, Regina	1
Commission of Conservation, Ottawa	10
Department of Agriculture, Ottawa	9
Department of Agriculture, Victoria	1
Department of Marine and Fisheries, Ottawa	1
Department of Mines, Ottawa	5
Department of the Interior, Geological Survey, Ottawa	4
Entomological Society of Ontario, Toronto	2
Hamilton Association	1
Horticultural Societies of Ontario, Toronto	1
Nova Scotian Institute of Science, Halifax	1
Ontario Minister of Education, Toronto	1
Provincial Museum, Victoria	1
Royal Canadian Institute, Toronto	1
Royal Society of Canada, Ottawa	1
Société de Géographie, Quebec	1
CEYLON	
Colombo Museum	1
Royal Botanic Garden, Perideniya	1
CHILE	
Biblioteca Nacional, Santiago de Chile	4
Museo de Etnologia y Antropologia de Chile, Santiago de Chile	1
CHINA	
Botany and Forestry Department, Hong-Kong	1
Canton Christian College (gift)	1
Royal Asiatic Society of North China, Shanghai	1

DENMARK

Botanical Garden, Library, Copenhagen	1
Danske Kunstindustrimuseum, Copenhagen	1
K. Bibliothek, Copenhagen	1
Naturhistorisk Forening, Copenhagen	3
Societas pro Fauna et Flora Fennica, Helsingfors	5
Société Botanique, Copenhagen	1

ECUADOR

Sociedad Ecuatoriana de Estudios Historicos Americanos, Quito	2
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FEDERATED MALAY STATES

Federated Malay States Museum, Kuala Lumpur	7
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FRANCE

Académie des Sciences, Paris	2
Ecole d'Anthropologie, Paris	2
Musée d'Histoire Naturelle, Marseille	1
Muséum National d'Histoire Naturelle, Paris	2
LaNature, Paris	2
Société d'Etudes Scientifiques, Angers	1
Société d'Histoire Naturelle, Colmar	2
Société d'Horticulture, Paris	1
Société de Géographie, Paris	2
Société de Géographie, Toulouse	1
Société des Américanistes, Paris	1
Société Nationale d'Agriculture, Sciences et Arts, Angers	1
Université de Montpellier, Cette	1
Université de Rennes	7

GERMANY

Deutsche Dendrologische Gesellschaft, Bonn-Poppelsdorf	5
Geographische Gesellschaft in Hamburg	3
K. Sammlungen für Kunst und Wissenschaften, Dresden	4
Naturforschende Gesellschaft, Freiburg	1
Naturwissenschaftlicher Verein für Schleswig-Holstein, Kiel	1
Naturwissenschaftlicher Verein für Schwaben und Neuburg, Augsburg	1
Senckenbergische Naturforschende Gesellschaft, Frankfurt. a. M.	5

GREAT BRITAIN

Ashmolean Natural History Society of Oxfordshire, Oxford	1
Birmingham Natural History and Philosophical Society	14
Bristol Museum and Gallery	1
British Museum (Natural History), London	13
Cambridge Philosophical Society	2
Cambridge University Library	1
Dove Marine Laboratory, Cullercoats	2
Dumfriesshire and Galloway Natural History and Antiquarian Society, Dumfries	1
Fisheries Board, Edinburgh	2
Geographical Society, London	2
Geological Society, Edinburgh	1
Great Britain Geological Survey, London	1
Imperial Bureau of Entomology, London	2
Imperial College of Science and Technology, London	1

Lancashire Sea Fisheries Laboratories, Liverpool	2
Liverpool Biological Society	1
Manchester Geographical Society	1
Manchester Museum	1
Marine Biological Association, Plymouth	1
National Museum, Cardiff	1
Natural History Society, Glasgow	1
Oxford University Museum	3
Royal Botanic Gardens, Edinburgh	1
Royal Botanic Gardens, Kew	1
Royal Dublin Society	1
Royal Horticultural Society	1
Royal Scottish Museum, Edinburgh	1
Royal Society, London	1
Royal Society of Arts, London	1
Royal Society of Edinburgh	2
South London Entomological and Natural History Society	1
Tring Zoological Museum	1
Zoological Society of London	3
HUNGARY	
Magyar Ornithologai Központ, Budapest	1
Museum Nationale Hungaricum, Budapest	1
INDIA	
Agri-Horticultural Society, Madras	4
Anthropological Society, Bombay	1
Archæological Survey, Allahabad	1
Archæological Survey, Burma	1
Archæological Survey, Calcutta	1
Archæological Survey, Eastern Circle, Patna	1
Archæological Survey, Frontier Circle, Preshawar	1
Botanical Survey, Calcutta	1
Department of Agriculture, Bombay	1
Department of Agriculture, Madras	1
Department of Agriculture, Pusa	1
Geological Survey, Calcutta	2
Government, Calcutta	2
Government Museum, Madras	5
Indian Museum, Calcutta	3
Jammer and Kashmir Archæological Survey, Jammer	1
Jnan-Bhandar Museum, Dayal Bagh	1
Journal of Indian Botany	1
National Indian Association, Calcutta (gift)	1
Trigonometrical Survey, Dehra Dun	2
IRELAND	
Natural History and Philosophical Society, Belfast	1
ITALY	
Accademia delle Scienze Fisiche e Matematiche, Naples	4
Accademia Giornia de Scienze Naturali, Catania	3
American Academy in Rome	1
Istituto Geografico de Agostini, Novara	1

Laboratorio de Zoologia Generale e Agraria, Portici	1
Musei de Zoologia ed Anatomia Comparata, Turin	4
Museo Civico di Storia Naturale, Genoa	1
R. Accademia delle Scienze, Turin	3
Società Geologica, Rome	1
Società Italiana d'Antropologia e Etnologia, Florence	2
Società Italiana de Scienze Naturali, Milan	2
Società Romana di Antropologia, Rome	1
Società Toscana di Scienze Naturali, Pisa	1
JAPAN	
Akita Mining College	1
Bureau of Productive Industry Formosa Government, Taihoku	1
Geological Society, Tokyo	1
Imperial University of Tokyo, College of Agriculture	2
Imperial University of Tokyo, College of Science	2
Tokyo Botanical Society	2
JAVA	
Bataviaasch Genootschap van Kunsten en Wetenschappen, Batavia	4
Department of Agriculture, Buitenzorg	5
Encyclopaedisch Bureau, Weltevreden	2
Jardin Botanique, Buitenzorg	1
K. Natuurkundige Vereeniging in Nederlandsch-Indie, Weltevreden	1
KOREA	
Government-General Chosen, Seoul	1
MEXICO	
Director General de Estadistica, Mexico	1
Instituto Geologico, Mexico	1
Sociedad Cientifica "Antonio Alzate," Mexico	1
Sociedad Geologica, Mexico	1
Sociedad Mexicana de Geografia y Estadistica, Mexico	1
NETHERLANDS	
Bataafsch Genootschap der Proefondervindelijke Wijsbegeerte, Rotterdam	1
K. Akademie van Wetenschappen, Amsterdam	2
K. Bibliotheek, The Hague	1
K. Instituut voor de Taal-Land-en Volkenkunde van Nederlandsch Indie, The Hague	1
K. Nederlandsch Aardijkundig Genootschap, Amsterdam	1
Nederlandsche Dierkundige Vereeniging, Leiden	2
Rijks Ethnographisch Museum, Leiden	1
Rijks Geologisch-Mineralogisch Museum, Leiden	1
Rijks Museum van Natuurlijke Historie, Leiden	1
Stadsbibliotheek, Haarlem	1
Universiteit van Amsterdam	3
NEW ZEALAND	
Acclimatisation Society, Wellington	1
Auckland Institute and Museum, Wellington	1
Department of Agriculture, Wellington	1
Department of Mines, Wellington	3
New Zealand Institute, Wellington	3

NORWAY

Bergen Museum	5
Norges Geologiske Undersøgelse, Christiania	16
Physiographiske Forening, Christiania	1
Tromsø Museum	8

PERU

Archivo Nacional	1
Biblioteca Nacional, Lima	1
Cuerpo de Ingenieros de Minas, Lima	1
Instituto Historico, Lima	1

PORTUGAL

Academia das Ciencias de Lisboa	1
Biblioteca Nacional, Lisbon	1
Sociedade de Lisboa	1
Société Portugaise des Sciences Naturelles, Lisbon	2

SPAIN

Broteria, Salamanca	1
Institució Catalana d'Historia Natural, Barcelona	1
Junta de Ciencias Naturals, Barcelona	5
Museo Nacional de Ciencias Naturales, Madrid	3
R. Academia de Ciencias y Artes, Barcelona	1
R. Academia de Ciencias Exactas, Fisicas y Naturales, Madrid	2
Sociedad Española de Historia Natural, Madrid	2

SWEDEN

K. Biblioteket, Stockholm	1
K. Svenska Vetenskapsakademien, Stockholm	4
K. Universitets Biblioteket, Uppsala	1
K. Vetenskaps-och Vitterhets-Samhälle, Göteborg	1
K. Vitterhets Historie och Antikvitets Akademien, Stockholm	1
Svenska Sällskapet för Antropologi och Geografi, Stockholm	1

SWITZERLAND

Botanic Garden, Zürich	1
Geographisch-Ethnographische Gesellschaft, Zürich	4
Historisches Museum, Bern	1
Musée d'Histoire Naturelle, Lausanne	2
Naturforschende Gesellschaft, Bern	3
Naturforschende Gesellschaft, Zürich	1
Société Entomologique, Bern	1
Société Friburgeoise des Sciences Naturelles, Fribourg	1
Société Helvetique des Sciences Naturelles, Geneva	1
Société Neuchateloise de Géographie	2

URUGUAY

Archivo General Administrativo, Montevideo (gift)	1
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WEST INDIES

Academia Nacional de Artes y Letras, Havana (gift)	1
Biological Station of Bermuda	1
Imperial Department of Agriculture, Barbadoes	1
Jamaica Institute, Kingston	1
Trinidad and Tobago Department of Agriculture, Port of Spain	2
Universidad de Habana	2

Bertrand, Paul, Lille	10
Boyd, William, Winnipeg	1
Carpenter, G. H., Dublin	1
Dunod, H., Paris	2
Gamble, J. S., Madras	1
Guppy, H. B., Exeter	1
Huard, V. A., Quebec	2
Richter, Rudolf, Frankfurt a. M.	10
Rivet, P., Paris	3
Rutot, A., Brussels	2
Schinz, Hans, Zürich	1
Schlaginhaufen, Otto, Zürich	1
Schmidt, W., Vienna	2
Schreiter, Rudolfo, Tucuman	1
Swann, H. Kirke, London	2
Wille, N., Christiania	6

ALABAMA

Agricultural Experiment Station, Auburn	1
Alabama Anthropological Society, Montgomery	1
Alabama Geological Survey, University	2

ARIZONA

Agricultural Experiment Station, Tucson	2
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CALIFORNIA

Agricultural Experiment Station, Berkeley	1
California Academy of Sciences, San Francisco	1
Cooper Ornithological Club, Hollywood	1
Fish and Game Commission, San Francisco	1
Leland Stanford Junior University, Stanford University	6
Pomona College, Claremont	1
State Mining Bureau, Sacramento	4
University of California, Berkeley	9

COLORADO

Bureau of Mines, Denver	1
Colorado Museum of Natural History, Denver	1

CONNECTICUT

Agricultural Experiment Station, New Haven	3
American Oriental Society, New Haven	1
Connecticut Academy of Arts and Sciences, New Haven	1
Hartford Public Library	2
State Board of Fisheries and Game, Hartford	1
State Forester, New Haven	1
Yale University, New Haven	2

GEORGIA

Geological Survey, Atlanta	1
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HAWAIIAN ISLANDS

Agricultural Experiment Station, Honolulu	1
Board of Commissions of Agriculture and Forestry, Honolulu	2
Hawaiian College, Honolulu	1
Hawaiian Entomological Society, Honolulu	1

IDAHO

Mining Industry, Boise	1
University of Idaho, Moscow	2

ILLINOIS

Agricultural Experiment Station, Urbana	2
Art Institute of Chicago	1
Chicago Historical Society	1
Department of Natural History, Urbana	1
Game and Fish Commission, Springfield	1
Hardwood Record, Chicago (gift)	1
John Crerar Library, Chicago	1
Lake Forest College	1
Lewis Institute, Chicago	1
Newberry Library, Chicago	1
Northwestern University, Evanston	1
Open Court Publishing Company, Chicago	1
State Board of Agriculture, Springfield	1
State Geological Survey, Urbana	6
State Historical Library, Springfield	2
State Museum, Springfield	1
Sweet, Wallach and Company, Chicago (gift)	1
University of Chicago	4
University of Illinois, Urbana	2

INDIANA

Agricultural Experiment Station, Lafayette	1
Department of Geology and Natural Resources, Indianapolis	1
Earlham College, Richmond	1
Indiana Academy of Science, Indianapolis	1
Indiana University, Bloomington	4
Purdue University, Lafayette	1
University of Notre Dame	1

IOWA

Geological Survey, Des Moines	1
Iowa Academy of Sciences, Des Moines	2
Iowa State College, Ames	1
Iowa State Historical Department, Des Moines	1
University of Iowa, Iowa City	3

KANSAS

Agricultural Experiment Station, Manhattan	3
Geological Survey, Lawrence	1
State Board of Agriculture, Topeka	1
University of Kansas, Lawrence	1

KENTUCKY

Department of Geology and Forestry, Frankfort	1
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LOUISIANA

Agricultural Experiment Station, Baton Rouge	1
State Museum, New Orleans	1

MAINE

Agricultural Experiment Station, Orono	1
Bowdoin College, Brunswick	2
Portland Public Library	1

MARYLAND

Agricultural Experiment Station, College Park	2
Horticultural Society, College Park	1
Johns Hopkins University, Baltimore	2
Maryland Institute, Baltimore	1

MASSACHUSETTS

Agricultural Experiment Station, Amherst	1
American Academy of Arts and Sciences, Boston	1
American Antiquarian Society, Boston	1
Amherst College	1
Archæological Institute of America, Boston	2
Boston Public Library	1
Boston Society of Natural History	1
Clark University, Worcester	1
Essex Institute, Salem	2
Harvard Museum of Comparative Zoology, Cambridge	3
Harvard University, Arnold Arboretum, Jamaica Plain	1
Museum of Fine Arts, Boston	2
New Bedford Public Library	2
Peabody Institute	1
Peabody Museum, Cambridge	2
Peabody Museum, Salem	1
Salem Public Library	1
Springfield City Library Association	1
Springfield Natural History Museum	1
Williams College, Williamstown	1

MICHIGAN

Agricultural Experiment Station, Agricultural College	1
Department of Parks and Boulevards, Detroit	1
Detroit Institute of Art	1
Grand Rapids Public Library	2
Michigan College of Mines, Houghton	1
Michigan State Library, Lansing	1
State Board of Library Commissions, Lansing	1
University of Michigan, Ann Arbor	2

MINNESOTA

Agricultural Experiment Station, St. Paul	2
Minneapolis Institute of Fine Arts	1
Minnesota Geological Survey, Minneapolis	1
Minnesota Historical Society, St. Paul	2
St. Paul Institute	2
University of Minnesota, Minneapolis	2

MISSISSIPPI

State Geological Survey, Jackson	1
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MISSOURI

Association of Engineering Societies, St. Louis	1
Bureau of Geology and Mines, Jefferson City	1
City Art Museum, St. Louis	2
Missouri Botanical Garden, St. Louis	1
St. Louis Public Library	1

St. Louis University	I
State Historical Society, Columbia	2
Washington University, St. Louis	2
NEBRASKA	
Agricultural Experiment Station, Lincoln	I
University of Nebraska, Lincoln	I
NEVADA	
Agricultural Experiment Station, Carson City	3
NEW JERSEY	
Agricultural Experiment Station, Trenton	6
Department of Conservation and Development, Trenton	I
Newark Museum Association	2
Princeton University	I
Stevens Institute, Hoboken	I
NEW MEXICO	
School of Mines, Socorro	I
NEW YORK	
Agricultural Experiment Station, Geneva	3
American Geographical Society, New York	2
American Hellenic Society, New York City (gift)	I
American Institute of Mining Engineers, New York City	2
American Museum of Natural History, New York City	18
Asbestos and Mineral Corporation, New York City (gift)	I
Brooklyn Botanic Garden	2
Brooklyn Institute of Arts and Sciences	2
Buffalo Society of Natural History	I
Carnegie Foundation for the Advancement of Teaching, New York City (gift)	I
Columbia University, New York City	I
Cooper Union for the Advancement of Science and Art, New York City	I
Cornell University, Ithaca	4
Forest and Stream Publishing Company, New York City	I
Inter-American Magazine, New York City	I
Japan Society, New York City	I
Metropolitan Museum of Art, New York City	2
Museum of the American Indian, New York City	8
New York Academy of Sciences, New York City	I
New York Botanical Garden, New York City	I
New York Historical Society, New York City	I
Pratt Institute Free Library, Brooklyn	I
Public Library, New York City	I
State Library, Albany	I
State Museum, Albany	14
Staten Island Institute of Arts and Sciences, New York City	2
Stone Publishing Company, New York City	I
Zoological Society, New York City	2
NORTH CAROLINA	
Elisha Mitchell Scientific Society, Chapel Hill	I
Geological and Economic Survey, Raleigh	I
NORTH DAKOTA	
University of North Dakota, University	I

OHIO

Academy of Sciences, Columbus	I
Agricultural Experiment Station, Wooster	2
Cincinnati Museum Association	I
Cleveland Museum of Art	I
Cleveland Public Library	2
Denison University, Granville	I
Lloyd Library, Cincinnati	2
Oberlin College Library	2
State Archaeological and Historical Society, Columbus	I
State University, Columbus	II
University of Cincinnati	6
Wilson Ornithological Club, Oberlin	I

OREGON

Agricultural Experiment Station, Corvallis	I
University of Oregon, Eugene	2

PENNSYLVANIA

American Philosophical Society, Philadelphia	I
Aquatic Life	2
Association of Engineering Societies, Philadelphia	I
Bryn Mawr College	I
Carnegie Institute, Pittsburgh	2
Carnegie Library, Pittsburgh	3
Carnegie Museum, Pittsburgh	2
Delaware Ornithological Club, Philadelphia	I
Pennsylvania Museum and School of Industrial Art, Philadelphia	I
Philadelphia Academy of Natural Sciences	I
Philadelphia College of Pharmacy and Science	2
Philadelphia Commercial Museum	I
Sullivant Moss Society, Pittsburgh	I
Topographic and Geologic Survey, Harrisburg	I
University of Pennsylvania, Philadelphia	2
University of Pennsylvania Museum, Philadelphia	2
Wagner Free Institute of Science, Philadelphia	I
Wistar Institute of Anatomy and Biology, Philadelphia	10

PHILIPPINE ISLANDS

Bureau of Education, Manila	I
Department of Agriculture, Manila	2
Department of Interior, Bureau of Science, Manila	5

RHODE ISLAND

Agricultural Experiment Station, Kingston (gift)	I
Park Museum, Providence	I

SOUTH CAROLINA

Charleston Museum	I
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SOUTH DAKOTA

Agricultural Experiment Station, Brookings	I
State Geological Survey, Madison	I

TENNESSEE

State Board of Entomology, Nashville	I
State Geological Survey, Nashville	3

TEXAS

Agricultural Experiment Station, College Station	2
San Antonio Scientific Society	1

UTAH

University of Utah, State School of Mines, Salt Lake City	1
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VIRGINIA

State Library, Richmond	1
University of Virginia, Charlottesville	1
Virginia Geological Survey, Charlottesville	1
Virginia State Forester, Charlottesville	2

WASHINGTON

State Geological Survey, Seattle (gift)	1
Washington University, Seattle	14
Washington University, Historical Society, Seattle	2

WASHINGTON, D. C.

American Mining Congress (gift)	1
National Academy of Sciences	4
National Education Association (gift)	1
Pan American Union	2
United States Government	340

WISCONSIN

Agricultural Experiment Station, Madison	2
Archaeological Society, Milwaukee	1
Beloit College	2
State Historical Society, Madison	1
State Horticultural Society, Madison	2
University of Wisconsin, Madison	1

Ayer, Edward E., Chicago (gift)	89
Barnes, William, Decatur	1
Blatchley, W. S., Indianapolis	1
Casey, Thomas, Washington, D. C., (gift)	2
Chalmers, William J., Chicago (gift)	2
Cockerell, T. D. A., Boulder	10
Eigenmann, Carl H., Bloomington	1
Evans, Alexander W., New Haven	2
Farwell, John V., Chicago (gift)	1
Gerhard, W. J., Chicago	9
Gunsaulus Collection of Personalalia of Eminent Naturalists (gift)	3
Holland, W. J., Pittsburgh (gift)	1
Kroeber, A. L., Berkeley	1
Laufer, B., Chicago	6
MacCurdy, George Grant, Washington, D. C.	3
Malloch, John R., Urbana (gift)	2
Mason, John A., Chicago	2
Millspaugh, C. F., Chicago	30
Morgan, P. G., Wellington (gift)	6
Morse, Edward S., Salem	2
Osborn, Henry F., New York City	2
Purkney, Thomas, Chicago (gift)	1
Wood, Albert Casey, Chicago (gift)	1



SNOWY OWL

This large handsome species of owl inhabits only the far north and occasionally is found in the extreme northern part of the United States. It is a member of the family Strigidae, and is one of the few species of owls which are found in the northern part of the United States. It is a member of the family Strigidae, and is one of the few species of owls which are found in the northern part of the United States.

No. 2-7184

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No. 2-7184

THE FIELD MUSEUM OF NATURAL HISTORY, CHICAGO, ILL.

TYPE OF CASE LOANED TO PUBLIC SCHOOLS BY THE N. W. HARRIS PUBLIC SCHOOL EXTENSION OF FIELD MUSEUM OF NATURAL HISTORY.



ARTICLES OF INCORPORATION.

STATE OF ILLINOIS.

DEPARTMENT OF STATE.

WILLIAM H. HINRICHSEN, *Secretary of State.*

TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETING:

Whereas, a Certificate duly signed and acknowledged having been filed in the office of the Secretary of State, on the 16th day of September, A. D. 1893, for the organization of the COLUMBIAN MUSEUM OF CHICAGO, under and in accordance with the provisions of "An Act Concerning Corporations," approved April 18, 1872, and in force July 1, 1872, and all acts amendatory thereof, a copy of which certificate is hereto attached.

Now, therefore, I, William H. Hinrichsen, Secretary of State of the State of Illinois, by virtue of the powers and duties vested in me by law, do hereby certify that the said COLUMBIAN MUSEUM OF CHICAGO is a legally organized Corporation under the laws of this State.

In Testimony Whereof, I hereto set my hand and cause to be affixed the Great Seal of State. Done at the City of Springfield, this 16th day of September, in the year of our Lord one thousand eight hundred and ninety-three, and of the Independence of the United States the one hundred and eighteenth.

W. H. HINRICHSEN,

Secretary of State.

[SEAL.]

TO HON. WILLIAM H. HINRICHSEN,

SECRETARY OF STATE:

SIR:

We, the undersigned citizens of the United States, propose to form a corporation under an act of the General Assembly of the State of Illinois, entitled "An Act Concerning Corporations," approved April 18, 1872, and all acts amendatory thereof; and that for the purposes of such organization we hereby state as follows, to-wit:

1. The name of such corporation is the "COLUMBIAN MUSEUM OF CHICAGO."

2. The object for which it is formed is for the accumulation and dissemination of knowledge, and the preservation and exhibition of objects illustrating Art, Archæology, Science and History.

3. The management of the aforesaid museum shall be vested in a Board of FIFTEEN (15) TRUSTEES, five of whom are to be elected every year.

4. The following named persons are hereby selected as the Trustees for the first year of its corporate existence:

Edward E. Ayer, Charles B. Farwell, George E. Adams, George R. Davis, Charles L. Hutchinson, Daniel H. Burnham, John A. Roche, M. C. Bullock, Emil G. Hirsch,

James W. Ellsworth, Allison V. Armour, O. F. Aldis, Edwin Walker, John C. Black and Frank W. Gunsaulus.

5. The location of the Museum is in the City of Chicago, County of Cook, and State of Illinois.

(Signed),

George E. Adams, C. B. Farwell, Sidney C. Eastman, F. W. Putnam, Robert McMurdy, Andrew Peterson, L. J. Gage, Charles L. Hutchinson, Ebenezer Buckingham, Andrew McNally, Edward E. Ayer, John M. Clark, Herman H. Kohlsaat, George Schneider, Henry H. Getty, William R. Harper, Franklin H. Head, E. G. Keith, J. Irving Pearce, Azel F. Hatch, Henry Wade Rogers, Thomas B. Bryan, L. Z. Leiter, A. C. Bartlett, A. A. Sprague, A. C. McClurg, James W. Scott, Geo. F. Bissell, John R. Walsh, Chas. Fitzsimmons, John A. Roche, E. B. McCagg, Owen F. Aldis, Ferdinand W. Peck, James H. Dole, Joseph Stockton, Edward B. Butler, John McConnell, R. A. Waller, H. C. Chatfield-Taylor, A. Crawford, Wm. Sooy Smith, P. S. Peterson, John C. Black, Jno. J. Mitchell, C. F. Gunther, George R. Davis, Stephen A. Forbes, Robert W. Patterson, Jr., M. C. Bullock, Edwin Walker, George M. Pullman, William E. Curtis, James W. Ellsworth, William E. Hale, Wm. T. Baker, Martin A. Ryerson, Huntington W. Jackson, N. B. Ream, Norman Williams, Melville E. Stone, Bryan Lathrop, Eliphalet W. Blatchford, Philip D. Armour.

STATE OF ILLINOIS }
 COOK COUNTY } ss.

I, G. R. MITCHELL, a NOTARY PUBLIC in and for said County, do hereby certify that the foregoing petitioners personally appeared before me and acknowledged severally that they signed the foregoing petition as their free and voluntary act for the uses and purposes therein set forth.

Given under my hand and notarial seal this 14th day of September, 1893.

G. R. MITCHELL,

[SEAL.]

NOTARY PUBLIC, COOK COUNTY, ILL.

CHANGE OF NAME.

Pursuant to a resolution passed at a meeting of the corporate members held the 25th day of June, 1894, the name of the COLUMBIAN MUSEUM was changed to FIELD COLUMBIAN MUSEUM. A certificate to this effect was filed June 26, 1894, in the office of the Secretary of State for Illinois.

CHANGE OF NAME.

Pursuant to a resolution passed at a meeting of the corporate members held the 8th day of November, 1905, the name of the FIELD COLUMBIAN MUSEUM was changed to FIELD MUSEUM OF NATURAL HISTORY. A certificate to this effect was filed November 10, 1905, in the office of the Secretary of State for Illinois.

CHANGE IN ARTICLE 3.

Pursuant to a resolution at a meeting of the corporate members held the 10th day of May, 1920, the management of FIELD MUSEUM OF NATURAL HISTORY shall be invested in a Board of TWENTY-ONE (21) TRUSTEES, who shall be elected in such manner and for such time and term of office as may be provided for by the By-Laws.

AMENDED BY-LAWS.

(JANUARY 1, 1921.)

ARTICLE I.

MEMBERS.

SECTION 1. Members shall be of seven classes, Corporate Members, Honorary Members, Patrons, Life Members, Associate Members, Sustaining Members, and Annual Members.

SECTION 2. The Corporate Members shall consist of the persons named in the articles of incorporation, and of such other persons as shall be chosen from time to time by the Board of Trustees at any of its meetings, upon the recommendation of the Executive Committee; provided, that such person named in the articles of incorporation shall, within ninety days from the adoption of these By-Laws, and persons hereafter chosen as Corporate Members shall, within ninety days of their election, pay into the treasury the sum of twenty (\$20.00) dollars or more. Corporate Members becoming Life Members, Patrons or Honorary Members shall be exempt from dues. Annual meetings of said Corporate Members shall be held at the same place and on the same day that the annual meeting of the Board of Trustees is held.

SECTION 3. Honorary Members shall be chosen by the Board from among persons who have rendered eminent service to science, and only upon unanimous nomination of the Executive Committee. They shall be exempt from all dues.

SECTION 4. Patrons shall be chosen by the Board upon recommendation of the Executive Committee from among persons who have rendered eminent service to the Museum. They shall be exempt from all dues, and, by virtue of their election as Patrons, shall also be Corporate Members.

SECTION 5. Any person paying into the treasury the sum of five hundred (\$500.00) dollars, at any one time, shall, upon the unanimous vote of the Board, become a Life Member. Life Members shall be exempt from all dues, and shall enjoy all the privileges and courtesies of the Museum that are accorded to members of the Board of Trustees.

SECTION 6. Any person paying into the treasury of the Museum the sum of one hundred (\$100.00) dollars, at any one time, shall, upon the unanimous vote of the Board, become an Associate Member. Associate Members shall be entitled to: tickets admitting member and members of family, including non-resident home guests, all publications of the Museum, if so desired; reserved seats to all lectures and entertainments under the auspices of the Museum, provided reservation is requested in advance, and admission of holder of membership and accompanying party to all special exhibits and Museum functions day or evening.

SECTION 7. Sustaining Members shall consist of such persons as are selected from time to time by the Board of Trustees at any of its meetings, and who shall pay an annual fee of twenty-five (\$25.00) dollars, payable within thirty days after

notice of election and within thirty days after each recurring annual date. This Sustaining Membership entitles the member to free admission for the member and family to the Museum on any day and allows 25 admission coupons, which may be used by any one, the Annual Report and such other Museum documents or publications as may be requested in writing. When a Sustaining Member has paid the annual fee of \$25.00 for six years, such member shall be entitled to become an Associate Member.

SECTION 8. Annual Members shall consist of such persons as are selected from time to time by the Board of Trustees at any of its meetings, and who shall pay an annual fee of ten (\$10.00) dollars, payable within thirty days after each recurring annual date. An Annual Membership shall entitle the member to a card of admission for the member and family during all hours when the Museum is open to the public, and free admission for the member and family to all Museum lectures or entertainments. This membership will also entitle the holder to the courtesies of the membership privileges of every Museum of note in the United States and Canada, so long as the existing system of cooperative interchange of membership tickets shall be maintained, including tickets for any lectures given under the auspices of any of the Museums during a visit to the cities in which the cooperative museums are located.

ARTICLE II.

BOARD OF TRUSTEES.

SECTION 1. The Board of Trustees shall consist of twenty-one members. The respective members of the Board now in office, and those who shall hereafter be elected, shall hold office during life. Vacancies occurring in the Board shall be filled at a regular meeting of the Board, upon the nomination of the Executive Committee made at a preceding regular meeting of the Board, by a majority vote of the members of the Board.

SECTION 2. Regular meetings of the Board shall be held on the third Monday of each month. Special meetings may be called at any time by the President, and shall be called by the Secretary upon the written request of three Trustees. Five Trustees shall constitute a quorum, except for the election of officers or the adoption of the Annual Budget, when seven Trustees shall be required, but meetings may be adjourned by any less number from day to day, or to a day fixed, previous to the next regular meeting.

SECTION 3. Reasonable written notice, designating the time and place of holding meetings, shall be given by the Secretary.

ARTICLE III.

HONORARY TRUSTEES.

SECTION 1. As a mark of respect, and in appreciation of services performed for the Institution, those Trustees who by reason of inability, on account of change of residence, or for other cause or from indisposition to serve longer in such capacity shall resign their place upon the Board, may be elected, by a majority of those present at any regular meeting of the Board, an Honorary Trustee for life. Such Honorary Trustee will receive notice of all meetings of the Board of Trustees, whether regular or special, and will be expected to be present at all such meetings and participate in the deliberations thereof, but an Honorary Trustee shall not have the right to vote.

ARTICLE IV.

OFFICERS.

SECTION 1. The officers shall be a President, a First Vice-President, a Second Vice-President, a Secretary, an Assistant Secretary and a Treasurer. They shall be chosen by ballot by the Board of Trustees, a majority of those present and voting being necessary to elect. The President, the First Vice-President, and the Second Vice-President shall be chosen from among the members of the Board of Trustees. The meeting for the election of officers shall be held on the third Monday of January of each year, and shall be called the Annual Meeting.

SECTION 2. The officers shall hold office for one year, or until their successors are elected and qualified, but any officer may be removed at any regular meeting of the Board of Trustees by a vote of two-thirds of all the members of the Board. Vacancies in any office may be filled by the Board at any meeting.

SECTION 3. The officers shall perform such duties as ordinarily appertain to their respective offices, and such as shall be prescribed by the By-Laws, or designated from time to time by the Board of Trustees.

ARTICLE V.

THE TREASURER.

SECTION 1. The Treasurer shall be custodian of the funds of the Corporation except as hereinafter provided. He shall make disbursements only upon warrants drawn by the Director and countersigned by the President. In the absence or inability of the Director, warrants may be signed by the Chairman of the Finance Committee, and in the absence or inability of the President, may be countersigned by one of the Vice-Presidents. But no warrant shall be issued, except in conformity with a regularly prepared voucher, giving the name of the payee and stating the occasion for the expenditure, and verified and approved as hereinafter prescribed. It shall be no part of the duties of the Treasurer to see that the warrants have been issued in conformity with such vouchers.

SECTION 2. The securities and muniments of title belonging to the corporation shall be placed in the custody of some Trust Company of Chicago to be designated by the Board of Trustees, which Trust Company shall collect the income and principal of said securities as the same become due, and pay same to the Treasurer, except as hereinafter provided. Said Trust Company shall allow access to and deliver any or all securities or muniments of title to the joint order of the following officers, namely: The President or one of the Vice-Presidents, jointly with the Chairman, or one of the Vice-Chairmen, of the Finance Committee of the Museum.

SECTION 3. The Treasurer shall give bond in such amount, and with such sureties as shall be approved by the Board of Trustees.

SECTION 4. All vouchers executed for the payment of liabilities incurred in the administration of the Museum, shall be verified by the Auditor, and approved for payment by the Director, and a member of the Executive Committee. All vouchers executed for expenditures for the construction or reconstruction of the Museum building, or buildings, shall be verified by the Auditor and approved for payment by the Chairman of the Building Committee. All vouchers executed in connection with the investments of the Corporation, or, in any way having to do with

the endowment funds of the Corporation, shall be verified by the Auditor and approved for payment by the Chairman of the Finance Committee.

SECTION 5. The Harris Trust & Savings Bank of Chicago shall be Custodian of "The N. W. Harris Public School Extension of Field Museum" fund. The bank shall make disbursements only upon warrants drawn by the Director and countersigned by the President. In the absence or inability of the Director, warrants may be signed by the Chairman of the Finance Committee, and in the absence or inability of the President, may be countersigned by the Vice-Presidents. But no warrant shall be issued, except in conformity with a regularly prepared voucher, giving the name of the payee and stating the occasion for the expenditure, and verified and approved by the Auditor, the Director, and a member of the Executive Committee. It shall be no part of the duties of the said Custodian to see that the warrants have been issued in conformity with such vouchers.

ARTICLE VI.

THE DIRECTOR.

SECTION 1. The Board of Trustees shall elect a Director of the Museum, who shall remain in office until his successor shall be elected. He shall have immediate charge and supervision of the Museum, and shall control the operations of the Institution, subject to the authority of the Board of Trustees and its Committees. The Director shall be the official medium of communication between the Board, or its Committees, and the scientific staff and maintenance force.

SECTION 2. There shall be four scientific departments of the Museum—Anthropology, Botany, Geology and Zoölogy; each under the charge of a Curator, subject to the authority of the Director. The Curators shall be appointed by the Board upon the recommendation of the Director, and shall serve during the pleasure of the Board. Subordinate staff officers in the scientific departments shall be appointed and removed by the Director upon the recommendation of the Curators of the respective Departments. The Director shall have authority to employ and remove all other employees of the Museum.

SECTION 3. The Director shall make report to the Board at each regular meeting, recounting the operations of the Museum for the previous month. At the Annual Meeting, the Director shall make an Annual Report, reviewing the work of the Museum for the previous year, which Annual Report shall be published in pamphlet form for the information of the Trustees and Members, and for free distribution in such number as the Board may direct.

ARTICLE VII.

AUDITOR.

SECTION 1. The Board shall appoint an Auditor, who shall hold his office during the pleasure of the Board. He shall keep proper books of account, setting forth the financial condition and transactions of the Corporation, and of the Museum, and report thereon at each regular meeting, and at such other times as may be required by the Board. He shall certify to the correctness of all vouchers for the expenditure of the money of the Corporation.

ARTICLE VIII.

COMMITTEES.

SECTION 1. There shall be five Committees, as follows: Finance, Building, Auditing, Pension and Executive.

SECTION 2. The Finance Committee shall consist of five members, the Auditing and Pension Committees shall each consist of three members, and the Building Committee shall consist of five members. All members of these four Committees shall be elected by ballot by the Board at the Annual Meeting, and shall hold office for one year, and until their successors are elected and qualified. In electing the members of these Committees, the Board shall designate the Chairman and Vice-Chairman by the order in which the members are named in the respective Committee; the first member named shall be Chairman, the second named the Vice-Chairman, and the third named, Second Vice-Chairman, succession to the Chairmanship being in this order in the event of the absence or disability of the Chairman.

SECTION 3. The Executive Committee shall consist of the President of the Board, the Chairman of the Finance Committee, the Chairman of the Building Committee, the Chairman of the Auditing Committee, the Chairman of the Pension Committee, and three other members of the Board to be elected by ballot at the Annual Meeting.

SECTION 4. Four members shall constitute a quorum of the Executive Committee, and in all standing Committees two members shall constitute a quorum. In the event that, owing to the absence or inability of members, a quorum of the regularly elected members cannot be present at any meeting of any Committee, then the Chairman thereof, or his successor, as herein provided, may summon any members of the Board of Trustees to act in place of the absentee.

SECTION 5. The Finance Committee shall have supervision of investing the endowment and other permanent funds of the Corporation, and the care of such real estate as may become its property. It shall have authority to invest, sell, and reinvest funds, subject to the approval of the Board.

SECTION 6. The Building Committee shall have supervision of the construction, reconstruction, and extension of any and all buildings used for Museum purposes.

SECTION 7. The Executive Committee shall be called together from time to time as the Chairman may consider necessary, or as he may be requested to do by three members of the Committee, to act upon such matters affecting the administration of the Museum as cannot await consideration at the Regular Monthly Meetings of the Board of Trustees. It shall, before the beginning of each fiscal year, prepare and submit to the Board an itemized Budget, setting forth the probable receipts from all sources for the ensuing year, and make recommendations as to the expenditures which should be made for routine maintenance and fixed charges. Upon the adoption of the Budget by the Board, the expenditures as stated are authorized.

SECTION 8. The Auditing Committee shall have supervision over all accounting and bookkeeping, and full control of the financial records. It shall cause the same, once each year, or oftener, to be examined by an expert individual or firm, and shall transmit the report of such expert individual or firm to the Board at the next ensuing regular meeting after such examination shall have taken place.

SECTION 9. The Pension Committee shall determine by such means and processes as shall be established by the Board of Trustees to whom and in what amount the Pension Fund shall be distributed. These determinations or findings shall be subject to the approval of the Board of Trustees.

SECTION 10. The Chairman of each Committee shall report the acts and proceedings thereof at the next ensuing regular meeting of the Board.

SECTION 11. The President shall be ex-officio a member of all Committees and Chairman of the Executive Committee. Vacancies occurring in any Committee may be filled by ballot at any regular meeting of the Board.

ARTICLE IX.

NOMINATING COMMITTEE.

SECTION 1. At the November meeting of the Board, each year a Nominating Committee of three shall be chosen by lot. Said Committee shall make nominations for membership of the Finance Committee, the Building Committee, the Auditing Committee, and the Pension Committee, and for three members of the Executive Committee, from among the Trustees, to be submitted at the ensuing December meeting and voted upon at the following Annual Meeting in January.

ARTICLE X.

SECTION 1. Whenever the word "Museum" is employed in the By-Laws of the Corporation, it shall be taken to mean the building in which the Museum as an Institution is located and operated, the material exhibited, the material in study collections, or in storage, furniture, fixtures, cases, tools, records, books, and all appurtenances of the Institution, and the workings, researches, installations, expenditures, field work, laboratories, library, publications, lecture courses, and all scientific and maintenance activities.

SECTION 2. These By-Laws may be amended at any regular meeting of the Board of Trustees by a two-thirds vote of all the members present, provided the amendment shall have been proposed at a preceding regular meeting.



AMERICAN BISON.

Single bull mounted for new hall of horned and hoofed mammals.

J. Friesser, Taxidermist.

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BLACKSTONE, MRS. TIMOTHY B.	FIELD, STANLEY
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GRAHAM, ERNEST R.	SARGENT, HOMER E.
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CHALMERS, W. J.
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GUNSAULUS, FRANK W.

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JONES, ARTHUR B.

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KENNEDY, VERNON SHAW
KOHLSAAT, HERMAN H.

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MANIERRE, GEORGE
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MILLER, JOHN S.
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SMITH, WILLARD A.
SPRAGUE, ALBERT A.
STONE, MELVILLE E.

WILSON, JOHN P.
WRIGLEY, WILLIAM, JR.

DECEASED, 1920.

GUNTHER, C. F.

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 ALLERTON, ROBERT H.
 ARMOUR, A. WATSON
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DECEASED.

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PIKE, EUGENE S.

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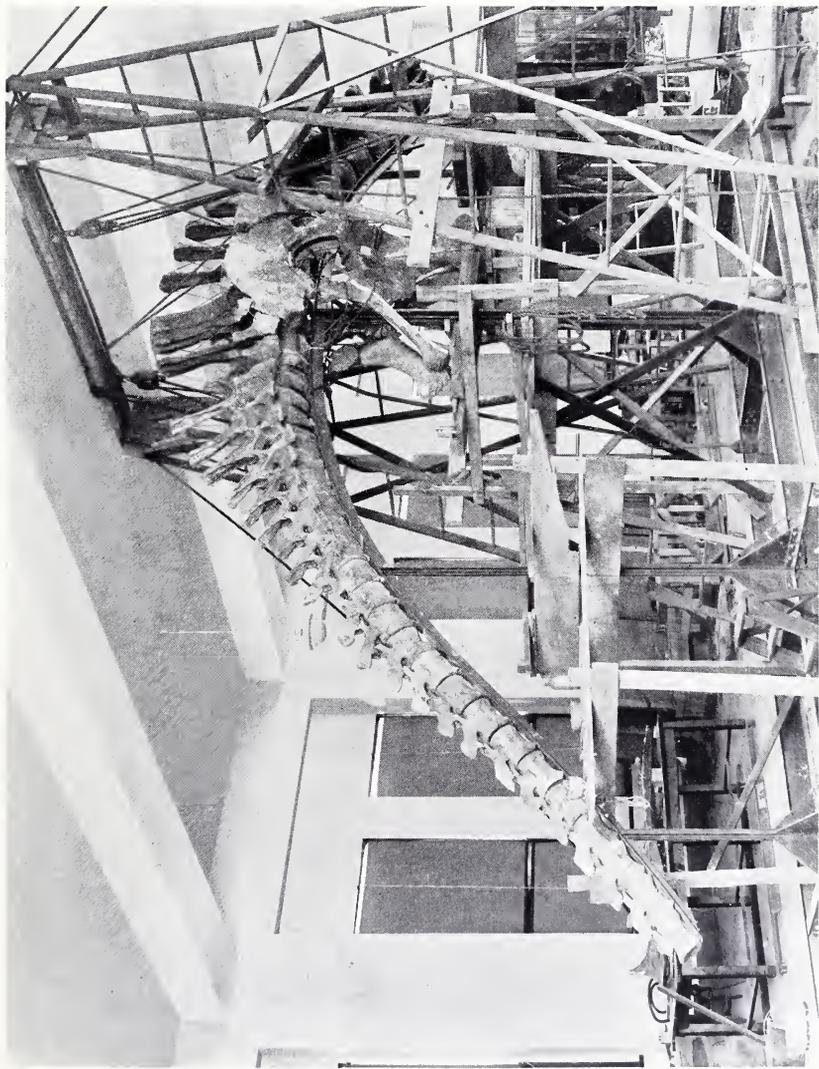
UIHLEIN, EDWARD G.

WACKER, CHARLES H.
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WALLER, EDWARD C.
WHITEHEAD, W. M.
WILSON, MRS. E. C.
WILSON, M. H.
WORCESTER, MRS. C. H.

DECEASED.

FÜRST, CONRAD
HIBBARD, WILLIAM G., JR.

MACFARLAND, HENRY J.



ERECTING DINOSAUR (APATOSAURUS) SKELETON IN NEW BUILDING.







THE LATE FREDERICK J. V. SKIFF.

Director of the Museum from December 16, 1893, to February 24, 1921,
the date of his death.

FIELD MUSEUM OF NATURAL HISTORY.

PUBLICATION 208.

REPORT SERIES.

VOL. VI, No. I.

ANNUAL REPORT OF THE
DIRECTOR

TO THE

BOARD OF TRUSTEES

FOR THE YEAR 1921.



CHICAGO, U. S. A.

January, 1922.



BEQUESTS.

Bequests to Field Museum of Natural History may be made in securities, money, books or collections. For those desirous of making bequests to the Museum, the following form is suggested:

FORM OF BEQUEST

I do hereby give and bequeath to "FIELD MUSEUM OF NATURAL HISTORY" of the City of Chicago, State of Illinois, _____

Cash Contributions made within the taxable year to Field Museum of Natural History to an amount not in excess of 15% of the tax payer's net income are allowable as deductions in computing net income under the Revenue Law.

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OWEN F. ALDIS.

DECEASED, 1921

FRANK W. GUNSAULUS.

FREDERICK J. V. SKIFF.

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WILLIAM WRIGLEY, JR.

ALBERT A. SPRAGUE.

*FREDERICK J. V. SKIFF.

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STANLEY FIELD.

ALBERT A. SPRAGUE.

*FREDERICK J. V. SKIFF.

AUDITING COMMITTEE

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GEORGE MANIERRE.

WILLIAM WRIGLEY, JR.

PENSION COMMITTEE

ALBERT A. SPRAGUE.

*FRANK W. GÜNSAULUS.

*FREDERICK J. V. SKIFF.

*Deceased.

ADMINISTRATIVE AND SCIENTIFIC STAFF OF THE MUSEUM

DIRECTOR

D. C. DAVIES

DEPARTMENT OF ANTHROPOLOGY

BERTHOLD LAUFER, *Curator*

Assistant Curators

CHARLES L. OWEN—*Archaeology*

FAY-COOPER COLE—*Malayan Ethnology*

ALBERT B. LEWIS—*African and Melanesian Ethnology*

J. ALDEN MASON—*Mexican and South American Archaeology*

HELEN C. GUNSAULUS—*Japanese Ethnology*

RALPH LINTON—*North American Ethnology*

DEPARTMENT OF BOTANY

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B. E. DAHLGREN, *Associate Curator—Economic Botany*

Assistant Curator

J. FRANCIS MACBRIDE—*Taxonomy*

DEPARTMENT OF GEOLOGY

O. C. FARRINGTON, *Curator*

HENRY W. NICHOLS, *Associate Curator*

ELMER S. RIGGS, *Associate Curator of Paleontology*

DEPARTMENT OF ZOÖLOGY

WILFRED H. OSGOOD, *Curator*

WILLIAM J. GERHARD, *Associate Curator of Insects*

Assistant Curators

EDMOND N. GUERET—*Osteology*

R. MAGOON BARNES—*Oölogy*

ALFRED C. WEED—*Fishes*

EDMUND HELLER—*Mammals*

JOHN T. ZIMMER—*Birds*

Division of Taxidermy

JULIUS FRIESSER, *in charge*

DEPARTMENT OF THE N. W. HARRIS PUBLIC SCHOOL EXTENSION

S. C. SIMMS, *Curator*

THE LIBRARY

ELSIE LIPPINCOTT, *Librarian*

EMILY M. WILCOXSON, *Assistant Librarian*

RECORDER

H. F. DITZEL

AUDITOR

BENJ. BRIDGE

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U. A. DOHMEN, *in charge*

SUPERINTENDENT OF MAINTENANCE

JOHN E. GLYNN

SECTION OF PHOTOGRAPHY

C. H. CARTENTER, *in charge*

CHIEF ENGINEER

W. H. CORNING

DECEASED 1921

FREDERICK J. V. SKIFF, *Director*

CHARLES B. CORY, *Curator of Zoölogy*

EDWARD T. HARPER, *Assistant Curator of Cryptogamic Botany*

ANNUAL REPORT OF THE DIRECTOR

1921

To the Trustees of Field Museum of Natural History:

FREDERICK J. V. SKIFF

November 5, 1851 — February 24, 1921

Appointed Director December 16, 1893

Since the last issue of the Annual Report the Museum has sustained an irreparable loss in the death of its Director, Frederick J. V. Skiff, which took place suddenly at Chicago, February 24, 1921, after two days' illness. On the Monday preceding his death, Dr. Skiff attended the regular monthly meeting of the Board of Trustees, and assisted in the proceedings with his accustomed vigor and enthusiasm.

On such an occasion as this attention is invited more especially to the sterling character of Dr. Skiff, rather than to his achievements. The story of what he accomplished has been told. The memory of what he was is both uplifting and inspiring—the most loyal of friends, a lover of all good and beautiful things; a strenuous worker, a lively and entertaining talker, a patient and inspiring administrator, who infused his associates with his own zeal—he leaves in the hearts of all who knew him a bright and imperishable image, an ideal of faithful efficient service, combined with most amiable personal traits. And nothing in his life became him better than his last painful years. For sometime before his death he suffered from a distressing affliction which no remedy could arrest. His last years were lived in constant and sometimes almost unendurable physical agony, and in the knowledge that his silent fight could hardly be other than hopeless. And yet his courage, his faith in the virtue there is in life, his perfect confidence that all things work together for good, were unflinching. He labored so unceasingly and through consideration of others hid his suffering so carefully, that few suspected the ordeals of bodily pain through which he passed with a quiet indomitable courage that was a marvel to the few who knew the truth about his real condition. His interest in the many activities of the Museum and in the numerous educational and social projects of the Country was unabated. Greater fortitude could not have been displayed. No apparent sign warned his

associates of the close of his great and useful career, although the suddenness of the end was not altogether unforeseen by himself and those in his confidence.

When the history of Field Museum comes to be written, it cannot be doubted that the name of Frederick Skiff will be placed first among the pioneers. His modesty and self-effacement, his retiring and unselfish nature deprived him to some extent of popular applause by the public to whose service he gave his life, but among the immediate personnel for whom he labored and with whom he associated, he had a place few men find and fewer still have earned. Many, even those who had not the privilege of knowing Dr. Skiff intimately, will always remember his inspiring eloquence, the overpowering urge of his personality, and his faithful devotion to the Museum.

His more public work, especially in connection with the great expositions of the past quarter of a century, must be left to others to value and record. It may be recalled, however, that prior to his acceptance of the Directorship of the Museum, Dr. Skiff had occupied for two years the responsible post of Chief of the Department of Mines and Mining and Deputy Director General of the Chicago Exposition of 1893. Before coming to Chicago to enter into exposition and museum activities, Dr. Skiff for a number of years managed and edited the Denver Tribune. Associated with him in this work were the late Eugene Field, "Bill Nye," and O. H. Rothacker, authors and journalists. He was appointed Director-in-Chief of the United States Exhibits at the Paris Exposition in 1898-1901; Director of Exhibits of the St. Louis Exposition 1901-1905; was appointed by President Taft, United States Commissioner General to the Japanese Exposition, and in 1911 was appointed Director-in-Chief of the Panama-Pacific International Exposition at San Francisco. In recognition of his important achievements and the benefits to society accruing therefrom, Dr. Skiff had also received academic distinctions from many universities and learned institutions and decorations from practically all of the countries of the world.

I have the honor to present a report of the operations of the Museum for the year ending December 31, 1921:

The day appointed for the re-opening of the Museum was May 2, 1921. At this time and even before, the extensive collections, which had been transferred from the old building in Jackson Park, had been organized into a scientific and systematic arrangement and installed in the halls of the new building. Through active, not to say

strenuous effort on the part of all concerned everything was in readiness for the renewal of the work for which the Museum had been established. It had been decided by the Board of Trustees to hold no exercises in connection with the re-opening of the Museum, but invitations to an informal reception during the afternoon of May 2nd were extended to a list of 10,000 individuals, which included prominent citizens, educators, army and navy officers and public officials. Approximately 8,000 of these invited guests accepted the invitation and expressions of general admiration for the building and its arrangement were heard on all sides. The following day the Museum was thrown open to the public and that the new building and new facilities which it provides have met with hearty approval is shown by the fact that at this time the average daily attendance is more than double that recorded at the old building in Jackson Park.

The physical conditions of the Institution at the date of this review show but a small part of the actual work performed since the occupancy of the New Building. The scientific work in connection with the reinstallation has been of a nature that is not apparent to the casual observer and is concealed, as a matter of fact, from even the more critical visitors. The work in the laboratories and the constant application of time and study to the tasks of identification, labeling and inventorying have pushed these essential features of Museum work distinctly forward. The vast amount of this labor suddenly devolving upon the Museum staff, as it did at the reopening of the Museum, would have dismayed those less earnest and confident. Thanks are due to the staff and to all classes of labor for the very excellent work accomplished. Those in the more responsible positions have had anxious and arduous times, but fortunately the Museum has men and women on whom it can depend and their loyal service is much appreciated. It would be bare justice to mention many by name, but it would be injustice to omit others, so in fairness all should be included.

President Field, at the December meeting of the Board of Trustees, announced that he had decided to assume the entire deficit occurring in the Building Fund, towards which he has already contributed the sum of \$150,000.00. To this deficit Mr. Potter Palmer has also contributed during the year the sum of \$1,000.00.

At the same meeting of the Board, the President intimated that Captain Marshall Field had volunteered to contribute the sum of \$50,000.00 annually for a period of five years for the purpose of dispatching expeditions into the field, defraying the cost of new exhibition

cases and for the publication of manuscripts prepared by members of the staff. Captain Field has also contributed the sum of \$65,000.00 to liquidate the deficit in the General Fund for the year 1921.

The acquisitions and contributions received or announced during the year have been exceptionally numerous and valuable as will be seen from the list of accessions appended to the report. Mention should be made of the contribution of \$25,000.00 made by Mr. Arthur B. Jones, to defray the expense of an ethnological survey in Malaysia, particularly in the Malay Peninsula and the Dutch East Indies.

Upon learning that the Museum contemplated increasing its printing shop equipment, Mr. William V. Kelley generously presented the Institution with a new Miehle Cylinder Press, which is especially adaptable for printing the publications of the Museum.

Mr. Stanley Field presented to the Board of Trustees of the Museum an oil portrait of himself and also one of the late Director, Doctor Skiff. Mrs. Richard T. Crane, Jr., presented an oil portrait of the late Mr. Harlow N. Higinbotham, and Mr. Edward E. Ayer presented an oil portrait of himself.

Miss Helen C. Gunsaulus has presented to the Museum, in memory of her father, Dr. Frank W. Gunsaulus, her entire collection of Japanese Surimono. The Board of Trustees has dedicated a hall in honor of Dr. Frank W. Gunsaulus, in which the Japanese Surimono are to be exhibited.

President Field has assumed the entire expense of furnishing the Trustees Room in the new building.

Mrs. Frederick J. V. Skiff presented a bronze bust of the late Dr. Skiff, which has been installed in "Frederick J. V. Skiff Hall" in the Department of Geology.

Mr. William Wrigley, Jr., contributed the sum of \$3,500.00 towards the purchase of 29 Buddhistic sculptures.

Mr. Edward E. Ayer continued his contributions of books for the Edward E. Ayer Ornithological Library, details of which appear elsewhere in this report.

President Field presented to the Department of Zoölogy three animal pieces in bronze, sculptured by Carl E. Akeley.

The Museum has received as a gift a mimeographing machine from Mr. A. B. Dick.

During the year the vacancies existing in the membership of the Board of Trustees were filled by the election of Mr. Richard T. Crane, Jr., Mr. James Simpson, Mr. Harry E. Byram and Mr. Ernest R. Graham.

Colonel Albert A. Sprague was elected Third Vice-President, the Board of Trustees having created this office by an amendment to Section I, Article IV of the By-Laws.

Mr. D. C. Davies was elected Secretary of the Board to fill the vacancy existing, and Mr. George Manierre was elected Assistant Secretary.

Mrs. Edward E. Ayer was chosen an Honorary Member of the Museum, in view of the eminent service she has rendered to science.

The Life Members of the Institution were increased by the election of Mr. Frederic W. Upham, Mr. Francis C. Farwell and Mr. Colin C. H. Fyffe. Mr. Marvin B. Pool was elected an Associate Member of the Museum.

At a meeting of the Board of Trustees, held December 19, 1921, the present incumbent was appointed Director of the Museum to succeed the late Doctor Frederick J. V. Skiff.

At a special meeting of the Board, held March 1, 1921, Benjamin Bridge was appointed Auditor, and at the regular meeting of the Board in April, Henry F. Ditzel was appointed Recorder.

The Museum sustained a signal loss in the death of Charles B. Cory, Curator of Zoölogy. Prof. Cory had been in the service of the Museum for twenty-eight years, during which period his conscientious, untiring devotion to his work and his cheerful presence had deeply impressed all his associates. Prof. Cory was first and foremost an ornithologist, and this was attributable to no lack of sympathy with the larger field, but because he recognized that the larger field could not be successfully covered by one man. His work on "The Birds of the Americas," in preparation at the time of his death, furnishes abundant evidence of his remarkable knowledge of the literature of his subject and his ability to use it to the greatest advantage. The book is an elaborate catalogue and the special attributes essential for the production of such a work Prof. Cory possessed in a marked degree.

To complete and edit this work the Museum has been enabled, through the generosity of Mr. Charles R. Crane, to secure the services of Dr. C. E. Hellmayr, one of the leading and best known European ornithologists. Dr. Hellmayr is at present affiliated with the University of Munich and will probably arrive in Chicago early in the summer of 1922 prepared to commence his duties. As Dr. Hellmayr's ornithological labors have been particularly directed to South America and as he is familiar also with the important collections of birds in Europe, the Museum is specially fortunate in having obtained his consent to undertake the completion of this monumental work.

During the year Alfred C. Weed was appointed Assistant Curator of Fishes and Ralph Linton Assistant Curator of North American Ethnology. Late in the year Wilfred H. Osgood was appointed Curator of Zoölogy, to succeed the late Charles B. Cory, and William J. Gerhard was appointed Associate Curator of Insects. In the Department of Geology, Henry W. Nichols was appointed Associate Curator of Geology and Elmer S. Riggs Associate Curator of Paleontology. The appointment of J. Francis Macbride as Assistant Curator in the Department of Botany is also announced, the appointment taking effect January 1, 1922.

Upon the recommendation of the Executive Committee, Hall No. 3 has been dedicated to Mary D. Sturges, and Hall No. 13 has been dedicated to George M. Pullman, two of the early benefactors of the Museum.

The sudden death of Doctor Frank Wakeley Gunsaulus, one of the original Incorporators and Trustees of the Museum and a Patron of the Institution, occurred during the year. Dr. Gunsaulus took an active interest in the foundation of the Museum and from time to time had made many valuable gifts to the Institution. The Board of Trustees at a meeting May 16, 1921, adopted the following testimonial:

“We Fellow Members of the Board of Trustees of Field Museum of Natural History and associates and friends of the late Frank Wakeley Gunsaulus desire to express our appreciation of his life and service:

We recognize:

That in his death the World has lost a man of high moral worth, unusual breadth of intellect, profound human sympathy, unswerving loyalty to duty and unfailing devotion to his family and friends.

That the Nation has been bereft of a patriotic, public-spirited and loyal citizen, and American Science and Art of a distinguished investigator and adviser, and an earnest and efficient administrator.

That Field Museum of Natural History and all Institutions organized for the promotion of knowledge have lost a faithful and willing co-worker.

We mourn his loss not only on account of his high intellectual attainments and qualities, but also because he was a man of broad sympathy and tender heart, of upright character and deep spiritual discernment.

We extend to the members of his bereaved family in this hour of their affliction our sincere sympathy, and in token thereof have ordered a copy of this expression of our appreciation transmitted to them, and have likewise ordered it spread upon the records of Field



THE LATE FRANK W. GUNSAULUS.
An Incorporator and Trustee of the Museum.

Museum of Natural History, of which Institution our late associate was not only a devoted Trustee but also one of the original incorporators."

As important aids to the facilities for installation and maintenance, there have been added to the Carpenter Shop machinery a bench planer, variety saw and hollow chisel morticer, together with the necessary motor equipment. During the year the shop made and installed 1,606 lineal feet of book shelving of various depths, 11,676 square feet of storage shelving, racks for 1,450 trays, 28 work benches of special designs with wood or soapstone top, fitted with drawers of various dimensions, cupboards and pigeon holes. Racks for 437 storage cans, three book stacks for the General Library and other miscellaneous work has also been executed for the working areas on third floor. The toning room and stock room in the Section of Photography have been furnished with lead lined tanks, cupboards, work benches, shelving and window shutters.

Considerable new apparatus has also been added to the Section of Photography, which will undoubtedly increase the efficiency of the work and enable the section to produce better and more accurate results. This section is now producing the picture postal cards which are sold to visitors.

Extensive additions have also been made to the equipment and facilities in the Section of Printing. The space on the fourth floor, formerly occupied by this section, was not considered suitable to accommodate the additional work of printing the publications of the Museum, all of which work, it has been decided, will be performed in the Museum in the future. The section was therefore transferred to a large, well-lighted room on the third floor, near which space for a commodious stock-room was provided. To carry the heavy load of the Miehle Cylinder Press and Automatic Paper Cutter a room in the south end of the ground floor was selected for this portion of the new equipment. In addition to the cylinder press and paper cutter, there have been installed in the printing shop a book sewing machine, stitcher, and motors for all machinery, including two motors for the platen presses.

Owing to constant demand from visitors, a restaurant has been opened on the ground floor and the patronage thus far bestowed seems to justify this convenience.

INCOME AND MAINTENANCE.—The budget approved by the Board of Trustees authorized the sum of \$290,786.00 for the maintenance of the Museum for the year 1921. The actual income received during

that period amounted to \$215,123.00. The actual expenditures amounted to \$280,123.00, leaving a deficit of \$65,000.00, which amount, as mentioned elsewhere in this report, was contributed by Captain Marshall Field. As a matter of record it may be stated that part of the amount disbursed for maintenance included the expense of new construction work on the third floor, where a certain amount of labor was required for the readaptation of the area to render it more fit for the uses to which it is now devoted.

PUBLICATIONS.—During the year two publications were issued, details of which follow:

Pub. 206—Report Series, Vol. V, No. 6. Annual Report of the Director for the year 1920. 75 pages, 11 halftones, edition 1,500.

Pub. 207—Zoological Series, Vol. XIV, No. 1. A Monographic Study of the American Marsupial, *Caenolestes*. By Wilfred H. Osgood. With a Description of the Brain of *Caenolestes*. By C. Judson Herrick. May, 1921. 162 pages, 1 map, 22 halftones, edition 750.

THE LIBRARY.—Many valuable and interesting works have been received during the year by gift, exchange and purchase and several of these warrant special mention. President Field presented eleven volumes and eleven portfolios of the monumental work on the North American Indian by Edward S. Curtis and Frederick W. Hodge, to be completed in twenty volumes. In addition to the ninety-two volumes of ornithological works purchased during the year for the Edward E. Ayer Ornithological Library, Mr. Ayer presented the Clarke Piscatorial Library of 1,640 volumes, which is a beautifully bound collection made by Robert Clarke of Cincinnati previous to 1892. It contains eighteen original editions of Izaak Walton's Complete Angler and a number of works dating back to the fifteenth and sixteenth centuries. A general atlas, dated Edinburgh, 1817, of considerable historical interest, was presented by Director Davies. From the Carnegie Institution of Washington, one hundred and seventy-eight publications were received and the library was made a repository for all future publications pertinent to the work of the Museum. Two hundred and fifty books and pamphlets, with a number of duplicates, were received with the E. T. and S. A. Harper mycological collection. Early in the year the Smithsonian Institution resumed the transmission of publications to practically all of the international exchange bureaus and efforts were made to obtain the publications held back during the



THE LATE CHARLES B. CORY.
Curator of Zoölogy.

war for lack of transportation. These have been coming in steadily, but still further efforts will have to be made to secure the numbers that were issued in limited editions. Exchanges were received from six hundred and forty-two institutions and individuals. Publications from all sources reached a total of 3,647 books and pamphlets, a considerable increase over the receipts of any of the past four years. The books and pamphlets total 77,471. Purchases of books and periodicals were limited for the most part to the immediate needs of the staff. The cost of binding is gradually being lowered and two hundred and seventy books were bound. There have been written and inserted in the catalogues 11,600 cards. Early in the year the books of the general library were cleaned, restored to their classification and shelved in rooms at the southeast end of the building. Space has now been permanently assigned for the library on the third floor.

DEPARTMENTAL CATALOGUING, INVENTORING AND LABELING.—During the year the work of cataloguing in the Department of Anthropology has progressed as the new accessions were acquired. The total number of catalogue cards prepared amounts to 983, which includes the Japanese Surimono presented by Miss Helen C. Gunsaulus. These cards are distributed over the single divisions as follows: North American Ethnology 468; Southwest, Mexican and South American Archaeology 21; Melanesian and African Ethnology 99; and Ethnology of China, India and Japan 395, and have been entered in the inventory books of the Department which now number 38. The number of annual accessions amounts to thirty-nine, twenty-eight of which have been entered. The total number of catalogue cards entered from the opening of the first volume amounts to 156,177. The Department has been supplied with a total of 4,984 printed labels. These are distributed over the divisions as follows: Stanley Field Hall, 315; Eskimo, Northwest Coast, etc., 854; Plains Indians, 1331; Indians of California, 96; South America, 1,038; Melanesia, 409; China, 220; Tibet, 6; Korea, 215; Formosa, 77; Japan, 227; India, 100; and Higinbotham hall, 96. A total of 458 label cards was added to the label file and 156 prints were placed in the photographic albums.

All newly accessioned specimens in the Department of Botany have been catalogued as fast as organized. A total of 14,058 entries has been made in the fifty-eight catalogue volumes, bringing the total number of catalogued specimens up to 496,367. Augmentation of the various card indexes during the past year has been necessarily slight, due to the preponderance of other work. Additional cards have been inserted as follows:

	No. of Cards	
	Augmented 1921	Total
Index to Botanical Species	4,870	161,488
Index to Common Names	914	21,289
Index to Yucatan Plants	89	6,456
Index to Euphorbiae	15	4,247
Index to Department Labels	269	3,405
Index to Geographic Localities	42	2,809
Index to Collectors	280	10,144
Index to Botanical Titles .....	....	1,575
Index to Department Library .....	....	8,800
Index to Illinois Flora .....	....	910
Index to Hand Specimens of Wood .....	....	2,446
Index to Installation .....	....	595
Index to Photographs .....	....	600

Although a large number of accessions has been received during the year by the Department of Geology, it has been possible to catalogue all specimens as soon as received. The total number of new entries made during the year is 4,046, the largest number of these, 3,213, being in invertebrate paleontology, due chiefly to additions received from the Dyer collection. In the economic division 482 new entries were made, and to the systematic mineral catalogue 271 numbers were added. More than 2,000 labels were written, printed and installed during the year in an endeavor to have all exhibited specimens uniformly labeled. Some of these labels are reprints on black cardboard of former buff labels, but the larger number relate to new specimens or are modifications in size or in wording, or both, of previous labels. In all labeling every endeavor was made to secure complete accuracy before printing. About forty of the labels were descriptive and of considerable length. Labels for some of the relief maps, for example, comprise between 2,000 and 2,500 words, while that for historic diamonds consists of about 3,200 words. In choosing type for the labels, as large sizes as were deemed allowable without increasing too greatly the bulk of the label were employed in order to facilitate reading. The entire series of systematic labels for vertebrate paleontology was revised or rewritten. New labels of from 300 to 500 words were written for the Asphaltum Beds fossils, Minooka Mastodons, Teeth of the Mastodon and the Horse and Titanotheres Families. Of the new labels of smaller size, 710 were for exhibits of ores, salts, and abrasives; 252 for the petroleum, coals, clays, soils and cements; 216 for the paleontological collections; 202 for Stanley Field Hall, and the remainder for miscellaneous specimens. To the Departmental photograph albums twenty-

eight prints have been added, making a total number of 2,939 prints in these albums.

The reference collections in the Department of Zoölogy remained inaccessible during most of the year, and cataloguing, therefore, was impossible. The total number of entries made was 326, distributed as follows: Mammals, 5; Birds, 49; Eggs, 1; Fishes, 39; Reptiles and Batrachians, 226; Invertebrates, 6. Record cards written during the year number 490, principally those of an index to the systematic exhibit of birds. Very little labeling of specimens in the reference collections has been done; but a very large number of new exhibition labels were written and printed. These included a few for the mammals, a large number for the birds, a complete series for the habitat groups, for all the fishes and reptiles and for a large number of shells.

The following shows the work performed on catalogues and the inventorying accomplished:

	Number of Record Books	Total No. of entries to Dec. 31, 1921	Entries during 1921	Total No. of cards written
Department of Anthropology ...	38	156,177	983	156,177
Department of Botany	58	496,060	14,058	224,764
Department of Geology	22	145,518	4,046	8,456
Department of Zoölogy	40	101,631	326	34,896
The Library	14	125,060	7,294	295,316
Section of Photography	20	123,720	2,481	.....

ACCESSIONS.—Through the generosity of Mr. Martin A. Ryerson and Mr. Homer E. Sargent, the Department of Anthropology is enabled to list, among its important acquisitions of the year, a collection of eighteen Mexican serapes gathered by Mr. Herbert J. Browne during a long sojourn in Mexico. The serape is made from two rectangular blankets of particularly fine texture and quality, sewn together lengthwise to form a square and having a short slit in the center through which the wearer may slip his head, the whole being worn over the shoulders in the same manner as the rubber poncho. The making of these blankets originated in Mexico shortly after the Spanish conquest and rapidly became a jealously guarded institution which flourished in certain parts of the country until 1850, a date which marks the beginning of a decline in that industry which proved even more rapid than the ascendancy. The exponents of the old art are now extinct, and while ordinary specimens are manufactured today in various sections of the country, the fine textiles with their brilliant colorings and exquisite patterns are rapidly disappearing, as

have already the secrets of their manufacture. The present collection consists of representatives of all the important types known in Mexico; eight from Saltillo, five from San Miguel, and one each from Guadalajara, Senora, Chihuahua, Puebla, and Zacatecas. Of these, those from Saltillo and San Miguel are the most beautiful as well as the most valuable; for these two cities have the distinction of being the best known seats of serape manufacture. The general Saltillo pattern shows a medallion consisting of concentric diamonds in various colors upon an all-over design in stripes, the motives being minute geometric patterns skillfully interlocked in rich and permanent colors. Of the Saltillo serapes, the one from the Obregon Hacienda, which is authenticated as having been woven about 1775 by a weaver from Saltillo who consumed two years at the Hacienda spinning and dyeing the yarn and weaving the blanket, is of particular interest. The tomato pink and Nile green colors of this blanket are exceptionally rare and add greatly to its value; for the secret of their manufacture, after having been handed down only a few generations, died out. The San Miguel blankets have a characteristic rosette instead of diamond in the center. This collection, together with another serape from Saltillo of exquisite design and coloring which was obtained by purchase, is exhibited in Case 1 of Hall 8. Mr. Edward E. Ayer presented a valuable Navaho blanket, which is being used for exhibition in the case showing Indian blankets in Stanley Field Hall, an Eskimo snow-beater carved from walrus-ivory and engraved with hunting and whaling scenes, and a Sioux buckskin gun-case heavily beaded. An addition of 215 baskets from different North American Indian tribes was made to the already large collection that has been presented by Mr. Homer E. Sargent. A complete series of reproductions of men of prehistoric races was secured from Professor J. H. McGregor, Department of Zoology, Columbia University, New York. These consist in the main of busts of the Pithecanthropus, Neanderthal, Cro-Magnon and Chapelle-aux-Saints men, as well as casts of restored skulls and jaws, all of which will be utilized to good advantage in the new hall planned for an exhibition of physical anthropology. A very fine and interesting piece of tapa cloth from Suva in the Fiji Islands was donated by Mr. and Mrs. Robert B. Dickinson of Chicago. Mrs. Ralph S. Greenlee of Chicago presented an accurate and beautiful model of the famous Taj Mahal at Agra, India, which was immediately placed on exhibition in Hall 32. A collection of ninety-seven objects gathered by Mr. Barbour Lathrop of Chicago was

presented by him. The collection consists of objects coming chiefly from Java, Celebes, Timor Laut, and Dutch New Guinea, with a few pieces from Babber, Dammer, Letti and other small islands of that region. A large Korean cabinet with excellent brass fittings and a large number of knives, crises, spears, bows and arrows, bark garments and ornaments of shell and ivory are among the objects in the collection. Two of the Javanese crises, the blades of which are finely marked with inlaid silver and the handles surmounted by full figures in brass representing Hindu deities and studded with precious stones and beads, are worthy of special recognition. An exceptionally fine feast bowl of painted lacquer from Burma was received from Mr. Frederick R. Babcock of Wheaton, Illinois. This bowl is decorated all around with miniature paintings of exquisite quality, all of them representing scenes from the Indian epic poem, the Ramayana, and explained in Burmese legends. Mr. William J. Chalmers gave an excellent cloisonné-enamel jar from China which is remarkable because of its harmonious design and coloring, and highly prized because it was made in the latter part of the fifteenth century. A miscellaneous collection of eighty objects gathered on his travels in the Orient was received as a gift from Mr. Robert H. Fleming of Chicago. It is particularly rich in swords, daggers, and other weapons from China, Japan, India, Turkey, Spain, and Mexico. Of exceptional interest are two batiks from Java and a remarkable, large embroidered hanging from China, fifteen feet in length and nine and one-half feet in width. The latter bears a lengthy Chinese inscription from which it is ascertained that this embroidered picture was bestowed upon a certain Mr. Hu in 1863 in commemoration of his seventieth birthday by the prefect of Lin-kiang in Kiang-si Province. Especially opportune are twelve Japanese swords and six sword-guards which will make more complete the exhibition of Japanese swords and their fittings now in the process of installation. There are examples of the various types of swords used on different occasions, such as the ornamental sword for parade purposes, the fighting sword, the small sword, the dagger, the small dagger for women, and the slung sword. An excellent collection of Japanese Surimono was presented by Miss Helen C. Gunsaulus in memory of her father, Dr. Frank Wakeley Gunsaulus, former trustee. Surimono are color print cards of greeting which are produced for special occasions such as New Year, birthdays, and other festival days. The great majority are prepared for private distribution only, and it is except on rare occasions that any are placed on public sale. They far

excel the common prints; for, although they are produced by the same artists and in much the same manner, they are further enriched with elaborate embossing or gaufrage and the use of metal dusts: gold, silver, and copper. Poems, which bear an inward relation to the subject pictured, appear on the cards. The collection presented is one of the very few to be found in America, and consists of 360 Surimono made between 1780 and 1850. To the student of ethnology these prints render an invaluable service, for, brought together with excellent discrimination and a keen appreciation of the value and beauty of this avenue of approach to a study of the Japanese nation, they show with a wealth of detail the customs, costume and popular traditions of that nation. Every step of the important New Year's celebration has been delineated; games, festivals, intimate glimpses into the household, and scenes of old court-life are pictured in delicate detail; incidents taken from history, folk-lore, and classical drama, have been the inspiration of the artists quite as frequently as the flowering cherry, the first song of the nightingale, or the snowy peak of Mount Fuji. Owing to their fascinating subject-matter and their artistic merits, these prints make a ready appeal to every one, and will contribute their share to a better understanding of Japan. A further interesting addition was made to the collections of Japanese ethnology when three full costumes for women, typical examples of apparel worn by the military (Samurai) class, were purchased from Miss Michi Sato of Tokyo. The three costumes are: the winter ceremonial robe, the summer ceremonial robe, and the costume that is worn on the street. The winter robe is of heavy blue Canton crepe with the family crest printed in white, and is embroidered with small asters. The sash worn with this costume is a singular acquisition in itself, as it is made of five yards of heavy brown brocade and is adorned with a bamboo, wistaria and pheasant design in soft-colored and gold threads. The summer dress is also an excellent example of the Japanese costume. It is of blue silk, screen weave with embroidered lilies, and is worn with a blue and white sash which has a wave design in silver thread. The street costume is of striped crepe in two shades of blue, and has a brocaded sash. These three costumes, together with a dress worn at a wedding feast, the latter being of quite a different type from the others, and which was donated to the Museum by Miss Helen Wilkins, will combine to illustrate adequately the costume of Japanese women of the Samurai class. They will be exhibited in a realistic manner on life-size figures with a facial cast taken of Miss Sato and with correct hair-dressings. Mr.

FIELD MUSEUM OF NATURAL HISTORY.



HALL OF MINERALOGY.
This hall contains the systematic mineral collection, the collection of meteorites and a part of the collection of

Gilbert Grosvenor, editor of the National Geographic Magazine, presented six copies of a new map of Eastern Asia and six copies of a new map of South America, which will be utilized for exhibition purposes in the halls devoted to those subjects. The collection of photographs was greatly enriched by an interesting series of a hundred photographs taken by Mr. L. Winternitz of Chicago among the Seminole of Florida and in India, Burma, and other oriental countries, and which he presented to the Museum.

Among the notable collections received by the Department of Botany during the past year is the balance of the Harper Herbarium, presented to the Museum by the late Dr. Edward T. Harper and Susan A. Harper. A well lighted room 21x63 ft. has been assigned for its organization and installation. This herbarium consists of about 40,000 specimens, chiefly fungi; 6,000 photographs of fungi; a number of published exsiccata, and works of reference; and a mass of data and manuscript pertaining to the collections. A Preparator has been appointed to organize the material for cataloguing, and to date 6,585 specimens have been catalogued. The exsiccata include, among others: Fungi Selecti and Myxomycetes—O. Jaap, (700 specimens); New York Fungi—Shear, (331 specimens); Fungi Selecti—Torrend, (400 specimens); North American Fungi—Ellis and Everhart, (4,000 specimens); Microtheca Brasilensis—Ule, (2,000 specimens); Lichenes Boreali-Americani—Cummings, Williams and Seymour, (300 specimens); Uredineæ—Arthur and Holway, (200 specimens); Central American Fungi—C. L. Smith, (224 specimens); Economic Fungi—Seymour and Earle, (661 specimens); Phycotheca Bor.—American—Collins, Holden and Setchell, (2,425 specimens); Fungi Europæi—Rabenhorst—Winter; Fungi Columbiani—Bartholomew, (5,324 specimens). Other important collections received during the year are: the Nuttall, the Knopf and the Millspaugh Santa Catalina plants (1,960); the Heller California and Oregon plants (517); Britton and Cowell Cuban plants (183); Britton, Britton and Hazen, Trinidad plants (148); Buchtien Bolivian plants (472); and the Maxon and Killip Jamaican collections (1,276). The regional distribution of fully organized material is shown in the following table. The tabulation includes only such areas as have been augmented in 1921, and in nowise represents the entire herbarium.

Locality	Added this Year	Total in Herbarium	Locality	Added this Year	Total in Herbarium
NORTH AMERICA					
Alaska	6	129	Alberta	5	1,278
Baranoff Island	1	15	British Columbia.....	15	1,501
			New Brunswick.....	3	799

Locality	Added this Year	Total in Her- barium	Locality	Added this Year	Total in Her- barium
NORTH AMERICA:			Wisconsin	214	5,280
Newfoundland	16	782	Wyoming	123	1,701
Nova Scotia.....	12	439	BAHAMA:		
Ontario	692	2,401	Frozen Cay	1	26
Quebec	5	1,151	WEST INDIES:		
UNITED STATES:			Cuba	205	11,174
Alabama	75	1,577	Isle of Pines.....	2	1,268
Arizona	3	8,224	Dominica	1	99
Arkansas	124	589	Jamaica	1,337	9,032
California	323	26,450	Porto Rico.....	7	4,739
San Clemente Island	4	5	Tobago	54	883
San Nicholas Island	2	2	Tortola	46	79
Santa Catalina			Virgin Gorda	1	6
Island	2,640	2,923	MEXICO		
Santa Cruz Island..	2	73	Coronados Islands....	12	20
Carolina, North.....	45	4,799	Magdalena Island...	1	34
Carolina, South	12	1,115	CENTRAL AMERICA:		
Colorado	358	12,943	Honduras	3	276
Connecticut	52	744	Nicaragua	147	239
Dakota, North.....	13	664	SOUTH AMERICA:		
Dakota, South.....	34	1,883	Argentina	5	1,373
Delaware	37	1,375	Bolivia	472	4,396
District of Columbia	23	2,735	Brazil	127	723
Florida	64	20,469	Chile	4	259
Georgia	11	4,011	Colombia	33	2,971
Idaho	32	3,687	Trinidad, Island	149	643
Illinois	274	28,736	Uruguay	2	170
Indiana	69	7,012	Venezuela	2	710
Iowa	109	1,942	Curacao	1	101
Kansas	755	1,306	EUROPE:		
Kentucky	24	1,397	Austria-Hungary ...	159	7,955
Louisiana	57	1,395	Belgium	54	307
Maine	19	1,376	Denmark	2	383
Maryland	72	1,729	England	8	2,548
Massachusetts	209	5,566	Finland	60	120
Michigan	54	3,967	France	35	8,419
Isle Royal	9	10	Germany	553	9,270
Mackinac Island...	1	155	Holland	8	22
Minnesota	16	2,385	Italy	68	3,578
Mississippi	91	2,083	Norway	6	1,219
Missouri	244	4,216	Madeira Island	5	107
Montana	155	4,216	Portugal	65	96
Nebraska	565	1,061	Sardinia	13	33
Nevada	6	1,314	Sweden	22	9,786
New Hampshire.....	19	1,610	Switzerland	167	3,884
New Jersey	500	3,579	Turkey	1	21
New Mexico.....	10	3,859	ASIA:		
New York.....	257	7,807	Bengal	1	2
Ohio	85	2,161	India	2	1,073
Oklahoma	28	324	Palestine	3	1,149
Oregon	29	9,015	Persia	6	50
Pennsylvania	94	10,270	Siberia	3	472
Tennessee	6	1,378	Syria	2	465
Texas	135	10,027	Turkey	4	25
Utah	66	4,099			
Vermont	56	3,679			
Virginia	30	4,875			
Washington	255	7,766			
West Virginia.....	147	2,189			

	Added this Year	Total in Her- barium		Added this Year	Total in Her- barium
AFRICA:					
Algeria	1	565	AUSTRALIA:	1	2,237
British East Africa..	8	131	New South Wales...	6	728
Cape	70	1,788	Victoria	2	436
Mozambique	17	24	OCEANIA:		
MALAYA:					
Borneo, North	56	66	Samoa	1	68

The Department of Geology has been the recipient of an unusually large number of accessions during the year, nearly all being gifts. The continued interest of Mr. W. J. Chalmers has been evinced by his gift of a fine series of moss agates from Montana showing remarkable landscape effects, and the addition of sixteen specimens, a number of which are of high gem quality, to the crystal collection. These specimens include crystals of beryl from Brazil, tourmaline from Maine, tourmaline and kunzite from Madagascar, and quartz from Japan. Another addition to the gem collection was received from Ezra C. Knopf, who gave twenty-four specimens of rough and cut catalinite which provide a good representation of this semi-precious stone. A collection of over three thousand specimens of invertebrate fossils, besides some minerals, was presented by Mr. J. C. Langtry. This collection was gathered by the late C. B. Dyer, a well-known paleontologist, and is particularly notable for the large variety of specimens in it and the careful preparation of each. Besides representatives of several hundred species, the collection contains two paratypes. The material constituting the collection was gathered chiefly in Ohio, but other districts are represented. The collection includes a number of beautifully preserved specimens of crinoids and trilobites well adapted for exhibition, and all of the material is so well worked out that it will lend itself readily to further study. A number of specimens of minerals from localities now exhausted is another valuable feature. A fine series of fossil plants, containing representatives of nineteen species from Eocene beds of Louisiana and Texas, was presented by Prof. O. M. Ball of the Agricultural and Mechanical College of Texas. The excellent state of preservation of these fossils and the care with which they had been prepared, mounted and named by Prof. Ball gave especial value to the gift, both for the purposes of exhibition and study. The Standard Oil Company of Indiana kindly presented a collection of 168 specimens illustrating uses of petroleum wax, which shows many interesting and important substances derived from this product. This company also provided a large floor case built according to the Museum standard

design for the installment of further illustrative material which will be supplied later. A series of specimens of fuller's earths used in the clarification of oils was also presented by this company. A life-sized bust in bronze of the late Director, Frederick J. V. Skiff, was presented by Mrs. Skiff. This bust, the work of the well-known sculptor, Henry Hering, is an excellent likeness of the late, lamented Director. A number of exhibitors at the meeting of the American Mining Congress held in Chicago in October kindly gave valuable specimens from their exhibits. Among these may be mentioned thirty-four specimens of peat products presented by F. A. Wildes, State Superintendent of Mines, Minnesota; thirteen specimens of oil shales from various localities, donated by the United States Bureau of Mines; forty-five specimens of ores of Alaska presented by the Alaska Commission and John Ronan; and a number of specimens of coal and other minerals from Colorado, given by the Colorado State Bureau of Mines. A collection of 218 specimens representing important minerals and ores of the mining districts of New Mexico was received through the generosity of Mr. B. C. Gilbert. He had previously devoted several weeks to collecting in several of the localities represented. Especially new and important among these were a series of radium ores, used as a source of radium in therapeutic treatments; also fine specimens of turquoise, chalcotrichite, halotrichite and other minerals. The assistance of the Grant County Chamber of Commerce through its Secretary, Mr. Burton Bunch, in this connection is also gratefully acknowledged. Three specimens of radium ores accompanied by descriptive matter were given by the Radium Information Service, and some large showy specimens of arsenic ores and some excellent specimens of metallic arsenic were presented by Mariner and Hoskins.

Accessions during the year in the Department of Zoölogy consisted chiefly of gifts, although a number of fishes and reptiles were purchased, chiefly in the local markets. Noteworthy among the gifts was a collection of fifty-eight mounted birds and mammals received by bequest from the estate of Mrs. Katherine Rowe of Chicago. This collection contains a large number of interesting albinos and birds of abnormal coloration collected by Mr. Nicholas Rowe during a period of years in which, as editor and proprietor of the sportsman's journal, "American Field," he had especial opportunities to secure such material. Another important collection of albinos, consisting of forty-three birds and one mammal, was the gift of Mr.

Ruthven Deane of Chicago. This collection includes many specimens which have been described and recorded in ornithological journals, and it is, therefore, of considerable historical interest. The addition of these two collections to those previously possessed by the Museum makes its collections of albinotic birds one of the largest, if not the largest, in America. In the Division of Mammals, the most important accessions were two Canadian mountain sheep presented by Mr. H. B. Conover, of Chicago, and twenty skulls and horns of South African game animals presented by Mr. A. A. Davidson, also of Chicago. A novel and valuable gift of three animal groups done in bronze by Carl Akeley was presented by President Field. The subjects of these bronzes are: "The Charging Herd," representing a herd of wild elephants; "The Wounded Comrade," showing a wounded elephant being supported and assisted by two of his mates; and "Lion and Buffalo," showing a bull buffalo attacked by a lion. The Division of Insects received the welcome donation of 131 specimens of named, Florida dragon-flies, collected and presented by Mr. J. Williamson of Bluffton, Indiana. Dr. Sven Narbo kindly volunteered to collect insects in the vicinity of Stavanger, Norway, and has, so far, donated over 100 desirable specimens of various orders. The total number of accessions is 1,369, distributed as follows: Mammals, 75; Birds, 104; Birds' eggs, 4; Fishes, 54; Reptiles and Batrachians, 278; and Insects, 854.

INSTALLATION, REARRANGEMENT, AND PERMANENT IMPROVEMENT. —A total of 158 exhibition cases was newly installed in the Department of Anthropology during the year, and 478 cases were re-installed with numerous changes and improvements, making a total of 636. The total number of cases now on exhibition in this Department is 702, distributed as follows: Stanley Field Hall, 12; Edward E. Ayer Hall, 62; Mary D. Sturges Hall, 42; Hall 4, 43; Hall 5, 54; Hall 6, 50; Hall 7, 50; Hall 8, 61; Hall 9, 58; Joseph N. Field Hall, 103; Hall 23, 8; Hall 24, 80; Hall 32, 79; Hall 33, 1; Gem Room, 9. The plans, as mapped out in the old building were generally adhered to, and the installation was complete on the day of the reopening of the Museum, May 2. Higinbotham Hall, opened June 6, contains nine wall cases, showing Egyptian, Syrian and Algerian jewelry, gold and silver jewelry of India, and prehistoric American gold ornaments. On July 18, Hall 23 was thrown open to the public. In this room are shown Chinese maps, tapestries, and screens obtained by the Blackstone Expedition, and two long painted scrolls, presented in 1912 by the Tuesday Art

and Travel Club of Chicago. Three of the maps were actually printed in 1461, thirty years before the discovery of America. One, a general map of China, drawn to an exact scale, is a rubbing taken from an engraved stone tablet erected in A.D. 1136, and preserved in the Museum of Inscriptions at Si-an fu, Shen-si Province. The Eighteen Arhat, disciples of Buddha, crossing the sea, form the subject of an excellent example of silk tapestry woven in the eighteenth century. The notable achievements of the Chinese in inlaid featherwork are represented by a screen of twelve panels, each of which is adorned with a floral composition, symbolic of a month of the year, the chief decorations being formed by the bright blue feathers of the kingfisher. The two paintings are masterpieces of the Sung period (twelfth century), one illustrating the occupations, games, and pastimes of boys; the other (27 feet long) showing the life of a mediæval town with its busy streets and traffic on land and water. The 360 Japanese Surimono have been divided into four separate series to be shown in rotation. Each group is to remain on view for a period of two months. The first comprises examples of the work by the well-known artist, Hokusai, and his pupils. The second aims to illustrate the New Year's festival, as well as the games and pastimes of the people. In the third are associated those prints depicting Japanese mythology, the pantheon of the gods and heroes. The fourth series contains prints featuring domestic architecture, the house and its furniture, so that an important phase of Japanese life is brought out by each exhibit. Frank W. Gunsaulus Hall was opened on the 2nd of May, showing the work of Hokusai and the painted Tosa screen, presented to the Museum by the late Dr. Gunsaulus in 1919. Only two groups of Surimono have so far been placed on view, as the condition of the walls made the closing of Gunsaulus Hall necessary toward the middle of October. The Tinguian village group in Hall 9 has just been supplemented and completed by the addition of 206 new figures and other accessories, modeled by J. G. Prasuhn. The model is intended to show the life of a Tinguian village on a summer morning. About the houses the women are busily engaged in pounding out rice, preparing and spinning cotton, and making baskets; others are at the spring, filling their jars with water or washing clothes, while one is removing rice from the granary. Beneath one house a family group is engaged in stripping tobacco, a load of which is just being brought into the settlement by means of a carabao and sled. An old man is repairing a harrow, while a companion just from the field sits by to watch and talk. The miniature furnishings of the houses, and the various ani-



A COMPLETE FLOWERING AND FRUITING TOP OF THE COCONUT PALM.
Reproduced under the Mrs. Stanley Field Plant Reproduction Fund.

mals scattered about the scene, give a very realistic atmosphere to it. Plans for the arrangement of storage material on the third floor were drawn up last May. Storage cases were set up in the work rooms opposite the offices of the assistant curators, and storage racks were built in rooms 29-31, 33, 34, 36, 55, 65 and 66, set aside for this purpose. The unpacking, shifting, sorting and permanent placing of this material absorbed the attention of the Department for six months. The assignment of the rooms is as follows: room 28, exchange collections; room 29, pottery of Southwest North America; room 30, South America; rooms 31 and 33, India, Ceylon, Burma and Siam; room 34, Borneo, Java; room 36, Philippines; room 55, Melanesia; room 65, Tibet; and room 66, China. Two special cabinets were made for the safe keeping of Chinese and Tibetan scrolls. Two screen carriers for four-foot cases and eight lay-out tables were made for the purpose of installation. The Japanese sword-guards, not utilized for exhibition purposes, have been arranged in a cabinet to serve as a study collection. The office of the Assistant Curator of Malayan Ethnology was transferred from room 36 to room 43, room 36 being utilized for storage purposes. The 170 exhibition cases, which in the beginning of the year were stored in the Boat Hall on the ground floor, were transferred to the fourth floor. It is gratifying to record that the methods of exhibition and labeling have met with universal approval, and that wide use has been made of the collections for both study and practical purposes.

Progress and achievement in the Department of Botany during the past year has been more than ordinarily satisfactory. The comfort, convenience and facilities of the offices and work rooms in the new building have rendered the efforts of the staff more efficient than could possibly have resulted in the old. The first four months of the year were devoted entirely to the arrangement, reinstallation and completion of the case installations after having been packed and moved. During this work a number of the case units were entirely readjusted and many new specimens added. Two cases were installed in Stanley Field Hall, as indexes to the character of the installations in the department itself. For these a number of elements were specially prepared: for the case illustrating plant life a delicate model of the flowers of Sugar Cane was executed and for the plant economics case two branches of resin producing plants were added to the typical specimens of rare and attractive amber-like gums. Since the opening of the Museum building to the public the following new installations have been added to those which were already in place in Hall 28—the

Hall of Plant Life: four units illustrating the more important cereal grasses; one in further addition to the Palm Family; a double unit was installed with a life-size reproduction of the flowering and fruiting top of a Coconut Palm, showing the succession of flowers and fruits from the unopened flower bud through clusters in all stages and development to the mature fruit. A unit was installed illustrating the characteristics of the Dogwood Family, including a complete, natural-size branch of the Flowering Dog-wood in full flower and young leaf. Several interesting plaques were added to the cases of micro-plants devoted to the green Algæ; four stages illustrating the development of *Ulothrix* through "swarm-spores"; eight stages of sexual and asexual reproduction of *Oedogonium*; and enlarged models of Botrydium, Bryopsis, Caulerpa, Halimeda and Vaucheria. All of the installations indicated above were of studies produced in the Sara C. Field Laboratories of the Department. In Hall 27 a central trophy installation has been made of a trunk of the California Redwood, eight feet, ten inches in diameter, this diameter being half the average growth of the species. In this hall all the tree trunks are in this ratio, therefore, this "trophy" serves as an index of comparison for all other trees therein installed. Work, preparatory to further installations, is well under way, consisting mainly of a life-size plant of the Florida Coontie, *Zamia floridano*, and a sporophyl of the "Easter Palm", *Cycas circinalis*, to typify the Cycad Family; a full size Pine-apple Plant in flower and young fruit, to represent the Bromelia Family; a flower head of the Screw-pine indicative of the peculiar Pandanus Family, and a series of enlarged glass models revealing the characteristic forms of various useful fibers such as Cotton, Flax, Ramie, Hemp, etc. To accompany the Redwood in Hall 27 a transverse "wheel" section and a large plank of the tree are nearly finished for installation. Preparatory to the issuance of a Guide or Handbook to the Department, all of the exhibit cases have been renumbered in such a way that no confusion in reference is possible and the storage lockers, containing study material, are rapidly being organized to agree with the new rearrangement of the cases. The new quarters of the Sara C. Field Laboratories Plant Reproduction Section have received material re-fitting and are being rapidly equipped to increase production of studies in plant life. The Section now occupies eight rooms on the third floor, each devoted to a special phase of work; from the Biologist's Laboratory through the Glass Worker's Shop to that in which the Assemblers complete the preparations for the Exhibit Halls. The Departmental Library room has been fitted with

cases and made ready for the permanent arrangement of its volumes and pamphlets. The four Herbarium rooms are being installed as fast as cases can be obtained. The main, or Flowering Plant Herbarium, is fully organized and open for reference.

During the early part of the year the attention of the Department of Geology was devoted chiefly to completing the installation of halls or parts of halls which had not been worked upon up to that time in order that the entire exhibition series of the Department might present a finished appearance upon the opening day. It is gratifying to report that by devoted labor on the part of the staff, including considerable overtime work, this result was accomplished. In Stanley Field Hall two wall cases and two floor cases were installed. Of these, one of the floor cases is devoted to the large Quinn Canyon meteorite, and the other to representative specimens of fossils. In one of the wall cases there was installed a collection of different varieties of quartz and in the other a collection of metalliferous minerals. In the upper part of the wall cases the specimens are installed on individual blocks fastened to the backs of the cases and these blocks also serve as supports for the labels. In the other cases, pedestals or the case floors serve as mounts. New bases carefully designed to bear the weight of the specimens and at the same time present a finished appearance, were built for two large glacial slabs in Hall 34 and the specimens installed upon them. New specimens received during the year for the Chalmers crystal collection in the same hall were placed on exhibition in the cases containing that collection and the entire collection rearranged and to some extent remounted. The collection of radium-bearing minerals shown in this hall was enlarged, rearranged and relabeled. In Hall 35, 16 tables 14 feet long and from 5 to 7 feet wide, constructed in the Museum, were placed in the west half of the hall in alcove positions. On these 53 relief maps were installed, the maps being grouped in such a manner that neighboring localities or similar physiographic types are associated in position. Two tables of smaller size at the end of the hall are used to display rainfall and glacial maps of the United States. The model of the Virginia Natural Bridge was placed in the center of the hall. Eleven maps which had not been previously framed or glazed were provided with this protection and all the maps exhibited are now safe-guarded in this manner from dust or other injury. Eight upright cases containing collections illustrating various features of physical geology were installed in the eastern end of the hall. Two of these cases are devoted to volcanic phe-

nomena, lavas, ashes, tuffs and other products of typical volcanoes being shown. In another case, cave formations, such as stalactites, stalagmites and gypsum growths from various caves are installed, care having been taken to mount each specimen in a natural position. Rock slabs showing ripple-marked and mud-cracked surfaces occupy another case, while specimens illustrating faulting and folding, joints, veins, dikes, various rock textures and dendrites occupy four other cases. The gypsum cave from Utah and the large fulgurite are also installed in this hall. The installation of Hall 36 was completed along the lines indicated in the report of last year. To the petroleum collection, which occupies the east end of the hall, considerable new material acquired during the year was added, the most important increment being a series of specimens illustrating the uses of paraffin, presented by the Standard Oil Co. (Indiana). These specimens include many bright-colored objects which relieve the somewhat somber effect of some of the other exhibits in the hall. The model of the original Standard Oil refinery at Cleveland was thoroughly renovated and installed in an individual case in an alcove adjoining the petroleum collection and the large section of an Australian coal seam was provided with a new case, the base was newly finished and it was placed near the north entrance of the hall. A model of a coal mine, showing the laying out of a mine and the extraction of the coal by the panel-retreating system, was placed near this. A model illustrating the formation of peat in a glacial lake was installed adjoining the peat exhibit. In the western half of the hall there have been installed in table cases the soil and clay collections and several minor collections, such as those of fuller's earths, mineral soaps, sands and mineral pigments. Much of this material had been withdrawn for years from exhibition on account of lack of space and the opportunity to exhibit it was, therefore, welcomed. The U. S. Department of Agriculture's official classification of soils is represented by a series of specimens received from that Department. They are shown in glass jars which fill part of an upright case. Other specimens of soils, arranged according to the better-known, ordinary groupings of loams, marls, etc., occupy four table cases, where they are displayed in shallow trays. Another table case contains groups of specimens which illustrate modes of formation of soils, compositions of soils and plant foods in soils. The largest collection in this part of the hall is the clay collection, which requires for its display thirteen table cases. These are arranged in twenty eight groups according to Orton's classification, the installation being as follows: Along the south wall a line of four



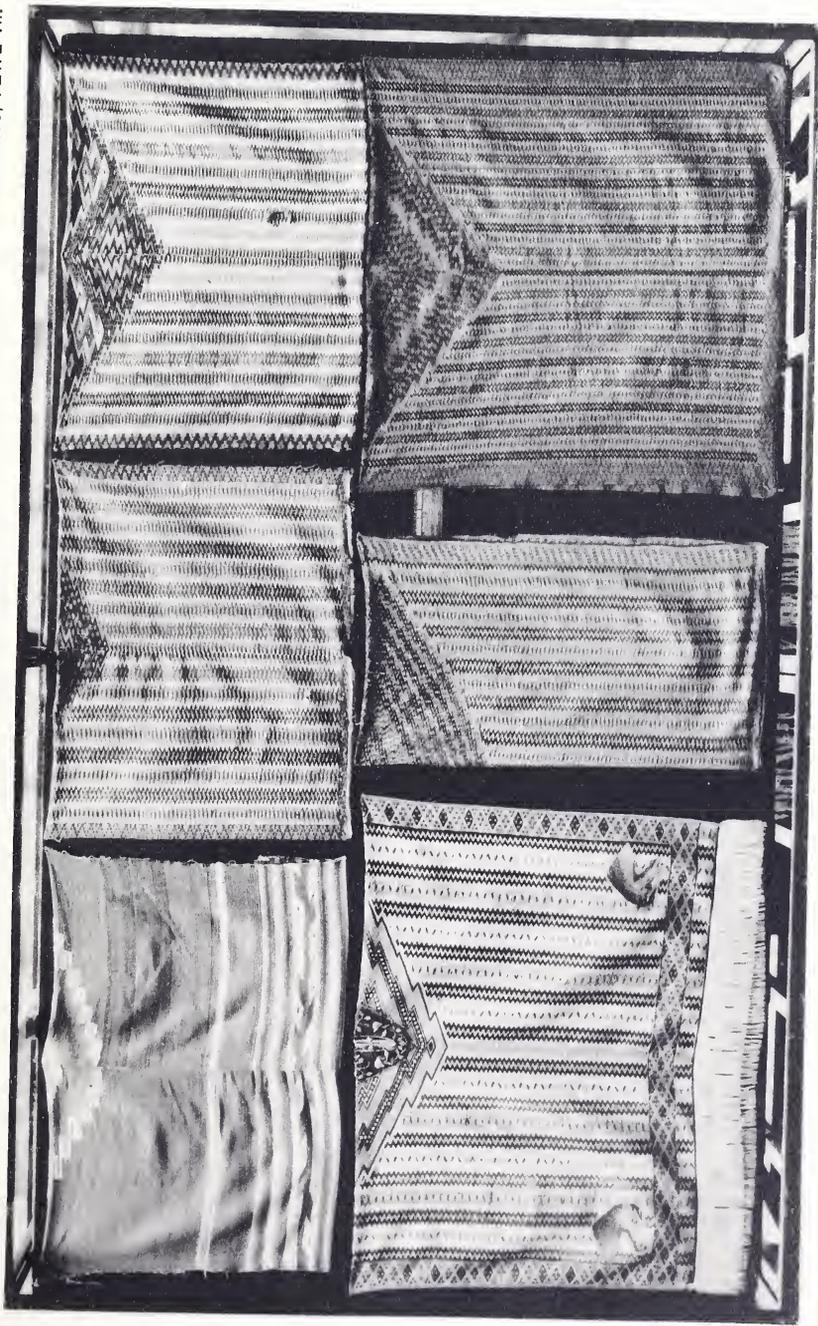
cases contains a synoptic collection which illustrates the group and serves as a key to the larger collection. The nature, origin and general character of the clays of each group are shown by labels and the relations of the groups to each other are indicated by diagrams painted on the floors of the cases, the lines of which connect with each specimen in such a manner as to make its relations to the other specimens evident. Numerous specimens of each group of clays are shown in eight adjoining cases. A briquette burned from the same clay as the specimen is frequently installed with the specimen in order to show the character of the material in its most used form. While the number of clay deposits is so great that anything like a complete collection is both impossible and undesirable, enough members of each group are shown to illustrate the great variety in character which different deposits of this useful substance assume. A collection illustrating the different effects obtained by variations in the methods of burning clay, which was received during the year, has also been installed here. Several groups of specimens also illustrate the effect of various impurities and minor components of clay upon its character when burned, while the use of clay in pottery is illustrated by a series showing stages in the manufacture of Japanese pottery. Other cases in the hall contain collections of other earthy substances of economic interest. Thus a collection of natural and Portland cements fills half of one case and a collection of fuller's earths the other half. Another case contains a collection of various kinds of sands of industrial importance, such as molding and glass sands. Uses of silica in its various forms are illustrated synoptically in another case. Earthy pigments, including ochers and allied paint substances, occupy an upright case. Two square, upright cases contain large specimens of iron ore and fluorite and a large model of the Chandler iron mine has been installed at the west end of the hall. This model, before installation, was thoroughly renovated, missing timbering restored, a new head frame built and the whole model repainted. The installation of Skiff Hall had been practically completed in 1920, but a few remaining details, such as the installation of miscellaneous labels and readjustment of the fastenings of the cases were accomplished during the past year. Some specimens received during the year were also installed among their respective groups. A mahogany pedestal was prepared for the bust of Dr. Skiff presented by Mrs. Skiff, and the bust, on this pedestal, was installed in the center of the hall. Installation of Higinbotham Hall was delayed about a month beyond that of the rest of the Museum, but owing to the isolated position of this hall, no inconvenience

resulted. The collection of gems was installed in five floor cases in this hall, the cases being first newly lined with silk, all glass carefully cleaned and all woodwork refinished. New silk mounts for the individual specimens were provided throughout, 760 mounts being used for this purpose. The mounts were also newly labeled and new labels were provided for the unmounted specimens. To the collection as previously exhibited, there was added the collection illustrating folklore of gems and that of models of historic diamonds. The hall was opened to the public on June 6. Installation in Hall 38 was chiefly confined to mounting and placing the large specimens belonging in the hall, although some case exhibits were completed, notably those of the Minooka Mastodons and the Asphaltum Beds fossils. Among the large objects installed, the fore leg of the dinosaur *Morosaurus* was mounted on its former base and missing parts of the foot restored in such a manner as to agree with present knowledge of the structure of this animal. A hind leg of the dinosaur *Camarasaurus* was remounted so that it would stand alone, instead of being partly supported by a wall as it had been as previously exhibited. These two limbs were placed on either side of an entrance to the hall, corresponding in position to the place of their period in geological time. The mounting of the skeleton of the large dinosaur, *Apatasaurus*, proved a task of considerable magnitude, but by industrious effort, was carried to completion before the opening day. Although, on the whole, as a result of careful packing, the specimen stood the jar and jolt of moving well, some breaks occurred which required repair. Among the parts which had suffered injury were some of the vertebral processes and some of the ribs and legs and pelvic bones. Much of this failure was due to the fact that the plaster used as a cement in preparing the bones had, after twenty years, become weakened and brittle. Hence a thorough recementing and refinishing of many of the bones had to be accomplished before they could be placed in position. Another difficulty in mounting was due to the fact that the height of the specimen brought it so near the ceiling that ordinary hoisting apparatus could not be employed. All these difficulties were gradually overcome, however, and an excellent mounting of the specimen accomplished. After erection of the specimen, the base on which it was mounted was carefully refinished, the metal framework repainted and a protective railing fastened about it. The mount is placed at about the center of the hall, this corresponding to its place in geologic time. At the north end of the hall a number of large mounts of fossil animals of the Pleistocene period were installed. These include a skeleton of the Mastodon, a Mastodon and a Mammoth skull, casts of *Megatherium* and *Glyp-*

todon and a restoration of the Moa. The Mastodon skeleton, which had been disarticulated for moving, was reassembled and, in remounting, some modifications were made. The tusks were reset so that instead of curving outward as formerly, they were given a position similar to that common to other members of the elephant family. Some additional supports were provided for other parts, and the entire skeleton was also cleaned and treated with shellac for the purpose of further hardening and preserving the bones. The base supporting the skeleton was refinished and all metal supports repainted. Adjoining this was placed the skull of the Yorkville Mastodon previously exhibited and a skull of the northern Mammoth, which had not been before on exhibition. The latter specimen, obtained from Wood-chopper Creek, Alaska, where it had been found in gold mining at a depth of one hundred feet, was complete and in good preservation except for one tusk. From the preserved tusk another was modeled, a base was constructed and an excellent mount thus obtained. The cast of Megatherium, which had been taken apart for moving, was, before mounting, joined together, several parts which had been broken for disjoining were restored and the whole cleaned, coated with shellac and recolored. The base was also thoroughly refinished. In the central isle of the hall the skeleton of the extinct Irish deer, after reassembling and cleaning was installed, as was also a cast of the skull and tusks of the elephantine genus, Stegodon, which had not been exhibited for several years on account of lack of space. This cast was thoroughly renovated before installation and mounted on a base remodeled from a previous use. Some renovations and repairs were also performed on other large mounts in the hall, such as those of the fossil turtle, Colossochelys, the jaws of the shark, Carcharodon, and the cast of the skull of Dinotherium. In the paleontological laboratory attention was chiefly devoted during the latter part of the year to preparation for exhibition of the skeleton of the Columbian Mammoth presented some years ago by Mr. George Manierre. It was deemed desirable to reconstruct the mounting of the skeleton so that a more nearly normal position would be presented and to improve the preparation of the parts. Several coats of paint with which the bones had previously been invested were removed by means of various solvents and tools and some hardening treatments were given the parts, especially the excellent tusk. The skull of a modern elephant which had previously been used in mounting the specimen was discarded and a newly modeled one based on careful studies of a more closely allied form supplied. Nine dorsal and three

caudal vertebrae were also similarly supplied by modelling from corresponding forms. The work of reconstruction of this skeleton is still in progress but it is hoped to have it soon completed. A splendid pair of lower jaws of the Columbian Mammoth which was included with the gift was prepared and placed on exhibition in a case with other bones of the Mammoth. Owing to other demands, but little time has been available for work upon the study collections, but opportunity was found to unpack and install in drawers the systematic lithological study collection numbering 1305 specimens, and the collection of rocks of Lake Superior numbering 87 specimens. Labels were installed with the specimens and easy accessibility of the collections provided. The study collections in vertebrate paleontology have also been largely unpacked and distributed in trays or upon shelves, though the complete organization of this series has not yet been accomplished.

Reinstallation of the exhibits in the Department of Zoölogy continued from January until the opening of the Museum, the entire staff being engaged in this work continuously. The greatest physical task was presented by the large habitat groups of birds and mammals. These had been entirely dismantled for moving and, although such accessories as leaves and flowers had been carefully preserved, they were frequently dissociated and required skillful reassembling. The actual groundwork of these cases was inevitably destroyed or so altered that in most cases it was necessary to resurface it. The snow scenes, such as those in the Polar Bear, Musk Ox, and several bird groups, suffered especially and were completely redone. The groups of African game animals, the Deer group, and others had been photographed from various angles and these photographs served as guides in reinstalling the scenes in their original form. The work was accomplished expeditiously and successfully at the expense of much time and labor on the part of the taxidermists. New labels were written and printed for all the larger groups and for much other material. Owing to the lack of space in any one hall for the entire systematic exhibit of mammals, this exhibit was divided by placing the so-called "horned and hoofed" mammals in Pullman Hall and other mammals, from marsupials to apes and monkeys, in the adjoining Hall 15. From May until December unsettled conditions prevented continuous work on new exhibits of mammals and birds, but so far as possible the taxidermists have modeled and prepared manikins for the group of Olympic Elk and have repaired and remounted birds for the systematic exhibit. For Stanley Field Hall, three new groups were prepared and installed. One of these shows a



SERAPES AND BLANKETS, NORTHERN MEXICO.
Showing Method of Screen Installation (Case 1, Hall 8).

Red Fox in a woodland setting pausing before a log and listening to several mice which are quarreling beneath it. Another shows a winter scene with a Horned Owl pouncing upon a rabbit and a third displays various species of Birds of Paradise. Although considerable preparation had been made before removal from the old building, it was found necessary in installing the exhibit of fishes to make what was practically a new exhibit with almost complete rearrangement. Much of the material was poorly mounted or poorly colored after mounting. Some of this was discarded and the rest repaired and refinished. After the opening of the Museum, work was continued on the fish exhibit and altogether thirty new mounts have been prepared, twenty-eight repaired or remade, and thirty-eight casts made and colored. In this work a new method was employed to a large extent involving the use of a cast of the body of the fish combined with the real fin and tail. This method has proved expeditious and has given very satisfactory results in all cases where fresh specimens have been available for use as models. The reptile exhibit, which had never been large was reduced by the elimination of imperfect and unworthy specimens to a total of three cases. In one is a single large alligator; another is devoted principally to turtles; and the third contains miscellaneous snakes and lizards. Preparations have been made for the improvement of this exhibit and a number of additional specimens have been prepared. Many snakes and nearly all frogs cannot be prepared satisfactorily by the usual methods and the specimens heretofore shown have been far from pleasing or realistic. To overcome this the taxidermist has perfected a method by which these animals may be reproduced in celluloid so as to give an exceedingly lifelike appearance, far superior to anything accomplished by previous methods. Work has already been completed on models of two frogs, one soft-shelled turtle, and four snakes and progress made on a number of others. During the first half of the year the Associate Curator was occupied continuously with the tedious and exacting task of reinstalling the exhibit of invertebrates, including the very large collection of shells, some 1,200 units of which were provided with new labels. For Stanley Field Hall, a new installation was prepared in a wall case showing some of the more interesting invertebrates, such as sponges, jelly-fishes, corals, star-fishes, sea-urchins, and a series of beautiful and useful shells. Later in the year considerable time was devoted to finishing a new case containing two habitat groups of insects. One of these groups represents a scene in the dune region near Miller, Indiana, and shows the characteristic insects of that region. The other illus-

trates, by means of wax accessories and a tinted, bromide enlargement, the destructive work and the various stages of growth of the well-known tomato worm moth. After this case was finished, work was begun with a view to condensing the shell exhibit by the careful elimination of duplicates. Progress thus far indicates that a fifty per cent condensation is feasible without loss of effect. In the Division of Osteology, prior to actual reinstallation, there was a considerable period of unpacking, cleaning, mending and remounting of the large skeletons, such as those of the whales, elephants, and other large mammals. These were then installed in open stands in the hall assigned to them and a certain number, for lack of space, were consigned to storage. Similar work proceeded with small and medium-sized skeletons and these were installed on shelves in closed cases. In the latter part of the year the skeleton of a large adult Chimpanzee was remounted to replace an immature example, about 150 skulls were cleaned, and a beginning was made in the work of unpacking, classifying, and labeling the small unmounted ligamentary skeletons of the reference collection in comparative osteology. The reference collection of fishes and reptiles was placed on shelves and a beginning made toward getting the material into well classified and accessible condition.

EXPEDITIONS.—Under the patronage of Mr. William J. Wrigley, Jr., the Curator of the Department of Botany visited the Gray Herbarium, Harvard, the New York Botanical Garden, and the United States National Herbarium at Washington, for the purpose of studying the older collections from Santa Catalina Island, California. He was accorded the privilege of examining the material in each institution and amassed data that will materially aid in the preparation of a Flora of the island. The Curator also made two trips to Geneseo, Illinois, during which he packed the complete Harper Herbarium for shipment to the Museum; and a trip to Pharr, Louisiana, where he secured a complete series of specimens for installation, representing the production of cane sugar through all steps in its extraction and crystallization.

THE N. W. HARRIS PUBLIC SCHOOL EXTENSION OF FIELD MUSEUM OF NATURAL HISTORY.—Sixteen cases were prepared during the past year and listed with those already available for loaning to the public schools. With the addition of these cases a total of 693 has been reached. The resignation of the chief taxidermist created conditions that were, for the greater part of the year, unfavorable to a larger production of cases. Though

the department was fortunate in securing the services of a former assistant, his work was not of a wholly productive nature owing to the many demands made upon his time by the repairs that were necessary to entomological specimens and to group accessories. Several conferences were held with Mr. Dudley Grant Hays, Director of Visual Instruction in the public schools, for the purpose of discussing the system of loaning cases to the schools and of the study of them while there. On Mr. Hays' recommendation, a list of case subjects available for school use was placed on file in the office of each principal where it could be consulted by the teachers with a view to making selections which would correlate certain lessons. He also sent to all public schools and branches a bulletin containing directions for reaching the Museum, rules of admission to it, references to lunches and lunch room, and requests to teachers as to the care of loan cases. In many other helpful ways, Mr. Hays has taken active part. The new chassis purchased during the school vacation and fitted to the old, but repaired and repainted delivery truck body, is better suited for the purposes of this department than the former one. With it, it has been possible to maintain a school day schedule since the beginning of its service. This schedule consists of collections of cases from ten schools and the delivery of them to the same number of schools. With the former chassis only eight collections and deliveries could be made. The addition of thirty-two more schools to the previous schedule demanded this increased daily service. With this addition a total number of 320 schools is listed to receive the cases. Additional visits of inspection and inquiry were made by members of the bureau of exhibits of the United States Department of Agriculture. Desirous of having in Pittsburgh a circulating system of loan cases similar to the Harris Extension, Mr. John A. Hollinger, Director of Visual Instruction in the public schools of that city visited the Chicago public schools for the purpose of getting first hand information as to the utilization of the cases of this department and the benefit derived from them. He also sought information of this department concerning its methods of preparing and circulating its cases. Upon request twenty-five cases were loaned at one time to the Washburne Continuation School for its course during July and August. The three classes of students in this school are: the disabled soldiers assigned to it by the Federal Board of Vocational Education; apprentices in different trades; and the fourteen to sixteen year old working boys who are required to attend school eight hours a week. In connection with the loan of the cases to this school, Mr. E. G. Bauman, in charge

wrote: "The fine collection which you kindly sent us early in the summer created so much interest and was of such great value to our continuation schoolboys as to show that the collection was a great educational factor. We hope that you may see your way clear to put our school on the list of those to which collections are sent from time to time." This school has been listed to receive cases. Mr. Paul M. Rea, Director of the Cleveland Museum of Natural History, requested that twelve cases be loaned to the Cleveland School of Education for the purpose of supplementing a course on visual instruction to be given by that institution during this summer term. The request was granted and a selection of the cases was made by Mr. Rea. Several cases were loaned to the Chicago Chapter of the Wild Flower Preservation Society of America for its annual exhibition. A loan of cases was also made to the Conservation Committee of the Second District of the Illinois Federation of Woman's Clubs for its second annual bird-house exhibit.

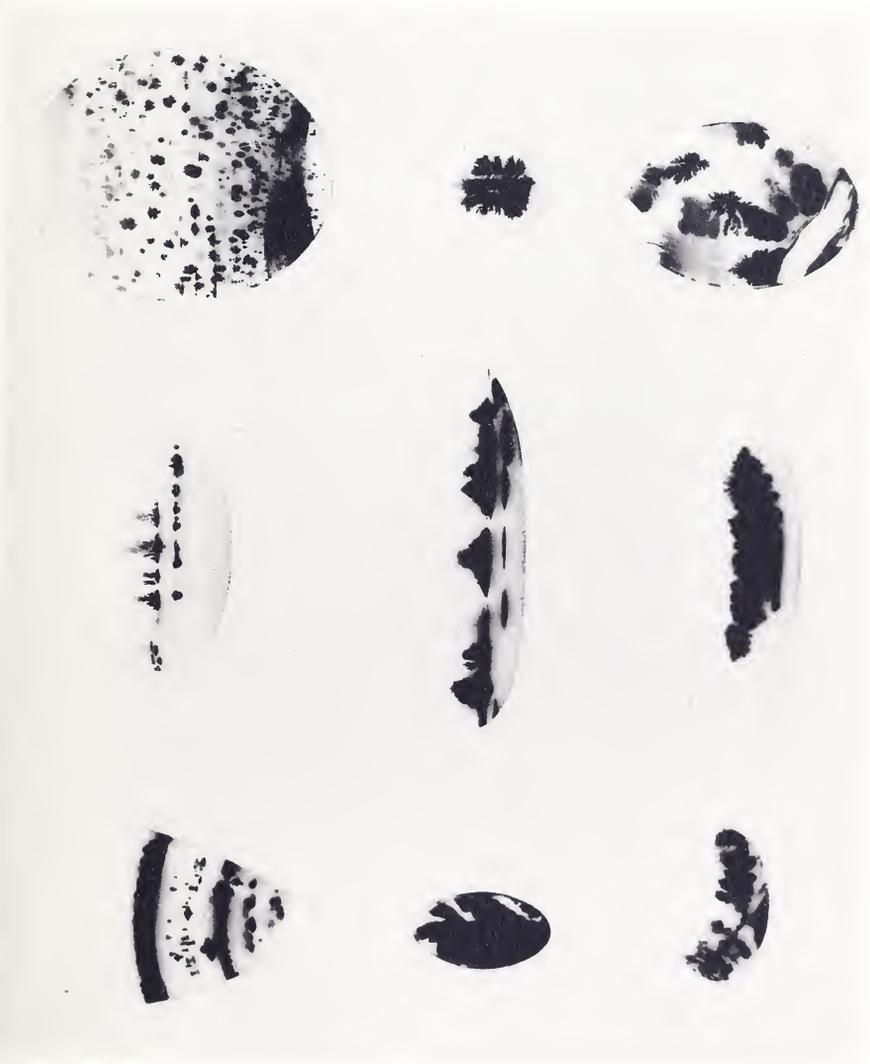
PHOTOGRAPHY AND ILLUSTRATION.—The following is a tabulation of the work performed in this section:

	Number of Lantern Slides Made	Number of Post Cards Made	Number of Negatives Made	Number of Prints Made
General .....	..	32	55	765
Anthropology .....	..	..	169	514
Botany .....	..	..	79	142
Geology .....	..	..	19	58
Zoölogy .....	..	..	26	85
Harris Extension .....	..	..	47	108
Sale	24	..	...	260
Gift	14	..	...	84
Totals	38	32	395	2,016

PRINTING.—The number of labels and other impressions turned out by the Section of Printing for the various departments is as follows:

	Exhibition Labels	Other Impressions
Anthropology	5,037	2,040
Botany	1,777	4,350
Geology	4,046	.....
Zoölogy	2,917	5,000
Harris Extension	98	950
General	180	37,737
Library .....	....	4,000

ATTENDANCE. —It is gratifying to record the large increase in attendance since the removal of the collections to the new building. During



MOSS AGATES IN HIGINBOTHAM HALL.
Gift of Mr. William J. Chalmers.



the 241 days from May 2 to December 31, the total admissions were 517,285 of which 425,001 were free and 92,284 were paid admissions, as against 328,321, the best total attendance for any one year in Jackson Park. The most encouraging figures, however, are those of the attendance of public school children, students and teachers. The figures in the period under review show a total attendance of 21,928 as against a best total of 9,118 for any one year in Jackson Park. Details of the attendance record and the receipts from attendance will be found elsewhere in this report.

Herewith are also submitted financial statements, lists of accessions, names of members, etc., etc.

D. C. DAVIES, Director.

STATEMENT OF INCOME AND EXPENSES.

Year Ending December 31, 1921.

INCOME

Admissions and Check Rooms.....		\$ 22,118.95
Dues of Members.....		530.00
South Park Commissioners.....		26,250.00
Sundry Receipts		1,159.72
General Fund		35,261.55
Endowment Fund—Income	\$134,803.51	
Less amount transferred to Sinking Fund for 1921..	5,000.00	129,803.51
		<hr/>
Contribution—Marshall Field		\$215,123.73
		65,000.00
		<hr/>
Gross Income		\$280,123.73

EXPENSES

Salaries	\$102,426.29	
Heat, Power and Light	38,109.19	
Mechanical Force and Maintenance Supplies.....	57,497.73	
General Expense	8,663.86	
Guard and Janitor Service	40,567.63	
Fire Protection Service	1,942.97	
Departmental Installation Supplies	9,515.01	
Publications	2,930.80	
Printing and Photographic Supplies	1,460.70	263,114.18
		<hr/>
Net Income for Year carried to Capital Account....		\$ 17,009.55

THE N. W. HARRIS PUBLIC SCHOOL EXTENSION.

Statement of Income and Expenses for Year 1921.

INCOME

Interest and Dividends on Investments.....		\$12,796.66
Less Collection Charges		346.39
		<hr/>
Interest on Bank Balances		\$12,450.27
		21.61
		<hr/>
Gross Income		\$12,471.88

EXPENSES

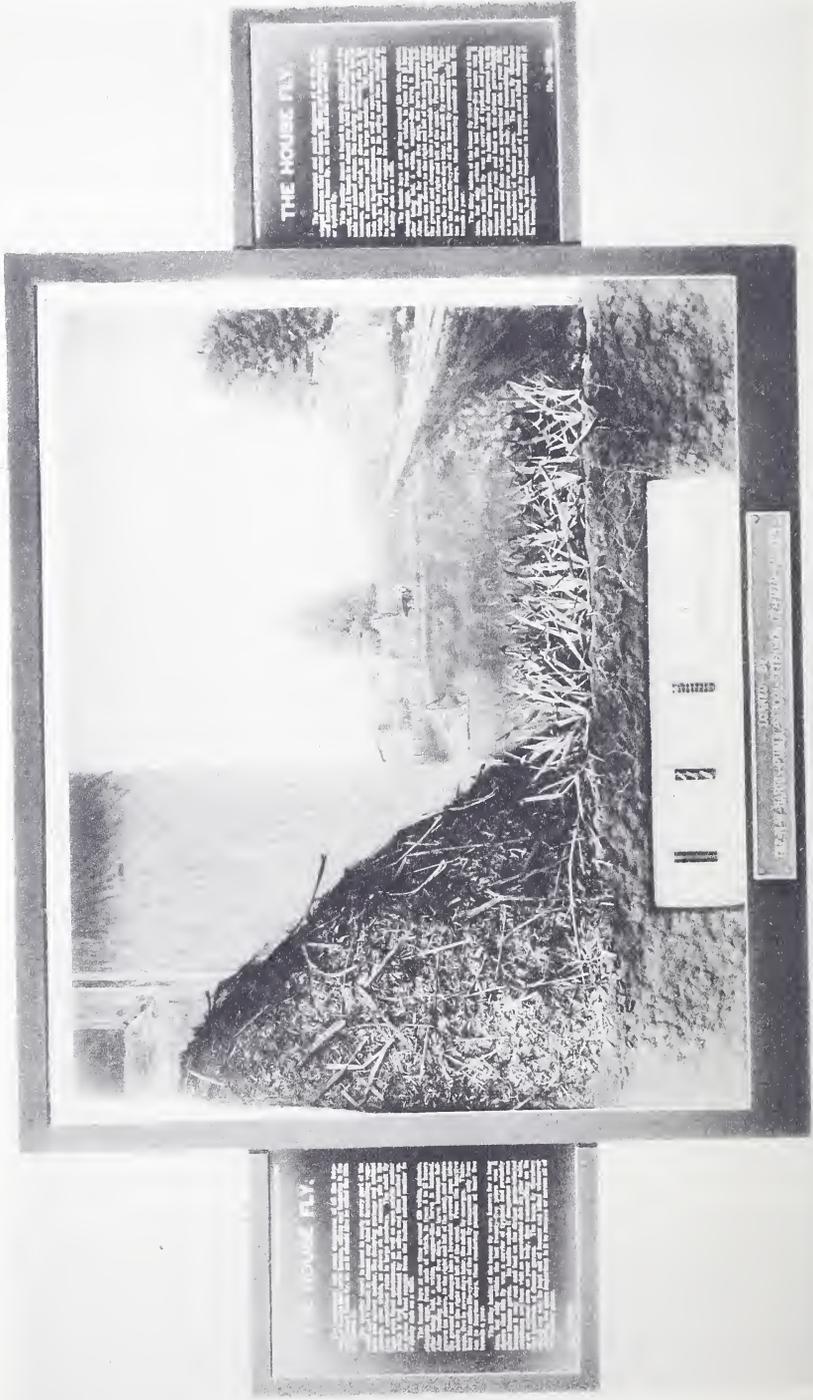
Expense of Distribution of Cases to Public Schools....	\$2,128.88	
General Expense	103.78	
Salaries	6,923.32	9,155.98
		<hr/>
Deduction from Income (Depreciation of Automobile Delivery Car)		\$ 3,315.90
		602.24
		<hr/>
Balance transferred to Reserve Fund		\$ 2,713.66

FINAL STATEMENT OF COSTS OF REMOVAL OF MUSEUM FROM JACKSON PARK TO GRANT PARK.

Pittsburgh Plate Glass Company:		
Labor—cost of dismantling glass in large cases, packing and unpacking.....	\$ 6,649.96	
For specially constructed glass boxes....	\$630.72	
Less Salvage	114.66	\$ 7,166.02
	<hr/>	
Fort Dearborn Storage Company:		
Labor—loaders, unloaders and clampers..	\$30,790.81	
Truck hauling contract.....	6,028.59	36,819.40
	<hr/>	
Illinois Central Railroad:		
Installation and removal of tracks.....	\$16,988.01	
Hauling 321 cars and demurrage.....	9,904.00	26,892.01
	<hr/>	
City of Chicago		
Cost of restoring pavement at 58th Street, etc.		255.67
S. M. Hunter & Company:		
Dismantling large exhibition cases.....		806.10
South Park Commissioners:		
Replacing roadways, sidewalks and re-sodding		1,865.57
Chicago Surface Lines:		
Labor and material—installation of railroad crossing at 58th Street and Stony Island Avenue.....		1,779.03
Miscellaneous contractors:		
Building platforms and runways at Jackson Park, hauling and removing cinders for tracks.....	\$ 3,277.77	
Less Salvage	591.00	2,686.77
	<hr/>	
Miscellaneous Items:		
Premiums on bonds.....	\$ 150.00	
Steel plates.....	69.00	
Plate glass insurance—two loads of glass	210.00	
Tarpaulins, wire rope, dollies and accessories	\$913.83	
Less Salvage	130.00	783.83
	<hr/>	
Rent of hoists.....	200.00	
Blue prints, advertising, printing, teaming, plates, etc.	72.00	1,484.83
	<hr/>	
Total		<hr/>
		\$79,755.40
Cost of packing supplies used during a period of two years prior to moving.....		
		\$ 4,897.52

ATTENDANCE STATISTICS
FROM MAY 2, 1921 TO DECEMBER 31, 1921.

Total Attendance	517,285
Paid Attendance	92,284
Free Admission on Pay Days:	
School Children	16,298
Students	4,857
Teachers	773
Members—Corporate	20
Life	81
Annual	24
Officers' Families	18
Press	33
Special	28
Admission on Free Days:	
Thursdays	87,731
Saturdays	90,341
Sundays	220,744
<hr style="width: 20%; margin: auto;"/>	
Highest Attendance on any day (May 8, 1921).....	28,588
Lowest Attendance on any day (December 16, 1921).....	86
Highest Paid Attendance (September 5, 1921).....	3,831
Average Daily Admissions	2,137
Average Paid Admissions	668
Guides sold	19,194
Articles checked	20,996
Picture Postal Cards sold	300,436



TYPE OF CASE LOANED BY THE N. W. HARRIS PUBLIC SCHOOL EXTENSION OF FIELD MUSEUM OF NATURAL HISTORY.

ACCESSIONS

DEPARTMENT OF ANTHROPOLOGY

AYER, EDWARD E., Chicago.

1 Navaho blanket—Arizona and New Mexico (gift).

1 carved snow-beater of walrus ivory, 1 beaded buckskin gun-case—Eskimo and Sioux, Alaska and United States (gift).

BABCOCK, FREDERICK R., Wheaton, Illinois.

1 polished stone axe, 1 circumcision flint knife in sheath—Australia (gift).

1 decorated lacquer feast-bowl—Burma (gift).

BODE, MRS., Chicago.

1 metate with two mullers—Mexico (gift).

BRAND, S. H., Chicago.

1 wood-carved figurine of St. Regis Indians—New York State (gift).

BROWN, WILLIAM A.

1 walrus tusk engraved with hunting scenes—Eskimo, Alaska (gift).

CHALMERS, WILLIAM J., Chicago.

1 large cloisonné enameled jar, latter part of fifteenth century—China (gift).

DICKINSON, MR. AND MRS. ROBERT BELVILLE, Chicago.

1 piece of tapa cloth—Suva, Fiji Islands (gift).

DIETERICH, REV. AND MRS. F. W., Nanking, China.

1 woman's hair ornament, 1 silver charm, 1 brass censer with base—China (gift).

EMMONS, LIEUT. G. T., Greenholm, Princeton, New Jersey.

1 wood-carved bark shredder, 1 ladle of musk-ox horn, 1 powder horn—Nishka, Tlingit

and Eskimo, Northwest coast of America and Alaska (exchange).

FIELD MUSEUM OF NATURAL HISTORY.

Purchases:

4 busts and 8 casts of skulls and jaws of prehistoric men, from Professor J. H. McGregor of Columbia University, New York.

1 winter ceremonial robe, 1 sash, 1 winter coat, 1 summer ceremonial fancy robe, 1 sash, 1 striped silk street robe, 1 double sash, 1 crepe undergarment from Miss Michi Sato—Japan.

1 serape (blanket)—Saltillo, Mexico.

1 chief's robe of palm fiber—Basongo tribe, Congo, Africa, from Rev. J. F. Pieters, Springfield, Kentucky.

FLEMING, ROBERT H., Chicago.

45 swords, daggers, and other weapons, 5 embroideries, 2 batiks, 6 sword-guards, 6 albums of color prints and paintings, 16 miscellaneous objects—China, Japan, India, Turkey, North Africa, Java (gift).

FRIESSER, JULIUS, Chicago.

2 pieces of pottery, 1 vessel of carved gourd—Ecuador and British Guiana, South America (gift).

GALLAGHER, J. F., Chicago.

1 grooved stone axe—Hot Springs, Garland County, Arkansas (gift).

GOURLEY, W. J., Chicago.

1 unfinished stone axe—Wauconda, Lake County, Illinois (gift).

- GREENLEE, MRS. RALPH S., Chicago.
1 alabaster model of the Taj Mahal (with glass case and pedestal)—Agra, India (gift).
- GUNSAULUS, MISS HELEN C., Chicago.
360 Japanese surimono (color print cards for special occasions, made between 1780 and 1850)—Japan (gift).
1 comb, 3 hairpins—Japan (gift).
- GUTH, MRS. J., Chicago.
1 brass image of Indian deity—South India (gift).
- HAWDEN, J., Seatonville, Illinois.
1 large grooved axe of grayish rock, Princeton, Illinois (gift).
- JURGUTIS, PAUL
1 basket of Lithuanian type (gift).
- LATHROP, BARBOUR, Chicago.
Ethnographical material, chiefly kris, spears, bows, ornaments, carvings, 97 specimens—Korea, Dutch Indies, and Dutch New Guinea (gift).
- LOVETT, FRANK E., Chicago.
1 model of outrigger canoe, woven grass bag, fly whisk—Philippines, Liberia, China (gift).
- PARSON, L. D., Glen Ellyn, Illinois.
1 painted buffalo skin — Plains Indians, Indian Territory, U. S. (gift).
- PETERS, ROBERT D., Knox, Indiana.
1 grooved stone axe—near Knox, Indiana (gift).
- PERKINS, MRS. E. T., Chicago.
12 old American Indian baskets,
1 band of beadwork—Alaska and California (gift).
- RUMSEY, MRS. MINNIE, Lake Forest, Illinois.
632 printing blocks of Indian sign language, chiefly electrotypes, a few zinc etchings (gift).
- RYERSON, MARTIN A., and SARGENT, HOMER E.
18 serapes—Coahuilla, Sonora, etc., Mexico (gift).
- SARGENT, HOMER E., Pasadena, California.
215 baskets from 23 North American tribes, 1 bear scent carrier of horn (gift).
- SATO, MISS MICHI, Tokyo, Japan.
3 pairs of shoes, 1 pair of clogs, 1 pair of sandals with brocade covering, 1 pair of straw sandals—Japan (gift).
5 switches of Japanese hair—Japan (gift).
- SIMPSON, MRS. WILLIAM, Chicago.
1 large black and white olla—Province Tusayan, Arizona (gift).
- TRAH, HENRY J., Chicago.
1 large grooved axe-head, of grayish igneous rock—Lemont, Illinois (gift).
- WILKINS, MISS HELEN, Chicago.
1 Japanese robe of gray silk, worn during wedding ceremony (gift).
- WILLIAMS, DR. HUGH R., Chicago.
3 stone chisels, 1 grooved axe, 34 stone arrowheads—Prairie du Chien, Wisconsin (gift).

DEPARTMENT OF BOTANY.

- AYER, MRS. EWDARD E., Chicago.
1 herbarium specimen—Wisconsin (gift).
- BAILEY, L. H., Ithaca, New York.
1 herbarium specimen—Venezuela (gift).
- BARTHOLOMEW, E., Stockton, Kansas.
3 herbarium specimens—Santa Catalina Island, California (gift).
- BLAKE, DR. S. F., Smithsonian Institution, Washington, D. C.
5 herbarium specimens—Santa Catalina Isl., California (gift).
- BENKE, H. C., North Crystal Lake, Illinois.
1 herbarium specimen—Illinois (gift).

- CANADIAN PACIFIC RAILWAY,
Department of Natural Resources, Alberta, Canada.
28 economic specimens, barley, oats, wheat, alfalfa, grass, clover, flax.—Alberta (gift).
- DAHLGREN, B. E., Chicago.
15 economic specimens—various localities (gift).
- DAVIDSON, DR. A., Los Angeles, California.
1 herbarium specimen—Santa Catalina Island, California (gift).
- THE FIBRE PIPE COMPANY,
Indianapolis, Indiana.
2 economic specimens Bernice Fibre Pipe—Indiana (gift).
- FIELD MUSEUM OF NATURAL HISTORY.
Collated by B. E. Dahlgren:
1 herbarium specimen.
Purchases:
66 herbarium specimens—Maine.
1 Lycopodium Powder from drug store.
600 fungi specimens—various localities.
517 herbarium specimens—California and Oregon.
1 fungus gall on cedar bark—Wisconsin.
- GRAY HERBARIUM, HARVARD UNIVERSITY, Cambridge, Massachusetts.
1 photographic print of type plant Berlin Herbarium (exchange).
78 herbarium specimens—Nova Scotia (exchange).
- IDAHO AGRICULTURE EXPERIMENT STATION, Aberdeen, Idaho.
17 barley, wheat and oat specimens—Idaho (gift).
- KNOFF, EZRA C., Santa Catalina Island, California.
114 herbarium specimens—Santa Catalina Island, California (gift).
101 herbarium specimens—Santa Catalina Island, California (gift).
99 herbarium specimens—Santa Catalina Island, California (gift).
- MILLSPAUGH, DR. C. F., Chicago.
20 herbarium specimens—Santa Catalina Island, California (gift).
555 herbarium specimens—various localities (gift).
- MOXLEY, GEO, L., Los Angeles, California.
23 herbarium specimens—Santa Catalina Island, California (gift).
- MURRAY, W. H., Norwalk, Ohio.
2 ramie fibre—Ohio (gift).
- NEW YORK BOTANICAL GARDEN, Bronx Park, New York.
1 herbarium specimen—Cuba (exchange).
1 herbarium specimen—Trinidad, W. I. (exchange).
790 herbarium specimens—various localities (exchange).
3 herbarium specimens (gift).
1 fungus—Berry Islands (exchange).
- NUTTALL, L. W., Philipsburg, Pennsylvania.
1250 herbarium specimens—Santa Catalina Island, California (gift).
7 herbarium specimens—Santa Catalina Island, California (gift).
- PLITT, C. C., Baltimore, Maryland.
25 herbarium specimens, lichens—Santa Catalina Island, California (exchange).
- RICE EXPERIMENT STATION, Crowley, Louisiana.
3 economic specimens—Louisiana (gift).
- SHERFF, EARL E., Chicago.
8 herbarium specimens—Chicago (gift).
- THE TERRITORY OF ALASKA.
1 economic specimen (wild grass)—Alaska (gift).
- U. S. DEPARTMENT OF AGRICULTURE, Bureau of Plant Industry, Washington, D. C.
23 varieties of soy beans (gift).
11 varieties of wheat specimens—United States (gift).

- 1 herbarium specimen (gift).
12 varieties of soy beans (gift).
- U. S. NATIONAL HERBARIUM,
Smithsonian Institution,
Washington, D. C.
3 herbarium specimens—various
localities (exchange).
- UNITED STATES NATIONAL
MUSEUM, Smithsonian Insti-
tution, Washington, D. C.
60 herbarium specimens—various
localities (exchange).
- UNIVERSITY OF CALIFORNIA,
Berkeley, California.
7 herbarium specimens—Santa
Catalina Island, California
(exchange).
- WRIGLEY, JR., WILLIAM J.,
Chicago.
581 plants of the older collectors
on Santa Catalina Island—
various localities (gift).

DEPARTMENT OF GEOLOGY.

- ALASKA COMMISSION TO
AMERICAN MINING
CONGRESS, Juneau, Alaska.
16 specimens of ore—Alaska
(gift).
- AMERICAN FLUORSPAR CO.,
Wagon Wheel Gap, Colorado.
7 specimens of fluorite and barite
—Wagon Wheel Gap, Colorado
(gift).
- BALL, PROF. O. M., College Station,
Texas.
20 specimens of fossil plants—
Mansfield, La., and Brazos
County, Texas (gift).
- BLACK PRODUCTS CO., THE,
Riverdale Station, Chicago.
9 specimens of coal-tar-pitch
products (gift).
- BROWN, GUS E., Galena, Illinois.
7 specimens of lead and zinc ores
Galena, Illinois (gift).
- BUCKSTAFF, RALPH N., Oshkosh,
Wisconsin.
11 specimens of Cumberland Falls
meteorite—Cumberland Falls,
Kentucky (exchange).
1 individual meteorite—Holbrook,
Arizona (gift).
- CHALMERS, WILLIAM J., Chicago.
1 specimen of silver rosette—
Boulder, Colorado (gift).
13 specimens of moss agate and
jasper—Glendive, Montana
(gift).
13 specimens of crystals—various
localities (gift).
3 specimens of tourmaline crystals
—Mt. Mica, Paris, Maine
(gift).
- COLORADO FUEL & IRON CO.,
Denver, Colorado.
1 specimen of bituminous coal
Rockvale, Fremont Co., Colo-
rado (gift).
- COLORADO STATE BUREAU OF
MINES, Denver, Colorado.
6 specimens of coal—Colorado
(gift).
2 specimens of ore—Colorado
(gift).
2 maps—Colorado (gift).
- COLORADO & UTAH COAL CO.,
Denver, Colorado.
1 specimen of bituminous coal—
Mt. Harris, Routt Co., Colo-
rado (gift).
- COOPER, A. T., Webster, South
Dakota.
1 specimen of covellite with
chalcocopyrite—Mills Mine, near
Carbo, Sonora, Mexico (gift).
- DENVER FIRE CLAY CO., THE,
Denver, Colorado.
3 specimens of fire clay—Golden,
Colorado (gift).
- FIELD MUSEUM OF NATURAL
HISTORY.
Collected by O. C. Farrington:
1 specimen of glacial striae on
lepidolite—Paris, Maine.
Purchases:
6 specimens of minerals—
Leadville, Colorado, and
Minasragra, Peru.
1 specimen of tschermigite—
Wamsutter, Wyoming.
- GALLAGHER, J. F., Chicago.
1 specimen of fuller's earth—
Arkansas (gift).

- 1 specimen of rock weathering—Arkansas (gift).
- 1 specimen of chert—Hot Springs, Arkansas (gift).
- 4 specimens of catlinite—Pipestone, Minnesota (gift).
- GATES, MYRON C., Gordon, Nebraska.
- 6 specimens of sand-calcite crystals—Bad Lands, South Dakota (gift).
- GILBERT, B. C., Chicago.
- 1 specimen of torbernite—Silver City, New Mexico (gift).
- 3 photographs taken by emanation from the specimen (gift).
- 218 specimens of minerals, ores and fossils—New Mexico (gift).
- HEAD, R. E., Salt Lake City, Utah.
- 13 specimens of coals and ores—Utah (gift).
- HICKMAN, C. B., Silver City, New Mexico.
- 7 specimens of fluorite—Grama, New Mexico (gift).
- HUNTOON, J. F., Chicago.
- 7 specimens of mica—Keystone, South Dakota (gift).
- HUTCHINSON, MRS. C. L., Chicago.
- 1 specimen of bleached sandstone—Huron Mountain, Michigan (gift).
- KENT, C. A., Chicago.
- 5 specimens of colored sands—MacGregor, Iowa (gift).
- KING, C. H., Chicago.
- 2 specimens of fossil coral—Elk Lake, Michigan (gift).
- KNOPF, EZRA C., Avalon, California.
- 1 specimen of water agate—Santa Catalina Island, California (gift).
- 1 specimen of blister pearl—Santa Catalina Island, California (gift).
- 2 specimens of miscellaneous minerals—Santa Catalina Island, California (gift).
- 24 specimens of catlinite—Santa Catalina Island, California (gift).
- KONSBERG, A. V., Chicago.
- 1 specimen of tufa—Mammoth Hot Springs, Yellowstone Park (gift).
- 1 specimen of blende—Galena, Illinois (gift).
- LANGTRY, J. C., Chicago.
- 32 specimens of minerals—various localities (gift).
- 3161 specimens of fossils—various localities (gift).
- MARINER AND HOSKINS, Chicago.
- 9 specimens of metallic arsenic—Chicago (gift).
- 12 specimens of arsenic ores—Tonopah, Nevada (gift).
- MAUCELI, IGNAZIO, Chicago.
- 1 specimen of fossil coral—Burlington, Illinois (gift).
- PATEE, FRED, Casper, Wyoming.
- 1 specimen of bentonite—Wyoming (gift).
- RADIUM INFORMATION SERVICE, New York City.
- 3 specimens of carnotite—Long Park, Colorado (gift).
- ROCKY MOUNTAIN FUEL CO., Denver, Colorado.
- 1 specimen of bituminous coal—Superior, Colorado (gift).
- RONAN, JOHN, Hyder, Alaska.
- 29 specimens of ore—Salmon River District, Alaska (gift).
- ROYSE, R. L., Ogden, Utah.
- 1 specimen of tschermigite—Wamsutter, Wyoming (gift).
- SKIFF, MRS. FREDERICK J. V., Chicago.
- Bronze bust of Dr. Frederick J. V. Skiff (gift).
- SMITH, COLLINS C., Chicago.
- 1 specimen of asbestos—Wisconsin (gift).
- SMUGGLER UNION MINING CO., Telluride, Colorado.
- 3 specimens of concentrates—Telluride, Colorado (gift).
- STANDARD OIL CO. (Indiana), Chicago.
- 10 specimens of fuller's earth—Olmstead, Pulaski Co., Illinois (gift).
- 168 specimens of petroleum wax and products (gift).

- STEPHEN, MRS. G. M., Chicago.
 1 specimen of quartz—Los Cerrillos, New Mexico (gift).
 8 specimens of turquoise—Los Cerrillos, New Mexico (gift).
- STEWART, ROBERT B., Chicago.
 2 specimens of lead and zinc ore—Gunnison Co., Colorado (gift).
- SUNNYSIDE MINING & MILLING CO., Eureka, San Juan Co., Colorado.
 8 specimens of ore—Eureka, San Juan Co., Colorado (gift).
- THOMAS, R. K., Navajo, Arizona.
 4 specimens of fossil mollusks—Seven Springs, Arizona (gift).
- THOMAS, W. S., Elgin, Illinois.
 1 specimen of cerussite—near Salt Lake City, Utah (gift).
- U. S. BUREAU OF MINES, Boulder, Colorado.
 2 specimens of oil shale—Colorado and Wyoming (gift).
- 13 specimens of oil shale and products—Colorado, Wyoming and Utah (gift).
- UNITED STATES GYPSUM CO., Chicago.
 1 specimen of rose petal anhydrite—Gypsumville, Manitoba (gift).
- VICTOR-AMERICAN FUEL CO., Denver, Colorado.
 2 specimens of bituminous coal—Routt Co., Colorado (gift).
- WESTERN BRICK CO., Danville, Illinois.
 3 specimens of shale—Danville, Illinois (gift).
 20 specimens of briquettes—Danville, Illinois (gift).
- WILDES, F. A., St. Paul, Minnesota.
 2 specimens of ore—St. Louis Co., Minnesota (gift).
 34 specimens of peat—St. Louis Co., Minnesota (gift).

DEPARTMENT OF ZOÖLOGY

- ABBEY, E. S., Chicago.
 1 dragonfly—Chicago (gift).
- ALLEN, G. W., Chicago.
 1 beetle, 1 moth—Chicago (gift).
- AMERICAN RAILWAY EXPRESS CO., Chicago.
 9 moths—East Indies (gift).
- AYRES, HOWARD, Chicago.
 7 fishes—(exchange).
- BRANDLER, CHARLES, Chicago.
 2 fox squirrels—Wisconsin (gift).
 1 trout perch—Lake Michigan (gift).
- BRAZA, JOSEPH A., East Las Vegas, New Mexico.
 5 horned toads, 1 prairie rattlesnake—Levy, New Mexico (gift).
- BRUSOR, FRANK, New Boston, Ill.
 2 large soft-shelled turtles—New Boston, Illinois (gift).
- BUETTNER, JOHN, Chicago.
 1 lizard—Lakeland, Florida (gift).
 1 milliped, 1 scorpion, 1 mantis—Lakeland, Florida (gift).
- COBBS, B. B., Chicago.
 1 spider—Chicago (gift).
- CONOVER, H. B., Chicago.
 1 skull of grizzly bear—Canada (gift).
 1 mounted mourning dove (gift).
 3 mountain sheep, 1 ground squirrel—Yukon Territory (gift).
- DAHLGREN, B. E., Chicago.
 1 rattlesnake—Florida (gift).
- DAVIDSON, A. A., Chicago.
 20 skulls and horns of mammals—South Africa (gift).
- DEANE, RUTHVEN, Chicago.
 43 albino birds, 1 albino squirrel (gift).
- DEICHMANN, N. J., Chicago.
 1 praying mantis—Irving Park, Illinois (gift).
- EDGAR, C. T., Hazelhurst, Wisconsin.
 1 camel cricket—Hazelhurst, Wis. (gift).
 1 mounted loon—Hazelhurst, Wis. (gift).

FIELD, STANLEY, Chicago.
 3 bronze animal groups by Carl Akeley:
 A Charge of African Elephants;
 The Wounded Comrade;
 Fight Between Lion and Buffalo. } gift

FIELD MUSEUM OF NATURAL HISTORY.

Received from Museum Guard:
 1 least bittern.
 Collected by A. C. Weed:
 10 dragonfly nymphs—Dupage, Ill.
 Collected by Wm. J. Gerhard:
 87 dragonflies, grasshoppers, bugs, ant-lions, butterflies, moths, flies, beetles, bees, wasps and parasites—northern Illinois and northern Indiana.
 Collected by E. Liljeblad:
 91 millipeds, centipedes, dragonflies, ant-lions, bugs, grasshoppers, butterflies, moths, flies, beetles, bees, wasps and parasites—northern Illinois and northern Indiana.
 Collected by A. C. Weed and L. L. Walters:
 73 specimens of reptiles and frogs—Chicago.
 Prepared by L. L. Walters
 Celluloid models of 1 turtle, 4 snakes and 2 frogs—Chicago.
 Purchases:
 4 specimens of Cory's shearwater—Island of Pico, Azores.
 125 specimens of frogs—Minnesota.
 24 specimens of fishes—Chicago.

FRENCH, G. H., Carbondale, Ill.
 1 moth—Carbondale, Ill. (gift).

FRIESSER, J., Chicago.
 1 cicada, 1 fly—Chicago (gift).

GEILHUF, FRED, Chicago.
 1 centipede—Chicago (gift).

GERHARD, WM. J., Chicago.
 370 dragonflies, grasshoppers, bugs, butterflies, moths, beetles, flies, bees, wasps and parasites—northern Indiana and northern Illinois (gift).

GREENLEE, MRS. R. S., Chicago.
 1 hawk's-bill turtle (gift).

GUERET, E. N., Chicago.
 5 moths—Chicago (gift).

GUNDER, J. D., Chicago.
 1 hemerobian—Yellowstone National Park (gift).

HADA, STEPHEN, Chicago.
 1 lake herring—Chicago (gift).

HAREBO, MRS. J. F., New Lisbon, Wisconsin.
 1 blue-tailed skink—New Lisbon, Wisconsin (gift).

HOUGAARD, MRS. C. S., Elmwood Park, Illinois.
 1 spider—Elmwood Park, Illinois (gift).

KAEMPFER, FRED, Chicago.
 1 black tamarin marmoset (gift).

KNOFF, EZRA C., Avalon, California.
 1 butterfly, 5 moths—Avalon, California (gift).

LANGTRY, J. C., Chicago.
 1 pair elk horns (gift).

LILJEBLAD, E., Chicago.
 18 dragonflies, ant-lions, bugs, beetles, flies, wasps and parasites—northern Illinois and northern Indiana (gift).

LOMEN, CARL J., Seattle, Washington.
 1 golden eagle—Alaska (gift).

MASON, J. A., Chicago.
 1 young hog-nosed snake—Waverly Beach, Indiana (gift).

NARBO, DR. SVEN, Stavanger, Norway.
 3 bird's eggs—Norway (gift).
 47 dragonflies, bugs, butterflies, flies, bees, parasites, beetles and moths—Norway (gift).
 23 beetles, caddice-flies, butterflies and moths—Norway (gift).
 35 shells—Norway (gift).

OSGOOD, W. H., Chicago.
 35 mammals—Nebraska (gift).

PEET, FRED N., Chicago.
 1 small mouth bass—Alma, Wisconsin (gift).

POLZIN, GEO. P., Edison, California.
 1 scorpion—Edison, California (gift).

PORTER, A. F., Decorah, Iowa.
 1 katydid, 2 mantis, 1 ant-lion, 1

- milliped, 1 beetle, 6 bees and parasites—Africa and Florida (gift).
- PSOTA, DR. F. J., Chicago.
1 raphidian, 2 dobsons—California (gift).
- REYNOLDS, M. K., Marquette, Michigan.
1 rainbow trout—Marquette, Michigan (gift).
- ROMANO, JOE, Chicago.
1 moth—Chicago (gift).
- ROTHSCHILD'S AQUARIUM, Chicago.
3 fishes (gift).
2 shovelnose sturgeons—Bellevue, Iowa (Gift).
- ROWE, KATHERINE, ESTATE OF, Chicago.
54 mounted birds (bequest).
4 mounted small mammals (bequest).
- SCHWARZ, E., St. Louis, Missouri.
2 moths—St. Louis, Missouri (gift).
- SELINGER, CARL, Chicago.
3 chrysalids—northern Illinois (gift).
- SHEWSKI, LEO, Bass Lake, Indiana.
1 rough-legged hawk—Bass Lake, Indiana (gift).
- SHELDON, MARK, New York.
1 emu skin (gift).
- SMITH, MRS. LYDIA, North Rose, New York.
1 ribbon snake—North Rose, New York (gift).
- SUGDEN, J. H., Salt Lake City, Utah.
6 mountain crickets—Rexburg, Idaho (gift).
- TARRANT, ROBERT, Chicago.
1 ring-tailed bassariscus (gift).
- WALTERS, L. L., Chicago.
1 common garter snake, 5 cricket frogs—Indiana (gift).
- WEED, A. C., Chicago.
1 moth, 1 centipede—northern Illinois (gift).
17 fishes—(gift).
Set of four eggs of marsh hawk North Rose, New York (gift).
- WILLIAMSON, E. B., Bluffton, Indiana.
1 Hungarian partridge (gift).
- WILLIAMSON, J. H., Bluffton, Indiana.
131 dragonflies—Florida and South Carolina (gift).
- WOLCOTT, A. B., Chicago.
2 bugs—Hessville, Indiana (gift).
- WOODHAMS, CLEO, North Rose, New York.
1 large garter snake, 49 young water snakes—North Rose, New York (gift).

SECTION OF PHOTOGRAPHY

- WINTERNITZ, M. L., Chicago.
100 prints—Seminole, and Burma, India (gift).
- FIELD MUSEUM OF NATURAL HISTORY.
Made by Section:
395 negatives, 1,672 prints.
- GLASIER, FRED E., Brockton, Massachusetts.
9 colored reproductions of American Indians.

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South African Department of Agriculture, Pretoria.

South African Museum, Cape Town. Transvaal Museum, Pretoria.

Zoological Gardens of Ghizeh, Cairo.

ARGENTINA:

Museo de la Plata, Buenos Aires. Sociedad Ornitológica del Plata, Buenos Aires.

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Australian Museum, Sydney.

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Commonwealth of Australia, Adelaide.

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Department of Mines, Sydney.

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Institute of Science and Industry, Sydney.

Linnean Society of New South Wales, Sydney.

Melbourne University.

National Herbarium, Melbourne.

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Parliament of the Commonwealth, Sydney.

Public Library, Museum and Art Gallery, Adelaide.

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Queensland Museum, Brisbane.

Royal Geographical Society of Australasia, Brisbane.

Royal Society of New South Wales, Sydney.

Royal Society of South Australia, Adelaide.

Royal Society of Tasmania. Hobart

Royal Society of Victoria, Melbourne.

Royal Society of Western Australia, Perth.

South Australian Ornithological Society, Adelaide.

Technological Museum of New South Wales, Sydney.

Victoria Department of Agriculture, Melbourne.

Western Australia, Geological Survey, Perth.

AUSTRIA:

Anthropologische Gesellschaft in Wien.

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K. K. Zoologisch-Botanische Gesellschaft, Vienna.

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Jardin Botanique de l'Etat, Brussels

Musée Royale d'Histoire Naturelle, Brussels

Société Royale d'Archeologie, Brussels.

Société Royale de Botanique, Brussels.

Société Royale des Sciences, Liège.

BRAZIL:

Biblioteca Nacional, Rio de Janeiro.

Escola Superior de Agricultura e Medicina, Veterinaria, Rio de Janeiro.

Instituto Agronomico de Estado, Sao Paulo.

Museu Nacional, Rio de Janeiro.

CANADA:

Chief Game Guardian of Saskatchewan, Regina.

Commission of Conservation, Ottawa.

Department of Agriculture, Ottawa.

Department of Agriculture of Ontario, Toronto.

Department of Marine and Fisheries, Ottawa.

Department of Mines, Ottawa.

Department of the Interior, Geological Survey, Ottawa.

Ontario Minister of Education, Toronto.

Provincial Museum, Toronto.

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Royal Canadian Institute, Toronto.

Royal Society of Canada, Ottawa

Société de Géographie, Québec.

University of Toronto.

BULGARIA:

Musée Ethnographique National, Sofia.

CEYLON:

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CHILE:

Museo de Etnologia y Antropologia de Chile, Santiago de Chile.

CHINA:

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Canton Christian College (gift).

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Deutscher Naturwissenschaftlich-Medizinischer Verein für Böhmen "Lotos," Prag.

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Anthropologiske Komité, Copenhagen.

Botanical Garden, Library, Copenhagen.

Danske Kunstindustrimuseum, Copenhagen.

Mineralogical Museum, Copenhagen.

Naturhistorisk Forening, Copenhagen.

Société Botanique, Copenhagen.

ECUADOR:

Sociedad Ecuatoriana de Estudios Historicos Americanos, Quito.

FEDERATED MALAY STATES:

Federated Malay States Museum, Kuala Lumpur.

FIJI ISLANDS:

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FINLAND:

Abo Akademi.

Finnish Archaeological Society, Helsingfors.

FRANCE:

Académie des Sciences, Paris.

Ecole d'Anthropologie, Paris.

Musée d'Histoire Naturelle, Marseille.

Musée d'Histoire Naturelle, Lausanne.

Muséum d'Histoire, Naturelle, Lyons.

Musée Guimet, Paris.

Muséum National d'Histoire Naturelle, Paris.

La Nature, Paris.

Société d'Études Scientifiques Angers.

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Société d'Histoire Naturelle, Colmar.

Société d'Horticulture, Paris.

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Société de Géographie, Toulouse.

Société des Americanistes, Paris.

Société des Sciences de Nancy.

Société des Sciences Naturelles de Saône et Loire, Chalon-sur-Saône.

Société Géologique du Nord, Lille.

Société Linnéenne, Bordeaux.

Société Nationale d'Agriculture, Sciences et Arts, Angers.

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Botanischer Verein der Provinz Brandenburg, Berlin.

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Deutsche Geologische Gesellschaft, Stuttgart.

Deutsche Gesellschaft für Anthropologie, Ethnologie und Urgeschichte, Berlin.

Deutsche Morganländische Gesellschaft, Leipzig.

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Deutscher Universität, Berlin.

Deutsches Entomologisches Institut, Berlin.

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Geographische Gesellschaft, Hamburg.

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Gesellschaft für Erdkunde, Berlin.

K. Museum für Volkskunde, Berlin.

K. Preussische Akademie der Wissenschaften, Berlin.

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K. Universitäts Bibliothek, Tübingen.

K. Zoologisches Museum, Berlin.

Museum für Völkerkunde, Hamburg.

Nassauischer Verein für Naturkunde, Wiesbaden.

Naturforschende Gesellschaft, Görlitz.

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Verein für Vaterländische Naturkunde in Württemberg, Stuttgart.

Verein für Erdkunde, Darmstadt.
 Zoologisches Museum, Hamburg.

GREAT BRITAIN:

Birmingham Natural History and
 Philosophical Society.
 Brighton and Hove Natural History
 and Philosophical Society,
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 Bristol Museum and Gallery.
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 London.
 Cambridge Antiquarian Society.
 Cambridge Philosophical Society.
 Cambridge University Library.
 Cardiff Naturalists' Society.
 Dove Marine Laboratory, Culler-
 coats.
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 Geological Society, Edinburgh.
 Geological Survey, Edinburgh.
 Great Britain Geological Survey,
 London.
 Hull Municipal Museum.
 Imperial Bureau of Entomology,
 London.
 Imperial College of Science and
 Technology, London.
 Institute of Oriental Studies, London.
 Japan Society of London.
 Lancashire Sea Fisheries Labora-
 tories, Liverpool.
 Linnean Society of London.
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 Natural History and Philosophical
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 Oxford University Museum.
 Perthshire Society of Natural
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 Royal Anthropological Institute of
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 Royal Botanic Gardens, Kew.
 Royal Colonial Institute, London.
 Royal Cornwall Polytechnic Society,
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 Royal Geographical Society, London.
 Royal Horticultural Society, London.
 Royal Scottish Museum, Edinburgh.
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 don.

Wellcome Chemical Research Labora-
 tories, London.
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 lat, Budapest.
 Museum Nationale Hungaricum,
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INDIA:

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 Archaeological Survey, Bombay.
 Archaeological Survey, Calcutta.
 Archaeological Survey, Eastern
 Circle, Patna.
 Archaeological Survey, Frontier
 Circle, Preshawar.
 Archaeological Survey Department,
 Madras.
 Archaeological Survey of Burma,
 Lahore.
 Department of Agriculture, Bombay.
 Department of Agriculture, Madras.
 Department of Agriculture, Pusa.
 Geological Survey, Calcutta.
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 Calcutta.
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 Indian Museum, Calcutta.
 Journal of Indian Botany.
 National Indian Association, Calcutta
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 pore.
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 E. H. Nizam's Dominions, Hyder-
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 University of Calcutta.

IRELAND:

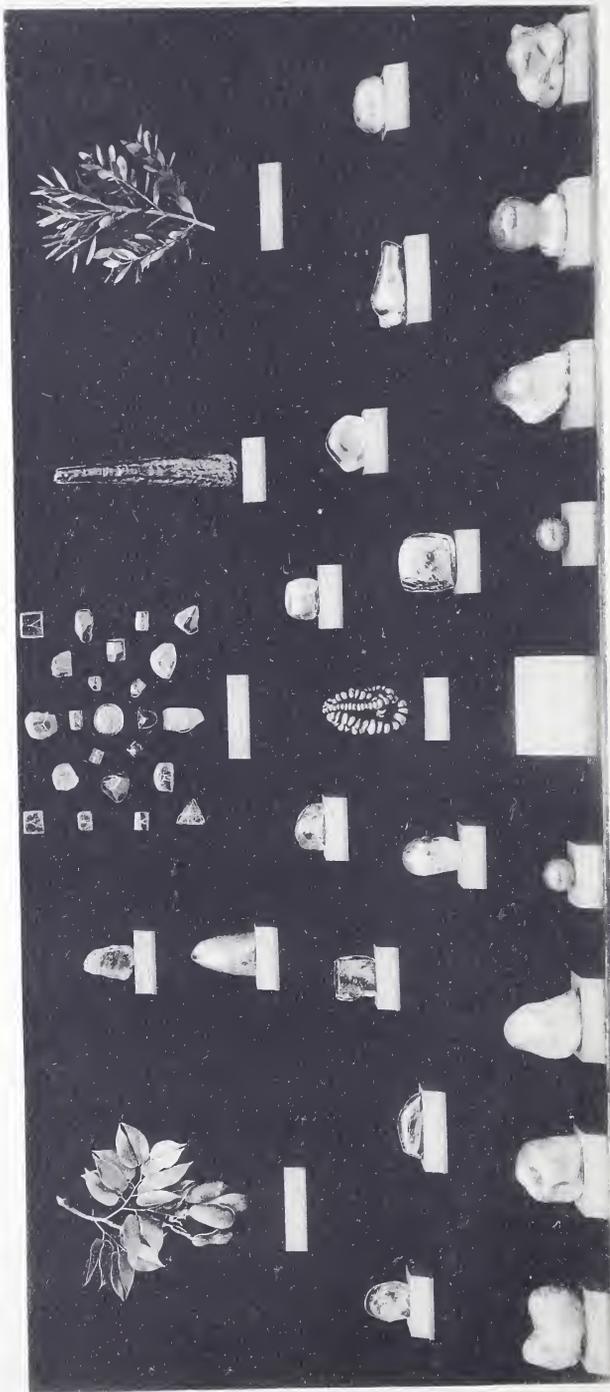
Belfast Naturalists' Field Club.
 Natural History and Philosophical
 Society, Belfast.
 Royal Irish Academy, Dublin.

ITALY:

Accademia delle Scienze Fische e
 Matimatiche, Naples.
 Istituto Botanico, Milan.
 Istituto Geografico de Agostini,
 Novara.
 Laboratorio de Zoologia Generale
 e Agraria, Portici.
 R. Società Geografica Italiana,
 Rome.
 Società Italiana d'Antropologia e
 Etnologia, Florence.

- Società Italiana de Scienze Naturali,
Milan.
Società Romana di Antropologia,
Rome.
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Pisa.
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- JAPAN:**
Bureau of Productive Industry
Formosa Government, Taihoku.
Educational Museum, Tokyo.
Geological Society, Tokyo.
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Ornithological Society, Tokyo.
Tokyo Botanical Society.
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- JAVA:**
Bataviaasch Genootschap van Kunsten
en Wetenschappen, Batavia.
Department of Agriculture, Buitenzorg.
Encyclopaedisch Bureau, Weltvreden.
Jardin Botanique, Buitenzorg.
K. Natuurkundige Vereeniging in
Nederlandsch-Indie, Weltvreden.
- MEXICO:**
Instituto Geologico, Mexico.
Sociedad Científica "Antonio
Alzate," Mexico.
- NETHERLANDS:**
K. Akademie van Wetenschappen,
Amsterdam.
K. Instituut voor de Taal-Land-en
Volkenkunde van Nederlandsch
Indie, The Hague.
K. Nederlandsch Aardijkundig
Genootschap, Amsterdam.
Ministry of Agriculture, Industry
and Commerce, The Hague.
Museum voor Land-en Volkenkunde
en Maritiem Museum "Prinz
Hendrik," Rotterdam.
Nederlandsche Dierkunde Vereeniging,
Leiden.
Rijks Ethnographisch Museum,
Leiden.
Rijks Herbarium, Leiden.
Rijks Hoogere Land-Tuin-en Bosch-
bouwschool, Wageningen.
Rijks Museum van Natuurlijke
Historie, Leiden.
University of Otago, Dunedin.
- NEW ZEALAND:**
Acclimatisation Society, Wellington.
Auckland Institute and Museum,
Wellington.
- Department of Agriculture, Wellington.
Department of Mines, Wellington.
New Zealand Institute, Wellington.
- NORWAY:**
Bergen Museum.
Norges Geologiske Undersögelse,
Christiania.
Nyt magasin för Naturvidenskaberne,
Christiania.
Tromso Museum.
- PERU:**
Archivo Nacional, Lima.
Biblioteca Nacional, Lima.
Cuerpo de Ingenieros de Minas,
Lima.
Instituto Historico, Lima.
Sociedad Geografica de Lima.
- POLAND:**
Musei Polonici Historiae Naturales,
Warsaw.
- PORTUGAL:**
Biblioteca Nacional, Lisbon.
- SPAIN:**
Collegio de Pasaje, La Guardia.
Instituci6 Catalana d'Historia
Natural, Barcelona.
Instituto General y Tecnico,
Valencia.
Junta de Ciencias Naturals, Barcelona.
Laboratorio de Hidrobiologia
Española, Valencia.
Museo Nacional de Ciencias
Naturales, Madrid.
R. Academia de Ciencias y Artes,
Barcelona.
R. Academia de Ciencias Exactas,
Fisicas y Naturales, Madrid.
Sociedad Española de Historia
Natural, Madrid.
- SWEDEN:**
Botaniska Notiser, Lund.
K. Biblioteket, Stockholm.
K. Svenska Vetenskapsakademien,
Stockholm.
K. Vitterhets Historie och Antikvitets
Akademien, Stockholm.
Lunds Universitet.
Svenska Sällskapet för Antropologi
och Geografi, Stockholm.
- SWITZERLAND:**
Botanic Garden, Zürich.
Geographisch - Ethnographische
Gesellschaft, Zürich.
Historisches Museum, Bern.
Musée Ethnographique, Neuchatel.





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 Ostschweizerische Geograph-Com-
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 Schweizerische Naturforschende Ge-
 sellschaft, Bern.
 Société de Physique et Histoire
 Naturelle, Geneva.
 Société Entomologique, Bern.
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- URUGUAY:
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 Barbados.
 Trinidad and Tobago Department of
 Agriculture, Port of Spain.
 Universidad de Habana.
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- ALABAMA:
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 Alabama Geological Survey,
 University.
- Alabama University of Natural
 History, University.
 Anthropological Society,
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 Department of Game and Fish,
 Montgomery.
- ARIZONA:
 Agricultural Experiment Station,
 Tucson.
 University of Arizona, Tucson.
- CALIFORNIA:
 Agricultural Experiment Station,
 Berkeley.
 California Academy of Sciences, San
 Francisco.
 Cooper Ornithological Club, Holly-
 wood.
 Fish and Game Commission, San
 Francisco.
 Leland Stanford Junior University,
 Stanford University.
 Pomona College, Claremont.
 San Diego Society of Natural
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 Scripps Institution of Biological
 Research, La Jolla.
 Southwest Museum, Los Angeles.
 State Board of Forestry, Sacra-
 mento.
 State Mining Bureau, Sacramento.
 University of California, Berkeley.
- COLORADO:
 Bureau of Mines, Denver.
 Colorado College, Colorado Springs.
 Colorado Museum of Natural His-
 tory, Denver.
 Geological Survey, Boulder.
 State Historical and Natural History
 Society, Denver.
- CONNECTICUT:
 Agricultural Experiment Station,
 New Haven.
 American Oriental Society, New
 Haven.
 Connecticut Academy of Arts and
 Sciences, New Haven.
 Forestry Association, Hartford.
 Hartford Public Library.
 Peabody Museum, New Haven.
 State Geological and Natural History
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 Wesleyan University, Middletown.
 Yale University, New Haven.
- DELAWARE:
 Agricultural Experiment Station,
 Newark.
 Hercules Powder Company, Wil-
 mington.

FLORIDA:

Florida Geological Survey, Tallahassee.

GEORGIA:

Geological Survey, Atlanta.

HAWAII:

Agricultural Experiment Station, Honolulu.

Bernice Pauahi Bishop Museum, Honolulu.

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Hawaiian College, Honolulu.

Hawaiian Historical Society, Honolulu.

Sugar Planters' Association, Honolulu.

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Agricultural Experiment Station, Urbana.

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State Board of Agriculture, Springfield.

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Department of Conservation, Indianapolis.

Purdue University, Lafayette.

University of Notre Dame.

IOWA:

Historical Department of Iowa, Des Moines.

Iowa State College, Ames.

University of Iowa, Iowa City.

KANSAS:

Academy of Science, Topeka.

Agricultural Experiment Station, Manhattan.

Kansas Historical Society, Topeka.

State Board of Agriculture, Topeka.

KENTUCKY:

Agricultural Experiment Station, Louisville.

Department of Geology and Forestry, Frankfort.

LOUISIANA:

Agricultural Experiment Station, Baton Rouge.

Department of Conservation, New Orleans.

MAINE:

Agricultural Experiment Station, Orono.

Bowdoin College, Brunswick.

Department State Lands and Forestry, Augusta.

Portland Public Library.

MARYLAND:

Agricultural Experiment Station, College Park.

Enoch Pratt Free Library, Baltimore.

Johns Hopkins University, Baltimore.

MASSACHUSETTS:

Agricultural Experiment Station, Amherst.

American Academy of Arts and Sciences, Boston.

American Antiquarian Society, Worcester.

Boston Public Library.

Boston Society of Natural History.

Clark University, Worcester.

Essex Institute, Salem.

Harvard College, Museum of Comparative Zoölogy, Cambridge.

Harvard University, Arnold Arboretum, Jamaica Plain.

Harvard University, Gray Herbarium, Cambridge.

Museum of Fine Arts, Boston.

New Bedford Free Public Library.

Peabody Institute.

Peabody Museum, Cambridge.

Peabody Museum, Salem.

Salem Public Library.

Springfield City Library Association.

- Springfield Natural History Museum.
Tufts College.
Williams College, Williamstown.
- MICHIGAN:**
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Agricultural Experiment Station,
Agricultural College.
Detroit Institute of Art.
Geological and Natural History
Survey, Lansing.
Grand Rapids Public Library.
Michigan College of Mines, Hough-
ton.
Michigan State Library, Lansing.
State Board of Agriculture, Lansing.
State Board of Library Commissions,
Lansing.
University of Michigan, Ann Arbor.
- MINNESOTA:**
Agricultural Experiment Station,
Saint Paul.
Minneapolis Institute of Arts.
Minnesota Historical Society, Saint
Paul.
State Entomologist, Saint Paul.
University of Minnesota, Minneapolis.
- MISSISSIPPI:**
Agricultural Experiment Station,
Agricultural College.
State Geological Survey, Jackson
(gift).
- MISSOURI:**
Agricultural Experiment Station,
Columbia.
City Art Museum, Saint Louis.
Missouri Botanical Garden, Saint
Louis.
Missouri Historical Society, Colum-
bia.
Saint Louis Academy of Sciences.
Saint Louis Public Library.
Saint Louis University.
Washington University, Saint Louis.
- MONTANA:**
State Forester, Helena (gift).
University of Montana, Missoula.
- NEBRASKA:**
Agricultural Experiment Station,
Lincoln.
Geological Survey, Lincoln.
University of Nebraska, Lincoln.
- NEVADA:**
Agricultural Experiment Station,
Carson City.
- NEW JERSEY:**
Agricultural Experiment Station,
Trenton.
- Department of Conservation and
Development, Trenton.
Department of Plant Pathology,
Trenton.
Geological Survey, Trenton.
Newark Museums Association.
Princeton University.
Stevens Institute, Hoboken.
- NEW MEXICO:**
New Mexico Historical Society,
Santa Fe.
New Mexico Museum, Santa Fe.
- NEW YORK:**
Agricultural Experiment Station,
Geneva.
American Academy in Rome, New
York City.
American Geographical Society, New
York City.
American Institute of Mining En-
gineers, New York City.
American Museum of Natural
History, New York City.
Brooklyn Botanic Garden.
Brooklyn Institute of Arts and
Sciences.
Carnegie Foundation for the Ad-
vancement of Teaching, New York
City (gift).
Conservation Commission, Albany.
Cooper Union for the Advancement
of Science and Art, New York
City.
Cornell University, Ithaca.
Forest and Stream Publishing Com-
pany, New York City.
Inter-American Magazine, New
York City (gift).
Japan Society, New York City.
Metropolitan Museum of Art, New
York City.
Museum of the American Indian,
New York City.
New York Academy of Sciences,
New York City.
New York Botanical Garden, New
York City.
New York Historical Society, New
York City.
New York Times, New York City,
(gift.)
Pratt Institute Free Library, New
York City.
Public Library, New York City.
Rockefeller Foundation, New York
City.
State College of Forestry, Syracuse.
State Library, Albany.
State Museum, Albany.
Staten Island Institute of Arts and

Sciences, New York City.
 Stone Publishing Company, New
 York City.
 University of the State of New
 York, Albany.
 Zoölogical Society, New York City.

NORTH CAROLINA:

Elisha Mitchell Scientific Society,
 Chapel Hill.
 Geological and Economic Survey,
 Raleigh.

NORTH DAKOTA:

State Historical Society of North
 Dakota, Bismarck.
 University of North Dakota, Uni-
 versity.

OHIO:

Academy of Science, Columbus.
 Agricultural Experiment Station,
 Wooster.
 Cincinnati Museum Association.
 Cleveland Museum of Art.
 Denison University, Granville.
 Geological Survey, Columbus.
 State Archaeological and Historical
 Society, Columbus.
 State University, Columbus.
 University of Cincinnati.
 Western Reserve Historical Society,
 Cleveland.
 Wilson Ornithological Club, Ober-
 lin.

OKLAHOMA:

Geological Survey, Norman.
 Oklahoma Historical Society, Okla-
 homa City.

OREGON:

Agricultural Experiment Station,
 Corvallis.
 University of Oregon, Eugene.

PENNSYLVANIA:

American Philosophical Society,
 Philadelphia.
 Association of Engineering Societies,
 Philadelphia.
 Bryn Mawr College.
 Carnegie Institute, Pittsburgh.
 Carnegie Library, Pittsburgh.
 Carnegie Museum, Pittsburgh.
 Delaware County Institute of
 Science, Media.
 Dropsie College, Philadelphia.
 Engineers' Society of Western
 Pennsylvania, Pittsburgh.
 Franklin Institute, Philadelphia.

Macbeth-Evans Glass Company,
 Pittsburgh (gift).
 Numismatic and Antiquarian Society,
 Philadelphia.
 Pennsylvania Museum and School of
 Industrial Art, Philadelphia.
 Philadelphia Academy of Natural
 Sciences.
 Philadelphia College of Pharmacy.
 Philadelphia Commercial Museum.
 Sullivant Moss Society, Pittsburgh.
 University of Pennsylvania, Phila-
 delphia.
 University of Pennsylvania Museum,
 Philadelphia.
 Wagner Free Institute of Science,
 Philadelphia.
 Wyoming Historical and Geological
 Society, Wilkes-Barre.

PHILIPPINE ISLANDS:

Bureau of Education, Manila.
 Department of Agriculture, Manila.
 Department of Interior, Bureau of
 Science, Manila.

RHODE ISLAND:

Park Museum, Providence.

SOUTH CAROLINA:

Charleston Museum.

SOUTH DAKOTA:

Agricultural Experiment Station,
 Brookings.
 Geological and Natural History
 Survey, Vermilion.
 South Dakota School of Mines,
 Rapid City.

TEXAS:

Agricultural Experiment Station,
 College Station.
 Scientific Society of San Antonio.
 University of Texas, Austin.

VERMONT:

State Geologist, Burlington.

VIRGINIA:

State Library, Richmond.
 University of Virginia, Charlottes-
 ville.
 Virginia Geological Survey, Char-
 lottesville.

WASHINGTON:

Washington University, Seattle.
 Washington University, Historical
 Society, Seattle.

WASHINGTON, D. C.:

American Mining Congress.
 Argentine Ambassador.





LIFE-SIZE FIGURE OF JAPANESE WOMAN IN STREET COSTUME, FRONT AND BACK.

- Carnegie Institution of Washington.
 Library of Congress.
 National Academy of Sciences.
 National Education Association
 (gift).
 National Zoölogical Park.
 Pan American Union.
 United States Government.
- WISCONSIN:**
 Wisconsin Experiment Station,
 Madison.
 Beloit College.
 Geological and Natural History
 Survey, Madison.
 University of Wisconsin, Madison.
- Ayer, Edward E., Chicago (gift).
 Baker, Frank C., Urbana.
 Barnes, William, Decatur.
 Bascom, Florence, Bryn Mawr (gift).
 Brandegee, Townsend S., Berkeley.
 Britton, Nathaniel L., New York.
 Bush, Benjamin F., (gift).
 Clarke, Thomas H., Cambridge (gift).
 Davies, D. C., Chicago (gift).
 Farwell, Oliver A., Detroit (gift).
 Field, Richard M., Jamaica Plain
 (gift).
 Field, Stanley, Chicago (gift).
 Gerhard, W. J., Chicago (gift).
 Hankinson, T. L., Ypsilanti (gift).
- Hanson, Herbert C., (gift).
 Hoyt, F. W., New York (gift).
 Hubbs, Carl L., Ann Arbor (gift).
 Jones, L. R., Madison.
 Kendall, William C., Washington, D.C.
 Laufer, Berthold, Chicago (gift).
 Manning, Warren H., North Bellerica
 (gift).
 Millspaugh, Charles F., Chicago.
 Morse, Edward S., Salem.
 Osborn, Henry Fairfield, New York
 City.
 Osgood, Wilfred H., Chicago (gift).
 Parshley, H. M., Northampton.
 Pennell, Francis W., New York City.
 Penrose, R. A. F., Philadelphia.
 Rostovtzeff, M., Madison.
 Rumsey, Winnie, Lake Forest (gift).
 Schmidt, Karl P., New York City
 (gift).
 Small, John K., New York City (gift).
 Speck, Frank G., Philadelphia (gift).
 Springer, Frank, Las Vegas.
 Starr, Frederick, Chicago.
 Todd, W. E. Clyde, Pittsburgh.
 Tompkins-Kiel Marble Company, New
 York City (gift).
 Trelease, William, Urbana.
 Woods, George, Chicago (gift).

ARTICLES OF INCORPORATION.

STATE OF ILLINOIS.

DEPARTMENT OF STATE

WILLIAM H. HINRICHSEN, *Secretary of State.*

TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETING:

Whereas, a Certificate duly signed and acknowledged having been filed in the office of the Secretary of State, on the 16th day of September, A. D. 1893, for the organization of the COLUMBIAN MUSEUM OF CHICAGO, under and in accordance with the provisions of "An Act Concerning Corporations," approved April 18, 1872, and in force July 1, 1872, and all acts amendatory thereof, a copy of which certificate is hereto attached.

Now, therefore, I, William H. Hinrichsen, Secretary of State of the State of Illinois, by virtue of the powers and duties vested in me by law, do hereby certify that the said COLUMBIAN MUSEUM OF CHICAGO is a legally organized Corporation under the laws of this State.

In Testimony Whereof, I hereto set my hand and cause to be affixed the Great Seal of State. Done at the City of Springfield, this 16th day of September, in the year of our Lord one thousand eight hundred and ninety-three, and of the Independence of the United States the one hundred and eighteenth.

W. H. HINRICHSEN,
Secretary of State.

[SEAL]

TO HON. WILLIAM H. HINRICHSEN,

SECRETARY OF STATE:

SIR:

We, the undersigned citizens of the United States, propose to form a corporation under an act of the General Assembly of the State of Illinois, entitled "An Act Concerning Corporations," approved April 18, 1872, and all acts amendatory thereof; and that for the purposes of such organization we hereby state as follows, to-wit:

1. The name of such corporation is the "COLUMBIAN MUSEUM OF CHICAGO."
2. The object for which it is formed is for the accumulation and dissemination of knowledge, and the preservation and exhibition of objects illustrating Art, Archæology, Science and History.
3. The management of the aforesaid museum shall be vested in a Board of FIFTEEN (15) TRUSTEES, five of whom are to be elected every year.
4. The following named persons are hereby selected as the Trustees for the first year of its corporate existence:

Edward E. Ayer, Charles B. Farwell, George E. Adams, George R. Davis, Charles L. Hutchinson, Daniel H. Burnham, John A. Roche, M. C. Bullock, Emil G. Hirsch, James W. Ellsworth, Allison V. Armour, O. F. Aldis, Edwin Walker, John C. Black and Frank W. Gunsaulus.

5. The location of the Museum is in the City of Chicago, County of Cook, and State of Illinois.

(Signed),

George E. Adams, C. B. Farwell, Sidney C. Eastman, F. W. Putnam, Robert McCurdy, Andrew Peterson, L. J. Gage, Charles L. Hutchinson, Ebenezer Buckingham, Andrew McNally, Edward E. Ayer, John M. Clark, Herman H. Kohlsaat, George Schneider, Henry H. Getty, William R. Harper, Franklin H. Head, E. G. Keith, J. Irving Pearce, Azel F. Hatch, Henry Wade Rogers, Thomas B. Bryan, L. Z. Leiter, A. C. Bartlett, A. A. Sprague, A. C. McClurg, James W. Scott, Geo. F. Bissell, John R. Walsh, Chas. Fitzsimmons, John A. Roche, E. B. McCagg, Owen F. Aldis, Ferdinand W. Peck, James H. Dole, Joseph Stockton, Edward B. Butler, John McConnell, R. A. Waller, H. C. Chatfield-Taylor, A. Crawford, Wm. Sooy Smith, P. S. Peterson, John C. Black, Jno. J. Mitchell, C. F. Gunther, George R. Davis, Stephen A. Forbes, Robert W. Patterson, Jr., M. C. Bullock, Edwin Walker, George M. Pullman, William E. Curtis, James W. Ellsworth, William E. Hale, Wm. T. Baker, Martin A. Ryerson, Huntington W. Jackson, N. B. Ream, Norman Williams, Melville E. Stone, Bryan Lathrop, Eliphalet W. Blatchford, Philip D. Armour.

STATE OF ILLINOIS

SS.

COOK COUNTY

I, G. R. MITCHELL, a NOTARY PUBLIC in and for said County, do hereby certify that the foregoing petitioners personally appeared before me and acknowledged severally that they signed the foregoing petition as their free and voluntary act for the uses and purposes therein set forth.

Given under my hand and notarial seal this 14th day of September, 1893.

G. R. MITCHELL,

[SEAL]

NOTARY PUBLIC, COOK COUNTY, ILL.

CHANGE OF NAME.

Pursuant to a resolution passed at a meeting of the corporate members held the 25th day of June, 1894, the name of the COLUMBIAN MUSEUM was changed to FIELD COLUMBIAN MUSEUM. A certificate to this effect was filed June 26, 1894, in the office of the Secretary of State for Illinois.

CHANGE OF NAME.

Pursuant to a resolution passed at a meeting of the corporate members held the 8th day of November, 1905, the name of the FIELD COLUMBIAN MUSEUM was changed to FIELD MUSEUM OF NATURAL HISTORY. A certificate to this effect was filed November 10, 1905, in the office of the Secretary of State for Illinois.

CHANGE IN ARTICLE 3.

Pursuant to a resolution at a meeting of the corporate members held the 10th day of May, 1920, the management of FIELD MUSEUM OF NATURAL HISTORY shall be invested in a Board of TWENTY-ONE (21) TRUSTEES, who shall be elected in such manner and for such time and term of office as may be provided for by the By-Laws. A certificate to this effect was filed May 21, 1920, in the office of the Secretary of State for Illinois.

AMENDED BY-LAWS

(JANUARY 1, 1921.)

ARTICLE 1.

MEMBERS

SECTION 1. Members shall be of seven classes, Corporate Members, Honorary Members, Patrons, Life Members, Associate Members, Sustaining Members, and Annual Members.

SECTION 2. The Corporate Members shall consist of the persons named in the articles of incorporation, and of such other persons as shall be chosen from time to time by the Board of Trustees at any of its meetings, upon the recommendation of the Executive Committee; provided, that such person named in the articles of incorporation shall, within ninety days from the adoption of these By-Laws, and persons hereafter chosen as Corporate Members shall, within ninety days of their election, pay into the treasury the sum of twenty (\$20.00) dollars or more. Corporate Members becoming Life Members, Patrons or Honorary Members shall be exempt from dues. Annual meetings of said Corporate Members shall be held at the same place and on the same day that the annual meeting of the Board of Trustees is held.

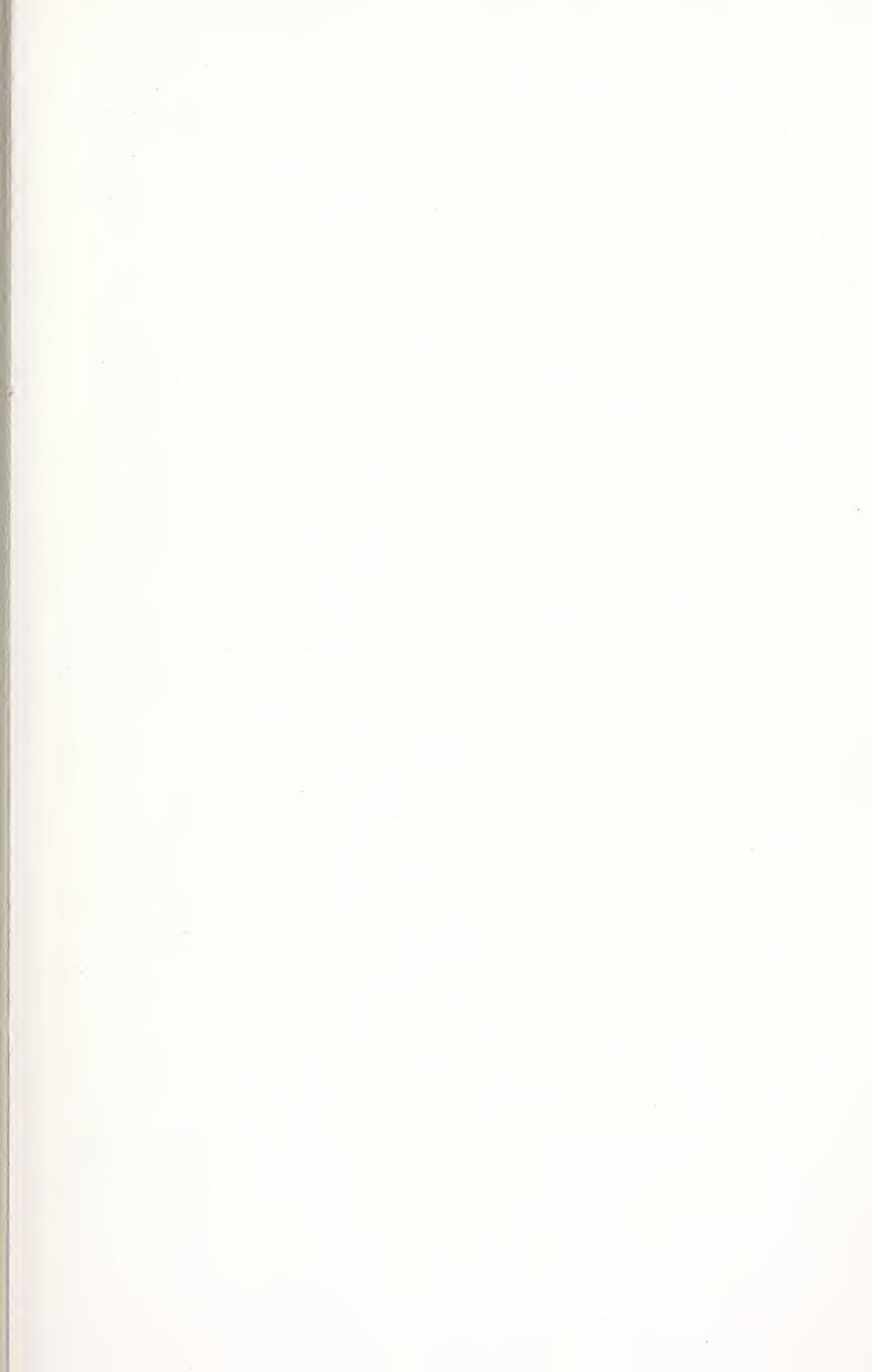
SECTION 3. Honorary Members shall be chosen by the Board from among persons who have rendered eminent service to science, and only upon unanimous nomination of the Executive Committee. They shall be exempt from all dues.

SECTION 4. Patrons shall be chosen by the Board upon recommendation of the Executive Committee from among persons who have rendered eminent service to the Museum. They shall be exempt from all dues, and, by virtue of their election as Patrons, shall also be Corporate Members.

SECTION 5. Any person paying into the treasury the sum of five hundred (\$500.00) dollars, at any one time, shall, upon the unanimous vote of the Board, become a Life Member. Life Members shall be exempt from all dues, and shall enjoy all the privileges and courtesies of the Museum that are accorded to members of the Board of Trustees.

SECTION 6. Any person paying into the treasury of the Museum the sum of one hundred (\$100.00) dollars, at any one time, shall upon the unanimous vote of the Board, become an Associate Member. Associate Members shall be entitled to: tickets admitting member and members of family, including non-resident home guests; all publications of the Museum, if so desired; reserved seats to all lectures and entertainments under the auspices of the Museum, provided reservation is requested in advance; and admission of holder of membership and accompanying party to all special exhibits and Museum functions day or evening.

SECTION 7. Sustaining Members shall consist of such persons as are selected from time to time by the Board of Trustees at any of its meetings, and who shall pay an annual fee of twenty-five (\$25.00) dollars, payable within thirty days after notice of election and within thirty days after each recurring annual date. This Sustaining Membership entitles the member to free admission for the member and family to Museum on any day and allows 25 admission coupons,





BULLFROG.
Celluloid reproduction by L. I. Walters.

which may be used by any one, the Annual Report and such other Museum documents or publications as may be requested in writing. When a Sustaining Member has paid the annual fee of \$25.00 for six years, such member shall be entitled to become an Associate Member.

SECTION 8. Annual Members shall consist of such persons as are selected from time to time by the Board of Trustees at any of its meetings, and who shall pay an annual fee of ten (\$10.00) dollars, payable within thirty days after each recurring annual date. An Annual Membership shall entitle the member to a card of admission for the member and family during all hours when the Museum is open to the public, and free admission for the member and family to all Museum lectures or entertainments. This membership will also entitle the holder to the courtesies of the membership privileges of every Museum of note in the United States and Canada, so long as the existing system of cooperative interchange of membership tickets shall be maintained, including tickets for any lectures given under the auspices of any of the Museums during a visit to the cities in which the cooperative museums are located.

ARTICLE II.

BOARD OF TRUSTEES.

SECTION 1. The Board of Trustees shall consist of twenty-one members. The respective members of the Board now in office, and those who shall hereafter be elected, shall hold office during life. Vacancies occurring in the Board shall be filled at a regular meeting of the Board, upon the nomination of the Executive Committee made at a preceding regular meeting of the Board, by a majority vote of the members of the Board present.

SECTION 2. Regular meetings of the Board shall be held monthly. Special meetings may be called at any time by the President, and shall be called by the Secretary upon the written request of three Trustees. Five Trustees shall constitute a quorum, except for the election of officers or the adoption of the Annual Budget, when seven Trustees shall be required, but meetings may be adjourned by any less number from day to day, or to a day fixed, previous to the next regular meeting.

SECTION 3. Reasonable written notice, designating the time and place of holding meetings, shall be given by the Secretary.

ARTICLE III.

HONORARY TRUSTEES.

SECTION 1. As a mark of respect, and in appreciation of services performed for the Institution, those Trustees who by reason of inability, on account of change of residence, or for other cause or from indisposition to serve longer in such capacity shall resign their place upon the Board, may be elected, by a majority of those present at any regular meeting of the Board, an Honorary Trustee for life. Such Honorary Trustee will receive notice of all meetings of the Board of Trustees, whether regular or special, and will be expected to be present at all such meetings and participate in the deliberations thereof, but an Honorary Trustee shall not have the right to vote.

ARTICLE IV.

OFFICERS.

SECTION 1. The officers shall be a President, a First Vice-President, a Second Vice-President, a Third Vice-President, a Secretary, an Assistant Secretary and a Treasurer. They shall be chosen by ballot by the Board of Trustees, a majority of those present and voting being necessary to elect. The President,

the First Vice-President, the Second Vice-President, and the Third Vice-President shall be chosen from among the members of the Board of Trustees. The meeting for the election of officers shall be held on the third Monday of January of each year, and shall be called the Annual Meeting.

SECTION 2. The officers shall hold office for one year, or until their successors are elected and qualified, but any officer may be removed at any regular meeting of the Board of Trustees by a vote of two-thirds of all the members of the Board. Vacancies in any office may be filled by the Board at any meeting.

SECTION 3. The officers shall perform such duties as ordinarily appertain to their respective offices, and such as shall be prescribed by the By-Laws, or designated from time to time by the Board of Trustees.

ARTICLE V.

THE TREASURER.

SECTION 1. The Treasurer shall be custodian of the funds of the Corporation except as hereinafter provided. He shall make disbursements only upon warrants drawn by the Director and countersigned by the President. In the absence or inability of the Director, warrants may be signed by the chairman of the Finance Committee, and in the absence or inability of the President, may be countersigned by one of the Vice-Presidents. But no warrant shall be issued, except in conformity with a regularly prepared voucher, giving the name of the payee and stating the occasion for the expenditure, and verified and approved as hereinafter prescribed. It shall be no part of the duties of the Treasurer to see that the warrants have been issued in conformity with such vouchers.

SECTION 2. The securities and muniments of title belonging to the corporation shall be placed in the custody of some Trust Company of Chicago to be designated by the Board of Trustees, which Trust Company shall collect the income and principal of said securities as the same become due, and pay same to the Treasurer, except as hereinafter provided. Said Trust Company shall allow access to and deliver any or all securities or muniments of title to the joint order of the following officers, namely The President or one of the Vice-Presidents, jointly with the Chairman, or one of the Vice-Chairmen, of the Finance Committee of the Museum.

SECTION 3. The Treasurer shall give bond in such amount, and with such sureties as shall be approved by the Board of Trustees.

SECTION 4. All vouchers executed for the payment of liabilities incurred in the administration of the Museum, shall be verified by the Auditor, and approved for payment by the Director, and a member of the Executive Committee. All vouchers executed for expenditures for the construction or reconstruction of the Museum building, or buildings, shall be verified by the Auditor and approved for payment by the Chairman of the Building Committee. All vouchers executed in connection with the investments of the Corporation, or, in any way having to do with the endowment funds of the Corporation, shall be verified by the Auditor and approved for payment by the Chairman of the Finance Committee.

SECTION 5. The Harris Trust & Savings Bank of Chicago shall be Custodian of "The N. W. Harris Public School Extension of Field Museum" fund. The bank shall make disbursements only upon warrants drawn by the Director and countersigned by the President. In the absence or inability of the Director, warrants may be signed by the Chairman of the Finance Committee, and in the absence or inability of the President, may be countersigned by the Vice-Presidents. But no warrant shall be issued, except in conformity with a regularly prepared voucher, giving the name of the payee and stating the occasion for the expenditure, and verified and approved by the Auditor, the Director, and a

member of the Executive Committee. It shall be no part of the duties of the said Custodian to see that the warrants have been issued in conformity with such vouchers.

ARTICLE VI.

THE DIRECTOR

SECTION 1. The Board of Trustees shall elect a Director of the Museum, who shall remain in office until his successor shall be elected. He shall have immediate charge and supervision of the Museum, and shall control the operations of the Institution, subject to the authority of the Board of Trustees and its Committees. The Director shall be the official medium of communication between the Board, or its Committees, and the scientific staff and maintenance force.

SECTION 2. There shall be four scientific departments of the Museum—Anthropology, Botany, Geology and Zoölogy; each under the charge of a Curator, subject to the authority of the Director. The Curators shall be appointed by the Board upon the recommendation of the Director, and shall serve during the pleasure of the Board. Subordinate staff officers in the scientific departments shall be appointed and removed by the Director upon the recommendation of the Curators of the respective Departments. The Director shall have authority to employ and remove all other employees of the Museum.

SECTION 3. The Director shall make report to the Board at each regular meeting, recounting the operations of the Museum for the previous month. At the Annual Meeting, the Director shall make an Annual Report, reviewing the work for the previous year, which Annual Report shall be published in pamphlet form for the information of the Trustees and Members, and for free distribution in such number as the Board may direct.

ARTICLE VII.

AUDITOR

SECTION 1. The Board shall appoint an Auditor, who shall hold his office during the pleasure of the Board. He shall keep proper books of account, setting forth the financial condition and transactions of the Corporation, and of the Museum, and report thereon at each regular meeting, and at such other times as may be required by the Board. He shall certify to the correctness of all vouchers for the expenditure of the money of the Corporation.

ARTICLE VIII.

COMMITTEES.

SECTION 1. There shall be five Committees, as follows: Finance, Building, Auditing, Pension and Executive.

SECTION 2. The Finance Committee shall consist of five members, the Auditing and Pension Committees shall each consist of three members, and the Building Committee shall consist of five members. All members of these four Committees shall be elected by ballot by the Board at the Annual Meeting, and shall hold office for one year, and until their successors are elected and qualified. In electing the members of these Committees, the Board shall designate the Chairman and Vice-Chairman by the order in which the members are named in the respective Committee; the first member named shall be Chairman, the second named the Vice-Chairman, and the third named, Second Vice-chairman, succession to the Chairmanship being in this order in the event of the absence or disability of the Chairman.

SECTION 3. The Executive Committee shall consist of the President of the

Board, the Chairman of the Finance Committee, the Chairman of the Building Committee, the Chairman of the Auditing Committee, the Chairman of the Pension Committee, and three other members of the Board to be elected by ballot at the Annual Meeting.

SECTION 4. Four members shall constitute a quorum of the Executive Committee, and in all standing Committees two members shall constitute a quorum. In the event that, owing to the absence or inability of members, a quorum of the regularly elected members cannot be present at any meeting of any Committee, then the Chairman thereof, or his successor, as herein provided, may summon any members of the Board of Trustees to act in place of the absentee.

SECTION 5. The Finance Committee shall have supervision of investing the endowment and other permanent funds of the Corporation, and the care of such real estate as may become its property. It shall have authority to invest, sell, and reinvest funds, subject to the approval of the Board.

SECTION 6. The Building Committee shall have supervision of the construction, reconstruction, and extension of any and all buildings used for Museum purposes.

SECTION 7. The Executive Committee shall be called together from time to time as the Chairman may consider necessary, or as he may be requested to do by three members of the Committee, to act upon such matters affecting the administration of the Museum as cannot await consideration at the Regular Monthly Meetings of the Board of Trustees. It shall, before the beginning of each fiscal year, prepare and submit to the Board an itemized Budget, setting forth the probable receipts from all sources for the ensuing year, and make recommendations as to the expenditures which should be made for routine maintenance and fixed charges. Upon the adoption of the Budget by the Board, the expenditures as stated are authorized.

SECTION 8. The Auditing Committee shall have supervision over all accounting and bookkeeping, and full control of the financial records. It shall cause the same, once each year, or oftener, to be examined by an expert individual or firm, and shall transmit the report of such expert individual or firm to the Board at the next ensuing regular meeting after such examination shall have taken place.

SECTION 9. The Pension Committee shall determine by such means and processes as shall be established by the Board of Trustees to whom and in what amount the Pension Fund shall be distributed. These determinations or findings shall be subject to the approval of the Board of Trustees.

SECTION 10. The Chairman of each Committee shall report the acts and proceedings thereof at the next ensuing regular meeting of the Board.

SECTION 11. The President shall be ex-officio a member of all Committees and Chairman of the Executive Committee. Vacancies occurring in any Committee may be filled by ballot at any regular meeting of the Board.

ARTICLE IX.

NOMINATING COMMITTEE

SECTION 1. At the November meeting of the Board, each year a Nominating Committee of three shall be chosen by lot. Said Committee shall make nominations for membership of the Finance Committee, the Building Committee, the Auditing Committee, and the Pension Committee, and for three members of the Executive Committee, from among the Trustees, to be submitted at the ensuing December meeting and voted upon at the following Annual Meeting in January.



STRIPED BASS.

Prepared by combination of cast body and natural fins by L. L. Pray.

ARTICLE X.

SECTION 1. Whenever the word "Museum" is employed in the By-Laws of the Corporation, it shall be taken to mean the building in which the Museum as an Institution is located and operated, the material exhibited, the material in study collections, or in storage, furniture, fixtures, cases, tools, records, books, and all appurtenances of the Institution and the workings, researches, installations, expenditures, field work, laboratories, library, publications, lecture courses, and all scientific and maintenance activities.

SECTION 2. These By-Laws may be amended at any regular meeting of the Board of Trustees by a two-thirds vote of all the members present, provided the amendment shall have been proposed at a preceding regular meeting.

HONORARY MEMBERS.

AYER, EDWARD E.	BLACKSTONE, MRS. T. B.
AYER, MRS. EDWARD E.	FIELD, STANLEY
	McCORMICK, STANLEY

DECEASED 1921

CORY, CHARLES B.

PATRONS.

ARMOUR, ALLISON V.	MANIERRE, GEORGE
BUTLER, EDWARD B.	MARKHAM, CHARLES H.
COLLINS, ALFRED M.	MILLER, JOHN S.
DAY, LEE GARNETT	PAYNE, JOHN BARTON
GRAHAM, ERNEST R.	SARGENT, HOMER E.
HUTCHINSON, CHARLES L.	SIMPSON, JAMES
KENNEDY, VERNON SHAW	SMITH, WILLARD A.
	WILSON, JOHN P.

DECEASED 1921

GUNSAULUS, FRANK W.
SKIFF, FREDERICK J. V.

CORPORATE MEMBERS.

ALDIS, OWEN F.
 ARMOUR, ALLISON V.
 AYER, EDWARD E.

BARTLETT, A. C.
 BLAIR, WATSON F.
 BORDEN, JOHN
 BUTLER, EDWARD B.
 BYRAM, HARRY E.

CHALMERS, W. J.
 CHATFIELD-TAYLOR, H. C.
 COLLINS, ALFRED M.
 CRANE, Jr., RICHARD T.

DAY, LEE GARNETT

EASTMAN, SIDNEY C.
 ELLSWORTH, JAMES W.

FIELD, MARSHALL
 FIELD, STANLEY

GAGE, LYMAN J.
 GRAHAM, ERNEST R.

HARRIS, ALBERT W.
 HUTCHINSON, CHARLES L.

JONES, ARTHUR B.

KEEP, CHAUNCEY
 KENNEDY, VERNON SHAW
 KOHLSAAT, HERMAN H.

McCORMICK, CYRUS H.
 MANIERRE, GEORGE
 MARKHAM, CHARLES H.
 MILLER, JOHN S.
 MITCHELL, JOHN J.

PAYNE, JOHN BARTON
 PECK, FERDINAND W.
 PORTER, GEORGE F.

RYERSON, MARTIN A.

SARGENT, HOMER E.
 SIMPSON, JAMES
 SMITH, SOLOMON A.
 SMITH, WILLARD A.
 SPRAGUE, ALBERT A.
 STONE, MELVILLE E.

WILSON, JOHN P.
 WRIGLEY, Jr., WILLIAM

 DECEASED 1921

GUNSAULUS, FRANK W.
 SKIFF, FREDERICK J. V.

LIFE MEMBERS.

ALDIS, ARTHUR T.
ALDIS, OWEN F.
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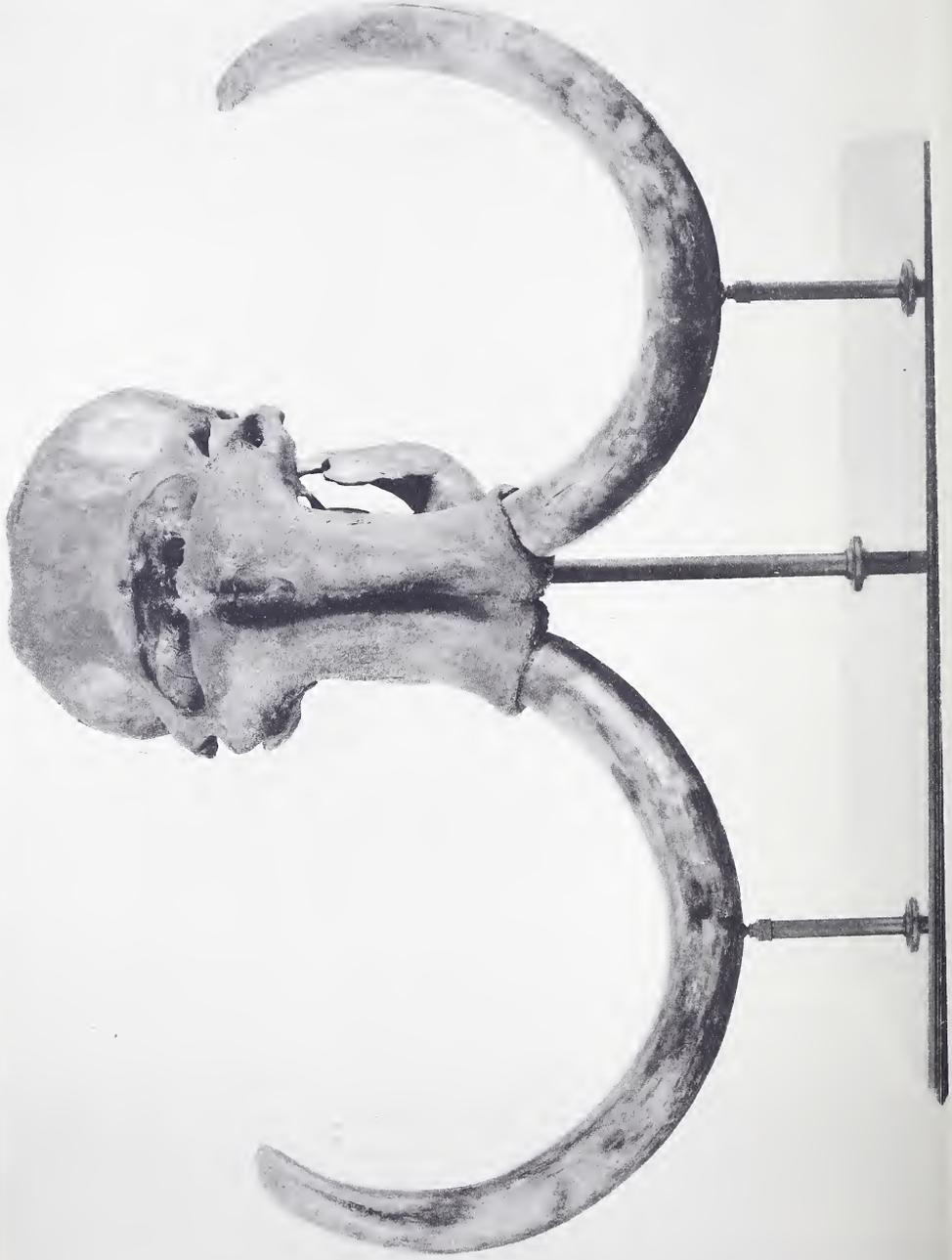
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