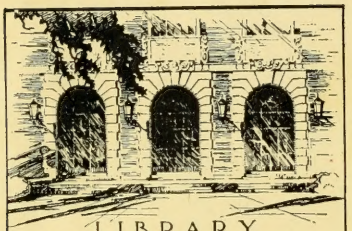

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FIELD MUSEUM OF NATURAL HISTORY.

PUBLICATION 173.

REPORT SERIES. VOL. IV, No. 4.

ANNUAL REPORT OF THE DIRECTOR

TO THE

BOARD OF TRUSTEES

FOR THE YEAR 1913.

CHICAGO, U. S. A
January, 1914.

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Secretary of the Museum Corporation from April, 1894, to May, 1907, and Chairman of the Auditing Committee since the organization.

FIELD MUSEUM OF NATURAL HISTORY.

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D. C. Davies.

THE LIBRARY.

Elsie Lippincott, *Librarian.*

THE N. W. HARRIS PUBLIC SCHOOL EXTENSION

S. C. Simms, *Curator.*

ANNUAL REPORT OF THE DIRECTOR.

1913

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, 1913.

A review of the year's activities, while not without the broader and more striking interest of expedition research and survey in various parts of the world, shows that the labor performed, the material progress made, has been very largely within the walls of the Institution in continuance and enlargement of the plans of the past two years in preparing exhibition material for the New Building. This work not only includes the installation of material that has not been on exhibition but the re-installation of exhibited material and the re-labeling of the latter. So well have the different departments devoted their energies to this task that the orderly and systematic physical appearance of the Museum has ceased to elicit commendation from visitors or contemporaries. The great number of installed new cases for which space is continually demanded from the already crowded floor area has interlocked the installation of departments and divisions to a degree that must be confusing to visitors, as it certainly is most unsatisfactory to the management. If the pressure for space continues, as it seems likely it will do, some portions of the Museum must be closed off as an improvised warehouse where cases can be stored without any relation to passage-ways or any regard for the convenience of visitors. In some of the courts and halls the circulation provisions have been reduced to two-feet passage-ways which really almost prohibits an inspection of the contents of the cases.

The Joseph N. Field Ethnological expedition to the South Sea Islands concluded its three years' studies and collections, and Dr. Lewis, the head of the expedition, has returned and for several months has been engaged in cataloguing, labeling and installing this most prized collection. It is now quite apparent that the great extent of this collection will not permit its complete installation for several years, though from its abundance a notable representation will be on view within the coming year. In addition to the fund provided by Mr. Joseph N. Field for the field work of this South Pacific expedition, a further and large sum was contributed by Mr. Field for the purchase of an important collection of

masks from New Britain and ethnological material from German New Guinea.

The South American Zoölogical expedition is still in the field, being last reported as in Southern Brazil with splendid results. The consignments of material from the field reach the Museum at intervals of about three months, and, as will be seen from the report on the Department of Zoölogy made elsewhere, is giving the greatest satisfaction to the department.

The Museum is the grateful beneficiary of the results from a private expedition to British East Africa and adjacent territories under Mr. Brent Altscheler of Louisville, Kentucky, a hunter, a lover of science, and a friend of the Museum.

The announcement of the Hon. R. M. Barnes of Lacon, Illinois, that he had constituted Field Museum of Natural History legatee under his will for his collection of more than 24,000 birds' eggs was received by the authorities of the Museum with the greatest satisfaction, for not only is this act regarded as a high testimonial to the worthiness of the Museum and an evidence of extending confidence in its purposes and performances, but it is of a great value to the Division of Ornithology to be assured that eventually this great collection will be added to its resources.

The progress made by the N. W. Harris Public School Extension during the year, and the interest that the public and the Chicago schools system have manifested in this exhibition of collections from the Museum in the public schools, have encouraged the founder in this philanthropy, and inspired with zeal the organization which is dispensing it. The preliminary stages in the difficult task of getting this undertaking in full operation have been passed; the experimental period is practically over, and when a few details, yet to be arranged with the Superintendent of Schools have been determined upon, the regular distribution of these cabinets will be begun. The force of scientific men and preparators under the guidance of the efficient curator of this foundation have a great many cabinets and cases completed, and recently, at the request of the Council for Library and Museum Extension, made an exhibition of a number of the collections at the Art Institute, which was very well attended and very cordially commended.

Maintenance.— The cost of maintenance for the year amounted to $170,000, which was $5,000 less than the amounted authorized by the Board of Trustees for the year ending December 31, 1913. The total amount expended for all purposes was $237,100, being $1,000 less than the previous year. The difference between the cost of maintenance and the actual amount expended is accounted for by special appropriations for the purchase of collections, and the cost of extensive repairs to

the roof of the building. The building itself can be considered as being in good repair, yet the overhanging cornices which are rapidly deteriorating occasion a certain amount of anxiety and are promptly removed as conditions demand. During the year the entire building was thoroughly examined by an expert assigned for this inspection by D. H. Burnham & Company, the architects. The report states that all brick work is in first class shape, as is also the structural steel in the columns and girders. The staff work throughout the interior of the building was found to be in good condition. The skylights were also reported as being in good state. A special request was made that this expert examine the floor loads throughout the building, and it is gratifying that the report states that much care had been exercised in this respect and where an unusually heavy load is concentrated the floor had been thoroughly reinforced in each instance.

LECTURE COURSES.— The lecture courses have been particularly interesting and well attended. They have been participated in by distinguished scholars and students in the various branches of the natural sciences, and acknowledgment is here made of the generosity and good will which this participation manifests toward the Museum.

Thirty-eighth free illustrated lecture course, delivered during the months of March and April, 1913.

March 1.—"A Look into South America."
Prof. Rollin D. Salisbury, The University of Chicago.

March 8.—"Fossil Collecting."
Mr. A. W. Slocom, Assistant Curator, Division of Invertebrate Paleontology, Field Museum.

March 15.—"Cultural and Somatic Evidences of Man's Antiquity."
Prof. George Grant MacCurdy, Yale University.

March 22.—"Spain — Country and People."
Mr. Arthur Stanley Riggs, New York.

March 29.—"Newfoundland."
Prof. M. L. Fernald, Harvard University.

April 5.—"Wild Flowers of the Chicago Region."
Dr. C. F. Millspaugh, Curator, Department of Botany, Field Museum.

April 12.—"Crossing the Andes of Northern Peru."
Mr. W. H. Osgood, Assistant Curator of Mammalogy and Ornithology, Field Museum.

April 19.—"Logging California Redwoods."
Mr. Huron H. Smith, Assistant Curator, Division of Dendrology, Field Museum.

April 26.—"Religious and Artistic Thought in China."
Dr. Berthold Laufer, Associate Curator of Asiatic Ethnology, Field Museum.

Thirty-ninth free illustrated lecture course, delivered during the months of October and November, 1913.

Oct. 4.—"Korea."
Mr. Homer B. Hulbert, Springfield, Massachusetts.

Oct. 11.—"The Scenery and Resources of Alaska."
Prof. Lawrence Martin, University of Wisconsin.

Oct. 18.—"The Physical Basis and Determination of Sex."
Dr. Horatio H. Newman, The University of Chicago.

Oct. 25.—"Our Forests."
Mr. Huron H. Smith, Assistant Curator of Dendrology, Field Museum.

Nov. 1.—"Zoölogical Collecting in South America."
Mr. Wilfred H. Osgood, Assistant Curator of Mammalogy and Ornithology, Field Museum.

Nov. 8.—"The Inhabitants of Fresh Water."
Dr. Victor E. Shelford, The University of Chicago.

Nov. 15.—"Migration of Plants."
Prof. L. H. Pammel, Iowa State College.

Nov. 22.—"The Joseph N. Field South Pacific Expedition."
Dr. A. B. Lewis, Assistant Curator of African and Melanesian Ethnology, Field Museum.

Nov. 29.—"New Zealand."
Dr. Carlos E. Cummings, Buffalo Society of Natural Sciences.

Publications.— The publications of the Museum have appeared as usual from time to time as opportunity presented itself. The list includes eight numbers of the established series, details of which follow:

Pub. 165.— Report Series, Vol. IV, No. 3. Annual Report of the Director to the Board of Trustees for the year 1912. 90 pages, 14 half-tones. Edition 2500.

Pub. 166.— Zoölogical Series, Vol. X, No. 8. New Species of Fishes from Panama. By S. E. Meek and S. F. Hildebrand. 15 pages. Edition 1500.

Pub. 167.— Ornithological Series, Vol. I, No. 7. Descriptions of Twenty-eight New Species and Subspecies of Neotropical Birds. By C. B. Cory. 10 pages. Edition 1500.

Pub. 168.— Zoological Series, Vol. X, No. 9. New Peruvian Mammals. By W. H. Osgood. 9 pages. Edition 1500.

Pub. 169.— Anthropological Series, Vol. XIII, No. 1. Notes on Turquois in the East. By Berthold Laufer. 72 pages, 1 colored plate, 7 halftones. Edition 2000.

Pub. 170.— Anthropological Series, Vol. XII, No. 2. The Wild Tribes of Davao District, Mindanao. By F. C. Cole. 153 pages, 1 colored map, 75 halftones, 62 zinc etchings. Edition 1500.

Pub. 171.— Geological Series, Vol. IV, No. 3. New Trilobites from the Maquoketa Beds of Fayette County, Iowa. By A. W. Slocom. 41 pages, 6 halftones, 1 zinc etching. Edition 1500.

Pub. 172.— Botanical Series, Vol. II, No. 9. I. The Genera Pedilanthus and Cubanthus and other American Euphorbiaceæ. By C. F. Millspaugh. II. Two New Stonecrops from Guatemala. By Raymond Hamet. 27 pages. Edition 1500.

NAMES ON MAILING LIST

Domestic	614
Foreign	693
	1,307

DISTRIBUTION OF FOREIGN EXCHANGES

Argentine Republic	12	India	13
Australia	29	Italy	35
Austria-Hungary	31	Jamaica	2
Belgium	17	Japan	9
Borneo	1	Java	4
Brazil	9	Liberia	1
British East Africa	2	Malta	1
British Guiana	2	Mexico	20
Bulgaria	1	Natal	3
Canada	29	Netherlands	21
Cape Colony	6	New Zealand	7
Ceylon	3	Norway	8
Chile	2	Peru	2
China	2	Portugal	5
Colombia	2	Rhodesia	2
Costa Rica	4	Roumania	1
Denmark	9	Russia	16
East Africa	1	Salvador	1
Ecuador	1	Sicily	3
Egypt	2	Spain	7
France	55	Straits Settlements	1
Fiji Islands	1	Sweden	15
Finland	2	Switzerland	23
Germany	138	Tasmania	3
Great Britain	119	Transvaal	3
Greece	2	Uruguay	1
Guatemala	1	West Indies	3

DISTRIBUTION OF PUBLICATIONS (FOREIGN)

Anthropological	308	Ichthyological	165
Botanical	366	Ornithological	205
Entomological	162	Report	693
Geological	357	Zoölogical	298

DISTRIBUTION OF DOMESTIC EXCHANGES

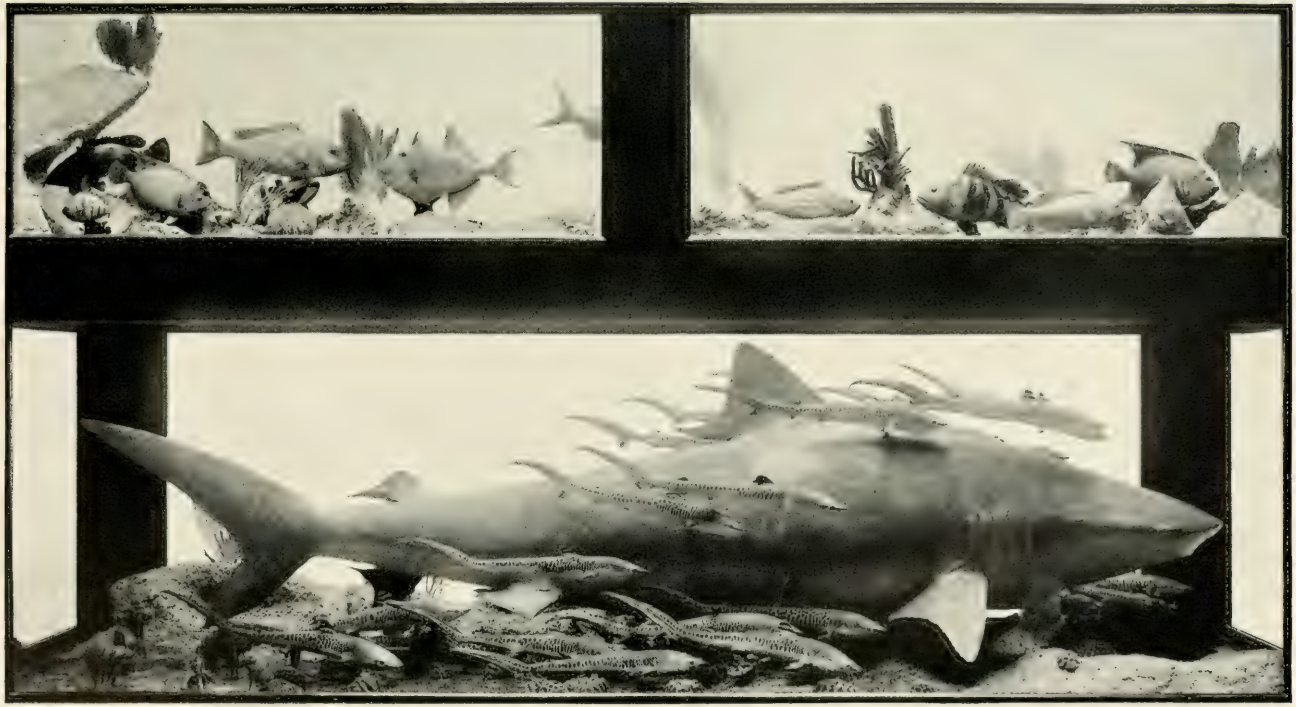
Alabama	2	New Jersey	14
Arkansas	1	New Mexico	2
California	28	New York	84
Colorado	11	North Carolina	6
Connecticut	21	North Dakota	2
Delaware	2	Ohio	22
District of Columbia	65	Oklahoma	2
Florida	2	Oregon	1
Idaho	1	Pennsylvania	35
Illinois	71	Rhode Island	5
Indiana	16	South Carolina	2
Iowa	15	South Dakota	2
Kansas	6	Tennessee	2
Kentucky	3	Texas	2
Louisiana	4	Utah	1
Maine	7	Vermont	4
Maryland	9	Virginia	4
Massachusetts	65	Washington	6
Michigan	12	West Virginia	6
Minnesota	9	Wisconsin	17
Mississippi	3	Wyoming	2
Missouri	12	Cuba	3
Montana	2	Hawaii	5
Nebraska	7	Philippine Islands	3
Nevada	3	Porto Rico	1
New Hampshire	4		

DISTRIBUTION OF PUBLICATIONS (DOMESTIC)

Anthropological	230	Icthyological	150
Botanical	300	Ornithological	158
Geological	311	Report	614
Historical	159	Zoological	263

THE LIBRARY.— The accessions to the Library during the year numbered 4,003, an increase over last year of 1,737. Of these additions 3,908 were received by gift or exchange and 95 by purchase. The volumes and pamphlets in the Library are credited to the different Departments, as follows:

General Library	41,102
Department of Anthropology	3,008
Department of Botany	6,444
Department of Geology	8,751
Department of Zoölogy	2,931
Total	662,23



GROUP OF TROPICAL AMERICAN FISHES. GROUP OF TROPICAL AMERICAN FISHES.

TIGER SHARK (*Galeocerdo tigrinus*) WITH 38 YOUNG.

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Publications were received from 808 individuals and institutions. A special effort was made to increase the useful collections of separata. Requests for reciprocation with equivalent literature were made to all authors who are receiving the publications of the Museum, and who had not done so hitherto. The response to date is gratifying, some four hundred titles having been received. The securing of these additions, the effecting of new exchanges, the obtaining of missing parts to fill in or to complete sets, involved the writing of approximately 1,000 letters. From the translators and commentators, Mr. and Mrs. Herbert Clark Hoover, London and New York City, was received a copy of Georgius Agricola De Re Metallica, translated from the first Latin edition of 1556, with biographical introduction, annotations, etc. With copies of the original editions of 1621 and 1657 in the library, this gift of an accurate translation of this classic in mineralogical literature is highly prized. The library was also the recipient of a copy of the second volume of the J. Pierpont Morgan Catalogue of Porcelains. Other gifts of value received were from Mr. G. R. Agassiz, Cambridge, Mass.; Mr. William D. Boyce of Chicago; Mr. Arthur De Selm, Kankakee, Illinois; Mr. Martin A. Ryerson, Chicago; Mr. William Schaus, Washington, D. C.; Mr. Charles D. Walcott, Washington, D. C.; Imperial Botanical Gardens, St. Petersburg, Russia; Japan Society, London, England; Royal Academy of Science, Vienna, Austria; École des Langues Orientales Vivantes, Paris, France; The Natural History Museum of Hamburg, Germany; the Natural History Society of Hannover, Germany; U. S. Department of Commerce and Labor; the Smithsonian Institution and Yale University Library, New Haven. A notable accession of the year was the literature received with the collection of Ward-Coonley meteorites. The late Mr. Ward had collected over three thousand titles, 1,250 new to this Library, covering the years 1620–1906. This addition to the literature already on the Museum shelves places this library in the front rank on this particular subject. Among the most important purchases were: Le Coq, Chotscho; Gorer & Blacker, Chinese porcelain and hard stones; Dufour, Le Bayon d'Angkor Thom basreliefs; Brabourne & Chubb, Birds of South America; Giebel & Liche, Mammalia, 1874–1913; Martius & Spix, Reise in Brasilien, 1817–20.

The books, periodicals and pamphlets bound during the year number 1,021. The proper sequence of the accessions has had to be sacrificed to make more readily accessible the books most in demand. Two cases discarded for installation purposes by the Departments were fitted with shelves and placed in the General Reading Room and filled with works of a general character. All duplicate material has been packed

in boxes. There have been written and inserted in the various catalogues 22,570 cards.

Departmental Cataloguing, Inventorying and Labeling. — In no previous year in the history of the Department of Anthropology have so many cases been installed with their full complement of labels. At least 150 cases have been fully labeled. It is confidently believed that no more adequate labeling could have been accomplished than that which now prevails throughout the Chinese and Philippine collections recently installed. For the Chinese collection alone over 2,600 labels have been printed. There have been entered in the inventory books of the Department nearly 3,000 catalogue cards, which were about equally divided between the Blackstone Chinese Collection and the Field South Pacific Islands Collection. The Chinese archæological collection has been completely catalogued and the cataloguing of the Tibetan material is well advanced. Assistant Curator Lewis has written approximately 3,000 catalogue cards of the South Pacific Islands collections, which are ready to be entered in the inventory books. These have not yet been turned over to the Cataloguer, but are retained for further reference in connection with the installation of the material which they chronicle.

The cataloguing of the specimens of all accessions received during the year in the Department of Botany is complete to date, and 31,624 sheets of the larger accessions of previous years have also been catalogued. All new installations have received their labels so far as they have been secured from the printer. Copy has been written for 1,033 labels, of which 290 are still in the hands of the printer.

The principal work of cataloguing performed in the Department of Geology was that of the Ward-Coonley meteorite collection. All of this collection to the number of 1,661 specimens has been carefully catalogued. All other material received during the year has likewise been fully catalogued. The material so catalogued includes 784 economic specimens, 1,034 of minerals and about 400 of fossils. For the card catalogue of vertebrate paleontology 72 descriptive cards were written. Books to the number of 282 and 1,355 pamphlets were added to the Department library during the year, and 1,004 cards were added to the card catalogue of the library, making a total of 3,618 cards now comprising the Departmental library catalogue. To the Department photographic albums 185 prints have been added since the last report, making a total of 2,685 photographs now contained in these albums. All of these photographs are fully labeled. The preparation of labels for the exhibition series during the year has principally been concerned with replacing labels of the old buff cardboard type by those of current type. In connection with this work constant revision of the labels has been

carried on and any improvements deemed desirable in the text or style of labels have been made. Series which have been labeled in this way in full during the year include the asbestos collection, the collections of Lake Superior and Manhattan Island rocks, ores of copper, zinc, iron and many minor metals, the collections of concretions, stalactites, rock textures, etc., the glaciated slabs and other specimens in Alcove 103 and the soda collection. Many of these collections contain descriptive labels which were rewritten in order that the information given might be as fresh and up-to-date as possible, or improved in form. For this purpose or for newly installed material 65 descriptive labels were written during the year. Newly installed material was provided with labels as fast as received during the year and practically all specimens now on exhibition are provided with labels of the latest Museum pattern. New series labeled during the year include the graphite collection, several series illustrating uses of metals, a series of Patagonian fossils, of miscellaneous fossil mammals and a large number of invertebrate fossils. The series of blast furnace models, Hall 34, was also supplied with fully descriptive labels. The total number of labels prepared during the year was 3,215, of which 2,902 were printed and installed.

The Curator of Zoölogy reports that cataloguing has proceeded in this Department as usual and all accessions received during the year have been properly entered. In the classified card catalogue much progress has been made both in Ornithology and Mammalogy. Catalogue cards to the number of 350 have been written for mammals which represent more than 1,000 entries. For birds 400 cards have been written and 22 distribution maps have been labeled, the former numbering 1,200 enteries. The card check list of the specimens of South American mammals has been increased to approximately 800 cards. New labels were provided for the serial collection of exotic birds. The Costa Rican collection of fishes obtained by Assistant Curator Meek has been partially catalogued.

The year's work in the Museum on catalogues and inventories is shown in detail below:

	No. of Record Books	Total No. of Entries to Dec. 31, 1913	Entries During 1913	Total No. of Cards Written
Department of Anthropology . .	36	126,530	3,000	130,781
Department of Botany	57	404,965	41,781	40,711
Department of Geology . . .	21	128,036	4,020	7,659
Department of Zoölogy	40	91,905	2,975	30,034
The Library	14	95,865	1,054	164,692
Section of Photography	10	107,268	5,714	.....

ACCESSIONS.— The most important accessions of the year in the Department of Anthropology were those resulting from the Joseph N.

Field Expedition to the South Pacific. These not only include the material collected by Dr. Lewis, but several thousand specimens selected and purchased by the Curator from a dealer in Hamburg. As a result of the expedition and the purchase mentioned, the Department now possesses one of the most important and extensive collections of South Pacific ethnology. It is not possible at this time to state accurately the total number of specimens, but it is believed that it will exceed 20,000. The large number of specimens from most of the islands of Melanesia makes the collection of supreme importance. The collection from the Admiralty Islands is probably unique, for it not only comprises a series of fine carvings and a large series of specimens illustrating all phases of ordinary material culture of the islanders, but more than 30 carved beds, 20 huge carved drums, and 60 great bowls with highly decorated handles. From the Baining Mountains, New Britain, are no less than 11 ceremonial masks, unmatched in character. The series of prepared skulls from New Hebrides runs into the hundreds; of prepared skulls from New Guinea there are more than a thousand. Collections from the Kaiserin Augusta region of German New Guinea are especially rich and beautiful, comprising among other examples 4 feather masks 15 feet in height. The series of carved drums and house ornaments from New Caledonia adds to the effectiveness of an already rich collection from this interesting island. While the bulk of material acquired during the year must be credited to Mr. Field, yet the Department has made other important accessions. An especially notable acquisition is that of 157 ancient and wonderful bone carvings of intrinsic interest, assembled in China by that distinguished Chinese scholar and missionary Mr. F. H. Chalfant of Pittsburgh, Pennsylvania. It is Dr. Laufer's opinion that these objects rank among the most ancient relics known of Chinese antiquity and that they were originally used for purposes of divination. The oracles and decisions given in reply to them by the seers are carved into the surface of the bone and present the oldest form of Chinese writing now extant; hence their remarkable interest. Among the carvings represented are alligators of a surprisingly realistic form, dragons, tortoises, snakes, and replicas of weapons, bells, and implements; again there are imitations of shell money and specimens of ancient cowry-shells actually used in lieu of money. Somewhat similar collections are to be found in the museums of Pittsburgh, Edinburgh, London, and Berlin, but according to Mr. Chalfant this institution has secured the finest and most valuable series ever taken from China. This interesting and valuable acquisition was made possible through the generosity of Mrs. T. B. Blackstone. To the generosity of Prince Damrong, brother of the late King of Siam, the Museum is indebted for the

PARADE UNIFORM, FRONT AND BACK, OF OFFICER IN ATTENDANCE ON THE EMPEROR IN THE PALACE, PEKING, CHINA (XVIIITH CENTURY).

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gift of four Buddhist votive offerings of clay stamped with Buddhist subjects, excavated on the site of an ancient temple in Trang province, Siam. These objects are of great value inasmuch as the Museum possesses similar specimens from China and Tibet. In connection with this gift the Museum is indebted to Dr. C. S. Braddock of New York, through whose mediation the tablets were forwarded to the Museum. Mr. Gotfryd Anderson of Chicago and of the China Inland Mission presented to the Museum a Tibetan ink-drawing on yellow silk, mounted on Chinese brocade, representing Buddha surrounded by deities and saints. Of acquisitions made by purchase the two most important pertain to China. One is an excellent specimen of the parade uniform of an official in attendance at the imperial palace of Peking. It dates from the 18th century, and is in an unusually good state of preservation. The uniform is of silk almost solidly embroidered with heavy gold thread which is in practically perfect condition. The steel helmet of the uniform bears chased dragons in gold and is decorated with inlaid kingfisher feathers and painted eagle pinions. The uniform is accompanied with bow case and quiver, and studded with gilt brass ornaments, and the chest in which the whole is packed when not in use. From the British Museum the Museum purchased a color-print reproduction of the famous painting attributed to Ku K'ai-chi. A copy of O. Franke's book on Agriculture and Sericulture in China was acquired to make use of the 91 plates for exhibition purposes. These embrace an interesting series of wood cuts executed in 1210, of which but one copy is thus far known, found by Dr. Laufer in a bookshop of Tokyo and now deposited in the John Crerar Library. The whole series of plates is shown on a screen, individual labels being printed on the mats, and affords a good idea of the various stages of farming and the processes of weaving.

The Curator of Botany reports important additions to the Herbarium of which the following may be noted: Arsene & Nicolas, Mexico 1159; Britton & Shafer, St. Thomas 125, St. Jan 71; W. E. Broadway, Tobago 227; Brumback & Davies (Misses), Colorado 222; W. P. Carr, South Dakota 101; Clemens Mrs., Montana 51, Utah 50; Dr. Dalziel, Nigeria 59; Judge DeSelm, Illinois 775, Michigan 68; A. D. E. Elmer, Philippines 1000; Padre Fuertes, San Domingo 658; Wm. Harris, Jamaica 420; J. H. Hart, Jamaica 94; Dr. Haydon, Oregon 128; A. A. Heller, Nevada 196; Hungarian Natl. Museum, Hungary 109; Frank W. Johnson, Indiana 52; C. F. Millspaugh, Wisconsin 65, Illinois 56; John Macoun, Vancouver Isl. 74; C. A. Purpus, Mexico 359; J. A. Shafer, Cuba 198; Shafer & Leon, Cuba 53; H. H. Smith, Indiana 69, Illinois 108, California 681, Sta. Catalina Isl. 159; Tilden, Josephine, New

South Wales 77, Victoria 399, Tahiti 94; S. S. Visher, South Dakota 663; Vanoverburgh, Philippines 507.

Status of the organization of larger Herbaria purchases:

Herbarium	Organized 1913.	Completely organized.
Bebb, M. S.	.....	31,583
Chicago University	10,361	44,048
Heller, A. A.	.....	.....
Hitchcock, A. S. (Fla.)	.....	7,078
Millspaugh, C. F.	.....	5,002
Patterson, H. A.	.....	37,887
Rothrock, J. T.	.....	22,809
Schott, Dr. A.	.....	8,428
Shuette, J, H.	10,990	10,990
Small, J. K.	10,273	19,381
Wahlstedt, L. J.	.....	17,555

The additions to the organized Herbarium are shown in the following geographically arranged table:

	Added to Herbarium 1913.	Total now in Herbarium.
NORTH AMERICA (in general)	9	140
Alaska (in general)	23	553
Mary's Island	1	1
Unalaska Island	1	32
Canada (in general)	13	2,015
British Columbia	32	1,012
Labrador	11	178
Kurnavik Island	3	3
Manitoba	1	259
New Brunswick	28	780
Nova Scotia	46	194
Ontario	49	624
Pr. Edward Island	2	11
Quebec	24	145
Queen Charlotte Island	6	6
Saskatchewan	1	363
Vancouver Island	130	361
Yukon	1	69
Newfoundland	4	716
Greenland	39	203
Disco Island	4	43
United States		
Alabama	285	1,333
Arizona	79	9,442
Arkansas	142	417
California	1,895	23,854
Santa Catalina Island	159	184
Colorado	863	11,781

	Added to Herbarium 1913.	Total now in Herbarium.
NORTH AMERICA (in general)		
United States		
Connecticut	222	541
Dakota	3	38
North Dakota	300	701
South Dakota	935	1042
Delaware	125	1,588
District of Columbia	385	2,352
Florida	778	20,693
Georgia	105	4,554
Idaho	362	3,244
Illinois	1,831	20,640
Indiana	649	5,863
Indian Territory	27	281
Iowa	303	1,761
Kansas	127	499
Kentucky	269	1,204
Louisiana	47	1,282
Maine	61	1,613
Maryland	127	1,079
Massachusetts	216	3,122
Mexican Boundary	3	1,355
Michigan	501	3,931
Minnesota	698	1,598
Mississippi	69	2,031
Missouri	525	3,015
Montana	520	4,026
Nebraska	173	413
Nevada	264	1,011
New Hampshire	123	1,481
New Jersey	590	2,013
New Mexico	281	2,953
New York	626	6,046
North Carolina	2,063	4,557
Ohio	134	1,670
Oklahoma	105	287
Oregon	334	7,858
Pennsylvania	1,586	10,845
Rhode Island	48	592
Rocky Mountains	13	1,391
South Carolina	268	1,015
Tennessee	226	1,452
Texas	977	9,708
Utah	250	2,948
Vermont	114	2,660
Virginia	2,356	4,673
Washington (State)	92	6,340
West Virginia	31	1,840
Wisconsin	6,908	8,088
Wyoming	75	929
Yellowstone National Park	35	435

	Added to Herbarium 1913.	Total now in Herbarium.
CENTRAL AMERICA:		
Mexico (in general)	1,859	34,269
Lower California	85	1,811
Cedros Island	1	165
Yucatan	19	4,690
Costa Rica	17	552
Guatemala	26	2,881
Honduras	1	341
Nicaragua	3	88
San Salvador	2	23
WEST INDIES:		
Anagada	23	23
Antigua	1	13
Bermuda	6	650
Cuba	344	9,767
Isle of Pines	1	654
Jamaica	522	7,080
Porto Rico	8	4,000
Saint Kitts	2	12
San Jan	71	76
Little San Jan	7	7
Saint Thomas	175	620
Buck Island	3	3
Santo Domingo	666	1,378
Tobago	204	513
Tortola	32	32
Trinidad	13	478
Virgin Gorda	5	5
SOUTH AMERICA (in general)		
Brazil	113	510
British Guiana	1	71
Chile	3	252
Colombia	3	2,423
Ecuador	15	849
Juan Fernandez	3	3
Magellan	2	40
Peru	31	90
Venezuela	2	1,063
Bonaire Island	2	2
Curacao Island	27	42
EUROPE (in general)	4	83
Austria-Hungary	546	7,012
Bavaria	2	2
Belgium	3	75
Dalmatia	3	3
France	133	4,524
Germany	231	7,098
Great Britain:		
England	116	679
Ireland	9	161

	Added to Herbarium 1913.	Total now in Herbarium.
EUROPE (in general)		
Great Britain		
Scotland	22	493
Wight, Isle of	3	34
Greece	5	525
Italy	106	2,491
Mediterranean Islands:		
Crete	1	8
Malta	2	7
Sardinia	2	7
Sicily	1	110
Norway	3	219
Portugal	2	11
Finland	40	95
Scandinavia	3	19
Spain	4	139
Sweden	324	823
Gotland Island	5	203
Lapland	24	231
Switzerland	271	2,614
ASIA:		
Afghanistan	1	2
Arabia	13	17
Armenia	1	175
Asia Minor (in general)		
Asiatic Turkey (in general)		
Anatolia	2	2
Mesopotamia	1	1
Syria	3	75
China	64	323
Mongolia	1	1
East Indies	3	3
Japan	75	295
Formosa	17	54
Java	1	101
Malaya	7	27
Persia	2	21
Philippine Islands	1167	5,648
Palawan	1,000	1,000
Siam	3	6
Siberia	19	429
Turkestan	3	92
AFRICA (in general)	2	3,928
Abyssinia	24	217
Algeria	6	30
Angola	1	11
Cape Colony	14	81
Central Africa	3	3
Congo	1	1
Egypt	1	23
Gold Coast	1	1

	Added to Herbarium 1913.	Total now in Herbarium.
AFRICA (in general)		
Mauritius	1	9
Morocco	1	7
Mozambique	7	7
North Africa	63	205
Somaliland	4	4
South Africa	10	1,243
Uganda	4	4
Zanzibar	26	75
OCEANIA (in general)		
Australia (in general)	424	2,343
New South Wales	111	525
North Australia	10	15
Queensland	7	26
South Australia	1	1
Victoria	488	488
West Australia	10	42
Cooks Islands		
Raratonga	29	29
New Zealand	2	2,755
Samoa	40	103
Sandwich Islands	10	462
Tahiti	94	180
Tasmania	1	191
Timor	1	4
HORTICULTURAL	613	2,622
ILLUSTRATIONS, DRAWINGS, etc., mounted as herbarium sheets	58	1,012

The total increase of the organized herbarium during the year amounted to 41,401 specimens.

Several interesting and valuable accessions were received by the Department of Geology. Of especial interest were two gold nuggets obtained in the California gold fields in 1850, presented by Mr. William J. Chalmers; also a quantity of silver nuggets from Lake Superior. A fine series of lead minerals and mercury ores was presented by Christopher Murphy. Six slabs of standard museum size of Georgia marble illustrating different varieties of this marble were presented by the Georgia Marble Company; 13 slabs of Vermont marble, similarly prepared, were presented by the Vermont Marble Company; and three slabs of Canadian marble, likewise of standard size, by the Dominion Marble Company. A large mass weighing 400 pounds, of Versailles, Missouri, fire clay was presented by the W. S. Dickey Clay Manufacturing Company, and six varieties of pottery and other clays from various localities by the Land and Industrial Department of the Southern Railway. A series of 14 specimens illustrating a natural change of pyrite to hematite,

as seen at Copete, Mexico, presented by Francis C. Nicholas, was of much interest, as was also a series of 10 specimens illustrating the concentration of iron ores by washing, presented by the Oliver Mining Company. The Joseph Dixon Crucible Company presented an interesting series of 24 specimens illustrating uses of graphite, and the H. W. Johns-Manville Company 19 specimens illustrating the uses of asbestos. The Heath & Milligan Manufacturing Company presented 13 specimens of buhrstones and pigments. A series of 10 specimens of lead and silver ores from a new locality in California was presented by Dr. T. A. Dumont, and a large specimen of allanite used as an ore of rare earths, by A. C. Richards. A fine example of manufactured Monel metal was presented by the Biddle Hardware Company. About 1,000 specimens of varieties of agate and jasper from Oregon were presented by C. H. Marsh, and a series of about 50 ores and minerals, chiefly from Montana and illustrating ores of historic interest, was received from J. L. Rosenberger. Prof. R. D. Salisbury presented several specimens of obsidian nodules from Patagonia and some diamondiferous sand from Brazil, secured on his recent trip to South America. Through the kindness of Prof. Salisbury also 225 specimens of copper ores and concentrates were received from the Braden Copper Company, Rancagua, Chile. This suite was very complete in representing all phases of occurrence of the ore and many varieties of ore. By exchange with the University of California a valuable accession was received in a skeleton of Canis diurus, an extinct wolf from the asphalt beds near Los Angeles, California. By exchange with the United States National Museum a section of the Perryville meteorite was obtained and one of the Nakhla meteorite was obtained in a similar manner from the Egyptian Geological Survey. Specimens of the Tepl and St. Germain meteorites were also obtained by exchange, and some specimens of minerals, a trilobite, and a skull of the fossil camel Stenomylus, the latter from Amherst College. The most important purchase was that of the Davis Mountains, Texas, meteorite, which was obtained entire. The entire mass of the Pickens County, Georgia, meteorite was also purchased, a section of the St. Michel meteorite and an unusual specimen of pollucite from Maine.

The Department of Zoölogy received extensive accessions in all of its several divisions. The most important accessions of the year were those received from the Museum collectors in South America, which is shown by the fact that they contained 38 new species and subspecies; 28 of birds and 10 of mammals. These have been described in Museum publications and the types have materially added to the value of the collections. In addition to these a very valuable collection of hummingbirds, numbering 591 specimens and representing about 386 species and

subspecies, was obtained by purchase. This is a part of the great private collection of humming-birds belonging to the famous French naturalist, M. Adolph Boucard, and is especially important since many of the specimens are cotypes or paratypes of species described by him. Mention should also be made of a small but valuable collection of South American birds and mammals purchased from a dealer in Merida, Venezuela, containing 6 mammals and 235 bird skins, together with 42 humming-birds' nests and eggs, several species being very rare. Mr. John M. Studebaker of South Bend, Indiana, presented the Museum with a pair of American Elk, or Wapiti, which he killed a number of years ago in Colorado, and Mr. G. F. Steele of Chicago gave the Museum a number of mounted heads of Deer, Caribou, Goats, and one of the American Bison. A notable addition to the Osteological collection is the skeleton of *Cœnolestes obscurus* from Columbia, which was mounted and installed and is the only known example on exhibition in any museum in the world. In the Division of Entomology an important addition was a collection of butterflies and moths from Key Islands. Among this lot were six specimens, three males and three females, of the magnificent butterfly *Troides priamus poseidon*. These will form a welcome addition to the exhibit series. Chiefly from expeditions, 649 fishes were added to the collections in the Division of Ichthyology and several hundreds through exchange, mention of which is elsewhere in this report.

Expeditions and Field Work.— The Assistant Curator of African and Melanesian Ethnology, Dr. A. B. Lewis, returned to resume his duties in the Museum last June, having completed his four years' pilgrimage in the South Pacific among the Melanesian Islands, in charge of the Joseph N. Field South Pacific Islands Expedition. The early months of the winter Dr. Lewis spent in Dutch New Guinea, traversing the north coast as far east as Humboldt's Bay. From this point he proceeded to Batavia, Java, where he spent two weeks packing up the collections and studying in the museum in that city. He returned to Europe via Singapore, Rangoon, and India, where he visited the chief museums and the chief centers of ethnologic interest. May was spent visiting the principal museums of Italy, Austria, Germany, Holland, and England. About 12,000 specimens were secured by this expedition. If to these are added the number of specimens secured by purchase and from the Curator's expedition into Melanesia, the total should approximate 20,000. Assistant Curator Owen returned to the Museum in May after a visit of several months among the Hopi Indians of Arizona. As a result of this expedition the Museum secured 50 boxes of additional specimens to be added to the already existing Hopi collection, all of

which work has been made possible through the generosity of Mr. Stanley McCormick. Mr. Owen was especially fortunate on this occasion in securing a large number of old specimens of a sacred nature which heretofore had not been attainable. The number of specimens exceed 800, including, for the first time, a complete set of all known gourd vessels used by the Hopi; a complete set of earthenware vessels used for household or ceremonial purposes; some 50 tihus or decorative wooden images, either decided variants from those already in the collection or entirely new to the collection; many fine old Katcina masks and headdresses; a complete series of objects illustrating the manufacture of shell beads; textiles, which include garments in the loom and every variety of weave known to the Hopi; complete sets of weaving implements; entire set of baskets and basket material from the Third Mesa; ceremonial paraphernalia, both for altars and costumes; raw materials, foodstuffs, etc. While in the Southwest the Assistant Curator secured identifications and additional information for about 50 tihus, some of which have been on exhibition in the Museum since its foundation. Many old masks were also identified and information obtained for their proper labeling. Over 150 photographs were made of winter ceremonials, especially of Katcina dances held only at that time of the year. Measurements and photographs were made of a typical Hopi spring, as well as of wooden figurines of certain Hopi divinities, both for purposes of reproduction in the Hopi Halls. Early in the year the Curator was granted a month's leave of absence to accept an invitation to deliver four lectures at Cambridge University, England. During this time he visited the museums of Hamburg and Berlin, and made a careful and exhaustive study of the East Indian Museum in London.

The material results of the work of the Assistant Curator of the Division of Dendrology of last season reached the Museum early in the year. The collections comprise many hundred photographic negatives of trees, tree growth, and forest conditions and operations; 215 tree trunks, "wheels," and boards; 80 dried fruits, seeds, and barks; 885 herbarium specimens and 2,275 duplicates for exchange purposes. During the present year the Dendrologist has spent his time in preparatory work in the Department, making two short field trips only in Indiana where he procured several tree specimens and photographs, 125 herbarium specimens, and 300 duplicates for exchange.

A journey made by the Curator of Geology to western Texas resulted in securing for the Museum an iron meteorite of a hitherto unknown fall. It is the largest individual specimen but one now in the Museum meteorite collection. The weight of this individual is 1,520 pounds. Besides its large size, it is of interest for its marked orientation

and for containing an appreciable quantity of platinum. The Assistant Curator of Paleontology secured by a trip to Grovertown, Indiana, a well preserved skull and nearly complete lower jaw of the extinct giant beaver, Castoroides. By using previously obtained remains of this species in connection with this skull it is probable that a mounted skeleton of this rare and interesting animal can be prepared. The Assistant Curator of Invertebrate Paleontology collected 182 specimens of invertebrate fossils at Little Traverse Bay, Michigan.

Field work in South America in the interest of the Department of Zoölogy was continued with excellent results. Through co-operation with a Brazilian government expedition in charge of Roderic Crandall, the collectors in the field, M. P. Anderson and R. H. Becker, were enabled to reach, and work at small expense, regions difficult of access; namely, the upper parts of the Rio Branco and the Mountains of the Moon near the boundary between Brazil and British Guiana. Important collections of birds and mammals were made and several fine examples of large mammals were obtained which will be used for habitat groups already planned. Mr. Anderson returned to the Museum in May, and Mr. Becker continued work in Brazil on the lower Amazon River and subsequently in the arid region of extreme eastern Brazil, in the Province of Ceara, whence he proceeded southward to Bahia and inland to the San Francisco River. The results of this work are mainly the acquisition of typical forms of vertebrate life, fresh material representing species many of which were described by early explorers and absolutely essential to any accurate knowledge of the fauna. Mr. Anderson, after a needed change in a northern climate, again entered the field, leaving here in October, commencing work in the little known Catatumbo region in northwestern Venezuela. An expedition to Alaska by Taxidermist Friesser proved highly successful. By permission of the Secretary of Agriculture, Mr. Friesser secured four selected specimens of the Alaskan Moose, the skins and skeletons being carefully prepared. Samples of vegetation, photographs, and all needed accessories for a striking group of these animals were obtained, as well as desirable specimens of birds and the smaller mammals, including Alaskan Porcupines, Squirrels, Ptarmigan, Owls, etc. Some local field work was done by the Curator of Zoölogy including a short trip to Vilas County, Wisconsin, where photographs for studies in group work, and migration notes to be used in maps illustrating the range of various species, were secured. In addition to the expeditions named above mention is made of the African expedition undertaken by Mr. Brent Altscheler of Louisville, Kentucky, in the interest of the Department of Zoölogy, to whose generosity in this particular reference is made elsewhere in this report.

The following is a list of the expeditions:

Locality	Collector	Material
Brazil	R. L. Becker	Mammals and Birds.
Brazil, Peru and Venezuela	M. P. Anderson	Mammals and Birds.
Monterey, California	W. Heim	Fishes.
Baird, California	W. Heim	Fishes.
Alaska, Seward Peninsula	J. Friesser	Mammals.
Indiana	H. H. Smith	North American Forestry.
Arizona	C. L. Owen	Ethnological Material.
Melanesia	A. B. Lewis	Ethnological Material.
Indiana	E. S. Riggs	Vertebrate Fossils.
Michigan	A. W. Slocom	Invertebrate Fossils.
Texas	O. C. Farrington	Meteorites.
British East Africa	B. Altscheler	Mammals and Birds.

INSTALLATION, REARRANGEMENT, AND PERMANENT IMPROVEMENT.— The capacity of the staff and the assistants in the Department of Anthropology has been fully tested this year, for besides the routine work an extraordinary amount of new work has been performed. Over 150 new cases have been placed on permanent exhibition, practically all of them fully and completely labeled. In addition to these, 15 standard cases installed in recent years have been rearranged, for such rearrangement seemed necessary on account of the acquisition of new material. More than 250 boxes, many of them of huge dimensions, have been unpacked and the contents assorted into temporary storage cases. All of this has required an extensive rearrangement and readjustment, but the time has now come when there is practically no room, outside the three small halls still reserved for Chinese and Tibetan material, for the display of new material except at the expense of material already installed. Borneo collections were installed in 9 cases as follows: 4 Iban, 2 Malay, 1 Milanan, 2 Murut, 1 Kayan, and 1 Klemantan. These, together with 2 cases of Andaman Island material and one of Nicobar installed this year, and a case of Malay Peninsula material representing the primitive culture of the Semang and Sakai, have been placed in Hall 8 where they completely fill up the aisles and block the cases of prehistoric pottery from the Southwest. That hall now, though one of the most prominently placed halls in the Department, is merely a confused storage hall. Practically the entire Javanese collection has been reinstalled, which was necessary because most of it was installed in old and inadequate cases. This collection now occupies Hall 54. To provide adequate space in the East Annex for the completion of the Philippine collections and the rapidly expanding Chinese and Tibetan collections, other changes than those already noted were necessary. First, all the Melanesian material, except the large canoes suspended from the ceiling

and the large house posts attached to the wall, was removed from Hall 67 and transferred to the West Annex, where it is no longer available to the public. Again, the entire contents of Hall 66, consisting of a dozen cases devoted to Polynesia, Micronesia, and so on, were transferred to the West Annex. These collections also are no longer available to the public. But more serious was the enforced withdrawal from public exhibition of all the African collections, which now occupy a temporary resting place in a hall in the West Annex. While the Department has never maintained an expedition in Africa and while this African material has been acquired in an indirect and, consequently, more or less unsatisfactory manner, yet, from certain regions, the collections are of importance and have distinctive value, and they certainly deserve a better fate than to be placed in storage. The Philippine collections are now completely installed and occupy Halls 37, 38, 39, 40, 41, 42, 54, and 57. During the year 15 Philippine cases were reinstalled — a necessity because of the acquisition of new material — and the following cases were installed for the first time: 1 Batak, 1 Ilocano, 1 Mangyan, 9 Ilongot, 4 Ifugao, 1 Tingian, 1 Igorot, 1 Amburayan Igorot, 1 Guinnan, 6 Mandayan, 1 Bagobo, and 1 Pulunan. Besides, special cases have been prepared for certain spirit houses, planting sticks, and other objects requiring cases of special dimensions. A large group, to occupy a case 12 feet square, showing various phases of activity of the Bagobo represented by 7 figures modeled from life, is near completion and will soon be ready for installation. In the Northwest Coast Halls, 4 cases have been added—3 Salish and 1 Chilcotin—of material presented to the Museum by Mr. Homer E. Sargent. Besides these, 3 cases of Thompson River material were reinstalled. To the Southwest Section have been added 2 new cases of pottery from the Hopi pueblos, 1 case of Navaho masks, 2 cases of Apache costumes, a case of Colorado River baskets, and 3 cases of decorated pueblo shields and buffalo robes. The installation of this material has necessitated a certain amount of rearrangement in Halls 2, 3, and 7. Every case in the Gem Room containing ethnologic material has been subjected to a careful revision, classification, and labeling. In the Chinese Section installation has progressed in a satisfactory and efficient manner. There have been 69 new cases installed, besides three special exhibits requiring platforms or bases. The mediæval mortuary clay figures formerly shown on screens have been installed anew on shelves, and being now exposed in full light, their attractions can now be viewed and studied to best advantage. Five halls in the East Annex were fully installed which with Hall 44 are now devoted to East-Asiatic material. Hall 45 is mainly devoted to a display of the ceramic arts, 4 cases illustrating in historical development the most

prominent types of porcelain, three others containing faience, and three funeral images to which a marble sarcophagus and a glazed pottery coffin are joined. The other cases embrace miscellaneous material temporarily arranged; viz., coins, seals, and medals, Chinese and Tibetan silver jewelry, ancient bone carvings, and Buddhist votive offerings of clay. The object of the exhibits in the adjoining Hall 46 and 47 is to illustrate the religions of China—Confucianism, Taoism, Buddhism, and Islamism. Sixteen cases are now on view. Confucianism is illustrated by the most important portraits of Confucius and scenes in his life and career in examples chosen from the work of the best Chinese artists. The other religions are presented by a large number of paintings, rubbings, and statues of bronze, iron, and pottery. The principle of arrangement is simultaneously chronological and according to subject-matter. The important event of the year in matters of installation proved to be the placing on exhibition of the Chinese and Tibetan masks, and in view of complexity of the technical problem involved, due credit should be given to the Department's efficient preparators who with untiring zeal and resourcefulness have made this exhibit a success. In principle this group of exhibits essentially differs from the other Chinese exhibits. The latter are analytic in depicting certain periods and facts; the former are synthetic, presenting in their totality an essential and vital organ of Eastern life, and spontaneously convey a feeling of reality. Three Chinese maps, one of the year 1136 and two printed in 1461 with the imperial preface, have been hung in Hall 44. Six clearly engraved maps of China, due to the courtesy of the National Geographic Society of Washington, have been distributed over the various halls. The appearance of Hall 44 described in the last report has been improved in various ways: by the addition of labels, the reinstallation of the case containing ancient specimens of body armor increased by an important specimen obtained by purchase, and above all by the installation in wall cases of the two large painted scrolls presented by the Tuesday Art and Travel Club and appreciated in the last report. The silk tapestry acquired last year and a wood-cut reproduction of a celebrated landscape by the eminent Japanese painter Sesshu (obtained by Dr. Laufer in Tokyo) have been added to this wall, which now presents a unique spectacle of beauty of line and color. In this manner, not only is the best possible advantage taken of the wall space, but also the most efficient and impressive background is secured for the case exhibits. It was thought, for instance, very appropriate to include here Sesshu's famed scroll, inasmuch as it is Chinese scenery sketched by the artist during his sojourn in China, and the tribute paid by him in such masterly form to the beauty of Chinese landscape is a worthy monument to adorn

a hall devoted to the civilization of China. The same reason applies to the two memorable paintings with their gay and vivid description of social and commercial life in mediæval China. The numerous scenes displayed thereon have been interpreted in detail in a series of descriptive labels freely suspended from the lower rim of the wall-case, so that the interested visitor may hold them up to his eye to suit his convenience in reading. During the year an unusual amount of work has been done by the preparators. This was caused by the unusual demands made on their time from the nature of the Chinese collections and of the material brought from the South Pacific Islands by Assistant Curator Lewis. Of the work done in the Modeling Section not a little has been in compliance with requests from the Curator in charge of the Harris Public School Extension. For work of this nature casts for many replicas of the Igorot Ethnic Group, prepared last year, have been made. For the Harris Extension also have been made the following: Ground-work and houses for 8 coal-mines; ground-work and accessories for 6 Spanish forges; ground-work for 6 gopher groups; 6 Eskimo snow houses; 8 Eskimo figures; casts of 8 gold nuggets; 16 reproductions of cacao pods; one piece-mold of cacao pod for wax casting; 6 miniature rhinoceroses; 6 miniature hippopotamuses. For the Department the following work has been done by the Section of Modeling: For the Chinese Section, 42 papier-mache display figures, besides a large number of miscellaneous rubbings, reproductions of seals, bronzes and porcelains, and iron inscriptions, etc., also reproductions of various designs for display and photography; for the North American Section, 12 papier-mache display figures, 96 moccasin forms, and 66 plaster busts; for the Philippine Section, 70 papier-mache display figures, used in installing garments, etc., ground-work for spirit houses and house models, and many miscellaneous repairs and restorations. The most important work done by the modelers during the year has been the preparation of a group to be ready early next year, intended to occupy a case 12 feet square. This will be a Bagobo group and comprise, among other things, seven figures in life-size which have all been modeled from life.

In the Department of Botany little new material for exhibition purposes has been received during the past year, though that received has been of great value to the series for installation. The principal accessions were received from The Forest Economist of India, 56 fruits, gums, oils, rubbers, and fibers; from The United States Appraiser's Stores, specimens of imports of crude drugs and other vegetable substances; E. W. Blake, California, four tree trunks and a box of fruits and nuts; The Pacific Improvement Company, California, four tree trunks; H. H. Smith, Dendrologist, 13 local medical roots; Miss Jose-

phine Tilden, 32 fruits, seeds, and gums from the South Pacific Islands; The American Trading Company of Yokohama, rice, kodzu, and bamboo papers; the N. K. Fairbank Company, 16 cottonseed oil products. Notwithstanding the small amount of material received, the public installation has progressed satisfactorily. New material has been added to the following families and the cases reinstalled to accommodate the same: The Fig Family; the Nutmeg and the Arrowroot Families; the Poison Ivy Family (2 cases); the Indian Lac Family; the Horsechestnut Family; the Mallow Family; the Pea Family; and a number of other cases readjusted. Ten new double cases were received in April. These were installed with the following material: The Grape and the Buckthorn Families; the Vegetable-tallow Family; the Milkweed Family; the Dogbane Family; the Sapodilla Family; the Verbena Family; the Ebony Family; the Joint-fir Family; interesting utilizations of the Bamboo; the Australian Beefwood Family; the Birch Family; the Mint Family; the Bean Family; the Orchid Family; the Potato Family; the Ginger Family; the Geranium Family; the Magnolia Family and the Mushrooms. The North American Forestry exhibition has been augmented by twenty-two monographic installations as follows: the Winged Elm; Bitter Hickory; Black Ash; Kentucky Coffee-tree; Hackberry; Red Birch; Sugar Maple; Blue Ash; Texan Oak; White Hickory; Persimmon; Tupelo Gum; Pecan; Sweet Gum; Pignut Hickory; Shagbark Hickory; Sassafras; Swamp Cottonwood; Southern White Oak; Overcup Oak; Red Maple; and Box Elder. Ten other species are prepared and await cases. The following productions in the Section of Modeling have played a large part in the installation accomplished during the year: Ten different, growing mushroom colonies representative of as many edible or poisonous species; a full size plant of *Mirmecodium* illustrating the peculiar utilization of its bulbous base as a nest by ant colonies; a large, natural size branch of the Great Magnolia in full leaf, flower bud, flower and fruit, reproducing the freshly opened flower as well as those of several days' anthesis; a natural size branch of the Bilimbi tree, of Sumatra, in full leaf, flower and fruit; a fruiting branch of the East Indian Carambola; an enlarged flower of the common Sorrel illustrating family characteristics; a large, leafy, fruiting, and flowering branch of the peculiar Joint-fir of the tropics which join the exogenous (wood-heart) and the endogenous (fiber-heart) trees, also an enlarged flower cluster and two enlarged flowers of the same; a full size branch of the Maidenhair tree in full leaf and fruit; an enlarged flower of the Cardamom, somewhat like a pineapple in appearance, eaten as a vegetable in the Oriental tropics; a full size cluster of leafy, flowering, and fruiting vines of the Vanilla plant; a natural size flower and leaf of

the beautiful Cattleya orchid displaying family characteristics; a bundle of Betel leaves to accompany the exposition of betel chewing; a large branch of Connarus in full fruit and leaf; a tuber of the Oriental Yam; a full size plant of the common, roadside, Milkweed in full leaf, flower, and fruit; a branch of the Persimmon in full, ripe fruit; a large sprout of the edible Bamboo as sold in the markets of China and Java; a leafy, fruiting branch of the famed Mangosteen of Java, with two fruits in section showing the edible pulp; a natural size fruit of the Guava and a section showing the seed characters; and a leafy twig bearing a pair of full ripe fruits of the Osage Orange. The Curator of Botany has conceived, and the Section of Modeling cleverly worked out, a unique method of placing before the public such microscopic plants as the germs of disease and other low orders of vegetable life. In this the microscope itself has been eliminated from the installations, its magnified field only being shown in the form of reproductions distinctly portraying the objects that it is desirable to display. In this manner the following plants, invisible to the unaided eye, have been prepared and placed on exhibition:

A field showing graphically how bacteria multiply.

Forms of Bacteria:

Rod-like (*Bacterium, Bacillus, Pseudomonas, Vibrio*)
Globular (*Coccus, Streptococcus, Staphylococcus, Sarcina*)
Corkscrew-like (*Spirosoma, Microspira, Spirillum, Spirochæte*)
Thread-like (*Streptothrix, Chladothrix, Leptothrix, Gallionella*)
Various shapes (*Spirophyllum, Zoöglœa, Actinomyces, Chondromyces*)

The formation of spores in Bacteria.

Milk bacteria (*Bacillus, Streptococcus*)
Nitrifying bacteria (*Nitrosmonas, Nitrobacter, Clostridium*)
Germs of Cholera (*Microspira comma*)

Pneumonia (*Micrococcus pneumoniæ*)
Tuberculosis (*Bacterium tuberculosis*)
Syphilis (*Spirochæte pallida*)
Typhoid (*Bacillus typhosus*)
Diphtheria (*Bacterium diphtheritidis*)
Splenic fever (*Bacterium anthracis*)
Epidemic Meningitis (*Menigococcus*)

The cultivation of Bacteria illustrating both tube and plate cultures of several species.

In these preparations the diseased tissue is represented in color on the field, and the germs, reproduced in glass, are placed, in situ, in the tissue. In this manner there have also been placed on exhibition a number of "fields" showing diatoms in colony and individual growths as well as an exemplification of their life

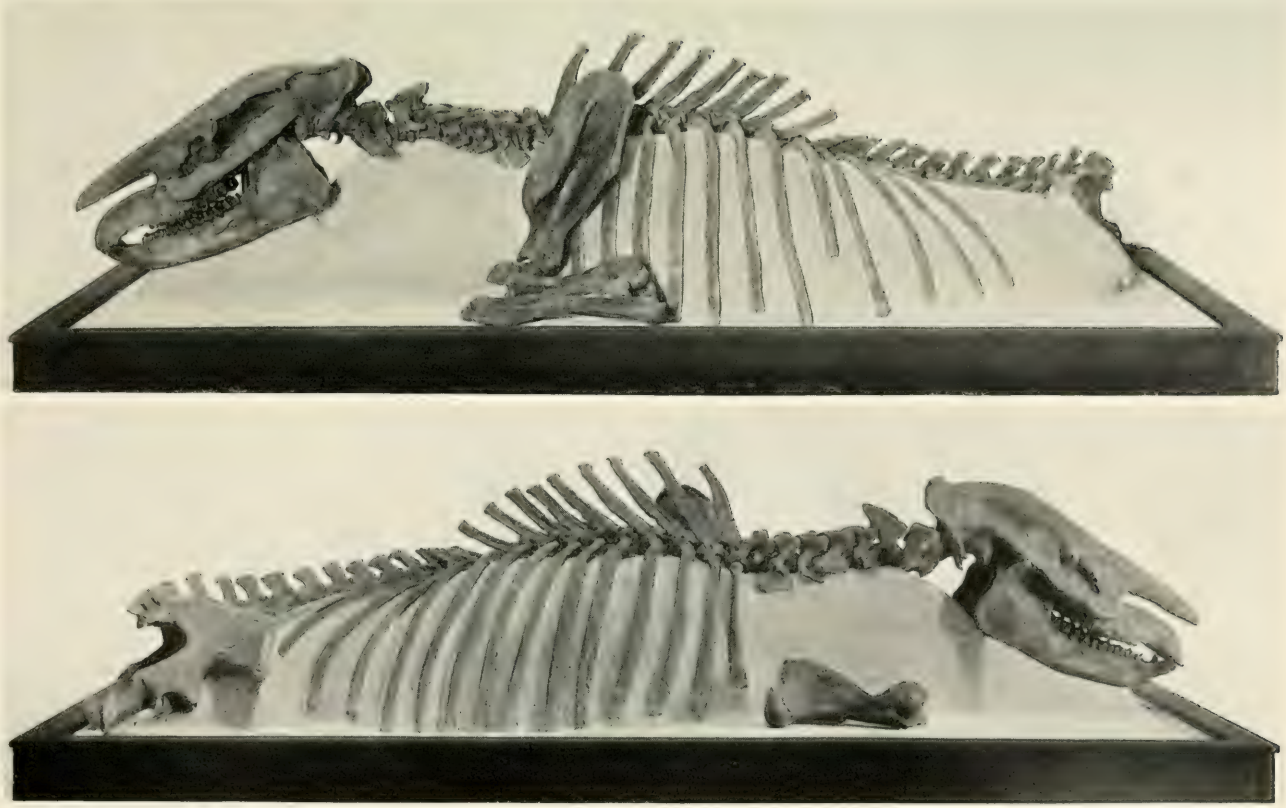
history and their structure. Diatoms were formerly appreciated mainly because of their æsthetic beauty as microscope objects, but recently they are coming into prominence on account of their recognition as one of the fundamental food supplies of marine life. The series exhibited comprises:

The Barrel Diatom (*Melosira Borreri*) in colony and individual growth.
The Triangle Diatom (*Triceratium favus*) in single and dissected specimens, the latter illustrating the structural parts of diatoms.
The Bristled Diatom (*Chætoceras Lorenzianum*) in chain formation.
The Fan Diatom (*Licmorpha flabellata*) two colonies attached to an alga.
The Sun Diatom (*Planctionella Sol*), highly magnified.
The Bristling Rod Diatom (*Bacteriastrum varians*), in chain colony growth.
Two Stylus Diatoms (*Rhizosolenia styliformis* and *setigera*), in chain growth and separate individuals.

All these forms are reproduced very highly magnified to show their distinctive characters.

The meteorite collection has been entirely reinstalled in order to incorporate into it the specimens, numbering about 1,600, of the Ward-Coonley collection. As exhibition space was not available for the entire collection it was divided, the iron meteorites being installed in Alcove 106 and the stone and iron-stone meteorites in Hall 63, which is not at present open to the public. In making this reinstallation, all specimens have been placed according to the falls to which they belong so as to make the representation of the different falls as complete as possible. The installation in Alcove 106 is in the cases previously used for the collection, and that in Hall 63, in the cases obtained with the Ward-Coonley collection. All casts have been withdrawn from exhibition partly for lack of space and partly because their presence is liable to cause confusion. The installation of the meteorite collection is now complete with the exception of the Canyon Diablo specimens, the bases for which have not yet been prepared. It is intended that the Canyon Diablo specimens, when installed, will occupy a single case instead of being scattered among several as formerly. The large iron meteorite from the Davis Mountains, Texas, obtained during the year, was installed in a floor case in Alcove 106. The bases of the glacial slabs in Alcove 103 have been mahoganized and some minor changes made in the installation of this alcove. All of the collections of ores of copper, zinc, iron, and many minor metals have been removed from the upright cases in Hall 34 and reinstalled. This removal was for the purpose of tinting the interior of the cases to the uniform black color now adopted for all cases. In reinstalling these collections considerable rearrange-

ment was made in order to improve sequences and permit of the introduction of new material. The new material was in part illustrative of the uses of the metals and in part illustrative of ores and ore dressing. Among new series so added may be mentioned that received from Francis C. Nicholas illustrating the development of hematite from pyrite and that from the Oliver Mining Company showing the concentration of iron ores by washing. New illustrations of uses of metals added include series illustrating nickel plating, nickel steel, fracture and color of different alloys of copper and zinc, and glass tinting and making. The suites of six slabs of Georgia marbles, 13 slabs of Vermont marbles, and three slabs of Canadian marbles received during the year were installed in their appropriate places in the marble collection in Hall 34, some readjusting of space and specimens having been necessary for this purpose. Some additions to the collections of abrasives, asbestos, and vein formations were installed in Hall 31, and rearrangements of the series already on exhibition were made for this purpose. Nine floor cases of clays and sands have been installed in Hall 63. These cases include six cases illustrating the classification of clays, one case showing effects of different components on clays, one case of refractory materials and one case showing uses of silica. A floor case of petroleum products has also been installed in this hall and a wall case showing varieties of soils in Hall 61. Two cases of graphite and asphalt in Hall 35 were rearranged in order to add a collection illustrating the uses of graphite. A model of a coal mine, prepared for the uses of the Harris Extension Fund, was installed in Hall 34 pending its use in the schools. This model represents both the above-ground and underground equipment of a large colliery, the features shown being typical of those generally employed. Above ground are shown in miniature a tipple and fan, boiler house, machine shop and a village of miner's houses. In front of these the ground is represented as cut away to a depth of 200 feet in order to uncover the underground system of galleries and chambers. Hoisting and air shafts connect the two portions. The underground portion is worked on the panel-retreating system. Three panels are shown; one worked out and caved in, one in active production, and one just being opened. Other exhibits to the number of 20 have been prepared for the use of the Harris Extension. These include series illustrating the origin of coal, coal plants of Illinois, invertebrate fossils, ores of iron, ores of several metals, useful minerals, abrasives, glass manufacture, steel manufacture, graphite, asbestos, salt, etc. Floor cases have been placed in Halls 35 and 59 for the installation of the Dolichorhinus mount and the skeleton of the fossil camel Oxydactylus. The Dolichorhinus mount is the most nearly complete skeleton of this form



SKELETON OF EARLY HOOFED MAMMAL (*Dolichorhinus longiceps*) MIDDLE EOCENE OF UTAH.

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in existence. It shows all but a few limb bones of a complete individual. The skeleton is mounted in a recumbent position surrounded by matrix. As the rarity of the form will probably make detailed study of its parts frequently desirable, most of the parts have been mounted in such a way that though appearing joined together, they can be easily removed for examination. The mount was prepared from material obtained by the Museum expedition to the Uintah Basin in 1910. Considerable labor was involved in preparing the mount from the fact that about half the bones were in such a distorted position as found that it was necessary to remove them entirely from the matrix before they could be brought into proper relation for mounting. In order to make room for the new cases mentioned, the cast of Dinotherium was removed from Hall 59 and the icthyosaur and plesiosaur models from Hall 35. The skull of the giant beaver Castoroides obtained during the year was assembled with other bones of the same genus and placed on exhibition in Hall 35. A collection of remains of extinct Patagonian mammals including some portions of the carapace of a glyptodon was installed in a wall case in Hall 59 and a floor case of White River turtles was placed on exhibition in the same hall. Some rearrangement of the adjoining exhibits was made in connection with this addition. A wall case of Oligocene mammals, chiefly titanotheres, was installed in Hall 61 and one of Quaternary forms, chiefly remains of the Mammoth and Mastodon, in the same hall. In Hall 60 a case of marine Eocene mammals and other forms was installed, and in Hall 63 a table case of Miocene mammals. A wall case of Devonian invertebrate fossils was installed in Hall 61 and one of Cretaceous and Tertiary invertebrates in Hall 65. Some additions were made to the invertebrate fossils installed in Hall 33 and some rearrangement performed in this connection. The Assistant Curator devoted over three months' time to the analysis of Chinese bronzes for the Department of Anthropology. One hundred complete quantitative analyses of these bronzes were made. Other quantitative analyses made by the Assistant Curator during the year included those of the Davis Mountains and MacQuarie River meteorites. Numerous qualitative analyses have also been made in the Lake Avenue laboratory, a number of meteorite sections etched, and several preparations for the exhibition series made. The material stored in trays in Hall 61, which had in part been withdrawn from exhibition at the time of moving from the West Annex, has been carefully gone over, much condensed and provided with better protection from dust and disintegration. It has also been grouped so that every specimen is readily accessible and each specimen has been labeled sufficiently for identification. As at present arranged, the material occupies 150 wooden trays 18 x 26 inches in size.

Early in the year the paleontological laboratory was moved from the quarters temporarily occupied in the section of taxidermy to Halls 77 and 78 of the West Annex. Side windows were cut, work tables were fitted, and a sink, benches, and racks were installed in these halls. Racks for 350 trays were erected in part of Hall 78 and a sorting table provided. The semi-prepared and duplicate material was carefully arranged in these trays, and its complete preservation and accessibility thus assured. In these quarters the preparation of vertebrate and invertebrate fossils has been actively carried on through the year and a notable amount of material worked out. The most important single piece prepared during the year was a slab showing twenty-six skeletons of the fossil water deer, Leptomeryx evansi. This slab was collected in South Dakota in 1905. It was known at the time to be a remarkable specimen, but its great richness in individuals was only realized on its being worked out. In preparing the slab for exhibition the upper surface of the stone has been chiseled away with great care, leaving the skeletons exposed in high relief upon a background of the natural matrix. Not a bone has been disturbed from its original position in the rock. Of the twenty-six individuals shown, nine are in articulated position. Some are in a natural reclining position, while others have legs, vertebral columns or skulls dislocated and some are entirely disarticulated. The slab presents one of the most notable aggregations of fossil mammals to be found in any museum, and exceeds all in the number of individuals shown associated. The size of the slab is four by seven feet. Sufficient material was secured in connection with this to enable an articulated skeleton to be mounted for exhibition beside it. The specimen as a whole will make known for the first time the complete structure of this animal, portions of which have been known to science for sixty years. The preparation of the slab has occupied a large part of the time during the year of Preparator Abbott under the supervision of the Assistant Curator of Paleontology. Mr. Abbott was the discoverer of the specimen in the field. A large number of other valuable specimens of vertebrate fossils collected by the Museum expeditions of 1905, 1906, and 1908 in the Western States have been prepared for exhibition during the year or have been freed from their matrix so as to be readily available for study or exchange. The specimens so prepared, determined, and installed during the year include 28 miscellaneous specimens of Oligocene titanotheres, three skulls and one jaw of Miocene creodonts, four carapaces and plastrons of Miocene tortoises and one each of Oligocene tortoise and Eocene turtle. Eight specimens of Miocene horses, 12 of Miocene creodonts, 11 of Miocene camels and one each of Miocene rhinoceros and camel, were also prepared sufficiently for identification. The skeleton of Canis diurus received from the University of California was freed from adhering and

HABITAT GROUP OF BIRDS OF LAYSAN ISLAND.

Including Man-o-war Birds, Petrels, Tropic Birds, Terns and Albatrosses. The Albatrosses in the foreground are indulging in their peculiar "dance."

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inhering asphalt and made ready for mounting. Specimens of Patagonian fossil mammals, 28 in all, were also prepared, determined, and installed. The Assistant Curator of Invertebrate Paleontology has prepared and published descriptions of 12 new species and one new genus of trilobites which he collected in the Maquoketa beds of Fayette County, Iowa, and has cleaned and identified a large amount of other material which he obtained at the same localities. In addition he has mounted on labeled tablets for exhibition a large number of invertebrate fossils, the work of mounting having progressed as rapidly as the tablets could be obtained from the printer.

Several bird and mammal groups are nearing completion, but only one was actually installed during the year — a large group representing bird life on Laysan Island. This island, situated about 400 miles west of Honolulu in the mid-Pacific, has been set aside as a United States Government Bird Reservation on account of the vast number of pelagic birds that breed there. The group includes eleven species of birds (with a number of nests and eggs), among them being Petrels, Man-o'-war birds, and two species of Albatrosses. The latter are shown indulging in their peculiar "dance." The painted background shows the character of the island and the great number of birds which breed there, an illustration of environment, being of educational value. A very large group of American Bison is in the final stage of installation and will soon occupy space in the central rotunda of the Museum. This group of representative American mammals contains six Bison of varying ages, shown in a characteristic Western Plains setting, to which environment "atmosphere" has been given by the addition of a few small animals, such as prairie dog, a burrowing owl, and a rattlesnake. A large amount of taxidermy work has been planned and partly executed. Groups in various stages of completion are: Olympic Elk, Capybara and Jaguar, and a chipmunk and Spermophile group. Fresh specimens for an imposing group of Alaskan Moose and also for an Arctic bird group (Walrus Island) have been received, and work on these groups will begin at once. Five specimens of mammals have been added to the serial exhibition collection and several more are partly mounted, some of which will be completed at an early date. These are Asiatic Takin, Spectacled Bear, Kansu Deer, Mandril, and White-lipped Peccary. Some twenty specimens were added to the series of mounted birds including two examples of the exceedingly rare Trumpeter Swan, a gift from Mr. J. M. Barnes of Lacon, Illinois. During the year the attention of the Division of Entomology was given as much as possible to work that pertained directly or indirectly to the installation of exhibits. A step in this direction was the week spent in completing the work of determining local grasshoppers or Orthoptera, which, it is planned, will eventually

form a part of an exhibition series of Illinois insects. With the same end in view, some time was devoted to local bugs or Hemiptera, the insects that follow the grasshopper in scientific arrangement. At different periods, equaling about three months, the Assistant Curator of Entomology gave his attention to the spreading and labeling of exotic butterflies representing stored accessions intended for exhibition. By means of the material thus prepared, also by using the duplicates which were acquired with the Strecker collection, it will be possible to make many desirable additions to the butterfly exhibit when it is transferred to the new insect cases. The attention of the assistant was largely given to the making of life-history groups.

The N. W. Harris Public School Extension of Field Museum of Natural History. — The problem of supplying museum material to the public schools of Chicago under the auspices of The N. W. Harris Public School Extension of Field Museum has been initiated and satisfactory progress may be reported. During the first part of the year considerable time was spent in seeking information, formulating plans of operation, and inaugurating methods of procedure. While these steps were necessary and essential, approved visible results during that period were few but helpful. Considerable of this period was devoted to the development of the character and construction of a type of exhibition case. It is believed that the adopted style of case meets the requirements for stability, portability, usefulness, and appearance. It is the aim to standardize all cases, so far as the length and height are concerned. The depths of the cases has so far been determined at four, seven and ten inches. These variations of depths have met thus far the requirements of all installed material. In the very earliest stages of determining the suitability of the cases to be circulated, one very important feature had to be carefully considered. It was determined that the two framed explanatory labels which are to accompany each case to the schools should be a part of the case proper, so as to avoid leaving the labels either at the Museum or at the school when the cases were either being delivered or returned. To meet this requirement a scheme of having the two framed labels on grooves affixed to the back of the case was adopted. This arrangement permits of the labels being extended to full view on either end of each case when in use in the classroom, and of being closed flush with the cases when being transported to and from the Museum. In order to prevent as much as possible the handling of cases when in schoolrooms, and that the contents of the cases may be easily seen and studied by a number of students at one time, two hanging appliances have been attached to the top edge of the back of each case, that it may hang from hooks in the wall or upon a standard stand in full view of the classes. To lessen the occurrence of

accidents to the cases when being transported by pupils from room to room, experience clearly showed the advisability of having a light, strong handle at each end of a case. The design of a black painted wooden specimen and label holder in one piece assists not only in the rapid installation of collections, but in the general appearance of neatness and order as well. The cases and contents which are now ready for distribution among the schools, were designed with the idea of their serving as keys or sample cases from which duplicates can be easily and quickly prepared. Eighty cases of loan collections are now available for use in the schools. Thirty-eight of these cases represent zoölogical material, twenty-one geological, twenty botanical, one anthropological. Many public spirited individuals and corporations have given substantial aid by presenting materials of educational value. In many instances the materials represent the various stages of manufacture from the raw to the finished products. Such collections, accompanied by carefully prepared labels, should prove of value in geographical work, in commercial studies, and also in nature study courses. During the spring, each of the following schools — Burr, Mann, Warren, McAllister, Haines Practice and Carter Practice — made use of the cases for a period of two weeks. The request of the Superintendent of Schools for cases to be sent to Burnside vacation school opened up an entirely new field of museum extension work. The request was granted, and for the entire period of the usual summer vacation, several cases were on exhibition at the above school, and not only were these cases viewed and studied by the pupils, but by many of the residents of the neighborhood adjacent to the school.

PHOTOGRAPHY AND ILLUSTRATION.— The following table shows the actual results only of a large series of detailed operations:

	Number of Negatives made	Number of Prints made	Number of Lantern Slides made	Number of Enlargements made	Number of Negatives developed for Expeditions	Number of 6½x8½ Positives made. Used in making large Negatives
Director's Office	8	15	..	..	..	..
Anthropology	364	907	142	..	186	..
Botany	157	608	100	84	12	96
Geology	179	346	83	..	..	..
Zoölogy	17	713	95	..	278	..
Harris Extension	41	183	..	2	..	2
Distribution	..	87	117	..	..	..
Gift	..	160	..	..	..	..
Sale	..	732	..	..	..	..
Totals	766	3,751	537	86	476	98

Total number of Catalogue entries during year 1913 5,714

Total number of Catalogue entries to December 31, 1913 107,268

PRINTING.— The Head Printer reports that, notwithstanding the time devoted to the needs of the N. W. Harris Public School Extension, the regular Museum label work has been given the needed attention with the result that the Section has been able to keep up with the incoming copy.

The number of labels and other impressions which were turned out by the Section are tabulated below:

	Exhibition Labels	Other Impressions
Anthropology	4,107	13,350
Botany	2,922	26,321
Geology	6,337	.....
Zoölogy	2,695	18,400
General	....	59,738
N. W. Harris Public School Extension	5,545	11,046

ATTENDANCE.— The total number of visitors recorded during the year was 214,144, being a decrease of approximately 400 in the figures for the previous year. The classification of the attendance during the year is shown elsewhere in the report and a list of the school classes (twenty pupils or more) that visited the Institution during the year follows:

Schools and Locations	Teachers	Pupils
University Elementary — Fifty-ninth Street and Kenwood Avenue	3	20
Sullivan — Eighty-third Street and Houston Avenue	2	37
Ray — Fifty-seventh Street and Kenwood Avenue	2	24
Art Institute — Michigan Avenue and Adams Street	1	30
Hyde Park High — Sixty-second Street and Stony Island Avenue	1	88
University of Chicago — Chicago, Illinois		20
Art Institute — Michigan Avenue and Adams Street	1	30
Chicago Latin — 18 East Division Street	3	22
Addison Normal — Addison, Illinois	1	60
Ray — Fifty-seventh Street and Kenwood Avenue	1	21
Andersen — West Division and Lincoln Streets	1	40
Shakespeare — Forty-sixth Street and Greenwood Avenue		30
Hull House — 800 South Halsted Street	1	25
University of Chicago — Chicago, Illinois		45
Chicago Academy of Fine Arts — 6 East Madison Street		81
Chicago Latin — 18 East Division Street	1	20
University of Chicago — Chicago, Illinois		21
University of Chicago — Chicago, Illinois		25
University Elementary — Fifty-ninth Street and Kenwood Avenue	1	21
Hyde Park High — Sixty-second Street and Stony Island Avenue	1	30
Seward — Forty-sixth Street and Hermitage Avenue	13	207
University Elementary — Fifty-ninth Street and Kenwood Avenue	3	31
Marshall High — Adams Street and Spaulding Avenue	2	45
University of Chicago — Chicago, Illinois	1	26
New Trier High — Winnetka, Illinois	1	20

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

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Schools and Locations	Teachers	Pupils
Moody Bible Institute — 153 Institute Place		32
Epiphany — 4219 West 25th Street	2	21
Chicago Latin — 18 East Division Street	3	20
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue		25
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue		21
Clifton High — Clifton, Illinois	1	23
Wendell Phillips High — Thirty-ninth Street and Prairie Avenue		29
Luther Institute — 1135 South Marshfield Avenue	5	95
Marshall High — Adams Street and Spaulding Avenue	1	28
Parker High — 330 Webster Avenue	1	60
St. Charles — St. Charles, Illinois	1	42
Steger — Steger, Illinois	1	20
Warren — Ninety-second Street and Central Avenue	3	40
University of Chicago — Chicago, Illinois	1	25
Hyde Park High — Sixty-second Street and Stony Island Avenue	1	76
University of Chicago — Chicago, Illinois	1	25
Kenwood — Fiftieth Street and Lake Park Avenue	1	42
Dewey — Fifty-fourth Street and Union Avenue	1	20
William Penn — Sixteenth Street and Avers Avenue	1	21
Warren — Ninety-second Street and Central Avenue	1	32
Sherman — Fifty-first and Morgan Streets	3	74
West Pullman — West Pullman, Illinois		21
St. Michaels — Eighty-third Street and Ontario Avenue	1	38
West Pullman — West Pullman, Illinois	2	20
Juvenile Home — 771 Gilpin Place	4	21
Chicago Hebrew Institute — 1258 Taylor Street	4	21
Holden — Thirty-first and Loomis Streets	1	45
University of Chicago — Chicago, Illinois	1	56
Burnside — Ninety-first Place and Langley Avenue	2	40
Jefferson Vacation — Elburn Avenue and Laflin Street	6	52
McCormick Vacation — Sawyer Avenue and West Twenty-seventh Street	14	535
St. Marys — 1031 Cypress Street	2	23
Central Y. M. C. A.— 19 South La Salle Street	4	28
Copernicus Vacation — West Sixtieth and Throop Streets	20	292
Bohemian — 1510 West Eighteenth Street	2	45
University of Chicago — Chicago, Illinois		27
Chicago Orphan — Fifty-first Street and South Park Avenue	1	46
University of Chicago — Chicago, Illinois	1	32
Washington — North Morgan Street and Grand Avenue	1	55
Chicago Evangelistic Institute — 1754 Washington Boulevard	1	41
Chicago Academy of Fine Arts — 6 East Madison Street	1	41
University Elementary — Fifty-ninth Street and Kenwood Avenue	1	25
Holy Family — 1444 West Division Street	2	24
Home for Jewish Friendless — 5228 Ellis Avenue	2	55
Moody Bible Institute — 153 Institute Place		31
Carter Practice — Sixty-first Street and Wabash Avenue	2	45
University Elementary — Fifty-ninth Street and Kenwood Avenue	1	20
University of Chicago — Chicago, Illinois		35

Schools and Locations	Teachers	Pupils
Art Institute — Michigan Avenue and Adams Street	1	22
University Elementary — Fifty-ninth Street and Kenwood Avenue	2	20
Chicago Latin — 18 East Division Street	5	25
University Elementary — Fifty-ninth Street and Kenwood Avenue	3	22
Andersen — West Division and Lincoln Streets	1	37
Branscroft — Maplewood and Wabansia Avenue	1	30

Herewith are also submitted financial statements, analysis of attendance, list of accessions, articles of incorporation, amended by-laws, names of members, etc.

Frederick J. V. Skiff, Director.

FINANCIAL STATEMENT

RECEIPTS AND DISBURSEMENTS

January 1, 1913, to December 31, 1913

RECEIPTS

Cash in Treasurer's hands, General Fund, December 31, 1912	$8,342.10
Cash in Treasurer's hands, Endowment Sinking Fund, December 31, 1912	504.44
Petty Cash on hand, December 31, 1912	739.95
Dues of Annual Members	1,200.00
Life Members	1,000.00
Life Memberships Fund — Investment Income	275.00
Admissions and Check Rooms	5,886.15
Sale of Guides	218.00
South Park Commissioners	15,000.00
Interest on Investments and Bank Balances	44,784.39
Field Endowment Income	136,500.00
Field Endowment Sinking Fund	500.00
Field Endowment Sinking Fund Income	152.89
New Exhibition Cases Fund	1,829.24
New Exhibition Cases Fund Income	2,760.00
New Exhibition Cases Fund Investments retired	22,500.00
Field-Sprague Ornithology Fund	578.00
Joseph N. Field South Pacific Islands Fund	12,268.13
Huntington W. Jackson Library Fund	40.00
N. W. Harris Public School Extension	171.15
Donations	5,670.62
Sundry receipts	17.27
	$260,937.33

DISBURSEMENTS

Salaries		$95,201.53
Guard Service		13,152.69
Janitor Service		8,003.03
Fire Protection		5,216.42
Heat and Light —		
Wages	$4,071.28	
Fuel	6,081.68	
Gas	452.00	
Renewals, Supplies and Sundries	977.74	11,582.70

Repairs and Alterations —		
Wages of Carpenters, Painters, Roofers, etc.	$9,643.18	
Material used — paints, oils, glass, lumber, plaster, etc.	2,467.14	
Constructing Sewer	341.00	
Restoration of West Annex	2,142.61	$14,593.93
Sections of Printing and Photography		7,302.68
Collections, purchased		13,832.00
Departmental Expenses		6,350.00
Expeditions		4,725.58
Publications		2,763.17
General Expense —		
Freight, Expressage and Teaming	$2,321.51	
Stationery	308.33	
Postage, Telephone and Telegrams	752.87	
Sundries	3,229.59	6,612.30
Furniture and Fixtures —		
New Exhibition Cases	$32,453.12	
Sundries	88.00	32,541.12
The Library —		
Books and Periodicals	$1,401.82	
Binding	741.79	
Expense	78.73	2,222.34
Field-Sprague Ornithology Fund		348.25
Joseph N. Field South Pacific Islands Fund		12,429.70
Stanley McCormick Hopi Fund		12.20
Mrs. T. B. Blackstone Fund		273.96
Homer E. Sargent Fund		12.66
		$237,176.26
In Treasurer's hands, December 31, 1913 —		
General Fund	$11,690.37	
New Exhibition Cases Fund	930.75	
Endowment Sinking Fund	180.00	12,801.12
Petty Cash on hand, December 31, 1913		739.95
New Exhibition Cases Fund — advance to Building Fund		3,500.00
General Fund — Investments		5,500.00
Endowment Sinking Fund-Investment		1,220.00
		$260,937.33

ATTENDANCE AND RECEIPTS FROM JANUARY 1 TO DECEMBER 31, 1913

ATTENDANCE.

Paid Attendance —		
Adults	20,547	
Children	2,166	22,713
Free Admission on Pay Days —		
School Children	3,836	
Students	3,410	
Teachers	505	
Members: Corporate	36	
Annual	37	
Life	1	
Officers' Families	53	
Special	193	
Press	17	8,088
Admissions on Free Days —		
Saturdays	40,842	
Sundays	142,501	183,343
Total Attendance		214,144
Highest Attendance on any one day (July 20, 1913)		7,991
Highest Paid Attendance on any one day (September 1, 1913)		618
Average Daily Admissions (363 days)		589
Average Paid Attendance (259 days)		87

RECEIPTS.

Guides Sold — 872 at 25 cents each	$218.00
Articles Checked — 10,656 at 5 cents each	532.80
Admissions	5,353.35
	$6,104.15

Accessions

DEPARTMENT OF ANTHROPOLOGY.

(ACCESSIONS ARE BY GIFT UNLESS OTHERWISE DESIGNATED.)

AYER, E. E., Chicago.
- Pair of gold bracelets — Italy.
- Female Ushabti figure of wood — Egypt.
- Belt, silver plates, Navajo.
- Ceremonial Copper Shield, Kwakiutl.

BLACKSTONE, MRS. T. B., Chicago.
- Ancient Chinese bone carvings — China.
- Ancient bone carvings — Shantung, China.
- Pair of bronze staves — Shantung, China.

FIELD, JOSEPH N., Manchester, England. South Pacific Islands Fund.
- General ethnological collection — Melanesia (Collected by A. B. Lewis).
- Skulls and skeletons — Melanesia.

FIELD MUSEUM OF NATURAL HISTORY.

Purchases:
- Painted scroll by Ku K'ai-chi in British Museum, reproduced in colored wood cut — China.
- Parade uniform of officer belonging to the Imperial Palace Guard, complete with helmet, boco-case and trunk — China.
- Decorated Buffalo-hide robe.
- Four Navajo blankets.

GARST, GOODWIN, Coon Rapids, Iowa.
- Flint arrowhead — Coon Rapids, Iowa.

GISE, MISS VIRGINIA, Chicago.
- Miscellaneous ethnological specimens — Samoa and South Sea Islands.

LANDIS, FRANKLIN, Chicago.
- Coat of intestines trimmed with fur—Aleutian Islands.

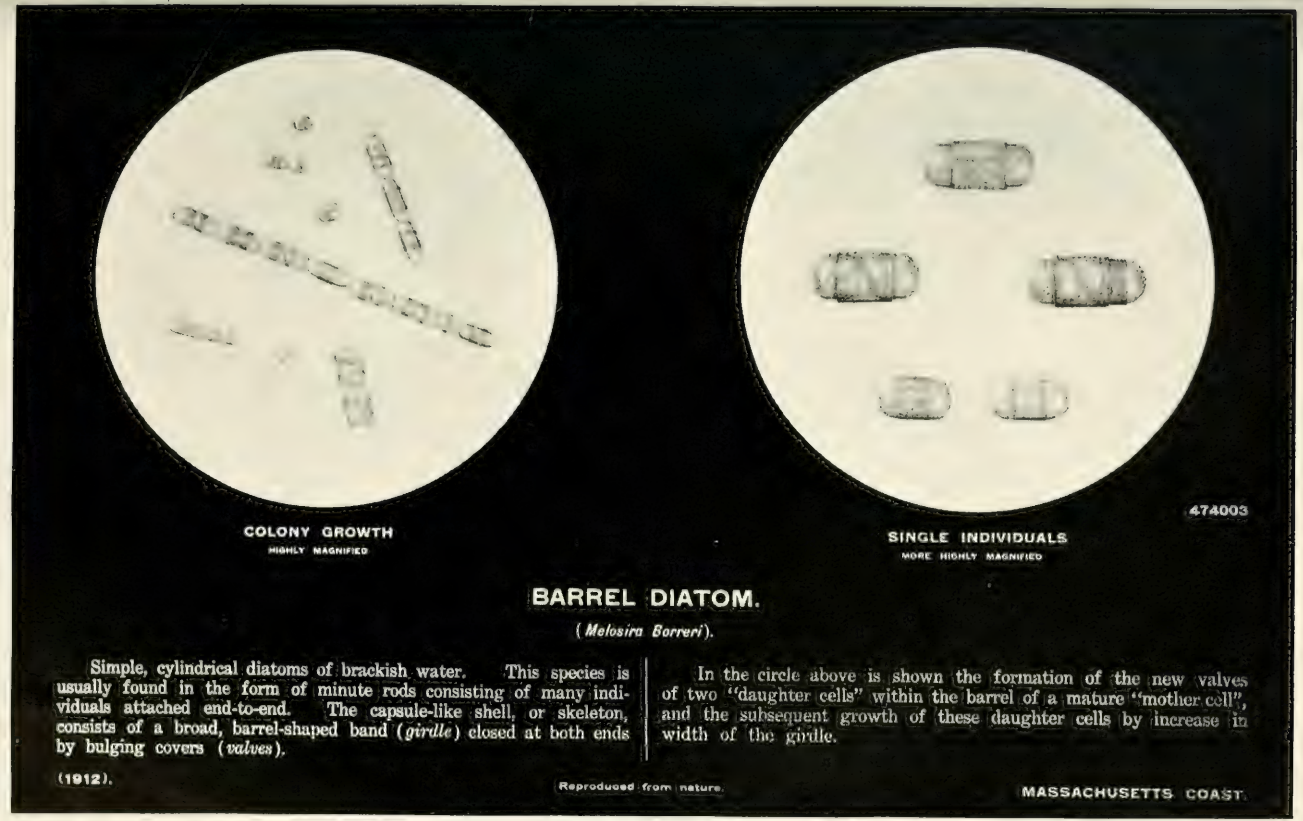
MOORE, CLARENCE B., Philadelphia, Pa.
- Archæological specimens.

PFAFFER, DR. L., Weimar, Germany.
- Prehistoric archæological remains.

ROBERTS, GEO. C., Sharon Hill, Pa.
- Flint arrowheads — Pennsylvania (exchange).

SETON-KARR, H. W., London, England.
- Flint archæological specimens — Egypt.

SIAMESE GOVERNMENT, Bangkok, Siam.
- 4 Buddhistic clay tablets — Siam.



MUSEUM SUBSTITUTE FOR THE MICROSCOPE.
Reproductions of diatoms in the microscopic field

LIBRARY
UNIVERSITY OF ILLINOIS
URBANA

DEPARTMENT OF BOTANY.

(ACCESSIONS ARE BY GIFT UNLESS OTHERWISE DESIGNATED.)

AMERICAN TRADING CO., Yokohama, Japan.
Japanese rice, kodzo and bamboo papers — Japan.
ARTHUR, J. C., Lafayette, Ind.
Photographs of Cedar Apples — Indiana.
BLACK, E. W., Santa Margarita, California.
Economic specimens and dry fruits — California.
BRANDEGEE, T. S., Berkeley, California.
1 herbarium specimen — Mexico.
BRITTON, MRS. E. G., New York City.
4 illustrations.
CLAYBERG, H. D., Chicago, Illinois.
1 herbarium specimen — Michigan.
CORY, MRS. C. B., Chicago, Illinois.
1 herbarium specimen — Wisconsin.
DEAM, CHAS. C., Bluffton, Indiana.
6 herbarium specimens — Indiana and Florida.
DEPARTMENT OF AGRICULTURE, Kingston, Jamaica, British West Indies.
3 branches and fruits of *Capparis jamaicensis* — Jamaica.
DE SELM, JUDGE ARTHUR W., Kankakee, Illinois.
229 herbarium specimens — Illinois and Michigan.
244 herbarium specimens — Kankakee, Illinois.
371 dried plants — Illinois.
FAIRBANK COMPANY, THE N. K., Chicago, Illinois.
16 cottonseed oil products.
FIELD MUSEUM OF NATURAL HISTORY.
Collated by C. F. Millspaugh:
16 herbarium specimens — Peru and Ecuador.
56 herbarium specimens — Java, Malaya, Mexico, United States and West Indies.
53 herbarium specimens — Europe, Australia and West Indies.
33 plant fragments, descriptions and drawings.
3 herbarium specimens — Cuba.
53 herbarium specimens — United States, West Indies, Mexico, Central and South America.
3 herbarium specimens — Mexico and West Indies.
Collated from Museum Library:
5 colored plates mounted as herbarium specimens.
Collated by E. B. Uline:
3 drawings of *Amaranthaceæ* and *Dioscoreaceæ*.
Collected by O. E. Lansing, Jr.:
9 herbarium specimens — Indiana.
Collected by H. H. Smith:
Fruits of *Euonymus atropurpureus* — Indiana.
Fruits of *Viburnum prunifolium* — Indiana.
Gum, seeds and cones of *Pinus Sabiniana* — California.
125 herbarium specimens — Illinois and Indiana.
Dry fruits of *Rhus radicans* (poison ivy)— Indiana.

Made by Section of Photography:
7 photographs of type plants.
Photo of *Cacalia discolor* — Cuba.

Purchases:
Economic specimens (*Myristica fragrans*)— Butter.
Economic specimens (*Myristica fragrans*)— Oil.
109 herbarium specimens — South Pacific Islands.
1 specimen of sealing wax.
1 specimen of shell lac.
1,000 herbarium specimens — Palawan, Philippine Islands.
221 herbarium specimens — Canada.
557 herbarium specimens — Santo Domingo.
338 herbarium specimens — Montana, Nevada, California, Utah and Wyoming.
612 herbarium specimens — South Dakota.
490 herbarium specimens — South Pacific Islands.
32 economic specimens — South Pacific Islands.
359 herbarium specimens — Mexico.
1,159 herbarium specimens — Mexico.
122 herbarium specimens — Tobago and Trinidad.
101 herbarium specimens — Santo Domingo.
507 herbarium specimens — Philippines.
51 herbarium specimens — South Dakota.
105 herbarium specimens — Tobago, West Indies.
50 herbarium specimens — South Dakota.
56 herbarium specimens — Tobago, West Indies.
87 herbarium specimens — South Dakota.
218 herbarium specimens — Philippine Islands.

Modeled by Section of Modeling:
Toxylon pomiferum — fruits.
Psidium Guajava — fruit section.
Garcinia Mangostana — fruiting twig, fruit, and fruit section.
Arundinaria sp.— sprout.
Cattleya Trianæi — flower.
Asclepias Syriaca — whole plant.
Diospyros Virginiana — fruiting branch.
Connarus diversifolius — fruiting branch.
Dioscorea sativa — tubers.
Gnetum Gnemon — branch.
Plant of *Vanilla planifolia*.
Leaves of *Piper Betel*.
Reproduction of small branch of vanilla plant.
Reproduction of fruit head of "Cardamom." (Elettaria.)
Modeling of enlarged flowers of *Gnetum*.
Fruit of *Averrhoa Carambola*.
Whole branch of *Averrhoa Bilimbi* in leaf, flower and fruit.
Diatom — *Triceratium favus*.
Diatom — *Planktonella Sol*.
Flower of *Oxalis corniculata*.
Model of branch of *Magnolia fœtida*.

Diatom — *Melosira Botteri.*
Diatom — *Chaetoseros Lorenzianum.*
Bacteriastrum varians.
Rhizosolenia styliformis and *R. setigera.*
Models of *Cleome spinosa* — enlarged flower, fruit natural size, ovary section enlarged.
Model of Diatom *Licmophora flabellata.*
Reproduction of a plant of *Hydnophytum formicarum.*
9 mushroom models.
49 reproductions of Bacteria.
A full leafy and fruiting branch of *Gingko biloba.*
Reproduction of a group of fungi (*Armillaria mellea*).

FOREST ECONOMIST, Dehra Dun, India.
55 Vegetable products — India.
Milk and Caoutchouc from *Calotropis* — India.

FRIESSER, J., Chicago, Illinois.
1 herbarium specimen — Florida.
15 herbarium specimens — Alaska and Washington.
5 herbarium specimens — State of Washington.

GEOLOGICAL SURVEY OF ALABAMA, University, Alabama.
14 herbarium specimens — Alabama and Arkansas (exchange).

GRAY HERBARIUM OF HARVARD UNIVERSITY, Cambridge, Mass.
1 herbarium specimen — Cuba (exchange).

GREENMAN, DR. J. M., Chicago, Illinois.
2 herbarium specimens *Maxillaria.*

HALL, MRS. HERMAN J., Chicago, Illinois.
Living plant of Ginseng in full ripe fruit — Michigan.
Illustration of Ginseng — Saugatuck, Michigan.

HARRIS, WILLIAM, Hope Botanical Garden, Kingston, Jamaica, British West Indies.
2 herbarium specimens — Jamaica.

HELLER, A. A., Reno, Nevada.
4 herbarium specimens *Compositæ.*

HERBARIUM BOISSIER, Geneva, Switzerland.
3 drawings and photographs of type plants *Pedilanthus* — Mexico.

HUNGARIAN NATIONAL MUSEUM, Budapest, Austria-Hungary.
109 herbarium specimens — Hungary (exchange).

HYNES, J. A., Chicago, Illinois.
1 Coumarin from *Prunus Mahaleb.*
Flowers of *Hibiscus Sabdariffa.*
Hat ornaments of *Lycopodium* — Germany.
2 grass and sedge hat ornaments — Germany.
16 economic specimens.
Rhamnus Frangula — bark *Boldoa fragrans* — leaves *Astragalus gummifer* — gum.

JOHNSON, FRANK W., Chicago, Illinois.
67 herbarium specimens — Illinois and Indiana.

KEW GARDENS, Kew, England.
114 herbarium specimens (exchange).

LANSING, O. E., Jr., Chicago, Illinois.
26 herbarium specimens — Indiana.
1 composite bur ornament — Chicago market.
MILLSPAUGH, DR. C. F., Chicago, Illinois.
Economic specimens — *Achras Sapota* — fruit model, crude gum and refined gum — Mexico.
Economic specimens — *Achras Sapota* — Latex — Guatemala.
16 herbarium specimens — Maywood, Illinois.
28 herbarium specimens — Palos, Illinois.
5 herbarium specimens — Chicago, Illinois.
53 herbarium specimens — Wisconsin.
2 herbarium specimens — Michigan.
Seeds of *Tropæolum majus* — Chicago, Illinois.
2 herbarium specimens — Wisconsin.
Fresh fruits of *Tropæolum majus* — Ephraim, Wisconsin.
Cane made of stalk *Verbascum Thapsus* — Ephraim, Wisconsin.
22 herbarium specimens — Wisconsin and Illinois.
Economic specimens: *Myristica fragrans* — nutmegs from Chicago market.
MISSOURI BOTANICAL GARDEN, St. Louis, Missouri.
2 photographs of book illustrations (exchange).
1 herbarium specimen of *Pedilanthus Finckii* — St. Louis, Missouri (exchange).
1 photograph of *Pedilanthus Finckii* — St. Louis, Missouri (exchange).
1 herbarium specimen — St. Louis, Missouri (exchange).
Leaves of *Vanilla planifolia* (exchange).
648 herbarium specimens (exchange).
MORSE, C. G., & CO., San Francisco, California.
Fruits of *Tumion californicum* — California.
NEW YORK BOTANICAL GARDEN, New York City.
Illustration of *Scirpus floccosus* — Cuba (exchange).
695 herbarium specimens *Pedilanthus* — West Indies (exchange).
1 herbarium specimen — Porto Rico (exchange).
94 herbarium specimens — Jamaica (exchange).
301 herbarium specimens — West Indies (exchange).
3 herbarium specimens — West Indies (exchange).
9 herbarium specimens — West Indies (exchange).
1 herbarium specimen — Cuba (exchange).
1 herbarium specimen — New Mexico (exchange).
5 herbarium specimens — Cuba and Florida (exchange).
PACIFIC IMPROVEMENT CO., Del Monte, California.
24 economic specimens logs and dry fruits — California.
PARISH, S. B., San Bernardino, California.
1 herbarium specimen *Chamæsyce* — California.
SHERFF, E. E., Chicago, Illinois.
7 illustrations and descriptions.
8 herbarium specimens — United States and Canada.
SMITH, HURON H., Chicago, Illinois.
10 herbarium specimens — Illinois.
42 herbarium specimens — Indiana.
13 medicinal roots, etc. — Illinois.

UNITED STATES DEPARTMENT OF AGRICULTURE, Division of Plants, Washington, D. C.
19 herbarium specimens — Mongolia and Siberia (exchange).
UNITED STATES NATIONAL HERBARIUM, Washington, D. C.
19 herbarium specimens — United States, Central America and Philippines (exchange).
UNIVERSITY OF PENNSYLVANIA, Botanical Garden, Philadelphia, Pa.
91 herbarium specimens — United States.
WURZLOW, E. C., Houma, Louisiana.
9 herbarium specimens — Louisiana.

DEPARTMENT OF GEOLOGY.

(ACCESSIONS ARE BY GIFT UNLESS OTHERWISE DESIGNATED.)

AMHERST COLLEGE, Amherst, Massachusetts.
Skull and jaws of *Stenomylus gracilis* — Nebraska.
ARMOUR SANDPAPER WORKS, Chicago.
6 specimens abrasive powders.
BETHLEHEM STEEL COMPANY, South Bethlehem, Pennsylvania.
Nickel steel shavings from armour plate — South Bethlehem, Pa.
BIDDLE HARDWARE COMPANY, Philadelphia, Pennsylvania.
Propeller of Monel metal.
BÖHM, JULIUS, Vienna, Austria.
1 specimen Tepl meteorite — Bohemia (exchange).
1 specimen St. Germain meteorite — France (exchange).
BRADEN COPPER COMPANY, Rancagua, Chile.
225 specimens copper ore — Rancagua, Chile.
BRITISH SCHOOL OF ARCHÆOLOGY IN EGYPT, London, England.
5 specimens building stones of Memphis, Egypt — Memphis, Egypt.
CHALMERS, W. J., Chicago.
2 gold nuggets — California.
Quantity silver nuggets — Lake Superior.
COLLINS, P., Chicago.
3 specimens gem obsidian.
1 specimen obsidian in matrix — Near Reno, Nevada.
DICKEY CLAY MANUFACTURING CO., W. S., Kansas City, Missouri.
400 pound mass fire clay.
1 brick made from same — Versailles, Missouri.
DIXON CRUCIBLE COMPANY, THE JAS., Jersey City, New Jersey.
Collection illustrating the uses of graphite — Jersey City, New Jersey.
DOMINION MARBLE COMPANY, THE, Montreal, Canada.
4 polished slabs of marble — Quebec, Canada.
DUMONT, DR. T. A., Dumont, Iowa.
10 specimens silver ores — San Bernardino County, California.
EGYPTIAN GEOLOGICAL SURVEY, Cairo, Egypt.
1 specimen El Nakhla meteorite — El Nakhla, Egypt (exchange).
FIELD MUSEUM OF NATURAL HISTORY.
Collected by B. Laufer:
1 polished specimen of ophicalcite — Region of the Upper Huang-Ho, Kansu Province, China.

Collected by E. S. Riggs:
1 specimen of Loup Fork sandstone — Agate, Nebraska.
Collected by R. D. Salisbury:
4 specimens obsidian nodules — Patagonia.
1 specimen diamondiferous sand — Brazil.
Collected by A. W. Slocom:
182 specimens invertebrate fossils.
5 specimens brown coal — Little Traverse Bay, Michigan.
Purchases:
Etched slab of the Chinautla meteorite.
Pickens County meteorite — Pickens County, Georgia.
1 specimen pollucite — Buckfield, Maine.
1 specimen St. Michel meteorite — St. Michel, Finland.
Davis Mountains meteorite — Toyah, Texas.
Modeled by B. E. Dahlgren:
Branch with leaves and fruit of gingko — Washington, D. C.

FOOTE MINERAL COMPANY, Philadelphia, Pennsylvania.
1 specimen hopeite — Rhodesia (exchange).
1 specimen hinsdalite — Colorado (exchange).
1 specimen hulsite — Alaska (exchange).

GEORGIA MARBLE COMPANY, Tate, Georgia.
6 slabs Georgia marble — Georgia.

GILES & NIELSEN NICKEL WORKS, Troy, New York.
2 specimens nickel plate.

GOETZ BROTHERS, New Albany, Indiana.
1 specimen pulverized silica for paint — New Albany, Indiana.

HEATH & MILLIGAN MANUFACTURING COMPANY, Chicago.
5 specimens buhr stones.
8 specimens pigments.

JOHNS-MANVILLE COMPANY, H. W., Chicago.
19 specimens of asbestos products.

JOHNSTON, W. M., Chicago.
1 specimen gold ore — Animas Forks, Colorado.
1 specimen tetrahedrite.
1 specimen rhodonite — San Juan County, Colorado.

KILBOURN, SILAS, Chicago.
2 specimens marl — Compos Lake, Florida.

KINRADE, J. J., San Francisco, California.
1 specimen diopside.
1 specimen obsidian — California.

MISSOURI, KANSAS & TEXAS RAILROAD, St. Louis, Missouri.
2 specimens burned clay ballast and raw clay — Tebbetts, Missouri.

MACKIN, MRS. C. F., Chicago.
1 polished geode — near Charlevoix, Michigan.

MARSH, C. H., Marshfield, Oregon.
980 specimens agate and jasper — Oregon.

MARTIN, F. E., Chicago.
1 specimen lead ore.
1 specimen lead and zinc ore — Hardin County, Illinois.

MORONEY, JOHN J., Chicago.
1 specimen diatomite.
1 specimen kaolin — Mexico.
MURPHY, CHRISTOPHER, Chicago.
2 specimens mercury ore — Cinnabar, Arizona.
2 specimens cerussite — Wardner, Idaho.
2 specimens pyromorphite — Wardner, Idaho.
NARRAWAY, J. E., Ottawa, Canada.
1 fossil trilobite — Mechanicsville, Canada (exchange).
NICHOLAS, FRANCIS E., New York City.
14 specimens showing alteration of pyrite to hematite — Copete Mine, Sonora, Mexico.
OLIVER IRON MINING COMPANY, Coleraine, Minnesota.
10 specimens iron ores and concentrates — Coleraine, Minnesota.
PEABODY, F. S., Chicago.
Tibia of Mastodon — Du Page County, Illinois.
PIERCE, HENRY B., Golconda, Illinois.
3 specimens transparent fluorite — Golconda, Illinois.
PLUMAS AMALGAMATED MINES COMPANY, San Francisco, California.
2 specimens gold ore — Soda Creek, California.
RENNE, D. S., Verona, Illinois.
2 specimens clay — Walker, Lane County, Oregon.
RICHARDS, A. G., Albany, Wyoming.
1 specimen allanite — Albany, Wyoming.
ROSENBERGER, J. L., Chicago, Illinois.
47 specimens copper ores — Butte, Montana, and Lake Linden, Michigan.
7 specimens various minerals.
SCHROTT, FRED, Salt Lake City, Utah.
2 specimens gold ore.
1 specimen country rock — High Grade Camp, Modoc County, California.
SMITH, HURON H., Chicago, Illinois.
25 specimens opal and jasper pebbles — Oregon and California.
SOSNOVEC, V., St. Louis, Missouri.
Quartz geode — St. Louis, Missouri.
3 specimens flint — St. Clair County, Illinois.
4 specimens chert concretions — St. Louis, Missouri.
SOUTHERN RAILWAY COMPANY, Land & Industrial Dept., Washington, D. C.
6 specimens clays.
1 specimen silica — Southern States.
UNION OIL COMPANY OF CALIFORNIA, Chicago, Illinois.
1 specimen petroleum.
1 specimen asphalt — Sunset District, California.
UNITED STATES NATIONAL MUSEUM, Washington, D. C.
1 section Perryville meteorite — Perryville, Missouri (exchange).
UNIVERSITY OF CALIFORNIA, Berkeley, California.
Skeleton of *Canis diurus* — Los Angeles, California (exchange).
VERMONT MARBLE COMPANY, Proctor, Vermont.
13 polished slabs of Vermont marble — Proctor, Vermont.

WARSAW CO-OPERATIVE ASSOCIATION, Warsaw, Illinois.
1 specimen ferruginous shale — Warsaw, Illinois.

DEPARTMENT OF ZOÖLOGY.

(ACCESSIONS ARE BY GIFT UNLESS OTHERWISE STATED.)

ALFARO, DR. A., San Jose, Costa Rica.
3 snout beetles — Rio Higueron, Taboga, Guanacaste, Costa Rica.
350 fishes — Pacific side of Costa Rica.
3 reptiles — Pacific side of Costa Rica.
AMERICAN MUSEUM OF NATURAL HISTORY, New York City.
65 specimens of mammals — Alaska, Siberia, Mexico, South America (exchange).
AYER, EDWARD E., Chicago.
1 Mallard Drake (albino) — Kankakee River, Illinois.
BARNES, JUDGE R. M., Lacon, Illinois.
1 Trumpeter Swan.
1 Trumpeter Swan — Eastern United States.
BEATY, WILBUR L., Chicago.
1 Mountain Rat Nest — Butte, Montana.
BORDEN, JOHN, Chicago.
1 Mallard (albino).
1 Cardinal Grosbeak (albino) — Illinois.
BROWN, LYLE E., Chicago.
1 Herring Gull — Jackson Park, Chicago.
DEUBLER, L., Chicago.
1 Mantispa.
1 beetle — Edgebrook, Illinois.
5 bird lice — Sheldon, Illinois.
DEVLIN, MRS. J., Chicago.
4 beetles — Costa Rica, Central America.
DOWD, MRS. LYDIA, Chicago.
1 American Bittern.
DUNNING, JERRY, Olive Branch, Illinois.
1 Cormorant — Olive Branch, Illinois.
FAIRCHILD, ELIJAH S., Chicago.
1 spider — Chicago, Illinois.
FIELD MUSEUM OF NATURAL HISTORY.
Collected by M. P. Anderson:
86 mammals — Eastern Peru.
173 birds — Eastern Peru.
2 snakes — Eastern Peru.
1 lizard — Eastern Peru.
173 bird skins — Peru, South America.
1 bumblebee, 2 beetles, 6 scorpions — Boa Vista (Rio Bronco), Brazil.
5 reptiles, 10 fishes — Brazil.

Collected by M. P. Anderson and R. H. Becker:
540 bird skins
51 mammal skins
61 mammal skulls
— State of Amazonas, Brazil.

Collected by R. H. Becker:
104 bird skins
57 mammals (skins and skulls)
4 skulls only
— Amazonas, Brazil.

442 bird skins
85 mammals (skins and skulls)
14 odd skulls
13 bats
5 frogs
1 lizard
1 snake
— Eastern Brazil.

1 tarantula
1 beetle
— Amazon River, Brazil.

Collected by C. Brandler:
1 Musk Rat — Jackson Park, Chicago.

Collected by C. B. Cory.
1 bug
1 dragonfly
2 butterflies
4 grasshoppers
6 flies
11 bees, wasps, etc.
12 beetles
— Ballard Lake, Wisconsin.

5 shells — Lake Bucktoban, Vilas County, Wisconsin.

Collected by J. Friesser:
4 moose (skulls and 3 skeletons) skins, 1 pair moose horns, 5 Alaska porcupines (with skulls and 2 skeletons), 8 red squirrels, 9 varying hares (with skulls and 1 skeleton)— Kenai Peninsula, Alaska.
2 bugs, 5 grasshoppers, 5 beetles — Bozeman, Montana.
3 beetles, 20 flies, 1 ant, 3 bugs — Skilak Lake, Alaska.

Collected by W. J. Gerhard:
221 dragonflies, grasshoppers, bugs, butterflies, moths, beetles, flies, bees, wasps, and parasites — Northern Illinois and Northern Indiana.

Collected by E. N. Gueret:
2 Sanderling — Lake Michigan, South Chicago.

Collected by William Heim:
1 Kangaroo Rat — Baird, Shasta County, California.
140 fishes — Monterey, California.
85 fishes — Long Beach, California.
9 boxes mounted fish — Long Beach, California.
Salmon eggs — Baird, California.
1 keg of gravel — Baird, California.

Collected by S. E. Meek and S. F. Hildebrand:
17,000 specimens of fishes (550 species)— Panama.

Collected by W. H. Osgood and M. P. Anderson:
202 mammals, 208 birds, 2 lizards — Peru.
2 centipedes — Balsas, Peru.

Collected by L. L. Walters:
41 mammals (skins and skulls), 3 birds — Salamonia, Jay County, Indiana.
56 birds, 3 mammals — Cook County, Illinois.
Purchases:
1 skink (lizard)— Fruitland Park, Lake County, Florida.
6 eggs, nest and 5 eggs, nest and 4 eggs.
1 cow buffalo.
591 Humming-bird skins.
37 moths, 40 butterflies — Key Islands, Dutch East Indies.
2 Rough-legged Hawks.
3 deer, 1 Coati, 1 Tayra (skins and skulls)— Venezuela.
156 Humming-birds, 79 miscellaneous species, 42 Humming-bird nests — Venezuela.
20 Murres Eggs.
83 Arctic birds, 65 eggs, 4 nests, photographs and samples of moss — Behring Sea, Alaska and Siberia.
6 Paradise Birds — German New Guinea.

FRIESSER, J., Chicago.
1 beetle — Willow Springs, Illinois.
3 bugs, 6 beetles — Holland, Michigan.

GAULT, B. T., Glen Ellyn, Illinois.
3 bats — Cayenne, French Guiana.

GAUMER, G. F., Tacubaya, D. F., Mexico.
2 Pigmy Opossums.

GIBNEY, J., Chicago.
1 millipede — Chicago, Illinois.

GUERET, E. N., Chicago.
1 bird parasite (bird louse)— Worth, Illinois.

HANCOCK, DR. J. L., Chicago.
4 bugs — Wheaton, Illinois.

HEFTER, CHARLES, Kankakee, Illinois.
1 starfish — Gulf of Mexico.

INDIANA UNIVERSITY MUSEUM, Bloomington, Indiana.
123 fishes — Guatemala.

LEWIS, A. B., Chicago.
1 Cassowary Egg — North Coast of Dutch New Guinea.
1 Dugong Skull — German New Guinea.

LILJEBLAD, E., Chicago.
40 bugs, mantispas, beetles, flies, bees, etc.— Northern Illinois and Northern Indiana.
3 bugs — Mt. Vernon, Ohio.

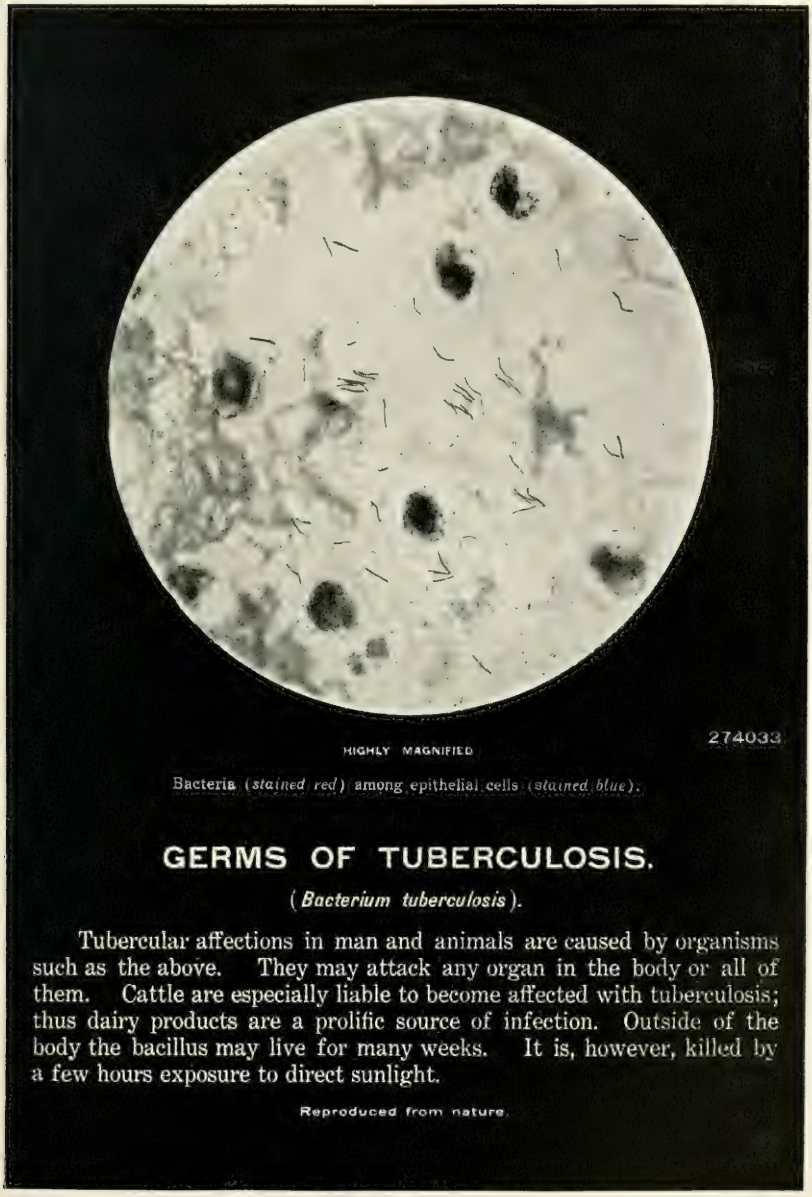
MILLSPAUGH, DR. C. F., Chicago.
4 moths — Ephraim, Wisconsin.

MUNZNER, H., Chicago.
1 bug, 2 beetles, 1 wasp, 3 spiders — Northern Illinois.

NETHERCOT, MRS. ARTHUR, Chicago.
1 scorpion, 1 Trapdoor Spider's Nest — San Remo, Italy.

NICKERSON, V. C., Kankakee, Illinois.
Specimens of scale insects on branch of cherry — Kankakee, Illinois.

PHELPS, MRS. W. L., Chicago.
1 Gar-fish.



REPRODUCTION OF A MICROSCOPE FIELD SHOWING BACTERIA.

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PORTER, A. F., Decorah, Iowa.
68 bugs, beetles, bees and wasps — Iowa, West Indies, South America and Africa.
PRAY, LEON L., Chicago.
1 *Synaptomys cooperi* — Dowagiac, Michigan.
1 bee, 2 bugs, 2 flies, 7 beetles — Dowagiac, Michigan.
SISSON, O. U., Chicago.
1 Gar-fish.
STEELE, G. F., Chicago.
1 Caribou head, 1 White-tail Deer head, 1 Mountain Sheep head, 1 Black-tail Deer head, 3 Goat heads, 1 Buffalo head, 5 fish, 1 Jew fish, 2 pelicans, 1 Great Blue Heron, 1 Snowy Owl, 1 Great Horned Owl, 1 Barn Owl, 1 Saw-whet Owl, 1 Royal Tern, 3 California Quail — California and Michigan.
STUDEBAKER, J. M., South Bend, Indiana.
2 American Elk (male and female)— Glenwood Springs, Colorado.
THOMPSON, S. L., Winnipeg, Manitoba.
3 bugs, 1 butterfly, 2 bumblebees — Winnipeg, Manitoba.
UNITED STATES BIOLOGICAL SURVEY, Washington, D. C.
1 *Viscaccia*, 1 *Euneomys* — Peru (exchange).
UNITED STATES NATIONAL MUSEUM, Washington, D. C.
200 specimens of fishes (84 species) (exchange).
WARREN, J. B., Chicago.
1 Manatee (skeleton)— Texas.
WILLIAMSON, E. B., Bluffton, Indiana.
1 Short-eared Owl — Bluffton, Indiana.
1 Sparrow Hawk — Bluffton, Indiana.
1 Great Horned Owl — Bluffton, Indiana.
1 Horned Grebe — Bluffton, Indiana.
1 Red-tailed Hawk — Bluffton, Indiana.
1 Carolina Rail — Bluffton, Indiana.
1 Red-shouldered Hawk — Bluffton, Indiana.
1 Marsh Hawk.
WINCHESTER, MRS. NINA, Santa Cruz, Philippine Islands.
30 shells — Santa Cruz, Davao District, Moro Province, Philippine Islands.
WOLCOTT, A. B., Chicago.
54 bugs, beetles, flies, bees, wasps, etc.— Northern Indiana and Northern Illinois.
7 millipedes, 155 vials of spiders — Northern Indiana and Northern Illinois.

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134 negatives of landscapes, seascapes, general views, etc.— Brazil.
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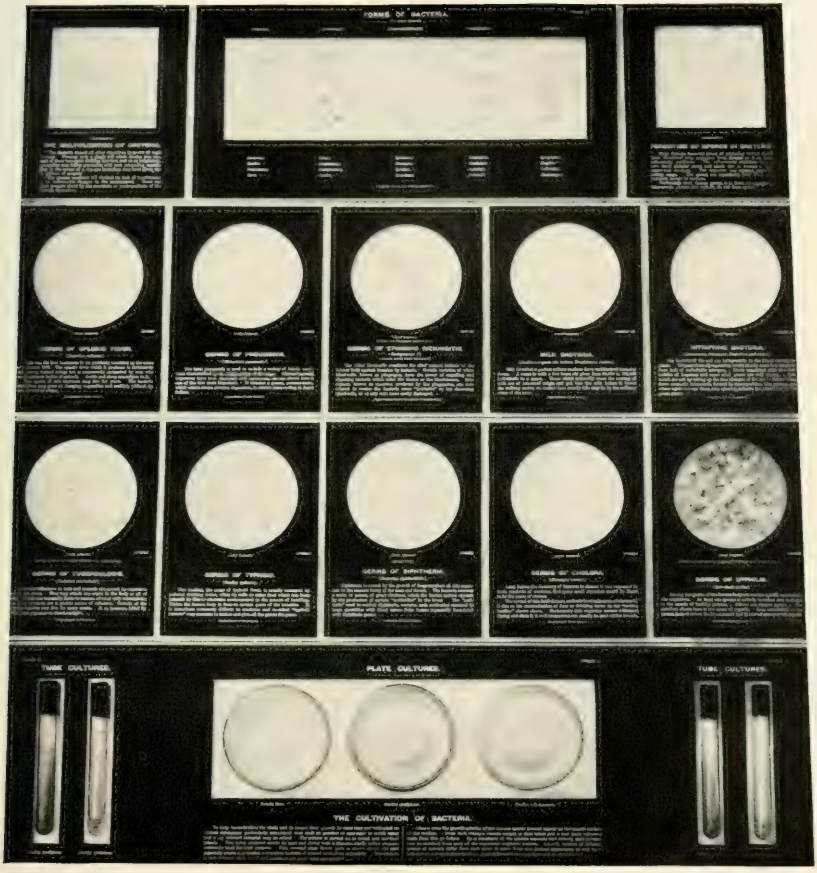

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TOKYO. ANTHROPOLOGICAL SOCIETY, Tokyo, Japan 2
TOKYO BOTANICAL SOCIETY, Tokyo, Japan 1
TOKYO. DEUTSCHE GESELLSCHAFT FÜR NATUR- UND VÖLKERKUNDE OSTASIENS, Tokyo, Japan 1
TOKYO. GEOLOGICAL SURVEY, Tokyo, Japan 1
TOKYO. IMPERIAL COMMERCIAL MUSEUM, Tokyo, Japan . . . 7
TOKYO IMPERIAL UNIVERSITY. COLLEGE OF SCIENCE, Tokyo, Japan 8
TORINO. MUSEO DI ZOOLOGIA ET ANATOMIA COMPARATA, Turin, Italy 1
TORINO. R. ACCAD. DELLE SCIENZE, Turin, Italy 2
TORONTO UNIVERSITY, Toronto, Canada 12
TRANSVAAL. DEPARTMENT OF MINES, Pretoria, Transvaal . . . 1
TRANSVAAL MUSEUM, Pretoria, Transvaal 1
TRING ZOÖLOGICAL MUSEUM, Tring, England 1
TRINITY COLLEGE, Dublin, Ireland 1
TROMSO MUSEUM, Tromso, Norway 2
TÜBINGEN. K. UNIVERSITÄTS-BIBLIOTHEK, Tübingen, Germany . 4
TUNIS. INSTITUT DE CARTHAGE, Tunis, Africa 1
U. S. GOVERNMENT, Washington, D. C. 1,091
U. S. INDIAN SCHOOL, Carlisle, Pennsylvania 2
UPSALA. REGIA SOCIETAS SCIENTIARUM, Upsala, Sweden . . . 2
UPSALA UNIVERSITY, Upsala, Sweden 14
URBA, K., Prag, Bohemia, Austria 29
UTAH. AGRICULTURAL EXPERIMENT STATION, Logan, Utah . . 9
UTAH. STATE HORTICULTURAL COMMISSION, Salt Lake City, Utah 2
VERMONT BIRD CLUB, Burlington, Vermont 5
VERMONT STATE FORESTER, Burlington, Vermont 1
VERMONT UNIVERSITY, Burlington, Vermont 4
VICTORIA AND ALBERT MUSEUM AND BETHNAL GREEN MUSEUM, London, England 4
VICTORIA. DEPARTMENT OF AGRICULTURE, Melbourne, Australia 2
VICTORIA FIELD NATURALISTS' CLUB, Melbourne, Australia . . . 1
VICTORIA. PUBLIC LIBRARY, MUSEUM AND NATIONAL GALLERY, Victoria, Australia 1
VICTORIA. ROYAL SOCIETY, Melbourne, Australia 1

VICTORIA. ROYAL ZOÖLOGICAL AND ACCLIMATIZATION SOCIETY, Melbourne, Australia 1
VIENNA. K. AKADEMIE DER WISSENSCHAFTEN, Vienna, Austria . 8
VIENNA. K. K. NATURHISTORISCHES HOFMUSEUM, Vienna, Austria 1
VIENNA. K. K. UNIVERSITÄT, Vienna, Austria 7
VIENNA. K. K. ZOOLOGISCH-BOTANISCHE GESELLSCHAFT, Vienna, Austria 1
VIENNA. NATURWISSENSCHAFTLICHER VEREIN, Vienna, Austria 1
VIRGINIA AGRICULTURAL EXPERIMENT STATION, Blacksburg, Virginia 1
VIRGINIA GEOLOGICAL SURVEY, Charlottesville, Virginia 2
VIRGINIA STATE LIBRARY, Richmond, Virginia 4
VIRGINIA UNIVERSITY, Charlottesville, Virginia 1
WAGNER FREE INSTITUTE OF SCIENCE, Philadelphia 1
WANGANUI PUBLIC MUSEUM, Wanganui, New Zealand 1
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WASHINGTON BIOLOGICAL SOCIETY, Washington, D. C. 1
WASHINGTON STATE ART ASSOCIATION, Seattle, Washington (gift) 1
WASHINGTON STATE GEOLOGICAL SURVEY, Olympia, Washington . 1
WASHINGTON STATE MUSEUM, Seattle, Washington 1
WASHINGTON UNIVERSITY, St. Louis, Missouri 3
WEBER, FRIEDRICH, München, Germany (gift) 1
WEIGEL, OSWALD, Leipzig, Germany (gift) 2
WELLCOME CHEMICAL RESEARCH LABORATORIES, London, England 7
WELLINGTON ACCLIMATIZATION SOCIETY, Wellington, New Zealand 1
WELLINGTON. DOMINION MUSEUM, Wellington, New Zealand . . 4
WEST INDIES. IMPERIAL DEPARTMENT OF AGRICULTURE, Barbados, West Indies 1
WEST VIRGINIA AGRICULTURAL EXPERIMENT STATION, Morgantown, West Virginia 3
WESTERN AUSTRALIA. GEOLOGICAL SURVEY, Perth, West Australia 5
WESTERN AUSTRALIAN MUSEUM AND ART GALLERY, Perth, West Australia 1
WESTERN PENNSYLVANIA ENGINEERS' SOCIETY, Pittsburgh, Pennsylvania 2
WEULE, K., Leipzig, Germany 3
WHITE, I. C., Morgantown, West Virginia 1
WIESBADEN. NASSAUISCHER VEREIN FÜR NATURKUNDE, Wiesbaden, Germany 1
WILLE, N., Christiania, Norway 6
WILLIAMS COLLEGE, Williamstown, Massachusetts 2
WILLISTON, S. W., Chicago 2
WILSON ORNITHOLOGICAL CLUB, Oberlin, Ohio 1
WINCHELL, ALEXANDER N., Minneapolis, Minnesota 5
WISCONSIN GEOLOGICAL AND NATURAL HISTORY SURVEY, Madison, Wisconsin 3

WISCONSIN NATURAL HISTORY SOCIETY, Madison, Wisconsin . . 1
WISCONSIN STATE BOARD OF FORESTRY, Madison, Wisconsin . . 6
WISCONSIN STATE HISTORICAL SOCIETY, Madison, Wisconsin . . 6
WISCONSIN STATE HORTICULTURAL SOCIETY, Madison, Wisconsin 2
WISCONSIN UNIVERSITY, Madison, Wisconsin 15
WISTAR INSTITUTE OF ANATOMY AND BIOLOGY, Philadelphia, . 10
WOODWARD, ROBERT B., Brooklyn, New York 1
WRIGHT, ALBERT H., Ithaca, New York 6
WORCESTER FREE PUBLIC LIBRARY, Worcester, Massachusetts . . 1
WÜLFING, E. A., Heidelberg, Germany 5
WÜRTEMBERG. VEREIN FÜR VATERLÄNDISCHE NATURKUNDE, Würtemberg, Germany 1
WYOMING AGRICULTURAL EXPERIMENT STATION, Laramie, Wyoming 6
WYOMING STATE GEOLOGICAL SURVEY, Cheyenne, Wyoming . . 1
YALE UNIVERSITY, New Haven, Connecticut 136
ZIMANYI, KARL, Budapest, Hungary 5
ZÜRICH. BOTANISCHES MUSEUM DER UNIVERSITÄT, Zürich, Switzerland 2
ZÜRICH. GEOGRAPHISCH–ETHNOGRAPHISCHE GESELLSCHAFT, Zürich, Switzerland 1
ZÜRICH. NATURFORSCHENDE GESELLSCHAFT Zürich, Switzerland 1

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Mrs. T. B. Blackstone Expedition.

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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 the 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:

Ed. 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, George F. Bissell, John R. Walsh, Chas. Fitzsimons, 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,
NOTARY PUBLIC, COOK COUNTY, ILL.

[SEAL.]

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.

(FEBRUARY 10, 1913).

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 Curator of "The N. W. Harris Public School Extension of Field Museum of Natural History" and countersigned by the Auditor of Field Museum of Natural History. In the absence or inability of the said officers, warrants may be signed by such officers as shall be authorized by special resolution of the Board of Trustees of Field Museum of Natural History. 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 officers above designated. It shall be no part of the duties of the Bank 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 insti-

tution, 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 five Committees as follows: Finance, Building, Auditing, Administration and Executive.

SEC. 2. The Finance and Auditing Committees shall each consist of three members, and the Building and Administration Committees shall each 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.

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, 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 reinvest 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 Chairman of each Committee shall report the acts and proceedings thereof at the next ensuing regular meeting of the Board.

SEC. 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.

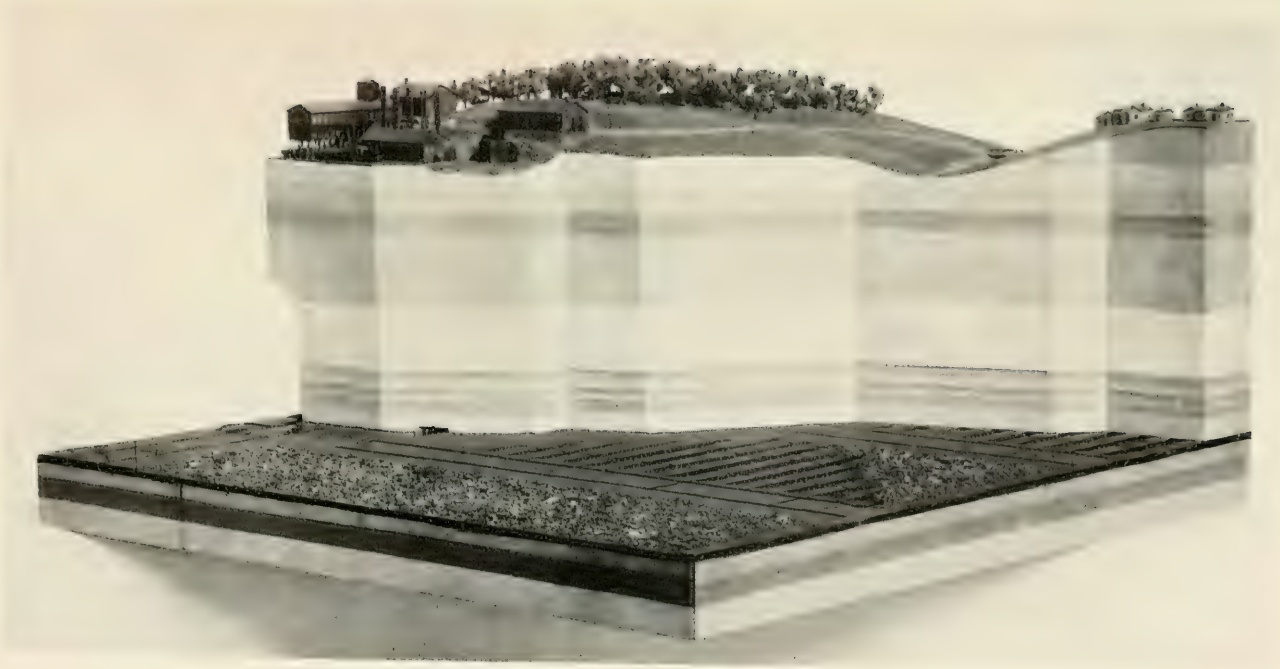
NOMINATING COMMITTEE.

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 Administration Committee, and the Auditing 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.



MODEL ILLUSTRATING PANEL—RETREATING SYSTEM OF COAL MINING.

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CHARLES B. CORY
STANLEY McCORMICK
ROBERT F. CUMMINGS
MRS. TIMOTHY B. BLACKSTONE
NORMAN W. HARRIS

DECEASED.

GEORGE M. PULLMAN
MARY D. STURGES

PATRONS.

ALLISON V. ARMOUR
JOSEPH N. FIELD
ERNEST R. GRAHAM
NORMAN W. HARRIS
VERNON SHAW KENNEDY
GEORGE MANIERRE
JOHN S. MILLER
JOHN BARTON PAYNE
FREDERICK W. PUTNAM
FREDERICK J. V. SKIFF
WILLARD A. SMITH

DECEASED.

DANIEL H. BURNHAM
WILLIAM I. BUCHANAN
EDWIN WALKER

CORPORATE MEMBERS.

ADAMS, GEORGE E.
ALDIS, OWEN F.
ARMOUR, ALLISON V.
AYER, EDWARD E.

BARTLETT A. C.
BLACK, JOHN C.
BLAIR, WATSON F.
BLATCHFORD, ELIPHALET W.
BUTLER, EDWARD B.

CHALMERS, W. J.
CHATFIELD-TAYLOR, H. C.
CLARK, JOHN M.
CRANE, RICHARD T.

EASTMAN, SIDNEY C.
ELLSWORTH, JAMES W.

FIELD, JOSEPH N.
FIELD, STANLEY

GAGE, LYMAN J.
GETTY, HENRY H.
GRAHAM, ERNEST R.
GUNSAULUS, FRANK W.
GUNTHER, C. F.

HARRIS, NORMAN W.
HEAD, FRANKLIN H.
HIGINBOTHAM, H. N.
HUTCHINSON, CHARLES L.

JONES, ARTHUR B.

KENNEDY, VERNON SHAW
KOHLSAAT, HERMAN H.

LATHROP, BRYAN

McCORMICK, CYRUS H.
MANIERRE, GEORGE
MILLER, JOHN S.
MITCHELL, JOHN J.

PAYNE, JOHN BARTON
PECK, FERD. W.
PORTER, GEORGE F.
PUTNAM, FREDERICK W.

REAM, NORMAN B.
RYERSON, MARTIN A.

SKIFF, FREDERICK J. V.
SMITH, BYRON L.
SMITH, WILLARD A.
SPRAGUE, A. A.
SPRAGUE, A. A., 2D.
STONE, MELVILLE E.

DECEASED.

ARMOUR, PHILIP D.
BAKER, WILLIAM T.
BISSEL, GEORGE F.
BUCHANAN, W. I.
BUCKINGHAM, EBENEZER
BURNHAM, DANIEL H.
CRAWFORD, ANDREW
CURTIS, WILLIAM E.
DAVIS, GEORGE R.
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HALE, WILLIAM E.
HARPER, WILLIAM R.
HATCH, AZEL F.
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SCOTT, JAMES W.
STOCKTON, JOSEPH
WALKER, EDWIN
WALLER, R. A.
WALSH, JOHN R.
WILLIAMS, NORMAN

LIFE MEMBERS.

ADAMS, GEORGE E.
ALDIS, OWEN F.

BARRETT, MRS. A. D.
BARRETT, ROBERT L.
BARTLETT, A. C.
BLACKSTONE, MRS. TIMOTHY B.
BLAINE, MRS. EMMONS
BLAIR, CHAUNCEY J.
BLAIR, HENRY A.
BLAIR, WATSON F.
BOOTH, W. VERNON
BUTLER, EDWARD B.
BYLLESBY, H. M.

CARTON, L. A.
CHALMERS, WILLIAM J.
CRANE, CHARLES RICHARD
CRANE, RICHARD T.
CUMMINGS, D. MARK

DEERING, CHARLES
DELANO, FREDERIC A.
DICK, ALBERT BLAKE
DRAKE, TRACY C.

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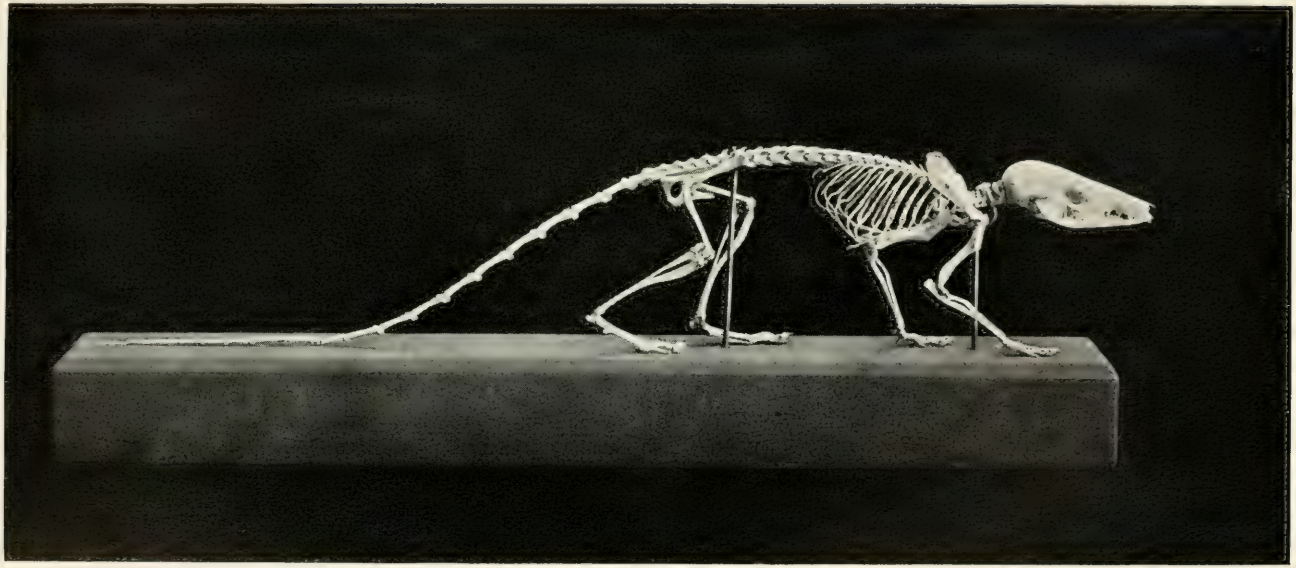

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