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SOUTH FRONT OF NATURAL HISTORY BUILDING, UNITED STATES NATIONAL MUSEUM

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM

REPORT ON THE PROGRESS AND CON-
DITION OF THE UNITED STATES
NATIONAL MUSEUM FOR THE
YEAR ENDED JUNE 30, 1925



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UNITED STATES NATIONAL MUSEUM,
UNDER DIRECTION OF THE SMITHSONIAN INSTITUTION,
Washington, D. C., December 14, 1925.

SIR: I have the honor to submit herewith a report upon the present condition of the United States National Museum and upon the work accomplished in its various departments during the fiscal year ended June 30, 1925.

Very respectfully,

ALEXANDER WETMORE,
Assistant Secretary.

DR. CHARLES D. WALCOTT,
Secretary, Smithsonian Institution.

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STAFF OF THE UNITED STATES NATIONAL MUSEUM

[June 30, 1925]

CHARLES D. WALCOTT, Secretary of the Smithsonian Institution, keeper *ex officio*.

ALEXANDER WETMORE, Assistant Secretary, Smithsonian Institution.

WILLIAM DE C. RAVENEL, Administrative Assistant to the Secretary.

SCIENTIFIC STAFF

DEPARTMENT OF ANTHROPOLOGY:

Walter Hough, head curator.

Division of Ethnology: Walter Hough, curator; H. W. Krieger, curator; H. B. Collins, jr., assistant curator; J. W. Fewkes, collaborator; Arthur P. Rice, collaborator.

Section of Musical Instruments: Hugo Worch, custodian.

Division of American Archeology: Neil M. Judd, curator; R. G. Paine, aid.

Division of Old World Archeology: I. M. Casanowicz, assistant curator.

Division of Physical Anthropology: Aleš Hrdlička, curator; P. C. Van Natta, aid.

Collaborator in Anthropology: George Grant MacCurdy.

Associates in Historic Archeology: Paul Haupt, Cyrus Adler.

DEPARTMENT OF BIOLOGY:

Leonhard Stejneger, head curator; James E. Benedict, assistant curator.

Division of Mammals: Gerrit S. Miller, jr., curator.

Division of Birds: Robert Ridgway, curator; Charles W. Richmond, associate curator; J. H. Riley, aid; Bradshaw H. Swales, honorary assistant curator; Edward J. Brown, collaborator; Alexander Wetmore, custodian of alcoholic and skeleton collections.

Division of Reptiles and Batrachians: Leonhard Stejneger, curator; Doris M. Cochran, aid.

Division of Fishes: Barton A. Bean, assistant curator.

Division of Insects: L. O. Howard, honorary curator; J. M. Aldrich, associate curator; William Schaus, honorary assistant curator; B. Preston Clark, collaborator; J. T. Barnes, collaborator.

Section of Hymenoptera: S. A. Rohwer, custodian; W. M. Mann, assistant custodian.

Section of Myriapoda: O. F. Cook, custodian.

Section of Diptera: J. M. Aldrich, in charge; Charles T. Greene, assistant custodian.

Section of Coleoptera: E. A. Schwarz, custodian.

Section of Lepidoptera: Harrison G. Dyar, custodian.

Section of Orthoptera: A. N. Caudell, custodian.

Section of Hemiptera: W. L. McAtee, acting custodian.

Section of Forest Tree Beetles: A. D. Hopkins, custodian.

DEPARTMENT OF BIOLOGY—Continued.

Division of Marine Invertebrates: Waldo L. Schmitt, curator; C. R. Shoemaker, assistant curator; James O. Maloney, aid; H. K. Haring, custodian of the rotatoria; Mrs. Harriet Richardson Searle, collaborator; Max M. Ellis, collaborator.

Division of Mollusks: William H. Dall, honorary curator; Paul Bartsch, curator; William B. Marshall, assistant curator; Mary Breen, collaborator.

Section of Helminthological Collections: C. W. Stiles, custodian; B. H. Ransom, assistant custodian.

Division of Echinoderms: Austin H. Clark, curator.

Division of Plants (National Herbarium): Frederick V. Coville, honorary curator; W. R. Maxon, associate curator; J. N. Rose, associate curator; P. C. Standley, associate curator; Emery C. Leonard, aid; Ellsworth P. Killip, aid.

Section of Grasses: Albert S. Hitchcock, custodian.

Section of Cryptogamic Collections; O. F. Cook, assistant curator.

Section of Higher Algae: W. T. Swingle, custodian.

Section of Lower Fungi: D. G. Fairchild, custodian.

Section of Diatoms: Albert Mann, custodian.

Associates in Zoology: C. Hart Merriam, W. L. Abbott, Mary J. Rathbun, David Starr Jordan.

Associate Curator in Zoology: Hugh M. Smith.

Associate in Botany: John Donnell Smith.

Associate in Marine Sediments: T. Wayland Vaughan.

Collaborator in Zoology: Robert Sterling Clark.

DEPARTMENT OF GEOLOGY:

George P. Merrill, head curator.

Division of Physical and Chemical Geology (systematic and applied):

George P. Merrill, curator; E. V. Shannon, assistant curator.

Division of Mineralogy and Petrology: F. W. Clarke, honorary curator;

W. F. Foshag, assistant curator; Frank L. Hess, custodian of rare metals and rare earths.

Division of Stratigraphic Paleontology: R. S. Bassler, curator; Charles E. Resser, associate curator; Jessie G. Beach, aid.

Section of Invertebrate Paleontology: T. W. Stanton, custodian of Mesozoic collection; William H. Dall, associate curator of Cenozoic collection.

Section of Paleobotany: David White, associate curator; F. H. Knowlton, custodian of Mesozoic plants; Edwin R. Pohl, aid.

Division of Vertebrate Paleontology: Charles W. Gilmore, curator; James W. Gidley, assistant curator of mammalian fossils.

Associates in Paleontology: Frank Springer, E. O. Ulrich.

Collaborator in Paleontology, Richard M. Field.

Associate in Petrology: Whitman Cross..

DEPARTMENT OF ARTS AND INDUSTRIES, AND DIVISION OF HISTORY:

William deC. Ravenel, director.

Division of Mineral and Mechanical Technology: Carl W. Mitman, curator; Paul E. Garber, assistant curator; F. A. Taylor, aid; Chester G. Gilbert, honorary curator of mineral technology.

DEPARTMENT OF ARTS AND INDUSTRIES, AND DIVISION OF HISTORY—Continued.

Division of Textiles: Frederick L. Lewton, curator; Mrs. E. W. Rosson, aid.

Section of Wood Technology: William M. N. Watkins, assistant curator.

Section of Organic Chemistry: Aida M. Doyle, aid.

Division of Medicine: Charles Whitebread, assistant curator.

Division of Graphic Arts: R. P. Tolman, assistant curator; Ralph C. Smith, aid.

Section of Photography: A. J. Olmsted, custodian.

Loeb Collection of Chemical Types: O. E. Roberts, jr., curator.

DIVISION OF HISTORY:

T. T. Belote, curator; Charles Carey, assistant curator; Mrs. G. I. Manning, philatelist. Hortense Hoad, aid.

ADMINISTRATIVE STAFF

Chief of correspondence and documents, H. S. Bryant.

Superintendent of buildings and labor, J. S. Goldsmith.

Editor, Marcus Benjamin.

Engineer, C. R. Denmark.

Disbursing agent, N. W. Dorsey.

Photographer, A. J. Olmsted.

Property clerk, W. A. Knowles.

Assistant Librarian, ———— .

REPORT OF THE PROGRESS AND CONDITION OF THE UNITED STATES NATIONAL MUSEUM FOR THE YEAR ENDED JUNE 30, 1925

By ALEXANDER WETMORE

Assistant Secretary, Smithsonian Institution

INTRODUCTION

The Congress of the United States in the act of August 10, 1846, founding the Smithsonian Institution, recognized that an opportunity was afforded, in carrying out the design of Smithson for the increase and diffusion of knowledge, to provide for the custody of the Museum of the Nation. To this new establishment was, therefore, intrusted the care and development of the national collections. At first the cost of maintaining this activity was paid from the Smithsonian income; then for a time the Government bore a share, but since 1877 Congress has provided for the expenses of the Museum.

The museum idea was fundamental in the organic act establishing the Smithsonian Institution, which was based upon a 12-years' discussion in Congress and the advice of the most distinguished scientific men, educators, and intellectual leaders of the Nation during the years 1834 to 1846. It is interesting to note how broad and comprehensive were the views which actuated the Congress in determining the scope of the Museum, a fact especially remarkable when it is recalled that at that date no museum of considerable size existed in the United States, and the museums of England and of the continent of Europe, although containing many rich collections, were still to a large extent without a developed plan.

The Congress which passed the act of foundation enumerated as within the scope of the Museum "all objects of art and of foreign and curious research and all objects of natural history, plants, and geological and mineralogical specimens belonging to the United States," thus indicating the Museum at the very outset as the Museum of the United States and as one of the widest range in its activities. It was appreciated that additions would be necessary

to the collections then in existence, and provision was made for their increase by the exchange of duplicate specimens, by donations, and by other means.

The maintenance of the Museum was long ago assumed by Congress, the Smithsonian Institution taking upon itself only so much of the necessary responsibility for its administration as is required to coordinate it with its other activities. The Museum as a part of the Smithsonian is an integral part of a broad organization for increase and diffusion of knowledge, for scientific research, for cooperation with departments of the Government, with universities and scientific societies in America, and with all scientific institutions and men abroad who seek interchange of views with men of science in the United States.

Since 1846 the only material changes in the scope of the National Museum have been (1) the addition of a department of American history, intended to illustrate, by an appropriate assemblage of objects, important events, the domestic life of the country from the colonial period to the present time, and the lives of distinguished personages, and (2) provision, in 1920, for the separate administration of the National Gallery of Art as a coordinate unit under the Smithsonian Institution. From 1906 to 1920 the gallery was administered as the department of fine arts of the Museum.

The development of the Museum has been greatest in those subjects which the conditions of the past three-quarters of a century have made most fruitful—the natural history, geology, ethnology, and archeology of the United States, which have been supplemented by many collections from other countries. Opportunities for acquisition in these various directions have been mainly brought about through the activities of the scientific and economic surveys of the Government, many of which have been the direct outgrowths of earlier explorations stimulated or directed by the Smithsonian Institution. The Centennial Exhibition of 1876 afforded opportunity for establishing a department of industrial arts, of which the fullest advantage was taken. The historical series has been greatly augmented since 1918 by large collections illustrative of the World War, and large additions to exhibits in aircraft and kindred subjects have come in this same period.

Public interest in the growth and development of the National Museum is reflected in a steady increase of recorded attendance, and in correspondents and requests for information.

OPERATIONS OF THE YEAR

APPROPRIATIONS

The maintenance of the National Museum for the fiscal year ended June 30, 1925, was provided for in the following regular items of appropriation carried in the executive and independent offices act approved June 7, 1924:

Preservation of collections-----	\$434, 482
Furniture and fixtures-----	21, 800
Heating and lighting-----	77, 560
Building repairs-----	11, 000
Books -----	2, 000
Postage -----	450
Printing and binding-----	37, 500
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	584, 792

Increase in the total sum appropriated was due mainly to the inauguration of salary schedules provided in the reclassification act of 1923, which became effective July 1, 1924, and carried an addition of \$44,534 to the salary rolls. Subsequent reallocations of employees by the Personnel Classification Board led to increase in salary allotments of approximately \$9,000 beyond the estimated amount, which came from current funds since it was not included in the original salary allocation. The amounts available for operating expenses were thus actually less than during the preceding year. A decrease in production value of the amount allotted for printing and binding may also be noted since the reclassification act alluded to, carried definite increases in salaries in the Government Printing Office which caused commensurate increase in cost of services rendered by that establishment.

Funds available for administration were barely sufficient for actual necessities in the way of supplies when expended with the most careful economy, and made wholly inadequate provision for needs that arise constantly in connection with the care and preservation of the steadily growing collections. Lack of funds was further felt through inability to purchase specimens to round out available materials, and to provide curators with needed temporary assistance in routine work. The results obtained in curatorial work and exhibition have been accomplished only through unremitting endeavor on the part of the staff.

COLLECTIONS

Satisfactory growth of the collections of the Museum is recorded in the accessions or separate lots of material received during the year, and in the number of specimens that these represent. There were 2,020 accessions during the year, an increase of 294 over the previous year, comprising 363,490 specimens, or 385 more than during the year 1924, a total well over the average for the past several years. The specimens received were divided among the various departments or divisions as follows: Anthropology, 4,444; geology, 79,674; biology, 262,365 (of which 116,636 were plants); arts and industries, and history, 17,007, of which 145 were assigned to mechanical technology, 33 to mineral technology, 271 to textiles, 7,493 to organic chemistry, 425 to wood technology, 17 to foods, 635 to medicine, 802 to graphic arts, 616 to the Loeb collection of chemical types, and 6,570 to history. Additional material to the extent of 1,232 lots, was received from various sources, mainly from private individuals, for examination, identification and report. The material identified as always has been of a highly miscellaneous character. Of the specimens submitted for this purpose the Museum has been permitted to retain certain things of value to it, while others have been returned to the senders.

As in previous years, duplicate specimens available, to the number of 23,244, were distributed as gifts to educational institutions, or were utilized in exchanges for specimens needed toward completion of our own collections. The gifts distributed totaling 2,099 specimens included 5 of the sets of mollusks prepared for distribution to schools, each of which contained approximately 149 carefully labeled shells; the remainder were sent in response to special requests and to meet particular needs. Many desirable specimens were secured through the distribution of the 21,145 specimens sent out as exchanges. A third class of distributed material comprised specimens forwarded by request to specialists and students for study in which connection 33,966 specimens were sent out as loans during the year.

The additions to the collections during the year contained many things of special importance, the details of which are given in the departmental reports forming part of this volume.

The anthropological collections were materially increased during the year both from private and governmental sources. As a result of the Marsh-Darien expedition, there was received through R. O. Marsh, of Brockport, N. Y., an exceptional collection of ethnological material which is supplemented by a collection from the same general region presented by William Markham. The addition of 124 California Indian baskets, bequeathed by the late Miss Ella F.

Hubby, with similar material previously presented by her, makes our collection of California Indian baskets the most outstanding one in existence, both in the variety of types represented and in the beauty of individual specimens. Valuable and interesting collections of Philippine and western American Indian material were contributed by Gen. R. D. Potts and by the Misses Catherine M. and Isabelle H. Hardie. The National Geographic Society presented valuable ethnological material collected in China by F. R. Wulsin.

For archeological material the Museum was dependent principally on transfers from the Bureau of American Ethnology, which included important collections from mounds near Town Creek, Ala., on the site of the Wilson Dam, Muscle Shoals. Through the interest of Hon. James J. Davis, Secretary of Labor, a Welsh version of the Bible, a reproduction of the original translation published in 1588, was presented by David W. Evans. A large and important collection of skeletal material was donated by the Ohio State Archeological and Historical Society, while unusual interest attaches to the gift by Dr. Eugene Dubois of casts of the remains of *Pithecanthropus erectus*, and the receipt as exchanges from the British Museum of Natural History, the Zemske Museum, Brno, Moravia, and the American Museum of Natural History of casts of important specimens relating to early man. The National Geographic Society and the Buffalo Society of Natural Sciences presented interesting anatomical material relating to the American Indian, and material of a similar nature relating to postpaleolithic man was received as a loan from the Archeological Society of Washington. Hugo Worch added four harpischords of the sixteenth and seventeenth centuries to his already splendid collection.

Of outstanding interest in biology is the receipt of the collections of Coleoptera and mollusks bequeathed to the Museum by the late Col. Thomas L. Casey of which the insects are estimated at more than 50,000 specimens, representing about 16,000 species, in which 5,000 are types of species described by Colonel Casey himself. Of equal interest are the unusually rich and large zoological and botanical collections from China contributed by the National Geographic Society and collected by Joseph F. Rock and F. R. Wulsin; the material collected and presented by Rev. David C. Graham; and the specimens collected by Arthur deC. Sowerby and presented by Robert S. Clark. Dr. Casey Wood's continued and generous interest resulted in the acquisition of important bird material from Fiji Islands, while Dr. Hugh M. Smith and Dr. S. F. Light contributed interesting and valuable specimens from Siam and China, respectively. Large and important additions to the collections were received through transfers from the Bureaus of Biological Survey

and Entomology of the Department of Agriculture, and from the Bureau of Fisheries of the Department of Commerce. Important additions were also received as the results of collections made by members of our own staff. The Frances Lea Chamberlain Fund enabled the curator of mollusks to purchase some important material.

A notable acquisition to the geological collections was a large ball of flawless rock crystal of rare value and interest $12\frac{3}{4}$ inches in diameter, weighing 107 pounds, which was loaned by the importers, Fukushima Co. (Inc.), through the interest of Worcester R. Warner, of Tarrytown, N. Y. Through the continued interest and activities of Victor C. Heikes and Frank L. Hess, of the United States Geological Survey, many unusual specimens of ores and minerals, a number of which make excellent exhibition pieces, were added to the collections by mining companies and private individuals. Several rare minerals new to the collections were acquired during the year among which may be mentioned a crystal of the new mineral *afwillite*, discovered by the donor, Alpheus F. Williams, general manager of the De Beers Consolidated Mines, Kimberley, South Africa, and a part of the type of a new species—*Chalcoalumite*—from Arizona secured through the exchange account with Harvard University. The Frances Lea Chamberlain Fund permitted the purchase of several desirable additions to the collection of gem minerals, and the Roebing Fund, provided by Col. W. A. Roebing, enabled the museum to acquire several specimens of ores needed to fill out the series.

Other valuable and interesting specimens were received from private individuals or firms.

The results of Secretary Walcott's field work for the seasons 1921 to 1924, inclusive, which were deposited in the museum, and specimens secured by members of the staff added important material to the collections in invertebrate paleontology. A large series of slabs containing tracks of extinct animals collected by C. W. Gilmore, under the auspices of the National Park Service on the Hermit Trail in Grand Canyon National Park, are an unusually interesting addition to the fossil vertebrate collections, which also received important additions in bones of Pleistocene mammals from Florida, donated by C. P. Singleton, or collected by Dr. J. W. Gidley. Exchanges with other institutions also resulted in materially increasing the series of fossil animals.

The exhibits in automotive transportation received a number of additions, important ones being a full size, electrically operated automobile engine with portions of the outer casing cut away to reveal the operation of the moving parts, contributed by the Buda

Co., Harvey, Ill., and a full size hand operated planetary transmission presented by Henry Ford, Dearborn, Mich. An original Knox automobile, made in 1900, was donated by Mrs. Lansing Van Auken, Watervliet, N. Y. Important additions were made to the series of calculating and writing machines by the Burroughs Adding Machine Co. and the Corona Typewriter Co., and interesting specimens were contributed by the signal section of the American Railway Association through H. S. Balliet, secretary of the section. The original *K-III* airplane was presented by James V. Martin, who designed it in 1917 for combat service. Important additions to the series illustrating the development of the incandescent lamp were made by the Edison Lamp Works of the General Electric Co.

American manufacturers who had been instrumental in building up our textile exhibits, continued their interest both in providing new materials and in renewing specimens in the older exhibits. The exhibits illustrating various branches of the rubber industry received important additions including the greater part of the American exhibit at the Sixth International Rubber Exposition held in Brussels in 1924, which was contributed by the Rubber Association of America (Inc.), New York City. An important collection of bird plumage and feather articles representing many thousands of dollars, secured by confiscation from plume hunters, importers, and manufacturers for violations of the Federal laws for the protection of birds, was acquired by transfer from the Biological Survey.

The section of medicine received a number of interesting additions to its public health exhibits, as well as a number of specimens of individual interest, including the medals and decorations conferred on the late Maj. Gen. William C. Gorgas, which were loaned by his widow.

Interesting additions to the graphic arts collections comprised substitutes for boxwood for wood engraving, examples of micro-engraving, bookbinding, prints, examples of fine papers, mezzotints, printing for the blind, and other material. Important contributions were received from various sources for incorporation in the traveling exhibits of this division which have proved extremely popular. The section of photography was enriched by three early forms of Prosch shutters evolved in the course of experiments to automatically control exposures and obviate the use of a lens cap; a view camera of 1890; a reel of historical motion pictures; some remarkable examples of telephoto photographs showing the Sierra Nevada Mountains at a distance of 135 miles, and a number of beautiful examples of pictorial photographs presented by well known experts and experimenters in this line.

The appointment of a curator to devote his whole time to the project resulted in a splendid advance in the Loeb Collection of chemical types, 616 new specimens having been received during the year from a large number of cooperators who have been interested in adding to this collection.

Important additions to the historical collections comprise an unusually interesting series of firearms loaned by Maj. Jerome Clark, United States Army; a dress owned by Martha Washington loaned by Mrs. Wilfred P. Mustard, Baltimore, Md.; many objects owned by the late Lieut. Gen. Nelson A. Miles, contributed by his son, Maj. Sherman Miles, United States Army, and his daughter, Mrs. Samuel Reber, New York City, together with military paraphernalia used by Gen. John J. Pershing and loaned by him. The naval collections received numerous contributions both from private sources and by transfer from the Navy Department, the later comprising a series of models illustrating development in naval vessels from 1776 to 1920. The Treasury Department transferred a number of coins to the numismatic collections which were also enriched by private collectors, a notable example being the loan of some 400 Irish and English coins. A library of about 800 publications relating to numismatics was transferred to the Museum by the Treasury Department. Through transfers from the Post Office Department 5,605 specimens were added to the philatelic collections.

As previously stated, all of the foregoing matters here summarized will be found treated in more detail further along in this volume.

SERVICE TO THE PUBLIC

Manifestly it is difficult to express concisely the extent of the Museum's service to the public since its functions in this connection are highly complex and its services diverse. Broadly speaking the Museum is charged with four principal obligations, (1) the care and preservation of the national collections, (including biology, geology, anthropology, history, art, and the industries), (2) the public exhibition of interesting and educational material, (3) research work in naming and classifying material brought to the Museum, and (4) the promotion of knowledge through publication of accounts of the collections based on such research work.

The care of collections is a highly important function since it involves the preservation from destruction of the myriad objects, natural and manufactured, that are housed in the Museum. This and the necessary work in naming and arranging material require constant supervision and a vast amount of labor on the part of highly trained specialists on the staff of curators.

The relation of the National Museum to the general public is divided between two major services. Each year a vast number of persons come to Washington to view the seat of our National Government. For these the National Museum offers properly prepared and labeled exhibits of the most varied nature that serve to entertain, or to educate and improve the mind, according to the mood of the visitor. The total number of visitors recorded for the fiscal year 1925 was more than twice the total population of Washington. The public exhibits are so varied that it is not practicable to enumerate them in entirety. In the halls of anthropology are shown specimens dealing with primitive man and his evolution, in biology are exhibited types of all known forms of life, and in geology and paleontology there may be seen exhibits of minerals, stones, and strange, grotesque fossils, the latter often of forms beyond the imagination of the ordinary individual. Exhibits in arts and industries include display in the manufacture of mineral products, of mechanical devices in locomotion, aviation, lighting, and communication, of textiles, chemistry, foods and medicines, and of graphic arts, as writing, printing, and photography. Exhibits in history include great displays of military and naval objects, with an especially complete exhibit from the World War, of coins, stamps and the many things concerned with the history and development of the United States as a Nation.

In addition to the public exhibits there are stored in the laboratories series of specimens in all branches that are used in serious researches by specialists, American and foreign, in all lines of human knowledge, many of whom come to the Museum for the express purpose of working with these collections. New facts, many of them of great importance, are the constant outcome of studies made by the staff, or by visiting scientists to whom the collections are made freely available. Hundreds of specimens are forwarded as loans to investigators working at a distance to assist them in their researches.

Studies of the collections, comprising additions to human knowledge, are issued to the public in the publications of the Museum, a service to all of the highest value. It may be safely said that nearly all biological textbooks, encyclopædias, and other similar reference works published in recent years have been based in part upon information emanating from the National Museum.

Visitors to the halls of the Museum frequently include groups or classes of students brought here by their instructors to view special exhibits as a basis for or to supplement their regular class work. Personal examination of objects under study is of great and recognized value in impressing on the memory definite images that are

far more clear and lasting than routine lessons. These student groups, naturally, are principally from the local schools but come also from distant localities. To such visiting groups as well as to the individual inquirer, the members of the staff are always willing to explain any particular feature or exhibit concerning which question arises or information is sought. Several members of the staff who are professors or instructors in educational institutions of the city make a regular practice of bringing classes to the Museum either after the regular hours or on Sunday for the purpose of utilizing Museum exhibits in connection with their lectures.

Many hundreds of duplicate specimens have been presented to educational institutions, and numerous loans of material have been made to meet special needs of various educational organizations or institutions throughout the country. Specific mention of most of the matters above mentioned will be found in the departmental reports.

Mention must be made also of hundreds of letters that come to the Museum requesting information on almost every conceivable subject, and of the reports furnished on the innumerable specimens forwarded from all over the United States and its possessions, as well as from foreign sources, for identification or explanation. Replies to these requests, which may cover anything in the field of human knowledge, are made as fully as practicable and require much time and energy on the part of the staff.

Another public contact arranged under the auspices of the Smithsonian Institution under the direction of Austin H. Clark, curator of Echinoderms in the Museum, that reaches a very large group of people, is the series of radio talks which was continued as in previous years. Twenty-eight talks in all were broadcast from Station WRC of the Radio Corporation of America, of which four were broadcast simultaneously by Stations WJY and WJZ in New-York City. All of the stations named reported very favorable reception by their audiences. The program for the year was as follows:

1. Life in the Sea: Austin H. Clark, National Museum, October 2, 1924.
2. Wonders of the Deep Sea: Capt. Frederick B. Bassett, Hydrographer of the Navy, October 16, 1924.
3. Curious Plants: Dr. Frederick V. Coville, Honorary Curator, National Herbarium, October 22, 1924.
4. What the Ocean Means to Us: Lieut. Commander George E. Brandt, Aid to the Hydrographer of the Navy, November 8, 1924.
5. Indian Cliff Dwellings: Dr. J. Walter Fewkes, Chief, Bureau of American Ethnology, November 13, 1924.
6. Living Lamps: Austin H. Clark, National Museum, November 20, 1924.
7. The Ocean Bottom: Dr. George W. Littlehales, Hydrographic Engineer, Navy Department, December 11, 1924.
8. What Standards Mean to Us: Dr. Fay C. Brown, Assistant Director, Bureau of Standards, December 25, 1924.

9. How Trees Grow: Dr. D. T. MacDougal, Desert Botanical Laboratory, Carnegie Institution, Tucson, Ariz., in connection with the meeting of the American Association for the Advancement of Science, December 30, 1924.
10. Why the Earth is a Magnet: Prof. W. F. G. Swann, Yale University, in connection with the meeting of the American Association for the Advancement of Science, December 31, 1924.
11. Tree Rings and Climate: Dr. A. E. Douglass, University of Arizona, in connection with the meeting of the American Association for the Advancement of Science, January 3, 1925.
12. The Sun and the Weather: Dr. Charles G. Abbot, Assistant Secretary, Smithsonian Institution, January 8, 1925.
13. The Weather: Prof. W. J. Humphreys, Weather Bureau, January 22, 1925.
14. Mysteries of Bird Migration: Frederick C. Lincoln, Biological Survey; read by Austin H. Clark, January 29, 1925.
15. The Ocean's Food Resources: Lewis Radcliffe, Deputy Commissioner of Fisheries, February 5, 1925.
16. What Other Peoples Eat: Austin H. Clark, National Museum, February 12, 1925.
17. What the Earth is Made of: Dr. Henry S. Washington, Geophysical Laboratory, Carnegie Institution, February 19, 1925.
18. The Habits of Ants: Dr. William M. Mann, Bureau of Entomology, February 26, 1925.
19. Fish as Food: Lewis Radcliffe, Deputy Commissioner of Fisheries, March 12, 1925.
20. How Some Wasps Live: S. A. Rohwer, Bureau of Entomology, March 19, 1925.
21. The Work of the Coast and Geodetic Survey in Saving Life and Property at Sea: Col. E. Lester Jones, Director, Coast and Geodetic Survey, March 26, 1925.
22. Mosquitoes and Other Blood-sucking Flies: Raymond C. Shannon, Bureau of Entomology, April 2, 1925.
23. Lizards and Their Kin: Miss Doris M. Cochran, National Museum, April 9, 1925.
24. Fighting Plant Diseases by Breeding New Plants: Dr. W. A. Taylor, Chief, Bureau of Plant Industry, April 16, 1925.
25. Our Fisheries: Henry O'Malley, Commissioner of Fisheries, April 23, 1925.
26. The Geodetic Work of the United States Coast and Geodetic Survey: Col. E. Lester Jones, Director, Coast and Geodetic Survey, April 30, 1925.
27. Chiggers, Ticks and Fleas: Dr. H. E. Ewing, Bureau of Entomology, May 7, 1925.
28. Butterflies: Austin H. Clark, National Museum, May 14, 1925.

Additional radio talks were given by Dr. G. P. Merrill, on the subject of "Meteorites," by C. W. Gilmore on "Fossil Tracks and Trails," and by Dr. Paul Bartsch on "A Plea for Our Native Holly."

An important series of lectures by Dr. Aleš Hrdlička, Curator of Physical Anthropology, on "Man's Origin," and "Man's Physical and Physiological Characteristics" was given Monday and Friday from October 24 to December 19. The Friday course was technical and was intended primarily for medical, dental and graduate students, while the Monday lectures were of a more popular nature. Doctor Hrdlička also addressed the British Association for the

Advancement of Science on "The antiquity of man in America in the light of recent studies"; the American Statistical Association, in Chicago, on "Effects of Immigration on the American Type," and the American Congress on Internal Medicine, on "Opportunities for medical and pathological studies in the collections of the U. S. National Museum." Dr. Resser, Dr. Bassler, and Dr. Bartsch lectured to University classes, and the latter, in numerous lectures before clubs and organizations forcefully advocated bird and wild flower conservation. He also repeated, on request, his lectures on "Wonders of the Deep" and "Birds and man—a comparative study in animal behaviour," and delivered a lecture on "Mollusks of importance in medicine" before a class at the Naval Medical School. Austin H. Clark, Curator of Echinoderms, on the afternoon of December 30, 1924, at the general session of the American Association for the Advancement of Science, gave an illustrated address on "The Navy's oceanographic program." He also delivered an illustrated lecture on "Man's relation with the animal world" at the McDonough School.

Through the Secretary of the Navy, the Smithsonian Institution was invited to participate in a conference of representatives of the executive departments and scientific establishments of the Government of the United States on July 1, 1924, for the purpose of formulating plans for a naval expedition to undertake investigations in oceanography. Austin H. Clark, Dr. Paul Bartsch, and Dr. Waldo L. Schmitt of the Museum staff were designated as representatives of the Institution on this occasion. A series of addresses and discussions by the representatives of the several departments was characterized by a spirit of cooperation and a keen appreciation of the value of the work proposed. In this latter connection, Mr. Clark in reporting on the meeting states "Doctor Schmitt, by a long and carefully prepared address, earnestly and forcefully delivered, and illustrated by specimens which he brought with him, more than any one else impressed the conference with the economic importance of oceanographic work." At the close of the meeting an executive interim committee, on which Mr. Clark was chosen as representative of the Smithsonian Institution and its branches, was selected to prepare a report for the consideration of the conference.

During the year the division of graphic arts and the section of photography arranged 14 special exhibitions, four of which comprised pictorial photographs, and 10 exhibitions of etchings, or other reproductive processes. In connection with an exhibit of etchings by John Taylor Arms, the artist personally demonstrated in the exhibition hall the making of an etching before a large and interested audience.

While practical results from special exhibitions are seldom immediately apparent, it is gratifying to note that as the result of an exhibit in bromoil transfer in our photographic section of prints, the Bureau of Public Roads of the Department of Agriculture is now using this process for making road pictures for display purposes. A special exhibition designed to stimulate a better understanding and a keener appreciation of the rôle which forests play in every field of American life was displayed in the wood court during American forestry week, April 27 to May 3. Exhibitions of primitive methods of weaving were given from time to time in the division of textiles. A special temporary exhibit of numismatic material was arranged by the curator of history during coin week, February 15 to 22, through the cooperation of the American Numismatic Association, represented by its president, Moritz Wormser, of New York City. Three members of the association, residing in Washington, George H. Russel, B. M. Comerford, and Leander McCormick Goodhart of the British Embassy, loaned collections of coins for this temporary exhibit.

More detailed accounts of these exhibitions will be found in the departmental reports forming part of this volume.

VISITORS

For the first time in the history of the National Museum, the annual number of visitors to the four buildings containing the Museum exhibits exceeded one million. The number of visitors to the Natural History Building, the only building open every day in the year, aggregated 461,799 for week days, and 95,217 for Sundays, a daily average of 1,475 for the former and 1,831 for the latter. At the Arts and Industries Building, the attendance was 304,858, at the Smithsonian Building 107,342, and at the Aircraft Building 52,787, with daily averages of 973, 310, and 168.

The Congress has granted a small increase in the Museum maintenance fund for next year to permit the Arts and Industries Building to be opened Sunday afternoons, commencing July 1, 1925, an action that will be greatly appreciated by the public.

Out of respect to high Government officials who died during the year the flags on the Museum buildings were flown at half-mast, as follows: To Hon. Henry C. Wallace, Secretary of Agriculture, on October 26-29, 1924; to Ned Hollister, Superintendent of the National Zoological Park, on November 5; to Hon. Henry Cabot Lodge, Regent of the Smithsonian Institution, from November 10 to 12; and to Hon. Thomas R. Marshall, ex-Vice President of the United States, from June 2 to 4.

The following tables show respectively, the attendance of visitors during each month of the last year, and for each year since 1881, when the building now devoted to the arts and industries was first opened to the public:

Number of visitors during the year ended June 30, 1925

Year and month	Smithsonian Building	Museum buildings			Total
		Arts and industries	Natural history	Aircraft	
1924					
July	15, 158	38, 847	57, 025	6, 721	117, 751
August	17, 190	47, 278	76, 713	7, 482	148, 663
September	11, 265	32, 981	51, 916	5, 904	102, 066
October	8, 447	24, 614	43, 673	3, 695	80, 429
November	4, 863	15, 094	35, 409	2, 818	58, 184
December	4, 410	12, 598	29, 258	2, 490	48, 756
1925					
January	3, 400	9, 982	24, 935	1, 565	39, 882
February	3, 666	11, 929	29, 163	2, 094	46, 852
March	7, 088	21, 233	43, 288	3, 525	75, 134
April	13, 902	41, 312	63, 438	6, 047	124, 699
May	8, 091	26, 878	53, 453	5, 046	93, 468
June	9, 862	22, 112	48, 745	5, 400	86, 119
Total	107, 342	304, 858	557, 016	52, 787	1, 022, 003

Number of visitors to the Museum and Smithsonian Buildings since 1881

Year	Smithsonian Building	Museum buildings			Total
		Arts and industries	Natural history	Aircraft	
1881	100, 000	150, 000			250, 000
1882	152, 744	167, 455			320, 199
1883	104, 823	202, 188			307, 011
1884 (half year)	45, 565	97, 661			143, 226
1884-85 (fiscal year)	105, 993	205, 026			311, 019
1885-86	88, 960	174, 225			263, 185
1886-87	98, 552	216, 562			315, 114
1887-88	102, 863	249, 665			352, 528
1888-89	149, 618	374, 843			524, 461
1889-90	120, 894	274, 324			395, 218
1890-91	111, 669	286, 426			398, 095
1891-92	114, 817	269, 825			384, 642
1892-93	174, 188	319, 930			494, 118
1893-94	103, 910	195, 748			299, 658
1894-95	105, 658	201, 744			307, 402
1895-96	103, 650	180, 505			284, 155
1896-97	115, 709	229, 606			345, 315
1897-98	99, 273	177, 254			276, 527
1898-99	116, 912	192, 471			309, 383
1899-1900	133, 147	225, 440			358, 587
1900-01	151, 563	216, 556			368, 119
1901-02	144, 107	173, 888			317, 995
1902-03	181, 174	315, 307			496, 481
1903-04	143, 988	220, 778			364, 766

Number of visitors to the Museum and Smithsonian Buildings since 1881—Con.

Year	Smithsonian Building	Museum buildings			Total
		Arts and industries	Natural history	Aircraft	
1904-05	149, 380	235, 921			385, 301
1905-06	149, 661	210, 886			360, 547
1906-07	153, 591	210, 017			363, 698
1907-08	237, 182	299, 659			536, 841
1908-09	198, 054	245, 187			443, 241
1909-10	179, 163	228, 804	50, 403		458, 370
1910-11	167, 085	207, 010	151, 112		525, 207
1911-12	143, 134	172, 182	281, 887		597, 203
1912-13	142, 420	173, 858	319, 806		636, 084
1913-14	102, 645	146, 533	329, 381		578, 559
1914-15	40, 324	133, 202	321, 712		495, 238
1915-16	48, 517	146, 956	381, 228		576, 701
1916-17	86, 335	161, 700	407, 025		655, 060
1917-18	67, 224	161, 298	401, 100		629, 622
1918-19	101, 504	266, 532	132, 859		500, 895
1919-20	86, 013	250, 982	422, 984		759, 979
1920-21	90, 235	286, 397	467, 299	31, 235	875, 166
1921-22	83, 384	262, 151	441, 604	46, 380	833, 519
1922-23	95, 168	259, 542	508, 518	42, 904	906, 132
1923-24	104, 601	290, 012	540, 776	43, 534	978, 923
1924-25	107, 342	304, 858	557, 016	52, 787	1, 082, 003
Grand total	5, 462, 739	9, 971, 204	5, 714, 710	216, 840	21, 365, 493

¹ Building open for only three months of the year.

PUBLICATIONS

The publications issued during the year include five volumes, the annual report for 1924, volumes 63 and 64 of the proceedings, Bulletin 129, "The spider crabs of America," by Mary J. Rathbun, and Bulletin 130, "Life histories of North American wild fowl, order Anseres," by Arthur Cleveland Bent. Seventy separate papers published include 1 paper in the bulletin series, 3 in the contributions from the National Herbarium and 66 in the proceedings. The constant demand for Bulletin 39, Part N, entitled "Directions for Preparing Specimens of Mammals," by Gerrit S. Miller, jr., necessitated the reprinting of this pamphlet. This marks the fifth edition of this paper, which has been revised as required. A second edition of the "Illustrated Handbook of the Department of Geology of the United States National Museum" was printed and placed on sale, as was also an illustrated catalogue of "The Herbert Ward African Collection." New editions of the guide plans to the Arts and Industries Building, and to the Natural History Building were also published.

In line with the program for economy in Government expenditures as voiced by the President, the mailing lists for Museum

publications were carefully checked by means of circulars and a reduction of approximately 29 per cent in the total number of addresses was effected. Still further economies were secured by issuing the annual report in paper covers instead of bound in cloth as heretofore and by discontinuing the bound volumes of the proceedings which, beginning with volume 66, will be published only in the form of separate pamphlets. The savings effected through the foregoing changes will approximate \$2,000.

The editorial office, besides supervising the printing of the publications, has charge also of all miscellaneous printing and binding for the Museum, in which connection approximately 510,000 forms, labels, and other items were printed and 256 books were bound.

The complete distribution of the Museum volumes and separates to libraries and individuals on the regular mailing lists aggregated 90,303 copies while in addition 14,293 copies of publications issued during this and previous years were supplied in response to special requests.

Researches based wholly or in part on the collections in the National Museum resulted in many publications by members of the Museum staff and others issued by other bureaus of the Government and by outside institutions, all of which are cited in the bibliography at the end of this report.

LIBRARY.

Because of the limited funds assigned for the purpose the National Museum is able to purchase very few books so that the accessions catalogued during the year in the library, which numbered 1,457 volumes and 1,894 pamphlets, were obtained mainly by exchange. Careful check on publications of institutions with which exchange relations have been established is maintained that the files of such papers may be complete. The library is greatly indebted to many private individuals, particularly members of the Museum staff, for numerous donations of publications.

In addition to the publications received and catalogued, a very large number of works were received too late to be put through the cataloguing routine, among which may be particularly mentioned the entomological library of the late Col. Thomas Lincoln Casey, numbering approximately 4,500 books and pamphlets, mostly relating to Coleoptera, which was bequeathed to the Museum by Colonel Casey, and 800 books and pamphlets relating to the science of numismatics which were transferred by the Treasury Department. Mention may be made here also of the Lcoe collection of books and pamphlets, approximately 2,000 of each, and of the Edgar E. Teller collection of about 500 volumes and 500 pamphlets which still await cataloguing.

The uncatalogued works above mentioned are not included in the total of 168,099 publications in the Museum library at the close of the current fiscal year.

PHOTOGRAPHIC LABORATORY

During the year the photographic laboratory made 1766 negatives, 9,641 prints, 279 lantern slides, 156 enlargements, and 59 cirkut prints. Other work completed included the developing of 352 field negatives, 26 rolls of ordinary film, 5 rolls of cirkut film, and the mounting of 8 prints. These were required for purposes of illustration in publications, or for record in the National Museum and the National Gallery of Art.

The new facilities provided for the laboratory last year have proved highly satisfactory, and have increased the efficiency of methods employed in carrying out the regular routine work to a considerable extent. The making of lantern slides has been especially facilitated and slides can now be made much more expeditiously than formerly.

BUILDINGS AND EQUIPMENT

In the report for last year mention was made of preliminary plans for a suitable building to be erected to house the National Gallery of Art (including the National Portrait Gallery) and the historical collections of the United States National Museum when funds are available, on a site that has been designated on the Mall immediately east of the Natural History Building. Need for such a structure becomes more and more pressing since available facilities for these collections are seriously crowded and have led to curtailment in acceptance of valuable materials through inability to handle them properly. Facilities in the National Gallery are poor and at best the art collections are occupying space badly needed for other materials.

The new structure proposed was brought to attention in Congress, but definite action regarding it was not taken. It is earnestly hoped that it may be favorably considered during the coming year. Construction will necessarily be slow so that at best with prompt action it will be some time before amelioration of the present condition may be expected.

Building repairs and alterations.—In the Natural History Building the most important work undertaken was the remodeling of the hinged flat-iron bar fixtures used to regulate the ventilating sash in windows in the exhibition halls on the first and second floors. These ventilators have never been satisfactory, since they work with difficulty, and as they are in constant use by the watchmen in properly

adjusting ventilation in the halls a number of them have been broken. Fully 360 of the total of 480 of these arms were remodeled during the year at a cost of \$580 and the balance will be completed during the coming year. Minor repairs consisted largely in painting walls, ceilings, and floors in exhibition halls; installing molding for hanging pictures in various rooms; installing ventilators in windows; painting of all tin gutters on roofs; repairing cracks in plaster walls, and repairing runways.

In the Arts and Industries Building all windows in the laboratory in the north pavilion were remodeled to improve ventilation facilities, and the exterior wood work of all of the windows in the building was repaired and repainted. The lower roofs over the rotunda and the sloping roofs on the northeast and southeast, together with the galvanized-iron room on the roof for use of the photographers, were painted. The concrete water tables at the base of the building on all sides were pointed up and repaired.

The wooden floor in room 155, which had been undermined by white ants, was removed, and a new concrete base covered with Georgia pine flooring installed. New wooden floors were put in the editor's offices. Minor repairs were made also in various parts of the building, as the painting of skylights, walls, and floors, pointing up and painting walls in various offices, changing of fire plugs and hose, and installing deflectors over ventilators to protect the walls.

For several years the plaster ceiling of the main hall, on the third floor of the Smithsonian Building, occupied by the Division of Plants, a room 200 feet long, 50 feet wide and 31 feet high, had shown signs of disintegration. During the year 1923-24, so much plaster had actually fallen and so many more sections were ready to fall that it was deemed necessary to remove all plaster and to replace it with sheet metal. Preliminary estimates indicated that it was impossible with the funds available to do all of this work by contract. Bids for furnishing the beaded-metal sheets and attaching them to the ceiling rafters were obtained, and a contract for this work was let for \$2,112. The Museum force was utilized to build the scaffolding, remove the plaster, and paint the metal sheets, as this was the most economical method by which the work could be handled. To avoid moving the thousand or more herbarium cases from the hall, a small movable scaffold about 16 feet square was built which was moved about on the tops of the storage cases. By this arrangement all of the cases were left accessible to workers in the herbarium at all times during progress of the work, thus avoiding serious interruption to the work of the Division of Plants. A stationary scaffold built over the entire hall would have cost more than the contract for the metal work so that the saving effected

was considerable. The work was begun on September 18 and completed on December 29, 1924, at a total cost of \$4,121.12. Other minor repairs to the interior and exterior of the building were also made.

In the Aircraft Building two new oak panels were installed in the main doorway, and broken glass in windows and skylights was replaced from time to time. Slight repairs to floors and windows were made also in the south shed and in the Freer Building.

Heat, light, and power plant.—The power plant, which was closed down as usual during the summer, was put in operation on September 15 and continued until May 29, 1925. While the plant was not in full operation all of the employees were given the greater portion of their leave, and those not on leave were occupied in making necessary repairs to the boilers and other machinery, to put them in condition for the year. The amount of electricity used for lighting the building, operating machinery, and for certain exhibits was approximately the same as for the preceding year, which is within 25 per cent of the capacity of the plant.

The cost for the year has been materially less than the last fiscal year. The maximum price for bituminous coal stored was \$6.30 and the minimum \$5.45, with an average cost of \$5.75 a ton. For the first time in many years it has been possible to secure nut and slack bituminous coal from the New River fields, which is the type of coal best suited to the Museum plant. This coal also runs higher in heat value and is better adapted for coal-handling machinery, due to the absence of large lumps which tend to clog the moving parts of the apparatus.

As the boiler plant had been in service 15 years without any major repairs, it was considered advisable to have the boilers examined and inspected by the Steamboat Inspection Service of the United States Government. The result of the examination was very satisfactory with the exception of one tube in one of the boilers. This has been replaced. On the recommendation of the inspector, arrangements have been made to run an additional feed water-pipe line to the individual boilers to provide for a contingency when it might be impossible to get water through the present line. On the recommendation of the engineer, the Steamboat Inspection Service will be requested to examine and test the boilers annually.

The two Copes automatic feed regulators purchased during the previous fiscal year were installed before the beginning of the season. These proved so satisfactory that two additional regulators were purchased and installed on the other boilers. Indicating steam-flow meters have also been purchased and will be installed during the summer which will permit the firemen to determine whether or not each boiler is carrying the proper proportion of the total load.

The generating plant has given no special trouble, though it was necessary to install a new set of crosshead shoes on one of the larger engines and to have two of the main bearing boxes rebabbitted.

Three pieces of new 9-inch pipe for the main that runs along the center of the engine room were also installed. This completed the replacement of all of the old screw pipe in this line which, during the past three years, had given trouble from leakage.

An automatic air compressor, driven by a 7½-horsepower motor, to furnish 35 cubic feet of free air a minute, has also been purchased to work in conjunction with the Clayton air compressor which has been in continuous service since 1913. This compressor was primarily bought for use in connection with the opening and closing of doors on the elevators, but is intended for additional use in operating machinery in the various laboratories and shops.

Thirty-two hundred and ninety-two tons of bituminous coal were used in the power plant, and 15.5 tons of anthracite were burned during the summer in the Natural History Building for domestic purposes.

The total current generated during the year was 476,709 kilowatt hours at a total cost of 2.362 cents a kilowatt hour, a figure that includes labor, material, interest and depreciation on the plant. Cost of current a kilowatt hour omitting interest and depreciation was 1.986 cents.

The testing of the fire-fighting apparatus was continued and equipment inspected in the usual manner. Fire extinguishers were all charged, cleaned, and recharged. Fire plugs for hose connections were flushed in order that they may not become clogged with rust or scale or any foreign substance. There are now ready for use 174 carbon dioxide Underwriters' fire extinguishers and four carbon tetrachloride fire extinguishers. The electric fire alarm system was tested at intervals by ringing in each station exactly as would be the case if it were for fire. The alarm system in the buildings has worked better than during the previous year, but it is hoped that at some future date it will be possible to install a closed circuit system in all the buildings similar to that now in use in the Freer Gallery of Art.

A new compressor for the ice plant has been purchased and will be installed, as the old one was worn out and too small. A number of other changes and repairs have been made in the plant during the year, the condenser having been increased in size by one-third, and a new can filler and 20 cans purchased to replace others that were unfit for use. With the installation of the new compressor it will be possible to produce 2½ tons of ice a day, whereas the old one had a capacity of only 2 tons. The plant has been in operation 3,645 hours, produc-

ing a total of 346.3 tons of ice. If the cost of the new machine is not included, the cost of producing ice is less than the previous year. If, however, the cost is included, the cost a ton will be somewhat more, though not as great as the wholesale price paid for ice by the Government.

The total cost of operation, excluding the purchase of new parts, was \$799.77 or a little over \$2 a ton.

Fire hydrants in Smithsonian Park.—In August, 1922, a few days after the outer walls of the Natural History Building had been thoroughly washed with the use of the fire engine, through the courtesy of the District Fire Department, the Institution was notified by the chief engineer that the only fire hydrant south of that building was useless, as it was of an old type and was connected with a small noncirculating pipe. The Board of District Commissioners and chief engineer of the fire department recommended that an appropriation be secured for installing four modern hydrants for the protection of the Natural History Building and the other buildings of the Institution located in the park. Congress included in the appropriation for 1925, \$8,500 for this purpose, and the work was completed under the direction of the District Commissioners. The old Hayden hydrant to the east of the Arts and Industries Building, and the one near the Henry statue were condemned and removed, and the Smith hydrant, located at an inaccessible point south of the Smithsonian Building removed and installed west of the Arts and Industries Building, where it was connected by means of a 6-inch main feed pipe, with the 20-inch main on B Street. This with the other changes indicated, provide ample fire protection for all of the Smithsonian buildings in the park. The total cost of the work was \$7,924.81.

Furniture and fixtures.—During the year 18 exhibition cases and bases were acquired by purchase and construction in the shops, with 127 pieces of storage, laboratory, office and other furniture, of which 11 were acquired by purchase, and 116 were made by the shop force. Nine exhibition cases and bases, and 33 other items including obsolete or worn-out storage cases, laboratory and office furniture, were condemned. On June 30 there were on hand 3,711 exhibition cases, 11,986 pieces of storage, laboratory, office, and other furniture, 50,230 standard wooden-unit drawers, 4,712 metal drawers, 982 unit boxes, 203 wooden double unit boxes, 13,244 insect drawers, 713 wing frames, 5,885 special drawers with paper bottoms, and 12,116 special drawers with compoboard bottoms for mammal and bird storage cases.

In addition to the exhibition, storage, and other furniture manufactured in the shops, 32 curtains were made for windows with southern exposure to replace others that, after 14 years of service, were completely worn out.

MEETINGS AND RECEPTIONS

Although the National Museum does not at present sponsor definite lecture or entertainment programs of its own, since available funds do not permit the necessary expenditures for maintenance of such educational features, it offers its auditorium and lecture rooms to other governmental, patriotic, and scientific agencies and assists as far as possible in providing facilities for meetings. The assembly rooms are thus in more or less constant use. Meetings and conventions have been numerous during the past year.

As one of the general features of the Washington meeting of the American Association for the Advancement of Science members and guests were received in the Art Gallery in the Natural History Building, by the Secretary of the Smithsonian Institution and Mrs. Walcott, on the evening of December 29. The entire first floor of the building was open and a large number of persons assembled. In addition on the evening of January 2 the rooms occupied by the entomological collections were opened in an informal reception tendered to members of the Entomological Society of America and the American Society of Economic Entomologists by Government entomologists. Austin H. Clark addressed members of the association on December 30 on "The Navy's Oceanographic Program;" Dr. C. D. Walcott on December 31, lectured on "Geologic Explorations in the Canadian Rockies." Dr. E. E. Slosson, of Science Service, later in the same evening showed several reels of motion picture film taken in the Canadian Rockies, and on January 1 Dr. A. E. Douglass, of the University of Arizona, gave an account of the "Eclipse of September, 1923," and Dr. Willis T. Lee spoke on "Explorations in the Carlsbad Caverns of New Mexico," an account of work performed under the auspices of the National Geographic Society. The regular meetings of the Section of Anthropology were held in the small lecture room on January 1, 2, and 3.

The exhibition halls of the Natural History Building were thrown open on July 19, 1924 for a reception held by the Washington Chapter of the American Institute of Banking for members of the general organization gathered in conference in Washington. On December 16 Count Byron de Prorok gave an illustrated lecture on "Carthage Excavations, 1924," and "The Dead Cities of the Sahara" before members of the Anthropological Society of Washington, the Washington Academy of Sciences, the Art and Archeology League, and the Archaeological Institute of America. The lecture was followed by a reception held in the Art Gallery.

On the evening of June 10 there was a reception arranged for delegates and guests of the National Association of Credit Men in convention in Washington.

Branches of the Department of Agriculture used the lecture rooms and the auditorium on numerous occasions. On October 3, Sir John Russell, of Rothamsted Experiment Station at Harpenden, England, spoke on "Treating Soils." On October 27 and 29 Dr. Vernon Blackman, of the Imperial College of Science and Technology, in London, lectured on "The Relation of Electrical Currents to the Growth of Plants" and on October 31 this same speaker talked on "Some Aspects of the Physiology of Parasitism." On January 26 Sir Daniel Hall, scientific advisor to the Minister of Agriculture of England, spoke on "Agricultural Research and the Community."

A series of lectures under the auspices of the Forest Service began on October 1 with an account by Col. W. B. Greeley, chief forester, "On Preservation and Destruction of Timber" and continued with six other talks, by Mr. Barnes on November 3, by Mr. Carter on December 3 on "Alaska," by Colonel Greeley on January 7 on "Wild Life in the National Forests," by Mr. Rockford, on February 4, on "Forest Ranges," by Mr. Norcross, on April 8, on "Road Building," and on June 3 by Mr. Forbes on "Forests of the South." On November 19 and 20 meetings of the National Conference on Utilization of Forest Products, called by Secretary Wallace of the Department of Agriculture, under auspices of the Forest Service, were opened by an address by the President of the United States. Exhibits illustrating work of the Forest Service were placed on view in the lobby of the auditorium and at the south end of the foyer.

The Bureau of Agricultural Economics occupied the auditorium on April 20 for an address by Dr. L. M. Estabrook on "Argentina." The Federal Horticultural Board held hearings and conferences in room 42-43, on blister rust quarantine on September 26, and hearings for other purposes on June 29 and 30.

A lecture on "Hudson's Bay" was delivered by F. Johansen on January 24, under the auspices of the Bureau of Biological Survey.

On the afternoon of May 22, the department's post, Veterans of Foreign Wars of the United States, held memorial services in the auditorium, in honor of the late Henry C. Wallace, and of the men of the Department of Agriculture who lost their lives in the World War.

The American Society of Mammalogists, organized at a meeting in the National Museum seven years ago, held its annual sessions here on April 8, 9, and 10. On the evening of April 8, Dr. W. H. Osgood, president of the organization and curator of zoology in the Field Museum of Natural History in Chicago spoke in the auditorium "On Darwin's Trail in South America."

The American Surgical Association, and the American Association for Thoracic Surgery met in the assembly rooms on May 4, 5, and 6, holding separate sessions that convened in different rooms simultaneously.

Dr. Aleš Hrdlička of the Museum staff, beginning October 24, gave weekly lectures every Friday on "Man's Origin" and every Monday on "Man's Physical and Physiological Characteristics." The first series included seven talks and the second five, all of which proved highly popular and were well attended.

Under the auspices of the School of Foreign Service, a series of 12 lectures was given in the auditorium by Dr. Edmund A. Walsh, S. J., of Georgetown University on "Russia in Revolution." These extended over a period from February 13 to May 15, and attracted much attention.

M. Chr. Thams, minister of the Prince of Monaco to France, on November 29, gave a lecture on the results of a journey undertaken by him into Eastern Africa for the purpose of advancing the cause of conservation of wild life. His talk was illustrated by a fine series of moving pictures impressive for their accuracy in revealing the habits of big game under natural conditions.

On the evening of May 2, the historical picture made for the Commission for Relief in Belgium, was shown in the auditorium before Secretary Hoover, who had been chairman of that organization from 1914 to 1919, during the years of its operation.

A national spelling bee, organized by the Courier-Journal and the Louisville Times, of Louisville, Ky., to determine the winners of prizes offered for excellence in spelling to pupils of schools through the country, was held in the auditorium on June 17. Six girls and three boys were entered in the final contest which was won by Master Frank Neuhauser, age 11 years, of Louisville.

The annual meeting of the Audubon Society of the District of Columbia, held in the auditorium on January 31, was addressed by Dr. Arthur A. Allen of Cornell University on the "Birds of Florida and Texas." Beginning February 2, Dr. A. Wetmore, at that time superintendent of the National Zoological Park, gave a series of four lectures before the same organization on the subject of "Feathers, their Form, Color and Function."

A meeting for a National Radio Conference, called by Secretary Hoover, met in the auditorium and the small assembly room on October 7. An address was delivered at this conference by David Sarnoff, vice president and general manager of the Radio Corporation of America on a "Plan of Super-power Broadcasting Proposed by the Radio Corporation of America."

Mrs. Charles D. Walcott addressed the Wild Flower Preservation Society on February 12 on the subject of "Wild Flowers." At

a meeting on February 26 Dr. E. T. Wherry spoke on "Wild Flowers of Lafayette National Park," and a third talk was delivered on March 26 by Dr. W. J. Showalter. A further meeting on April 30 was addressed by Dr. Clara Burrus, former secretary to John Burroughs.

On April 9 the auditorium was occupied by the Air Service Officers Reserve Corps. The meeting was opened by General Mitchell, who introduced Lieutenants Wade and Arnold for an account of their trip around the world by airplane. The talk was illustrated by motion pictures.

Motion pictures of the Canadian Rockies were shown by Secretary Walcott on March 24, for the benefit of Museum employees. A motion picture exhibition entitled "Film Land" was arranged for November 11 by W. H. Egberts, also for Museum employees.

Meetings of the Anthropological Society of Washington, the Entomological Society of Washington, the American Horticultural Society, the District of Columbia Dental Society, and the Society for Philosophical Inquiry met regularly during the winter season for their stated meetings. The rooms were used also by the Washington Society of Engineers, the Washington Chapter of the American Association of Engineers, the Practical Psychology Club and the Boy Scouts of the Third Division.

The Filipino Club of Washington met in the auditorium on July 3 for addresses by Señores Cesar Caballo and José T. Nueno. On December 20 ceremonies were held in the auditorium by El Club Cervantes in commemoration of the Centenary of the Battle of Ayacucho. On March 28 a meeting under the direction of Sr. Cayetano de Quesada of the Cuban Embassy celebrated the ratification of the treaty of the Isle of Pines, and did honor to the United Spanish War Veterans.

A musical recital was presented on April 23 before the Cornell Alumni Association of Washington by Vladimir Karapetoff, professor of electrical engineering, at Cornell University, with Ervine G. Stenson as accompanist. Professor Karapetoff demonstrated before the gathering his invention of an additional string for the cello.

Five meetings were held by the directors and assistant directors of school playgrounds during August and September for talks on various subjects. Other organizations meeting in the Museum were the Helminthological Society of Washington, the Washington Chapter of the American Institute of Chemists, the Camp Fire Girls, the Camp Fire Guardians, the American Horticultural Society, the Garden Homes Associations, and the Smithsonian Relief Association.

In all, the meeting halls were used on 146 occasions during the year.

CHANGES IN ORGANIZATION AND STAFF

In accordance with a plan to develop and coordinate the scientific work of the various branches of the Smithsonian Institution, provision was made in the annual appropriation for an additional assistant secretary, and on April 1, 1925, Dr. Alexander Wetmore was appointed to this post with general supervision over the Museum interests of the Institution—the United States National Museum, the National Gallery of Art, and the National Zoological Park. Doctor Wetmore had, since December 31, 1924, held an honorary appointment on the Museum staff as custodian of alcoholic and skeleton collections in the Division of Birds. The appointment of the assistant secretary permits W. de C. Ravenel, administrative assistant to the secretary, and director of the Department of Arts and Industries, to devote more time and energy to the furtherance of the industrial side of the Museum, which is rapidly expanding.

All positions in the Museum were reclassified on July 1, 1924, by the Personnel Classification Board in accordance with the classification act of 1923. This resulted in the raising of salary standards, particularly with reference to the scientific staff. Salaries in the Museum have always been low and it has been with difficulty that the Museum retained its trained workers. The changed conditions under reclassification are already evident. At the end of the year every position in the Museum was filled, an almost unknown thing heretofore.

The Department of Anthropology was strengthened by the filling of several vacancies. In the Division of Ethnology, Henry B. Collins, jr., was probationally appointed aid on August 1, 1924, and Herbert W. Krieger, assistant curator on August 7. At the expiration of their probational appointments, Mr. Collins was advanced to assistant curator on February 1, 1925, and Mr. Krieger to curator on February 7. Miss Frances Densmore this year again served as a special assistant in the Department of Anthropology for a period of two months, during April and May, and continued the work begun the previous year on the classification of musical instruments. Dr. George Grant MacCurdy was given an honorary appointment as collaborator in the department for one year from February 14, 1925.

Neil M. Judd, curator in the Division of American Archeology, who was on furlough at the beginning of the fiscal year, resumed his duties on September 16, 1924. He was again granted leave without pay on May 16, 1925, to continue for the fifth summer his archeological exploration at Pueblo Bonito, N. Mex., under the auspices of the National Geographic Society. With this year's expedition the original five-year project will have been brought to conclusion.

In the Division of Physical Anthropology, P. C. Van Natta, aid, was furloughed from September 18, 1924, to June 1, 1925, to permit continuation of his college studies. His position was filled temporarily by T. Dale Stewart.

In the Division of Insects of the Department of Biology, the Section of Muscoid Diptera was, for convenience of administration, merged on April 22, 1925, in the Section of Diptera with Dr. J. M. Aldrich in charge. For over 10 years the Muscoid Diptera had been under the honorary custodianship of Dr. C. H. T. Townsend, an active worker in the group, who is now living abroad. J. T. Barnes was appointed an honorary collaborator in the Division of Insects for six months commencing May 16, 1925, to assist Dr. William Schaus in the packing and shipping of the Dognin collection of Heterocera to the Museum.

In the Department of Geology, Prof. Richard M. Field was given an honorary appointment as collaborator in paleontology for six months from March 25, 1925, in connection with explorations in Europe in which he is assisting the Museum.

In the Department of Arts and Industries Paul M. Garber's title was changed from aid in the Division of Mineral and Mechanical Technology, to assistant curator on October 1, 1924, and on February 1, 1925, Frank A. Taylor was promoted from preparator to aid. Samuel S. Wyer's connection with the Museum as associate in mineral technology was terminated on June 30, 1925, the investigations for which he was originally appointed having been completed. In the Section of Organic Chemistry, Harry W. Rabinowitz served as aid from September 8 to March 31, and was succeeded on April 1 by Miss Aida M. Doyle, by transfer from the Department of Commerce.

In the Division of History Miss Hortense Hoad was appointed aid probationally on February 1, and Capt. Charles Carey was promoted on May 16 from aid to assistant curator.

The Museum lost two employees during the year through the operation of the retirement act, and one by death. Robert Gohr, fireman, was retired on November 19, 1924, after a service with the Museum of over 10 years.

Newton P. Scudder, assistant librarian of the Smithsonian Institution, in charge of the National Museum Library, retired from active service March 9, on account of age and disability, and died May 19. Mr. Scudder was born in Brooklyn, N. Y., December 29, 1853, and was educated chiefly in the public schools of Huntington, L. I., and at Wesleyan University, from which he graduated in 1879. At the close of his college work he joined the Bureau of Fisheries and under its auspices made a trip to the halibut banks.

On his return he wrote "The Halibut Fishery, Davis Strait" which was published in the report of the Fish Commissioner for 1880. In 1887 another paper entitled "The Salt Halibut Fishery," appeared in the "Fisheries and Fishery Industries of the United States." Meanwhile Mr. Scudder had become connected with the Smithsonian Institution, where he remained for more than 40 years, and where for 38 years he was in charge of the Museum library. It is doubtful if the Museum will ever again have as its reference chief one so fully acquainted with its collections as Mr. Scudder, or one more willing to give of his knowledge and time to those who came with questions.

Another retired employee, Mr. Washington Irving Adams, disbursing agent of the Institution and its branches for many years, died suddenly on April 19, 1925, at his home in Watertown Mass.

The only death of an employee on the active roll of the Museum was that of Israel Freeman, a laborer in the Museum for over 15 years, which occurred on July 16, 1924.

DETAILED REPORTS ON THE COLLECTIONS

REPORT ON THE DEPARTMENT OF ANTHROPOLOGY

By WALTER HOUGH, *Head Curator*

On a monetary basis the collections of anthropology in the United States National Museum are estimated to be worth several million dollars, but in practical value their worth is more in that they contribute definitely to knowledge by increasing the scientific outlook of the world, by performing an educational duty, by preserving evidences of the progress of man in the arts, and through practical applications in the material welfare of society. Additional material in these collections is accumulating slowly through various governmental and other agencies. Opportunity of increase in anthropological material is greater now than it will ever be again, as growing interest in this subject narrows and exhausts the sources. It is a matter for congratulation that the science is becoming stronger and of more proved usefulness.

Anthropology is particularly adapted to museum science on account of the general interest of its exhibits to the public. In some European countries this aspect of anthropology has been appreciated to an extent that has led to the founding of great individual museums showing the material of the science. As anthropology includes in its field the primitive data bearing upon the historical development of most of the other sciences, it is a contributor to and conservator of information important to other branches.

COMPARISON OF INCREMENT OF SPECIMENS WITH 1923-24

Growth in the collection of ethnology has been mainly in well-collected material derived from Central and South America, the majority of the remainder coming from North America. The division of American archeology has been affected by a decrease in accessions that has continued for several years, due in great part to the widespread formation of individual collections by outside workers in this field.

The division of Old World archeology reports an increase of specimens beyond that for several years past, and it is interesting to note that the new material is of high grade in value and usefulness.

Receipts in material in physical anthropology indicate a year above normal, and include much desirable American material.

ACCESSIONS DESERVING SPECIAL NOTICE

Ethnological material collected by the Marsh-Darien expedition in southeastern Panama was presented to the Museum through R. O. Marsh, of Brockport, N. Y. The Smithsonian Institution was represented on this expedition by John L. Baer, who, before his tragic death, studied the ethnology and anthropology of the Chocó Indians of the Pacific slope and of the Cuna tribes of the Darien interior. The collection is representative of the two tribes mentioned, as well as of the Caribbean coast Tule or Towali of southeastern Panama. It includes several hundred articles employed in the daily life of these Indians in their industrial and ceremonial arts and affords a valuable guide to their technique and decorative design. Included are decorated calabashes, domestic utensils of calabash, wood, and stone; hunting and fishing weapons; boats and paddles; pottery objects, such as vases, canteens, stove censers, and globose bowls; toys and figurines of carved wood and pottery; carved and decorated spirit images; a spirit house of the Chocó Indians built of balsa wood, mortised and joined, and profusely decorated with designs in red, yellow, and black vegetable dyes; amulets and fetishes consisting of prehistoric stone celts; basketry; bark cloth; musical instruments; featherwork; basketry and woven cotton headdresses—in general, a representative selection of the material culture of aboriginal southeastern Panama.

A beautiful selection of South American decorative art in featherwork and in the metallic green elytra of a species of beetle was received as a loan from J. G. Culbertson. This collection also includes a shrunken human head prepared by the Jivaro Indians of Ecuador. A collection from southeastern Panama, presented by William Markham, included gold disk earrings, brass nose rings, Pan's pipes, weapons, bark cloth, and examples of appliqué embroidery in pictographic designs from the San Blas coast. The gift of a beautiful ancient Mexican serape by Mrs. H. M. Packard is a valuable addition to the Museum collection of Central American textile art design.

The bequest of 124 California Indian baskets by Miss Ella F. Hubby, through Rollin G. Hubby, completes a series begun several years ago by Miss Hubby and serves to make the Hubby collection in the National Museum the most outstanding collection of California Indian baskets in existence, both in variety of types represented and in beauty of individual specimens. The collection is accompanied by a carefully prepared catalogue and a scientific description of each basket.

The private ethnological collections of United States Army officers who participated in Indian wars and in campaigns in the Philippines are often quite extensive. Two such collections were received during the year by the Museum. One of these, presented by Gen.

R. D. Potts, consists of 82 specimens of Philippine and western American Indian material, chiefly Apache and Pueblo basketry and pottery. A similar collection of Philippine Island and western Indian material was presented by the Misses Catherine M. and Isabelle H. Hardie and consists of Moro batik cloth and fringed sashes, and Apache, Zuni, Hopi, Navaho, and Pima basketry and pottery, including some ancient and valuable Apache basket trays and basketry water containers.

One of the valuable accessions of the year was an ethnological collection of 45 pieces from China, collected by F. R. Wulsin and presented by the National Geographic Society. The collection is representative of the decorative art and bodily ornamentation of the Miaotse and Thai people of French Indo-China, and consists of women's silver earrings, collars, neck chains, headdresses and turbans of cotton cloth, girdles, skirts, and leggings. From the Province of Kansu, in northern China, the home of the To-Run tribe, were secured women's festival hats, gowns, girdles, brass hair and hat ornaments, necklaces, earrings, and shoes. Tibetan brass and silver belt ornaments, charm boxes, pipes, prayer wheels, women's costume and hair ornaments make up the remainder of the collection. Water color paintings, 22 in number, portraying rare and unrecorded early Alaskan scenes and events, were presented by Mrs. T. J. Richardson. The region of northern Siberia inhabited by the Chukchi was represented by 17 small ivory carvings fashioned after the Eskimo style of decorative art, loaned by Gen. James M. Ashton.

Of the 37 accessions received in the division of American archeology during the fiscal year just closed, there are six deserving of special notice. It is to be noted that all of these are transfers from the Bureau of American Ethnology, as the Museum with its own funds has participated in no expenditures that have enriched the collection in this division. In the order of their importance the accessions transferred by the bureau are: A series of 230 implements and ornaments of copper, bone, shell, and stone, collected by Gerard Fowke from mounds near Town Creek, Ala.; a series of 59 specimens including earthenware and shell vessels, shell and stone implements collected by Dr. J. Walter Fewkes on Weeden's Island, near St. Petersburg, Fla.; a collection of stone implements, shell vessels, and shell and copper ornaments exhumed by Gerard Fowke from mounds near Town Creek, Ala, on the site of Wilson Dam, Muscle Shoals; a series of earthenware vessels, bone and shell ornaments, and similar specimens, collected by J. C. Clarke, from Pueblo ruins 15 miles southeast of Flagstaff, Ariz.; a stone bird pipe found near Hyde's Ferry, Tenn.; and a collection of 303 specimens, mostly stone implements, from unknown localities in Alabama.

Of gifts received in the division of Old World Archeology may be mentioned especially a Welsh version of the Bible, a reproduction of the original translation published in 1588, which historically was as important to the Welsh language as the authorized version was to the English language. This Bible was received from David W. Evans, through the Hon. James J. Davis, Secretary of Labor. An engraved and inscribed passover plate of tin, donated by Miss L. Lieberman, and a collection of polished stone implements from West Africa, presented by Capt. Robert P. Wild, are also to be mentioned as accessions of especial value. Among the loans may be singled out a very valuable and interesting collection of Egyptian and Graeco-Roman antiquities and ancient glassware, lent by Edward Sampson; a large collection of prehistoric antiquities from France, lent by the Archaeological Society of Washington; and a small collection from excavations at Carthage, in North Africa, also a loan from the Archaeological Society.

In the Division of Physical Anthropology the accessions deserving special mention include a large collection of skeletal material donated by the Ohio State Archaeological and Historical Society. Casts of the remains of *Pithecanthropus erectus*, consisting of the femur, skull cap, three teeth, and a fragment of the jaw, were the gift of Dr. Eugene Dubois, professor in the University of Amsterdam, and a cast of the Broken Hill skull from Rhodesia, South Africa, was received as an exchange from the geological department of the British Museum of Natural History. Six casts of the Predmost remains (two of skulls and four of intracranial cavities) were received from Dr. Karel Absolon, curator of the Zemske Museum, Brno, Moravia, Czechoslovakia, as an exchange. Three casts of *Dryopithecus* (jaw fragments) were received as an exchange from the American Museum of Natural History, New York City. Two important accessions, transferred from the Bureau of American Ethnology, comprise skeletal material from Florida, one from Weeden's Island, and the other from near St. Petersburg. Skeletal material from Pueblo Bonito and Pueblo del Arroyo was presented to the museum by the National Geographic Society. A good collection of human skulls from Palm Beach, Fla., was a gift from E. S. Jackson, and a collection of Iroquois skeletal material from Akron, Erie County, N. Y., was donated by the Buffalo Society of Natural Sciences. Post-paleolithic skeletal material from Solutre, France, was received as a loan from the Archaeological Society of Washington.

Chief among new specimens in the section of musical instruments are four splendid period harpsichords, beautifully decorated in the style of the sixteenth and seventeenth centuries, added by Mr. Worch to the Worch collection, together with cases to contain them. The

Worch collection now comprises sufficient material to adequately illustrate the history of the piano.

Outstanding in the additions to the section of ceramics was a gift by Mrs. Frances Roome Powers of a well-identified lot of English porcelain and glass, and the loan by Commander George E. Brandt, United States Navy, of a fine Chinese porcelain vase, with fungus decoration, of the Yung Cheng dynasty.

In the section of art textiles the excellent lace collection of the late Mrs. H. K. Porter was continued as a loan by her daughter, Miss Hegeman. By the bequest of the late Miss Emily Tuckerman, all her specimens, previously on loan, were made a gift. From the Misses Long were received as a loan one piece of Duchesse Guipure lace, three pieces of embroidery, and five pieces of tatting.

EXPLORATIONS AND EXPEDITIONS

Explorations that have had special importance in adding to the collections of the department were those of the National Geographic Society at Pueblo Bonito, N. Mex., under the charge of Neil M. Judd, from which has come much valuable material. The expedition to central China under the leadership of F. R. Wulsin has also added many specimens of value. The Marsh-Darien expedition to Panama, on which John L. Baer lost his life, furnished important collections of outstanding interest. Expeditions of the Bureau of American Ethnology to Muscle Shoals, Ala., directed by Gerard Fowke, and to St. Petersburg, Fla., personally conducted by Dr. J. Walter Fewkes assisted by M. W. Stirling, have been of great importance. Dr. Aleš Hrdlička, curator of physical anthropology, is engaged on a several months trip to the Far East and Australia, financed in part by the Buffalo Society of Natural Sciences. The object of Doctor Hrdlička's trip is to observe first hand a number of races of men and to collect data on the sites of discoveries of ancient man.

WORK OF PRESERVING AND INSTALLING THE COLLECTIONS—PRESENT CONDITION OF COLLECTIONS

The customary routine work in cleaning, repairing, and preserving specimens was much accelerated in the division of ethnology. A recently devised method of permanently removing rust from iron was applied to two suits of medieval armor. Dust-proof storage cases were provided for certain things. A number of old and valuable oil paintings of Indians were repaired and restored. Labeling progressed to such an extent that all individual specimens on exhibit are now labeled. The Erskine collection of Dyak art was placed on exhibition and a case of Papuan art and a fine case illus-

trating Moorish art were installed. Interesting and rare costumes and ornaments of the Miao and Thai of south China from the Wulsin expedition under the National Geographic Society were exhibited and Chinese imperial costumes were installed on lay figures. A representation of the Chocó collection from Panama, received through the Marsh-Darien expedition, was put on exhibit, and the last unit of the Ella F. Hubby collection of California Indian baskets was added to those already displayed. On the exhibit floor the Zuni potter and Navaho silversmith groups were reinstalled, and figures in the Quarry group, the Eskimo group, and the Mohave Indian case were repaired and readjusted. Especially valuable in connection with the exhibits is a place catalogue of specimens, admitting of the locating of any object in a minimum of time, prepared a few months ago by the staff of ethnology.

In American archeology rearrangement of the study series was continued. With consolidation of State collections, with much detailed work devoted to the division records pertaining to those collections, and with many erroneously numbered and mislabeled specimens identified, it may be said truthfully that the collections of American archeology are now in better condition than they have been at any previous time in the history of the Museum. Two new and attractive groups illustrating the Cliff-dwellers and the Creek Indian flint chipper, were produced by Mr. Egberts and set up in the exhibit hall. In the laboratory, activity was shown in the restoration and repair of ancient pottery, and in making casts of stone implements.

In the division of Old World archeology there was much activity in labeling and installation. Four cases illustrating Jewish ceremonials were placed in the section of historic religions, and a case was added to the exhibits of ecclesiastical art. Prehistoric exhibits from France, Switzerland, and Africa were increased by the addition of other specimens.

In the division of physical anthropology the work of cleaning the skeletal material in the Huntington collection was finished, and other important collections were taken up for cleaning and repair. Material on exhibition was increased by the addition of ancient skulls, brain casts of prehistoric skulls, and skulls showing various types of head form.

In connection with Miss Frances Densmore's work in preparing a handbook of the collection of musical instruments in the Museum, all of these specimens were rearranged and the cases painted. This important collection presents now a more attractive appearance than ever before.

In ceramics, a unit under the direction of the head curator, a number of cases were rearranged, among which an exhibit of old American glass bottles attracts especial interest.

In art textiles much material was overhauled by Mr. Allen to the betterment of its physical appearance. The head curator was assisted in the conduct of this exhibit by Miss Edith Long, who has added to the carefully selected and arranged collection of the Misses Long, illustrating "The Arts of the Thread." Since the initial installation of this collection in 1910, one purpose has been kept in view, namely, to show and preserve the work of American gentlewomen through three centuries, from spinning and weaving to the finest of stitchery and embroidery. By the will of the late Miss Everett Long (to whom the Museum is indebted for much assistance and cooperation) all collections standing in the name of "The Misses Long" will become gifts, remaining as loans only through the life of her sister. The latter is carefully preparing descriptive lists, both of the cases in the room of art textiles and of those in the division of history, that there may be no difficulty in the future concerning identification of specimens. A pamphlet for presentation to the Museum, containing excerpts from the writings of the late Miss Long regarding the history of needlework, is also being prepared.

The anthropological laboratory prepared three unit groups containing figures modeled by Mr. Egberts. Other important repair and restoration work, notably a featherwork coat-of-arms of the United States presented to President Coolidge, was carried on in the laboratory.

RESEARCHES FOR THE BENEFIT OF THE MUSEUM

Herbert W. Krieger, curator of ethnology, made researches in the culture history of the tribes of Indians of southeastern Panama, and prepared a handbook embodying the results, based on the Marsh-Darien collection and other material. He also prepared a manuscript on Filipino cutting weapons, and began the study of the arts of Malaysia based on the W. L. Abbott collections. The religious ceremonies of the Pueblo Indians were made the subject of a special study by Elsie Clews Parsons, who spent several days at the Museum investigating material from the Pueblo area. Dr. A. E. Douglass, of the Carnegie Institution, continued his investigations of annular tree rings in relation to climatic changes, and studied the beams from the Pecos Mission Church now in the Museum collections. Dr. F. S. Hall, of the Washington State University Museum, inspected and studied the decorated stone and wood carvings of the Makah Indians in the Museum collection to facilitate the identification of similar material in his institution.

A large number of students of American history and ethnology have inspected and studied ethnological material that has had some special interest to them in connection with some project that they were prosecuting at the time. The information in each case desired was definite and limited to some particular detail of American history or ethnology. In most instances it was possible with the aid of the place catalogue mentioned above to put before the student material helpful in solving or in throwing additional light on his problem. Old paintings such as those in the Catlin collection, and old and rare photographs were much in demand for study and for reproduction. Loans of photographs from the division files were made from time to time for use of publishers, writers, and educators. Mr. Kulkarni, of Poona, India, who spent several weeks in the United States studying the agricultural methods of the North American Indian, while in Washington consulted the files of the division.

A study of the armor of western Malaysia was prosecuted by George C. Stone, of New York, and several photographs of specimens of armor, helmets, and weapons in the W. L. Abbott collection were taken at his request. Similarly, at the request of Dr. F. Boas, of Columbia University New York City, some 300 Eskimo decorated needlecases of ivory and bone were photographed. Doctor Boas is making an intensive study of primitive art and expect to use these photographs for publication.

In the division of American archeology, Mr. Judd has completed a report on archeological observations north of the Rio Colorado in Utah and Arizona. Monroe Amsden, of Farmington, New Mex., assistant to Mr. Judd in the explorations of the National Geographic Society at Pueblo Bonito, was engaged for three months following October 1 in the study of ceramic material from Pueblo Bonito already received in the division. In addition, Dr. A. V. Kidder, Phillips Academy, Andover, Mass.; Earl H. Morris, Carnegie Institution of Washington, Washington, D. C.; and Supt. J. L. Nusbaum, of the Mesa Verde National Park, Colorado, spent brief periods in examination of the collections in this division.

In the division of Old World Archeology Doctor Casanowicz continued his study of Oriental seals. Prof. Jean Capart, conservator and secretary of the Royal Museum of Brussels, Belgium, examined the Egyptian collections.

A study of "Old Americans," begun by the curator of physical anthropology in 1912, received its final revision during the year and is now in press. The second part of the "Catalogue of Human Crania," relating to the division collections, is finished. Additional measurements to act as an appendix to this catalogue have also been secured. The curator also carried on an investigation on the weight

of the brain and internal organs of American monkeys, the result of which has been published in the American Journal of Physical Anthropology. In addition, Henry B. Collins, jr., assistant curator in the division of ethnology, conducted an investigation on the pterion in primates. His conclusions will be published in the American Journal of Physical Anthropology. Dr. William L. Straus, of Baltimore, Md., spent the period from July 10 to August 9, 1924, in the division studying the bones of the foot. On September 24, 1924, the curator received in consultation three prominent members of the faculties of the Prague and Brno Universities, Czechoslovakia, Professors Kestner, Bydovsky, and Novak. Dr. Francis J. Netusil, an eminent physician and statistician of Czechoslovakia, paid several visits to the division during October and November. On October 18, R. O. Marsh brought his party of "White Indians" for examination and measurement. On November 18 Lieut. Wendell Prescott Roop, of the Construction Corps, United States Navy, spent a day in the division in connection with his studies on anthropogeography. Dr. Milo Hellman, of New York was occupied for four days in the examination of teeth of Mongols and Japanese, and Dr. Paul Johnson, of Washington, D. C., spent several days on the study of ethmoid bones. Dr. A. N. S. Burkitt, associate professor of anatomy, University of Sydney, Australia, made a general examination of the collections and the library. Dr. R. W. Leigh, of the Army Medical Museum, began investigations of the dental pathology of the Indian tribes on January 7, 1925. The results of this are embodied in an article published in the American Journal of Physical Anthropology. Throughout the school year from November, 1924, to June, 1925, two medical students of George Washington University, T. Barnette Wilson and G. H. Phillips, prosecuted work in osteology under the curator's direction, and Dr. C. J. Connolly of the Catholic University, Washington, D. C., during the same period, studied the location of the nasion. Instruction in anthropometry was given to several persons, among whom may be mentioned Professor Connolly and Dr. John M. Cooper of Catholic University, Doctor Schapiro, of Washington, D. C., Dr. William R. Morse of the China Medical Board, Rockefeller Foundation, and Marcelo Tangeo of the University of the Philippines.

RESEARCHES ELSEWHERE AIDED BY MUSEUM MATERIAL

At the request of Dr. Clark Wissler, of the Department of Anthropology, American Museum of Natural History, New York City, the division of ethnology forwarded two separate loans of wooden fish hooks to assist in his comparative study of the distribution of wooden fish hooks in the Pacific. E. F. Bissantz, of

Cornell University, Ithaca, N. Y., received from the division a loan of a large number of photographs illustrating the art design of the Northwest Coast Indians. Mr. Bissantz is making a detailed review of the decorative art of these Indians. A loan of Pueblo prayer plumes was made to Elise Clews Parsons, of New York, who is prosecuting a study of the religious ceremonies of the Pueblo Indians.

From the division of physical anthropology samples of human hair from Negritos of the Philippine Islands and Cunas of Panama were sent to Dr. Leon Hausman of the Department of Zoology, Rutgers College. Later a further series of samples taken from the hair of the "White Indians" was sent to Dr. Hausman. Capt. R. W. Leigh, of the Army Medical Museum, received the loan of a series of skulls and jawbones in connection with his studies on dental pathology among the Indian tribes.

DISTRIBUTION AND EXCHANGE OF SPECIMENS

Several loans of textiles illustrating the costumes and artcraft of various peoples have been made by the division of ethnology during the year, usually for short intervals. The material thus loaned has been exhibited at conventions, schools, libraries, and in pageants, and has served to better acquaint the general public with the decorative design and art crafts of sundry peoples. One of these loans, consisting of Siamese material, made to the Children's Section of the Charleston Museum, Charleston, S. C., included 19 pieces, among which may be mentioned a silk sarong and other fabrics to typify Siamese weaving, lacquered wood, and domestic art objects. A loan of Chinese costumes was made to the Department of Chinese of the School of Business, Columbia University, New York City, and included 20 pieces. Two loans of 27 and 24 pieces, respectively, were made to the Randall Junior High School, Washington, D. C. The larger loan consisted of Japanese objects of art and material of use in the daily life of the Japanese, while the other covered miscellaneous Indian ethnologica. A gift of 64 pieces of American Indian Pottery was made to the Museum of Natural History of the Public Schools of Battle Creek, Mich. Another gift of 22 unaccessioned duplicate photographs of American Indians was made to Mr. Kulkarni, Agriculture College, Poona, India. Through exchange, Hon. R. F. Pettigrew, of Sioux Falls, S. Dak., received a collection of 52 pieces of western plains Indian ethnologica.

The division of American archeology presented 13 specimens of ancient pottery to the Museum of Natural History of the Battle Creek, Mich., public schools, and 27 specimens of stone implements

to Mrs. E. E. Doolittle, Brattleboro, Vt. Five casts of stone carvings were lent to the Navesink Library Association, Navesink, N. J. A model of Xochicalco and a drawing of another Mexican ruin were lent to the Architectural and Allied Arts Exposition, New York City. Among the exchanges made were 29 arrowheads to John C. Fitch, East Liverpool, Ohio; 19 arrowheads to Harry Harris, Richmond, Va., and 2 grooved stone axes to E. W. Keyser, Washington, D. C.

A Babylonian inscribed brick and a cuneiform tablet were lent by the division of Old World archeology to Edward C. Potter to illustrate a lecture delivered at Walter Reed Hospital, Washington, D. C. An inscribed Egyptian papyrus was lent to the exhibit of the book fair, under the direction of the League of Pen Women, at Woodward & Lothrop's, Washington, D. C. Three photographs of the Gliddon mummy case were presented to Prof. Jean Capart, of the Royal Museum at Brussels, Belgium, to be used for the illustration of a paper. A collection of photographs of Egyptian and Palestinian specimens was presented to the First Presbyterian Church, Newport News, Va. A collection of 21 prehistoric stone implements from France was given in exchange to Williams College, Williamstown, Mass.

The division of physical anthropology supplied to Columbia University Hospital, New York City, as a gift, a number of foot bones for a skeleton. Three human skulls and ten casts of skulls were sent to the Zemske Museum, Brno, Moravia, Czechoslovakia, in exchange.

In this and many other unrecorded ways the department of anthropology aided in efforts of various educational and scientific organizations to initiate projects for the common good. Frequently advice as to the merits of plans and methods is asked, and in some cases requests are honored for selected educational collection of duplicate material so far as the resources of the department admit. In this way the influence of the Museum is extended.

NUMBER OF SPECIMENS IN THE DEPARTMENT

During the past fiscal year the department received 116 accessions with a total of 4,444 specimens, of which 11 accessions, comprising 1,228 specimens were loans. The total number of specimens received were distributed among the various divisions of the department as follows: Ethnology, 1,241; American archeology, 904; Old World archeology, 1,265; physical anthropology, 924; musical instruments, 6; ceramics, 41; and art textiles, 63.

On June 30, 1925, the specimens in the department totaled 653,497 assigned as follows:

Ethnology.....	157, 276
American archeology.....	425, 970
Old World archeology.....	31, 174
Physical anthropology.....	29, 763
Musical instruments.....	2, 063
Ceramics.....	5, 848
Art textiles.....	1, 403
	<hr/>
Total.....	653, 497

REPORT ON THE DEPARTMENT OF BIOLOGY

By LEONHARD STEJNEGER, *Head Curator*

In previous reports attention has been called to the necessity for additional assistance in the divisions of this department that the work may be continued effectively. To indicate the necessity for increase in personnel it is desired to recapitulate briefly the functions of the staff and the handicaps under which it works to uphold the reputation and the traditions of the institution.

By the fundamental law establishing the National Museum, it is made the final depository for all the collections gathered by the United States Government, and the duties of its scientific staff are to care for, classify, and report upon these collections. All collections relating to recent plants and animals (except man) are in the custody of the Department of Biology and are distributed among a number of divisions, in charge of scientific experts.

The magnitude of the biological collections may be gathered from the last paragraph in this report which shows in detail the extent of the material in this department. It will be seen that it now embraces approximately 7,345,285 specimens, of which 1,223,400 are plants and 6,121,885 are animals. It is difficult to convey an idea of the immensity of the mere task of handling and caring for this material, aside from its classification and the publication of reports. Preservation, cataloguing, and labeling require unceasing attention, expert knowledge, and unremitting work. To be available for study, these thousands upon thousands of specimens must be so arranged that they can be found when wanted by investigators. In many groups, for instance in mammals, birds, reptiles, and amphibians, each individual specimen has to be catalogued and labeled, both catalogues and labels giving such data as register number, scientific name, exact locality where collected, date when collected, by whom collected, and other information which often is of equal importance with the specimens themselves. The very handling of the material involves an immense amount of work, for while in some classes of animals the specimens are small and may often be moved in lots, in others the opposite holds, as for instance in the division of mammals, where the specimens range in size from mice to elephants and whales. Nor is size always a proper criterion of the labor involved, for innumerable specimens contained in the collections

of the Museum are of microscopic size necessitating a technique in manipulation which requires much time and skill.

The proper identification, naming and classifying of these specimens can be done only by highly trained specialists whose lives are devoted to study of restricted branches of zoological or botanical science. The field is so vast, the number of forms often so stupendous (as for instance in entomology where the species are estimated to run into millions) that in many branches the scientific investigator is compelled to devote all his time to one special group if he is to accomplish fundamental work upon which other workers may rely in the practical solution of their multifarious problems in sanitation, agriculture, and other economic activities.

While it is true that the specialist who has devoted years to his subject can often identify and name specimens of common species at sight, it is more often the case that he must turn to the microscope and the literature, before he can be sure. Very often elaborate dissections have to be made. Many animals are so much alike externally, that the most searching examination of their internal anatomy or even the structure of their tissues, must be resorted to for a determination of their specific characters. Nor is search of the truly overwhelming literature for clues to identify an easy task in spite of the immense library facilities in Washington. Often the libraries of Congress, the Smithsonian Institution, the Department of Agriculture, or the Surgeon General's library, fail to produce the necessary book or scientific journal. Moreover, information may be available only in some little known foreign language. As a consequence specialists must be linguists of no mean ability. In addition an extensive and detailed knowledge of the geography of the countries whence come the specimens is indispensable. The field of the National Museum is the whole world, biological problems are world wide, and their solution can only be successfully attempted if approached in the light of world knowledge.

It is regrettable to have to confess that because of insufficient personnel it is impossible to do full justice to all claims upon the service of this department. There are entire groups of animals and plants as the spiders, myriopods, worms, sponges and most of the cryptogamous plants in which the Museum has no specialists, while in others the material is so great that a single worker can not cover the whole field. Further assistants are needed to relieve trained men of routine burdens and that younger men may be developed to carry on the work of the Museum in later years. Aid in these directions is urgently required.

COMPARISON OF INCREMENT OF SPECIMENS OF 1924-25 WITH THAT OF
1923-24

The importance of the Museum as a permanent depository of scientific material is reflected in the constant increase in scientific value of the annual additions to the collections. In all divisions the accessions of the present year equal and in most instances exceed those of the previous year. As an example, in the division of plants, the number of accessions was 504, or 34 more than in any of the last 14 years; the number of specimens received was 116,636, or nearly 18,000 more than in any year since 1913, and more than twice the average number of specimens received during the last 14 years. At the same time there was entered in the record books 39,686 specimens, about 6,000 in excess of the preceding year. Many needed rarities have come to fill gaps in many collections, while the accession of type specimens has been truly notable.

ACCESSIONS DESERVING SPECIAL NOTICE

As one of the accessions of major importance may be cited the collection of Coleoptera and mollusks which came to the Museum by the bequest of the late Col. Thomas L. Casey. It has been estimated that this contains more than 50,000 specimens of beetles, representing about 16,000 species, of which 5,000 are types of species described by Colonel Casey himself. The bequest included a very complete library mainly on Coleoptera, and Mrs. Casey has generously added a fine new binocular microscope for use in work with the specimens. The collection which is of highest interest to coleopterists because of the types that it contains will receive special care and attention, in order to make its treasures available in the best possible manner to specialists.

Immense collections presented by the National Geographic Society come as the result of two of the Society's expeditions in China, that of Dr. J. F. Rock and that of F. R. Wulsin. These will be treated in greater detail under the divisions to which they refer. In the present connection, it is enough to point out that they embrace over 4,500 specimens of vertebrates and 68,000 plants. This wonderful addition to our Chinese material is supplemented by numerous other collections, foremost among which are those made by Rev. D. C. Graham in western Szechwan, which contain large numbers of vertebrates and insects. Col. R. S. Clark continued to contribute Chinese material collected by A. deC. Sowerby, and several other collectors in the same region have added important specimens. As a result the collections of Chinese animals and plants in the National Museum have reached such magnitude and importance as to become active factors in the study of the natural history and resources

of regions from which have been derived important elements of the flora and fauna of our own country.

Mammals.—The mammals collected by the National Geographic Society's Central China expedition under F. R. Wulsin totaled 367 specimens, and those from the expedition into Yunnan, Szechwan, southeastern Tibet under the direction of Dr. J. F. Rock, 60 specimens, among them several genera and species new to the Museum.

Though Dr. W. L. Abbott came 85 mammals from Hunan, China, the last specimens collected by C. M. Hoy before his death. Chinese accessions further include 49 mammals secured by Rev. D. C. Graham, among them a large monkey not hitherto represented in the Museum, and 14 specimens collected by A. deC. Sowerby in southeastern China, received through Col R. S. Clark. The Curator, Gerrit S. Miller, in a trip to the island of Haiti secured a rich harvest of bones of recently extinct mammals, among them representatives of new genera and species belonging to the peculiarly interesting cave fauna of the Greater Antilles. A baleen whale that stranded at Walnut Point, Va., of a species not often taken on the coast of the United States, was secured for the Museum by A. J. Poole and C. E. Mirguet of the Museum staff. Secretary Walcott, during his explorations in Canada, collected a mule deer and three Rocky Mountain sheep. A collection of 28 small mammals from Montenegro, a region not hitherto represented in the collection, was obtained from V. Martino, Belgrad, Jugoslavia.

Birds.—The numerous, often serious, gaps in our collections, due in great extent to the fact that the Museum has no general appropriation for the purchase of specimens, have of late years been lessened by the generosity of B. H. Swales, honorary assistant curator in the division of birds, who has placed funds at the disposal of the Museum for the purchase of needed material. In this way Mr. Swales, during the present year, added to the bird collection 134 skins, covering 5 genera and 26 species previously not possessed by the Museum. Among these were *Monias benschi*, from Madagascar, a genus of uncertain affinity allied to *Mesoenas*, and *Coturnix novaezealandiae*, the extinct New Zealand quail. Most of the novelties were from Madagascar. The associate curator, Dr. Charles W. Richmond, likewise purchased and presented to the Museum 54 bird skins, chiefly from South America, including 20 genera and 23 species new to the national collection, among them specimens of the vulturine parrot (*Gypopsittacus vulturinus*), the curl-crested toucan (*Beauharnaisius beauharnaisii*), and the Pará manakin (*Pipra opalizans*).

The Chinese collections received, totaling 4,215 specimens, exceed greatly any previous accessions from that important part of the world. The collection by Dr. Joseph F. Rock, presented through the

National Geographic Society of 1,611 splendidly prepared bird skins, mostly from the northern and western parts of Yunnan Province, added 50 or more species and subspecies and 4 genera to the museum, including several new to science. The novelties covered the groups of pheasants, pigeons, woodpeckers, flycatchers, thrushes, warblers, wrens, babblers, finches, and particularly members of the group known as "timaliine" birds. *Ithaginis rocki* a pheasant, and *Strix aluco nivipetens*, an owl, were described from this collection, and a very rare genus of wren, *Spelaeornis*, was represented by one specimen, the first the Museum has received. Other generic desiderata represented were *Propyrrhula*, *Horeites*, and *Moupinia*.

Another collection received from the National Geographic Society, made by F. R. Wulsin in the provinces of Kansu, Chekiang, Fukien and Kweichau, China, and in the district of Laos, Siam, consisted of 1,199 skins, 120 alcoholics and skeletons and 297 eggs. Several species proved new to the Museum among which may be mentioned especially the genus *Pseudopodoces*, a very small, ground-inhabiting member of the crow family. Special mention is made of the skeletons and alcoholics, because collectors of birds too often neglect this very important material of which the National Museum is in great need. Rev. David C. Graham's collections this year consisted of 963 skins from the Province of Szechwan, with a number of species new to the Museum, including four species of pheasants, and a grouse of the genus *Tetraophasis*. Of special interest were four skins of the rare merganser *Mergus squamatus*. Collections of birds from Fukien, Anhwei, Kiangsu, and other provinces, supplementing those made by Rock, Wulsin, and Graham, were sent, through Col. R. S. Clark, by A. deC. Sowerby. These included the rare *Paradoxornis heudei*, a thick-billed bird related to the shrikes and titmice, and the genus *Oreocorys*, a member of the wagtail family, both new to the Museum.

Dr. Casey A. Wood presented 53 bird skins and one skeleton from the Fiji Islands. A species of cuckoo (*Cacomantis infuscatus*) and a thick-head (*Pachycephala aurantiiventris*) were new to the collection; several shrike-like birds of the genus *Pinarolestes* were of special interest. A majority of the specimens furnished the Museum with modern material where previously it possessed only old and faded birds from the United States Exploring Expedition, of about 1840. The Biological Survey, of the United States Department of Agriculture, transferred to the Museum a number of skeletons, eggs and nests, besides 20 bird skins collected by Charles L. Fagan at sea, chiefly along the Pacific coast of South America. Among these were several species new to the Museum including *Oceanodroma hornbyi* and *O. markhami*, and a skin of the Chilian pelican (*Pelecanus thagus*) which, although described as early as 1782, was previ-

ously unrepresented. In exchange for information there were obtained from the American Museum of Natural History in New York two lots of bird skins, one from Polynesia and one from Ecuador, in which two genera, *Nesophylax* and *Thylyphaps*, and about 27 species were new to the Museum.

Reptiles and batrachians.—As in the other divisions of vertebrates, the Chinese collections occupy the most prominent position, and include rich lots of material. The contribution of the National Geographic Society's expedition, under F. R. Wulsin, covered localities as widely separated as Lake Kokonor in northeastern Tibet, and southern Yunnan. The importance of this material is greatly enhanced by the fact that much of it was collected in the deserts of Mongolia along the first route of the Russian explorer, Colonel Przevalski, so that these specimens are to a great extent topotypes of species described by Guenther and Bedriaga. Rev. D. C. Graham's specimens likewise add many species new to the Museum, among them the curious toad *Aelurophryne mammata*. A. deC. Sowerby's collections from eastern China, secured through Col. R. S. Clark, make possible a more critical study of certain species, because of the ample series supplied. Closely connected in interest are 108 specimens collected and presented by Dr. Hugh M. Smith in Siam, related as many of them are to Chinese species; several species among these are new to the collection. Dr. M. M. Metcalf presented to the Museum 191 frogs and tadpoles from Ceylon, among which likewise were several species not previously in the institution. The collection brought back by G. S. Miller from his trip to Haiti are of particular interest, as Miss D. Cochran, aid in the division of reptiles, has in preparation a comprehensive work on the herpetology of the island.

Fishes.—More than 1,000 specimens were received from China, through the expeditions of the National Geographic Society, under F. R. Wulsin, through collections made by D. C. Graham and A. deC. Sowerby (through Col. R. S. Clark) as detailed elsewhere, and a small collection from the Chinese island of Hainan donated by Professor Ping, of Nanking. A very important collection of 441 specimens of fishes from the Amazon basin, South America, was presented by the H. K. Mulford Co., of Philadelphia, through Dr. C. H. Eigenmann. An extensive series from Salvador, Central America, consisting of 2,150 specimens, collected by S. F. Hildebrand and F. J. Foster, was transferred to the Museum by the Bureau of Fisheries of the United States Department of Commerce. From this same bureau came also five type specimens of Salmonid fishes from Lake Michigan and Green Lake, Wis.

Insects.—Reference has already been made to the more than 50,000 coleoptera representing 16,000 species bequeathed to the Mu-

seum by the late Col. Thomas L. Casey. For 40 years Colonel Casey devoted his available time to building up and working with this magnificent collection. The results of his studies, including the description of about 5,000 new species, the types of which are in the collection, fill a series of volumes published privately by the author. The basic importance of this collection to entomologists will be appreciated as well as the necessity for the utmost care required in labeling and recording before these specimens can be made available for critical study by other specialists. It has been decided to keep the collection exclusively in the curator's charge until the requisite work of proper installation has been completed.

Another collection, second only to the preceding in importance received as a transfer from the Bureau of Entomology of the United States Department of Agriculture, is the Fernald collection of microlepidoptera, formed by Prof. C. H. Fernald, of Amherst, Mass., and purchased from his estate because of the importance of the 600 or more types of economic species which it contains. A large and important collection of insects was received from Rev. D. C. Graham, Suifu, China, collected mainly in the mountainous regions of western China from which the Museum had little material except from previous sendings by the same collector. Several important gifts of moths and other insects were received during the year from Prof. C. F. Baker, dean of the College of Agriculture, Los Baños, P. I. A collection of 2,800 specimens from Argentina was received as a gift from G. L. Harrington of Buenos Aires. A gift of local insects, mostly lepidoptera, comprising about 1,600 specimens, were received from Miss Kate B. Preston, of Alexandria, Va.

Marine invertebrates.—Prof. S. F. Light, department of zoology, University of California, donated more than 700 specimens of crustacea collected at Amoy, China, and adjacent regions. Dr. Hugh M. Smith sent a number of marine invertebrates, mostly crustaceans, from Siam. A collection of marine invertebrates, comprising 800 specimens, was made at the Tortugas in July and August, 1924, by the curator, Dr. Waldo L. Schmitt, under the auspices of the Carnegie Institution of Washington, D. C. Among other noteworthy accessions may be mentioned two sections of a submarine telegraph cable with barnacles attached, collected by the United States cable ship *Dellwood* and transferred by the Signal Corps, United States War Department, through Col. C. A. Seoane, and a series of commercial sponges from the Bahamas and Florida, transferred by the Bureau of Fisheries, United States Department of Commerce. In addition various smaller collections were received from individual collectors that added species new to the Museum. By exchange with the Museum d'Histoire Naturelle, Paris, through Theodore Monod,

the division obtained 30 specimens of isopods (*Paragnathia formica*) from France. A number of microscopic slides of isopods, Palearctic and Australian, were also acquired from Dr. K. W. Verhoeff. The type of *Pylopagurus schmitti* was received from the describer, Miss Belle A Stevens, University of Washington, Seattle.

Mollusks.—In addition to his work with beetles the late Col. Thomas L. Casey was greatly interested in certain groups of mollusks, and extensive collections of these were included in his bequest. Thus about 1,000 specimens of recent mollusks, embracing many genotypes of the family Turritidae, came to this division. Truman H. Aldrich, of Birmingham, Ala., donated 146 specimens of land and freshwater shells from India, including types of three species of *Alcaeus*. Dr. Hugh M. Smith this year again forwarded a large sending comprising 350 specimens of mollusks from Siam. Approximately 700 species thus far have been contributed by him from that region. Mr. D. Thaanum, of Honolulu, T. H., sent 153 specimens representing 46 species of marine shells from Hawaii, Japan and the Western Pacific, mostly of species not included in his previous large donations. Dr. Julia Gardner, of the United States Geological Survey, presented the museum with about 1,000 specimens, including 35 species, from Porto Rico. Dr. H. Pittier at Caracas, Venezuela, has supplemented his previous sendings from that country by 253 specimens, representing 23 species, so that our collections from that region are now fairly comprehensive. Dr. Paul Bartsch, the curator, collected about 2,700 specimens of Cerions in Cuba and the Florida Keys, and in collaboration with William B. Marshall, the assistant curator, about 2,500 specimens of marine mollusks at Cape May, N. J. Manly D. Barber, Daytona Beach, Fla., donated 38 specimens, including types of three species and a paratype of a fourth. Mrs. I. S. Oldroyd, of Stanford University, presented about 40 specimens including the types of two new species. For further type material the Museum is indebted to Mrs. Agnes Chase, E. P. Chase, T. D. A. Cockerell, L. A. Faustino, H. C. Higgins, A. M. Strong, and Bryant Walker.

The income from the Frances Lea Chamberlain Fund has enabled the curator to secure for the Museum some very important material which it would have been difficult to obtain, otherwise than by purchase, including a number of topotypes of Cerions described by C. J. Maynard, as well as four species (genotypes) not before in the Museum.

Section of helminthological collections.—The largest collection received was from Frits Johansen, Department of Marine and Fisheries, Ottawa, Canada, and included 700 specimens of helminths from Arctic Canada. Dr. G. A. MacCallum, Baltimore, Md., donated the type and paratype of *Capillaria carcharini*, and J. P. van

Haitsma, Calvin College, Grand Rapids, Mich., a paratype of *Strigea impatibilis*, a new holostomid trematode from the belted kingfisher.

Echinoderms.—The only accession calling for special notice was the gift from the Hopkins Marine Station, Pacific Grove, Calif., through Prof. Walter K. Fisher, of four types of new species of holothurians described by Harrington Wells.

Plants.—Among more important accessions may be mentioned 68,244 specimens, received as a gift from the National Geographic Society. Of this material 194 specimens are from New Mexico, collected by members of the Carlsbad Cavern expedition, 8,050 specimens were collected on the central China expedition of the society, under the direction of F. R. Wulsin, and about 60,000 specimens were secured in Yunnan and adjacent territory by J. F. Rock while engaged in exploration under the auspices of the society. There are, besides, three cases of botanical material collected in China under the auspices of Mr. Wulsin which have not as yet been arranged, and 23,369 specimens, transferred by the Bureau of Plant Industry, United States Department of Agriculture, include about 2,800 mounted grasses and 20,000 specimens taken in Yunnan and adjacent territory by J. F. Rock, during exploration in the interests of the Department of Agriculture.

Other important additions include the following: 1,309 specimens, chiefly ferns and grasses, from Asia, received from the Royal Botanic Gardens, Kew, England, in exchange; 960 specimens of Brazilian plants, received as an exchange from the Museu Nacional, Rio de Janeiro, Brazil; 611 specimens, collected in Venezuela, by H. Pittier and by A. Allart, received from H. Pittier, Caracas, Venezuela, by gifts and purchase; 1,160 specimens from Panama and the northeastern United States, received as a gift from Ellsworth P. Killip; 486 specimens of tropical American plants, received from the Universitetets Botaniske Museum, Copenhagen, Denmark, in exchange; 804 specimens of plants from California, received from Stanford University, California, in exchange; 441 specimens of Costa Rican orchids, presented by Dr. Anastasio Alfaro, San José, Costa Rica; 507 specimens from Cuba and Scandinavia, received from the Riksmuseum, Stockholm, Sweden, in exchange; 883 specimens, chiefly from lower California, received from the California Academy of Sciences, San Francisco, Calif., in exchange; 500 specimens from New Mexico, collected for the Museum by Paul C. Standley, associate curator, in cooperation with the National Geographic Society; 1,932 specimens from the United States, received from the Missouri Botanical Gardens, St. Louis, Mo., in exchange. In addition a number of collections were obtained as

gifts from the University of Texas, George L. Fisher, Houston, Tex., Brother G. Arsène, Covington, La., the University of South Dakota, and Miami University, Oxford, Ohio, or in exchange from the Gray Herbarium and the New York Botanical Garden.

EXPLORATIONS AND EXPEDITIONS

As already stated, the most important collections accessioned during the year, with the exception of those coming to the divisions of insects, were the results of expeditions and explorations in China carried on under various auspices. These were prosecuted during the first half of the year, as from dangers and difficulties resulting from civil war, banditry, and an increasing feeling against foreigners in China, such activities have since received a decided setback, and the outlook for their continuance at present is not promising.

The most important of these expeditions in China were those conducted by the National Geographic Society, to which the Museum is greatly indebted for the magnificent collections received. The one under the leadership of Dr. Joseph F. Rock during 1923-24 was carried on mostly in the Province of Yunnan, reached through Burma. Doctor Rock pursued a course through the western part of Yunnan, gave considerable attention to the Snow Mountains near Likiang, and penetrated as far as Mili in western Szechwan, which is something over 200 miles west and south of Suifu, Mr. Graham's headquarters. Thus to some extent Rock's material connects with that received from Graham. As a result of Doctor Rock's labor, the Museum came into the possession of about 80,000 plants, over 1,600 birds, 60 mammals, and other material from a region of great importance. The material received from the two Wulsin expeditions, also under auspices of the National Geographic Society, came from two widely separated regions of the Chinese Empire. The first one was undertaken in 1923, but the bulk of the collections did not arrive until the present year. Starting from Peking Mr. Wulsin reached Paotow, Inner Mongolia, in March, and from there followed or paralleled the route through the Alashan Desert and western Kansu to Lake Kokonor, in northeastern Tibet, taken by Russian explorer Colonel Przevalski just 50 years before.

Wulsin reached Kokonor about the middle of August. Returning, he made a trip south to the Min Shan Range, which forms the boundary between the Provinces of Kansu and Szechwan, and reached Hangchow fu, by way of Titao, September 20, making important collections on the way. The material secured on this trip is of importance since the specimens are practically topotypes of the numerous new species which were described from Przevalski's famous journey. His collections also tie up with those which Col.

R. S. Clark and A. deC. Sowerby made in 1908 and 1909 in Kansu, Shansi, and Shensi, and with the Szechwan material gathered by Mr. Graham in Szechwan on the south side of the Min Shan Range. Mr. Wulsin's expedition in 1924 extended from Hanoi in Tonking, French Indo-China, to Yunnan fu, Yunnan, with return by way of the Laos country and Annam. During the latter part of August and September a side trip from Yunnan to Hwang Tsao Pa in the Chinese Province of Kweichow was quite profitable zoologically. The collections are important to the Museum as they come from a region previously quite unrepresented.

This year's exploration led Rev. D. C. Graham to Sungpan and the Yellow Dragon Gorge in northern Szechwan, an arduous trip, of which a more detailed account has been published in the Smithsonian exploration pamphlet for 1924. (Smithsonian Misc. Coll., vol. 77, No. 2, 1925, pp. 34-36.) The zoological results were highly satisfactory as already related.

Arthur deC. Sowerby, under the auspices of Col. Robert Sterling Clark, visited several Provinces in eastern China, including Fukien, Anhwei, and Kiangsu, and collected extensively, supplementing very satisfactorily collections of previous years.

Dr. Hugh M. Smith, fisheries adviser to His Majesty's Siamese Government, Bangkok, Siam, continued his explorations in Siam, and secured extensive collections.

Gerrit S. Miller, curator of mammals, visited Haiti during March and April for the purpose of exploring caves, at the north edge of the central plain, that had been examined superficially by members of the United States Geological Survey in March, 1921 (Smithsonian Misc. Coll., vol. 73, No. 3, 1922, pp. 1-2.) Careful work was done in six caves, and a collection of the extinct vertebrates whose remains are buried under the cave floors was obtained. Miscellaneous collections of recent mammals, birds, reptiles, insects, and plants were made near the caverns, and in the neighborhood of Port-au-Prince.

In cooperation with the Carnegie Institution of Washington, D. C., Dr. Paul Bartsch, curator of mollusks, visited Cuba in order to secure breeding material in continuation of hybridization experiments with cerions which have been carried on for a series of years past. This expedition as well as a visit to the cerion colonies planted on the Florida Keys resulted in the addition of about 2,700 specimens to our collection. Another short trip was made to the Cape May region in company with the assistant curator, W. B. Marshall. Through the cooperation of the United States Coast Guard Service it was possible to do some dredging in the inner leads of Cape May and also in the shallow water off the coast. This expedition resulted in adding quite a number of specimens from a region little explored.

The survey of the fisheries of the Republic of Salvador, Central America, by Samuel F. Hildebrand and Fred J. Foster, of the United States Bureau of Fisheries, was undertaken at the request and at the expense of the Salvadorean Government. Their explorations extended over the early part of 1924. As a result the bureau has transferred to the Museum a large collection of Salvadorean fishes and some crustaceans.

The geological expedition of Dr. C. D. Walcott into the Canadian Rockies, like those of previous years, has added valuable specimens which will be utilized in the contemplated remodeling of a group representing a family of Rocky Mountain sheep in the American mammal hall.

The collections of the Museum have profited likewise from several expeditions where the collecting of zoological objects was more or less incidental, such as the expedition undertaken by Capt. R. A. Bartlett for the National Geographic Society in Bering Sea and Arctic America during the summer of 1924; and the *Bowdoin* expedition of 1924 to Greenland under the command of D. B. Macmillan.

Explorations which have contributed valuable material to the National Herbarium during the fiscal year 1924-25 are as follows: In August, 1924, Paul C. Standley, associate curator, was detailed as a member of the Carlsbad Cavern expedition of the National Geographic Society, and in the course of several weeks' field work in the region of the cavern collected about 500 specimens, many of which represent species not previously known from New Mexico. A popular account of the vegetation of the Carlsbad Cavern region has been prepared for publication, largely on the basis of this field work. Mrs. Agnes Chase, assistant botanist in the Bureau of Plant Industry, was detailed by the Department of Agriculture from October, 1924, to June, 1925, to field work in the eastern highland region of Brazil for the purpose of collecting grasses, in cooperation with the Field Museum of Natural History, the Missouri Botanical Garden, the Gray Herbarium of Harvard University, and the New York Botanical Garden. Upwards of 10,000 specimens were collected, representing nearly 2,500 collection numbers. About one-half of the grasses known previously from Brazil were collected, besides material in other special groups.

WORK OF PRESERVING AND INSTALLING THE COLLECTIONS—PRESENT CONDITION OF THE COLLECTIONS

Completion of the new Rocky Mountain goat group forms the main achievement of the taxidermists during the present year. This group, which replaces one mounted many years ago, represents a

family of four, all collected in the Canadian Rockies. The mounting was done by W. L. Brown and his assistants, guided by notes and photographs taken in the field by Doctor and Mrs. Walcott, whose direction and criticism as the work progressed was of the greatest assistance in making the group artistic and true to nature. The geologists of the Museum staff were also helpful with suggestions and criticism in the fashioning of the rockwork accessories of the group.

Two other notable additions to the exhibition series of mammals, likewise substitution of modern, well-mounted specimens for old, or poorly executed mounts, were a vicuña from South America, and a wart hog from Africa. The installation in the case containing the African hogs was rearranged with great improvement in the exhibit. Other work, not quite completed at the end of the fiscal year, includes a group of dik-dik, a diminutive African antelope, no larger than a small dog. Several additions were made to the series of smaller mammals and birds, the latter especially in the separate exhibit of the fauna of the District of Columbia.

The work of caring for and recording the study series in the various divisions has been attended to in the usual manner.

In the division of mammals two unit, six half-unit, and six quarter-unit cases were added for the arrangement of the skin collection. The marsupial collection is now properly arranged for ready consultation. A number of the larger skins were given more space, and about 50 cases containing rodent and other small skins were rearranged. Additional storage cases will be needed, as the collection is still in an overcrowded condition. The arrangement of the small and medium-sized skulls in the office rooms is complete at this time. Work has been continued on the large skulls stored in the attic and whale room, this greatly improving their arrangement. Six quarter-unit cases have been added for the continued rearrangement of skeletons in the attic. New material has been added in the alcoholic collection, which is in good condition. The taxidermists have prepared during the year 89 specimens as study skins and have tanned 120 skins, bringing this work up to date, except for work required to be done by outside tanners on contract. All of the tanning this year has been done by the taxidermists. The rotary drum installed for this purpose has been turning out very good results, in so far as small skins are concerned. Contract work on small and medium-sized skulls and skeletons has resulted in the cleaning of 988 skulls and 52 skeletons. This work is in a satisfactory condition, with only a very few uncleaned skulls at present on hand.

In the division of birds four half-unit cases were received during the year, to accommodate in part increase in the collections. Three half-unit cases containing ducks and two quarter-unit cases of

small Corvidae were rearranged, with some shifting of specimens among other cases. A considerable number of specimens laid aside in previous years for determination were identified and distributed systematically through the collection. In this way some additional space was provided for the unusual amount of material received from China during the year, a considerable part of which will have to be held apart from the main collection until determined. The Rock collection from China, including 1,611 skins, was provided with standard Museum labels, and various other lots of specimens were similarly labeled. Unsatisfactory label-holders on cases housing specimens of the study series were removed and more suitable ones supplied. Eggs and nests received during the year were catalogued, but not distributed in the systematic series. About 1,100 eggs were labeled and placed in the collection. The alcoholic material received during the year was provided with suitable containers and labeled. In the skeleton collection, 573 specimens were placed in suitable boxes, labeled, and distributed, and the data recorded on the card catalogue. Considerable material was cleaned by the preparators during the year, but thus far has not been labeled or prepared for distribution. The condition of the collections of all kinds is excellent, there being no deterioration so far as known.

In the division of reptiles and batrachians about 1,200 specimens have been installed in permanent places in the storage room. Practically no replacement of the old cork-stoppered bottles by glass-stoppered jars has been possible during the year, owing to difficulty experienced in obtaining an adequate number of standard jars to hold incoming specimens. The present condition of the collection on the whole is very good.

All the material received in the division of fishes during the year has been identified, catalogued, entered on cards in the index files, and installed in the regular collections. The shelves and containers in the storage room were cleaned and jars refilled where evaporation had occurred, many labels have been restored where they had become obliterated, and large storage jars have been resealed to reduce evaporation to a minimum. The condition of the material is considered very good.

In the Division of Insects, since the adoption several years ago of the tray system for most of the orders of insects, the process of transferring the collection to trays has been under way, and is almost complete for some of the large orders, especially for the Diptera. In Coleoptera and Hymenoptera there is still much to be done. During the year Dr. H. E. Ewing arranged the collection of scorpions, and placed most of it in standard containers. He continued rearranging the tick collection until now about 60 per cent

of it has been transferred from miscellaneous containers into standard vials. To facilitate identification work in the Orthopteroid insects, A. N. Caudell arranged a systematic series of the North American forms in the families Forficulidae, Blattidae, Mantidae, Gryllidae, and the subfamilies Tettiginae, Oedipodinae, and Truxalinae of the Acrididae. Dr. T. E. Snyder continued his study of white ants, and rearranged a part of the collection with addition of interesting accessions in this order. W. S. Fisher rearranged all of the West Indian beetles of the subfamily Lamiinae, and in addition placed other material of this group in trays. Dr. M. W. Blackman completed arrangement of the bark beetles of the superfamily Scolytoidea in standard trays and drawers. The bark beetles are now arranged in a systematic manner so that all of the material of the group is readily accessible to specialists who wish to consult it. Dr. W. Schaus continued rearrangement of the exotic Macrolepidoptera so far as is practicable with the drawers and cases available. During the year he devoted much energy and effort to the securing of subscriptions for the purchase of the Dognin collection, and succeeded in obtaining sufficient money to assure the acquisition of this collection. In May he arranged for the purchase, and in June sailed for France to pack and ship the material. He was accompanied by J. A. Barnes as assistant. C. Heinrich and A. Busck have continued their studies and rearrangement of the collection of Microlepidoptera. The collection of larval Microlepidoptera of the families Noctuidae, Pyralidae, Saturniidae, Sphingidae, and Geometridae, have been catalogued and labeled. The Olethreutidae from the Fernald collection have been added to the regular collection and the group completely rearranged. Mr. Heinrich submitted a manuscript describing new forms and revising those previously described.

In the section of Hemiptera the Mexican and Central American Membracidae have been fully identified and the collection rearranged, the North American Telamonini, Cryptostemmatidae, and Ploiariinae have been revised and rearranged, and also the Neotropical Coreidae in so far as they are identified, all by W. L. McAtee and J. R. Malloch. H. G. Barber identified many of the bugs of the family Lygaeidae. Dr. H. G. Dyar and R. C. Shannon have restudied and rearranged the North American flies belonging to the family Simuliidae and have completed a revision of this group. C. T. Greene has continued transfer to the tray system of certain groups of flies in which he is especially interested. He continued his arrangement of the collection of immature stages of Diptera and reports that of the 61 families of Diptera, the Museum now contains representatives of 54, in this stage of growth. The na-

tional collection of the immature stages of Diptera is by far the best in the United States, and probably equals if not surpasses any in the world. In the section of Hymenoptera work on arrangement of the collections progressed as rapidly as possible with identification work. Dr. William M. Mann practically completed a skeleton arrangement of the ants, and this collection is now in better shape than ever before. Rearrangement in the Chalcidoidea has consisted largely of expansion and incorporation of determined specimens from the regional collection. However, the families Mymaridae and Trichogrammidae, and the genera *Chalcis* and *Eurytoma*, have been rearranged completely. During the fiscal year C. F. W. Muesebeck completed the arrangement of the Braconid genus *Microbracon*. In the bees the genus *Bombus* was rearranged and partially restudied by Dr. T. H. Frison. Various groups of Sphecoidea have been transferred to trays, and the subfamilies Crabroninae and Larrinae have been completely rearranged during the year. With exception of the rearrangement of the subfamily Brachystinae and a partial rearrangement of the species of the genus *Pepsis*, done in collaboration with J. R. Malloch, very little change has been made in the collection of the superfamily Mutilloidea.

In the division of marine invertebrates, by dint of effort on the part of all members of the staff, progress in caring for the collections has been on a par with that of the preceding year. The fact that the laborer assigned to the division has to be shared with another division makes it imperative that the aid perform laborer's work in the storage stack. With increasing accessions, the physical care of the collections becomes more and more heavy. Added help to care for the vast and important material under this division is needed.

In the division of mollusks, work with the collection has gone on steadily, but little progress has been made in catching up with past arrears, as the additional burdens thrown upon the division have not been alleviated by additional help, which is badly needed. The task of preparing permanent labels for the material added to the reserve study series has fallen upon William B. Marshall, the assistant curator, work which properly belongs to a clerk, but which now takes a highly trained specialist away from his proper sphere of identifying, classifying, and revising. Since Dr. T. Wayland Vaughan left for the Marine Biological Laboratory at La Jolla, Calif., the care of the collection of corals has fallen entirely to the staff of the division of mollusks, and consequently the curatorial work on it has practically come to a standstill. The entire coral collection was moved during the year to a room and the corridor in the west wing.

The collections in the division of echinoderms have received the usual inspection, and some progress has been made in transferring

specimens from the alcoholic to the dry series. All of the material received in current accessions has been determined and added to the study collections. The curator has no assistant of any kind, and much of his time is necessarily consumed in typewriting, cataloguing, and similar occupations. Lack of available space for laying our specimens for comparison and of shelf room for the necessary books is also a great handicap. The present condition of the collections is better than it was last year.

Curatorial work in connection with the upkeep and increase of the National Herbarium has continued satisfactorily during the past year, considering the serious restrictions imposed by lack of space and the fact that from September to December, inclusive, the replacement of the plaster ceiling by metal, with attendant dust and disorder, made curatorial work extremely difficult. As opportunity offered, Dr. W. A. Maxon rearranged a considerable part of the fern collection, in connection with his studies of tropical American species and the distribution of new material into the herbarium. Mr. Standley has identified and distributed a large number of Mexican and Central American phanerogams; Mr. Killip has distributed upwards of 8,000 mounted specimens of South American phanerogams, and Mr. Leonard a smaller number of West Indian specimens.

Mr. Standley is engaged in the determination of the remaining specimens of his recent collections in Panama and Central America, all of which have been mounted. Of material from South America about 3,000 mounted and identified specimens of Compositae and Rubiaceae are ready for distribution into the herbarium, and about 4,000 in many other families await identification before being incorporated. Of miscellaneous mounted specimens that have been identified, there are some 8,000 chiefly from the United States and the Old World, but the congestion in the herbarium is now so great that incorporation of this material has not been attempted. The condition of the cryptogamic herbarium remains substantially as reported last year. Mr. Leonard has given some attention to the mosses, of which a very large number have been incorporated in recent years. The collections of hepaticae, algae, and fungi are seriously in need of attention, if only that recent material may be added; but the special curatorial assistance required for their upkeep has not been available, though urged repeatedly in recent reports. Much of the unmounted material on hand a year ago has since been prepared. Also, the accumulation of glued specimens has been strapped by contract, in addition to 20,755 specimens that have been glued during the year. Besides the 30,176 glued specimens thus strapped approximately 12,368 have been mounted wholly by adhe-

sive plaster, 9,268 of this number by contract. The total number of specimens mounted during the year was 42,544. There remains unmounted not less than 25,000 specimens, including about 12,000 from the Philippines, 6,000 from China (Rock and Wulsin collections), and 6,000 Old World specimens in the Buchtien collection. In mounting operations preference has naturally been given to material from tropical America, in view of current studies on the flora of this region. The present plan of mounting part of the specimens wholly by adhesive plaster and others by glue and plaster has worked well in practice and is more expeditious than the former method of mounting wholly by plaster, notwithstanding the time required to divide many of the accessions for this purpose. The segregation of type specimens has been continued, chiefly by Mr. Killip, a total of 12,278 now having been distinctly labeled, catalogued, and placed apart in individual covers. These constitute the so-called type herbarium. The total number of duplicates distributed in exchange during the year to institutions and to individuals was 13,935. Of duplicate material on hand there are (exclusive of the Rock plants) about 20,000 unmounted specimens, mostly not yet ready for distribution. These are kept in special cases, apart from the study series. The Rock duplicates comprising between 50,000 and 60,000 specimens, packed in insect-proof boxes, are held in storage pending identification.

The present condition of the National Herbarium is regarded as good, with due allowance for the very great crowding of cases and of specimens within the cases, and the scant amount of time that can be given to strictly curatorial work. Current work of identification and the diverse routine duties incident to handling the great amount of material accessioned (116,636 specimens in the present year), as well as that sent in for examination and report, leave little time for critical work of redetermination and rearrangement of specimens, that would otherwise be feasible. Additional curatorial assistance is greatly needed, but even with the present small staff much more curatorial work of a general nature could be accomplished if the unfortunate congestion described were remedied. The crowding retards in many ways work that is recognized as necessary. An extreme expansion of herbarium facilities is not urged, but merely an increase which will be sufficient to permit normal growth.

The work of the taxidermists, as explained in last year's report, is not confined to the mounting of specimens for the exhibition series, but on the contrary to a great extent consists in preparing material fresh from the field for incorporation in the study series in the divisions of mammals, birds, and reptiles. Thus out of the

collections of bird skins received from China no less than 554 were remade, degreased, and cleaned. Similarly, a large number of mammal skins were cleaned, tanned, repaired, or dismantled. C. E. Mirguet in addition to cleaning large mammal skulls and skeletons, made plaster casts, and remade skins of reptiles. J. W. Scollick cleaned 381 bird skeletons and parts of skeletons in addition to some mammal skulls and skeletons. C. S. East, who was detailed part of the time to work under Mr. Scollick, similarly cleaned about 40 skeletons. The work has thus progressed very satisfactorily considering the reduced force.

RESEARCH FOR THE BENEFIT OF THE MUSEUM

The research of the members of the scientific staff consists chiefly in reports upon the collections. After proper care of the collections, research is a primary function and duty. Without it the Museum would fail in its intent, and in proportion as all the collections are worked and reported upon, the Museum fulfills its purpose as a scientific institution. Unfortunately, the staff is numerically inadequate to cover the entire field of the two organic kingdoms, and whole phyla are lying fallow because appropriations are lacking to employ more workers. Recourse to a "volunteer staff" of university professors and curators of other museums is an expediency which works well in some special cases, but these coworkers, whose help is fully appreciated and gratefully acknowledged, can not take the place of resident curators. Such gratuitous services are usually not continuous nor can progress reports be expected or required.

As intimated, research work in the divisions must be secondary to the curatorial work, and as curatorial duties are constantly increasing while the personnel remains stationary, the time left for research is proportionally decreasing. What has been accomplished during the year may be briefly summarized as follows:

The curator of mammals, Gerrit S. Miller, jr., completed and published several important papers, notably a fully illustrated account of the Pollack whale from Florida, presented to the Museum by the Miami Aquarium Association. This specimen is the first complete skeleton of this North Atlantic whale to come to any museum. He continued his studies of whales, and of the remains of recently extinct mammals found in various cave deposits in the Antilles.

The curator of birds, Dr. Robert Ridgway, completed accounts of the generic and supergeneric groups and the synonymy for part 9 of Museum Bulletin No. 50, "The Birds of North and Middle America," and continued work on the synonymy diagnoses and keys to the higher groups for part 10. Dr. Charles W. Richmond, associate

curator of birds, during what little time could be spared from curatorial work, continued his investigations into the early history of the collections in his charge and their disposition, including search for types. The only missing type found during the year was that of *Colluricincla maculosa* of Peale, a Polynesian species located during investigations of the assistant secretary, Dr. A. Wetmore, by whose intensive study of this species the particular character was disclosed that made discovery of the type possible. Slight progress was made on a proposed report by the associate curator and the honorary assistant curator, B. H. Swales, on types of birds in the Museum. J. H. Riley, aid, worked on a report on the birds of the Collins-Garner expedition to the French Congo, and also on the very important Chinese collections recently received. Doctor Wetmore, who, while superintendent of the National Zoological Park, was designated custodian of the skeleton and alcoholic collections, continued his studies of bird taxonomy and morphology.

The curator of reptiles, Leonhard Stejneger, in addition to continued study on North and Central American turtles, brought near completion a check-list and key to the amphibians and reptiles of continental China, chiefly from material in the National Museum. Miss Doris M. Cochran, aid, identified a large proportion of the material accessioned during the year and continued work on the herpetology of the island of Santo Domingo.

In the division of fishes, B. A. Bean, assistant curator in charge, made progress in identification of various collections of Chinese fishes received from time to time, and worked on a report on fishes received from Uruguay. By special arrangement the services of Henry W. Fowler have been secured for work on the enormous collection of Philippine fishes made during the cruise of the *Albatross* of 1907 to 1910.

Dr. J. M. Aldrich, curator of insects, continued a study of the types of muscoid diptera in the Vienna Museum, two additional lots having come for study during the year. He completed a revision of the Tachinid genus *Cylindromyia*, which is awaiting publication in the proceedings of the Museum. Two papers were prepared on the Vienna types and several shorter ones on other matters. C. T. Greene prepared several articles with excellent illustrations on the subject of larval diptera. Dr. H. E. Ewing continued his taxonomic work on mites and undertook special studies of the families Gamasidae, Tarsonemidae, and Trombididae. He also spent considerable time on taxonomic work on lice and completed his studies on lice of the genus *Pediculus*. In the course of his studies Doctor Ewing visited New York and Boston to study the collections in the Museum of Comparative Zoölogy and the

American Museum of Natural History. A. N. Caudell continued taxonomic work on cockroaches and made satisfactory progress in the identification of the general collection of Orthoptera made in Java by Palmer and Bryant. W. S. Fisher continued taxonomic studies of beetles, especially those of the family Cerambycidae. He revised the species of the subfamily Lamiinae, published a paper describing those in the collection of the American Museum of Natural History, and completed a paper containing descriptions of new forms in our collection. He also continued studies of Philippine material and during the year revised the Philippine species of the tribe Exocètrini and submitted for publication the results of his studies. During the year Mr. Fisher also rendered assistance to the editor of the New York State list of insects by revising the manuscript dealing with the families Cerambycidae and Buprestidae. Dr. A. G. Böving continued his studies of coleopterous larvae, completed a synoptic table of the families in cooperation with Doctor Craighead, and devoted considerable time to study of various forms. W. L. McAtee, who continued to spend part of his time in work on the collection, completed a revision of leaf hoppers of the genus *Typhlocyba* and, in collaboration with J. R. Mallock, finished a revision of the Cryptostemmatidae which has already been published.

Dr. William Schaus, in collaboration with Dr. W. J. Holland, devoted considerable time toward the preparation of a report on African Macrolepidoptera. This paper, to be published by the Carnegie Museum, contains descriptions of many new species in the collections of the Carnegie Museum and the National Museum. C. T. Greene completed and published a paper on the larvæ and pupæ of the family Sarcophagidae, and prepared descriptions of the immature stages of *Pantophthalmus tabaninus*, and an interesting bot-fly which is parasitic on monkeys. He also devoted considerable time to a tentative classification of Muscoid flies based on a detailed study of their puparia, and prepared a manuscript describing the larvae and pupæ of the flies of the family Leptidae in the national collection. August Busck continued studies on certain groups of Microlepidoptera, in connection with which he examined collections of the American Museum of Natural History, and Dr. William Barnes, of Decatur, Ill., and consulted types in the Canadian National Collection. Carl Heinrich completed a revision of the family Olethreutidae, during which he reexamined types in the American Museum of Natural History and the collection of the Museum of Comparative Zoology. He prepared also technical descriptions of larvae and pupæ of several species of Lepidoptera from Museum material for use in Government publications. R. A. Cushman continued studies of the parasitic tribe Ichneumonini and nearly completed a revision

of this group. He also devoted some time to the identification of the Oriental Ichneumonidae received through Dr. C. F. Baker. Dr. W. M. Mann received considerable unworked material of Australian ants through Dr. J. Clark, and during the year identified many of these, and restudied much Australian material. The material from Doctor Clark will form the basis of a synoptic paper on Australian ants.

Dr. Mary J. Rathbun, associate in zoology, in addition to completing a monograph of the fossil decapods of the Pacific slope of North America, saw through the press the second of her monographic treatises on American crabs, a volume devoted to the so-called spider crabs, printed as United States National Museum Bulletin No. 129. She furthermore determined numerous miscellaneous accessions. Dr. Waldo L. Schmitt published four papers and made investigations on large collections of East Asiatic macrura and stomatopoda, in particular on a valuable collection of Siamese macrura, to be published in connection with Dr. Hugh M. Smith's investigations of Siamese fisheries. Through the Carnegie Institution, of Washington, D. C., he was enabled to spend during the year 10 weeks at the Tortugas laboratory in furtherance of a series of studies on the crustacean fauna of the region. Clarence R. Shoemaker, assistant curator, in spite of heavy curatorial and routine work completed reports on amphipods collected by Frits Johansen in Hudson Bay in 1920 and on amphipods secured during the *Albatross* cruise in the Gulf of California in 1911. Considerable progress was made on reports on amphipods collected by the Biological Board of Canada during fisheries research in the Gulf of St. Lawrence in 1917, as well as on those collected by the curator at Tortugas in the summer of 1924. The time of the aide, J. O. Maloney, was mostly taken up in cataloguing, and work in the storage room, but he was able to devote some time to much-needed studies in certain groups of isopods in connection with the many demands by the Federal Horticultural Board and others for determinations of these forms. Dr. Harriet Richardson Searle, collaborator, continued studies as time permitted. Dr. Max M. Ellis, collaborator, made progress with his report on the collections of discodrilid worms secured during several transcontinental collecting trips he has undertaken. The second part of the report on the rotifers of Wisconsin, prepared by H. K. Harring, custodian of Rotatoria, with Frank J. Myers, of the American Museum of Natural History, was issued early in the year. The manuscript and illustrations for a third part have been completed and early publication is expected. The authors last summer at the request of Dr. U. Dahlgren, director of the Desert Island biological laboratory,

made a joint survey of the rotifer fauna of Mount Desert Island, and plan to continue these studies during the ensuing summer.

Dr. W. H. Dall, honorary curator of mollusks, studied material obtained by the Canadian Arctic expedition from the Arctic coast of Alaska and Canada, and prepared a report to be published by the Canadian Government. New species of mollusks from Florida and Japan were studied and described. At the request of Yale University, material dredged off the northeast coast of America and on the Grand Banks was studied; the results will be published in the *American Journal of Science*. A revision of the last American species of *Pecten*, *Plicatula*, and *Petricolaria* was printed. A revision of the collection of east American Pelecypoda was completed. The curator, Dr. Paul Bartsch, devoted some time to the preparation of a monograph of the Philippine mollusks of the family Naninidae. The first volume on the larger members of this group is completed, except for a few illustrations which are being prepared. Work on cerions was continued and the curator is again under great obligations to Thomas S. Creighton, of Blue Ridge Summit, Pa., and Washington, D. C., for his volunteer services in measuring and cataloging the forms added to the collection during the past year. Strides were also made in the dissection of the hybrid Cerion material. Sundry minor reports were prepared as indicated in the bibliography. The assistant curator, William B. Marshall, described and published on a number of new forms while descriptions of others are in process of publication. Work on the pearly mussels of the northern Mississippi Valley was continued and Mr. Marshall hopes to finish this during the coming year.

The curator of echinoderms, Austin H. Clark, has nearly finished the text of part 3 of his monograph of recent crinoids. Of part 4, which includes the discussion of stalked crinoids, the account of the anatomy of the various types so far as the "soft parts" are concerned, is complete, and the synonymies have mostly been worked out. This part includes about 100 species as against about 600 in part 3.

In the division of plants Dr. Frederick V. Coville, curator, continued studies in the breeding and propagation of blueberries (*Vaccinium*) and began similar studies of the gooseberries (*Grossularia*). Dr. J. N. Rose, associate curator, continued studies of the family Caesalpinaceae, in collaboration with Dr. N. L. Britton, director of the New York Botanical Garden, with a view to publishing a monograph of the North American species of this family. Doctor Rose also gave attention to the Crassulaceae and Cactaceae, in continuation of earlier monographic studies. Dr. William R. Maxon, associate curator, continued work on the ferns of tropical America, with

particular attention to the fern flora of Porto Rico. He published several short papers and a longer popular article upon the study and cultivation of ferns. Paul C. Standley, associate curator, completed manuscript of the fifth and concluding part of the trees and shrubs of Mexico, and has nearly completed a semipopular account of the flowering plants of the Panama Canal Zone. He published descriptions of a considerable number of new flowering plants from Central America, in addition to a popular article on the Republic of Salvador and, in collaboration with Dr. Salvador Calderón, of San Salvador, an annotated list of the plants of the Republic of Salvador. Emery C. Leonard, aid, continued studies of West Indian plants, and has undertaken also a revision of the tropical American species of the family Acanthaceae. Ellsworth P. Killip, aid, continued studies of the genus *Passiflora* and the family Urticaceae, particularly as represented in South America, and published a paper on a South American collection of the latter.

A large number of scientists and students, mostly from outside Washington, have pursued more or less extensive studies in various divisions to the mutual benefit of the investigators and the Museum. As a rule, however, the greatest benefit accrues to the Museum when unworked material is sent out to outside specialists. Thus the skull of an unidentified porpoise was submitted to Dr. Glover M. Allen, of the Museum of Comparative Zoölogy, and was identified by him as a species hitherto not recorded from the United States. A published note concerning this is noted in the bibliography. In the division of birds Dr. James P. Chapin, American Museum of Natural History, New York, in the course of studies here, revised the names of certain African birds in the collection. Dr. H. C. Oberholser, of the Biological Survey identified various birds upon which he had occasion to work during the year. The division of insects has been greatly benefited by outside studies of its material. Thus H. W. Allen, of the Agricultural and Mechanical College of Mississippi, has completed an extensive paper on the subfamily *Mitogramminae*, which is now awaiting publication in the Museum proceedings. William T. Davis of Staten Island, has during the year identified several shipments of Cicadas, and Dr. Philip Garman, of the Connecticut Experiment Station and Nathan Banks of the Museum of Comparative Zoölogy, rendered assistance to Doctor Ewing in the identification of mites and red spiders. Prof. T. D. A. Cockerell of the University of Colorado, continued his cooperation. S. E. Crumb, of the Bureau of Entomology, spent some time in rearranging noctuid larvae material in connection with his studies. Dr. E. D. Ball, of the United States Department of Agriculture, during frequent visits to the collections, assisted in the identification

of material of the tribe Telamonini. C. Howard Curran, of the Canadian Department of Agriculture, worked material in the Tachinid genera *Gonia* and *Archytas*, and M. C. Van Duzec's revisions of the genera *Argyva* and *Syntormon* were largely based upon Museum material. James Waterston, of the British Museum, continued cooperation in identifying species of Chalcid flies. Clarence E. Mickel, St. Paul, Minn., has undertaken study of the collection of Oriental wasps of the family Mutillidae. Dr. M. W. Blackman, Syracuse, N. Y., identified all the bark beetles of the subfamily Micracinae, and many species of the genus *Pityophthorus*; Dr. J. M. Swaine identified material of the genus *Ips*. Dr. T. J. Psota identified many forms in the genus *Theodosia*, Dr. W. P. Funkhouser studied Membracidae from Mexico and Central America, and Drs. Carl J. Drake, Paul B. Lawson, H. B. Hungerford, and others identified many species in various groups.

The division of marine invertebrates, which includes in its collections more phyla than all the other divisions combined, is dependent on outside voluntary assistance more than any other, as the members of the Museum staff have specialized to a great extent in crustacea. For coelenterates, worms, and sponges especially it is necessary to appeal for outside help. The names of the specialists who have favored us during the present year are as follows: Dr. Henry Bigelow (Medusae, Ctenophora); Dr. H. Boschma (Rhizocephalids); Dr. L. R. Cary (Alcyonarians); Dr. R. V. Chamberlain (Annelids and Gephyrea); Dr. Henri Coutière (Crangonidae); Dr. Joseph A. Cushman (Foraminifera); Prof. G. S. Dodds (Fresh-water Entomostraca); Dr. A. G. Huntsman (Ascidians); Frits Johansen (Fresh-water Entomostraca); T. Kaburaki (Turbellaria); Dr. C. Dwight Marsh (Fresh-water Copepods); Dr. Maynard M. Metcalf (Salpa, Pyrosoma, Protozoa); Dr. J. Percy Moore (Leeches); Dr. Charles C. Nutting (Hydroids); Dr. Raymond C. Osburn (Bryozoa); Dr. Henry A. Pilsbry (Barnacles); Capt. F. A. Potts (Rhizocephalids); Prof. Frank Smith (Earthworms, fresh-water sponges); Miss Caroline E. Stringer (Turbellaria); Dr. W. M. Tattersall (Mysidacea); Dr. Aaron L. Treadwell (Annelids); Dr. C. B. Wilson (Parasitic and free-swimming marine copepods).

The curator of mollusks acknowledges the assistance of several of his students at the George Washington University. Mrs. Paul Bowman assisted in the anatomic study of Cerions and Zonitoides, Miss Harriet Bundick worked on Philippine Epitoniums, Miss Lucy Reardon on Philippine Acmaeas and Patellas, and Mrs. Mary Gibson on Philippine Neritinas. Several correspondents also have helped with identifications, as follows: Dr. Bryant Walker, Detroit, Mich., specimens from the Alabama drainage; Dr. Frank C. Baker, Uni-

versity of Illinois, fresh-water material; and Dr. V. Sterki, New Philadelphia, Ohio, a *Pisidium* from an old lake at Deep Springs, Calif.

In the division of echinoderms Miss Elizabeth Deichman, of Copenhagen, Denmark, continued studies of the collection of holothurians until the middle of May, and identified very nearly all of the undetermined material.

Prof. M. M. Metcalf, who as a member of the National Research Council spent the past winter in Washington, was given facilities for his work on the Opaline parasites of batrachians.

The National Herbarium has been used freely by members of the scientific staff of the Department of Agriculture. In particular, Dr. J. F. Blake devoted much time to the identification of recent material from South America, especially plants of the family Compositae, and Dr. C. V. Piper continued studies of certain tropical groups of the family Fabaceae.

RESEARCHES ELSEWHERE AIDED BY MUSEUM MATERIAL

Nothing better illustrates the scientific importance and value of the Museum collections than the number of investigators who in the pursuit of their studies come to the National Museum to examine its specimens and consult its staff and its libraries, or who borrow material to supplement their own, without which they could not hope to complete their investigations. The scientific staffs in the various departments in Washington are privileged visitors and it is unnecessary to enumerate the almost daily visits of investigators from the Bureaus of Biological Survey, Entomology, Plant Industry, Fisheries, Animal Industry, Geological Survey, and the Public Health Service.

Dr. William L. Strauss, jr., of Johns Hopkins University, made a study of the skeletons of the higher apes in their bearing on the problem of human evolution. Dr. Paul B. Johnson had access to collection of skulls for studies in comparative anatomy of mammals, and Samuel Shapiro, of George Washington University, examined the collection of primate skulls in a study of the molar cusps. Prof. Peter P. Sushkin, director of the Zoological Museum of the Russian Academy of Sciences, spent more than a month in the division of birds, examining the collections of raptorial birds, and passeriform skeletons. Dr. William R. Morse, of the University of Chentung, Szechwan, China, examined the collection of Chinese birds and received instruction in preparing study specimens of birds. Dr. Leon L. Gardner, United State Army, examined bird tongues during November and December, 1924, in connection with a paper he was preparing on the subject. Dr. Joseph Grinnell, director of

the Museum of Vertebrate Zoology, University of California, investigated certain western species of birds during a brief visit in November, 1924. A. C. Bent, Taunton, Mass., studied American birds and eggs on two or more visits. Other visiting ornithologists were: H. W. Brandt, Cleveland, Ohio; Bayard H. Christy, Sewickley, Pa.; Norman McClintock, Pittsburgh, Pa.; Dr. Henry K. Coale, Highland Park, Ill.; Owen J. Gromme, Milwaukee Public Museum, Milwaukee, Wis.; James R. Gillin, Ambler, Pa.; Dr. Francis Harper, Cornell University, Ithaca, N. Y.; A. S. Kibbe, Berkeley, Calif.; Dr. W. Koelz, Ann Arbor, Mich.; Dr. I. N. Noakes, Los Angeles, Calif.; Miss Marian J. Pellew, Aiken, S. C.; H. H. Rogers, Jacksonville, Fla.; Dr. L. C. Sanford, New Haven, Conn.; Charles Sheldon, Washington, D. C.; Perley Spaulding, Bureau of Plant Industry; L. H. Pennington, Syracuse, N. Y.; Mrs. B. B. Sturgis (wife of Gen. S. D. Sturgis, United States Army); J. A. Webber, Montclair, N. J.; Dr. James P. Chapin, American Museum of Natural History, New York City.

An unusual number of herpetologists visited the division of reptiles and batrachians for the purpose of study; thus, John P. Jones, University of Michigan, spent some time examining the entire series of the genus *Sceloporus*. A. Loveridge, of the Museum of Comparative Zoölogy, examined East African material; K. P. Schmidt, of the Field Museum of Natural History, some Chinese species, especially types recently described; Dr. F. N. Blanchard, Michigan Agricultural College, studied North American snakes in connection with his preparation of a "key" to their identification; P. Viosca, jr., New Orleans, examined North American species, and Mrs. H. T. Gaige, Zoological Museum of the University of Michigan, batrachians from Central America. Dr. Thomas Barbour and Dr. E. R. Dunn, during repeated visits, have examined respectively the series of *Anolis* and *Eleutherodactylus*.

Laboratory facilities and the privilege of examining type and other material in the division of fishes were extended to a number of ichthyologists, including Dr. A. W. Henn, of the Carnegie Museum, Frits Johansen, Ottawa, Canada, Prof. R. V. Truitt, University of Maryland, Prof. C. H. Eigenmann, Indiana State University, Dr. H. W. Fowler, Academy of Natural Sciences, and S. F. Hildebrand, C. J. Fish, and Walter Koelz, of the Bureau of Fisheries.

In connection with the meetings of the two national entomological societies held in Washington during the Christmas holidays, many visiting entomologists examined the collections in the division of insects. Among these visitors may be mentioned E. T. Cresson, jr., C. Howard Curran, of the Canadian Department of Agriculture, M. C. Van Duzee, H. C. Hockett, R. H. Painter, and F. M. Hull of

the Ohio State University. Miss Grace Sandhouse spent 10 days studying bees of the genus *Osmia*. The division of marine invertebrates, as in past years, has rendered assistance to members of the scientific staff of the Biological Survey in the identification of invertebrates; to the Zoological Division of the Bureau of Animal Industry in the classifying of invertebrate hosts of animal parasites; and to the Federal Horticultural Board in identifying invertebrates found associated with various plant importations. Dr. C. B. Wilson, specialist on parasitic and free-swimming copepods worked on collections of the latter in connection with a report he is preparing.

In the division of mollusks the following out of town visitors spent a short time in the study of specimens: William J. Clench, University of Michigan, Ann Arbor, Mich.; Dr. Carl C. Engberg, University of Nebraska, Lincoln, Nebr.; Herbert N. Lower, Long Beach, Calif.; Curtis A. Perry, Bridgton, Me.; Walter F. Webb, Rochester, N. Y.; Robert C. Miller, University of California, Berkeley, Calif.; J. L. Madden, Shinnston, W. Va. Dr. C. W. Cooke, Dr. W. P. Woodring, Dr. Julia A. Gardner, and W. C. Mansfield, of the United States Geological Survey, worked on Tertiary fossils and have constantly consulted the recent collections for comparison. In the section of corals Dr. J. Edward Hoffmeister, professor of zoology in the University of Rochester, N. Y., spent several months in the study of certain groups. Dr. H. Boschma, assistant in the zoological laboratory of the University of Leyden, Holland, a Nederland-American Foundation student, examined certain type material. Dr. T. Wayland Vaughan spent several days studying corals in the Museum during the week of the meeting of the National Academy of Sciences. In the section of helminths Miss Eloise B. Cram prepared "Nematods of the suborders Strongylata, Ascaridata and Spirurata (exclusive of Filarioidea) parasitic in Birds" and submitted the manuscript to George Washington University as a thesis in part fulfilment for the degree of doctor of philosophy. Reference has already been made to Miss Deichmann's studies on holothurians, in the division of echinoderms.

A large number of professional botanists,, most of them interested in herbarium management and studies of the local flora, visited the herbarium during the year. Those who prosecuted investigations in the herbarium, are as follows: Dr. O. Stapf, late keeper of the herbarium, Royal Botanic Gardens, Kew, England (several genera of grasses); Maj. T. F. Chipp, assistant director, Royal Botanic Gardens, Kew (grasses); Dr. Hugo Glück, University of Heidelberg, Heidelberg, Germany (morphology of water plants and swamp plants); Dr. I. H. Burkill, formerly director of the Botanic Garden, Singapore (Dioscorea); Dr. I. B. Pole-Evans, Chief, Division of Botany, Department of Agriculture, Pretoria, Union

of South Africa (grasses); Prof. Yasutaro Yendo, Uyeda Silk Technical College, Uyeda, Japan (the genus *Morus*, in connection with silk worm culture); Prof. William S. Cooper, University of Minnesota, Minneapolis, Minn. (coastal flora of California); E. E. Watson, Michigan Agricultural College, East Lansing, Mich. (monographic study of the genus *Helianthus*); Prof. L. H. Bailey, Ithaca, N. Y., (flora of Venezuela); Prof. Arthur F. Camp, Gainesville, Florida (cotton); Prof. R. E. Coker, University of North Carolina, Chapel Hill, N. C. (gasteromycetes); Dr. M. O. Malte, chief botanist, National Herbarium of Canada, Ottawa, Canada (grasses and ferns); Dr. H. A. Gleason, assistant director, New York Botanical Garden, Bronx Park, New York City (flora of northern South America); C. C. Deam, Bluffton, Ind. (flora of Indiana); Ivan M. Johnston, Gray Herbarium, Cambridge, Mass. (flora of northern South America); Prof. H. M. Hall, University of California, Berkeley, Calif. (compositae of the western United States); Dr. P. A. Rydberg, New York Botanical Garden (leguminosae of North America); Prof. J. J. Thornber, University of Arizona, Tucson, Ariz. (grasses of Arizona); Prof. Bruce Fink, Miami University, Oxford, Ohio (lichens of North America); Dr. Philip A. Munz, Pomona College, Claremont, Calif. (flora of southern California); Prof. B. C. Tharp, University of Texas, Austin, Tex. (flora of Texas); Prof. F. J. Crider, director, Boyce Thompson Southwestern Arboretum, Superior, Ariz. (Cactaceae and other plants of the southwestern United States); Dr. Arthur Hollick, New York Botanical Garden, and Dr. E. W. Berry, Johns Hopkins University, Baltimore, Md. (in connection with their studies of fossil plants).

One of the most fruitful forms of cooperation with outside institutions and investigators is the loan of museum material. The wealth of the national collections is such that few comprehensive studies can be carried out without material assistance from its treasures. As pointed out before, the National Museum is often greatly benefited by such loans, but the stimulus and aid derived by American zoologists and botanists can hardly be overestimated. The appended bibliography, showing the number of articles and memoirs on the collections bears ample testimony to the truth of this assertion. The following list indicates briefly the extent of loans during the year. Mammal skins and skulls were loaned to the American Museum of Natural History, New York, for the benefit of H. E. Anthony and Childs Frick; Field Museum of Natural History, Chicago, for W. H. Osgood; Museum of Comparative Zoölogy, for G. M. Allen; leg and foot of gorilla to Wm. L. Strauss, jr., and a chimpanzee in alcohol to Dr. A. H. Schultz, both of the Carnegie Laboratory of Embryology, Johns Hopkins Medical School. Birds

were sent to the American Museum of Natural History, New York, for the use of Dr. F. M. Chapman, Dr. James P. Chapin, W. deW. Miller, and L. Griscom in their studies of South American, African, and Nicaraguan birds, respectively; to the Field Museum of Natural History, for Dr. C. E. Hellmayr, Museum of Comparative Zoölogy for F. H. Kenard, Dr. J. C. Phillips, Dr. A. O. Gross, and James L. Peters; Museum of Vertebrate Zoology, Berkeley, 26 skins of *Lagopus rupestris* for the benefit of H. S. Swarth, and other birds to Allan Brooks, Okanogan, British Columbia, and D. R. Dickey, Pasadena, Calif. Eight skeletons of turkeys were sent to the Los Angeles Museum of History, Science and Art. Reptiles and amphibians were loaned to the Zoological Museum of the University of Michigan to be studied by Dr. A. Ruthven, Mrs. H. T. Gaige, and J. P. Jones; to Dr. Thomas Barbour, Museum of Comparative Zoölogy; A. I. Ortenburger, University of Oklahoma; Dr. E. R. Dunn, Smiths College; Dr. K. P. Schmidt, Field Museum of Natural History, Chicago; L. E. Wyman, Los Angeles, Calif., and L. M. Klauber, San Diego, Calif. Ten salmonoid fishes were lent to the Carnegie Museum, Pittsburgh, Pa., and 15 liparid fishes to A. E. Parr, Norwegian Fisheries Administration, Bergen, Norway, in connection with studies of arctic liparids.

Of insects 12,421 specimens were sent out for study and identification by outside entomologists. The recipients embrace the leading institutions and specialists in this country and Hawaii besides correspondents in France, Germany, Italy, and Canada. Numerous lots of marine invertebrates were lent to investigators at home and abroad. Thus there were sent to Prof. John H. Ashworth, University of Edinburgh, Scotland, 8 lots of Arenicola for examination in connection with his studies on this group of annelid worms; arctic medusae to Dr. H. B. Bigelow, and arctic sipunculids to Dr. R. V. Chamberlain, both of the Museum of Comparative Zoölogy; additional arctic marine invertebrate material to Dr. A. G. Huntsman, University of Toronto, and to Prof. Chancey Juday, University of Wisconsin; to Dr. H. Boschma, University of Leiden, Holland, 100 lots, 193 specimens, of Rhizocephalids from various localities for study in connection with a monograph on the group; to Dr. H. Lohmander, Lund, Sweden, 30 specimens of isopod crustaceans for study in connection with his monograph of the north and middle European Trichoniscidae; to Dr. T. Odhner, Swedish National Museum, Stockholm, crabs for study in connection with a monograph of the family Xanthidae; to Prof. G. O. Sars, University at Oslo, Norway, 50 specimens from Utah to assist in his studies on the development of *Artemia*; 257 lots of larval crustacea from the New England coast to Dr. C. J. Fish, United States Bureau of Fisheries, Woods Hole, Mass., for study. The division of mollusks

sent numerous lots of Physas to Dr. Frank C. Baker, University of Illinois, for examination in connection with a report on the genus. A few land shells were also loaned to Dr. H. A. Pilsbry, Academy of Natural Sciences, to be figured. Several ophiurans and crinoids were loaned to Dr. T. Gisten, University of Upsala, Sweden, for examination in connection with studies of Scandinavian echinoderms.

The number of plant specimens lent to institutions or to individuals outside of Washington during the past year was 16,566 comprised in 100 lots, more than twice the number sent out during any previous year. The more important sendings were as follows: Arnold Arboretum and the Gray Herbarium, Harvard University, 6,638 and 722 specimens respectively; University of California, 1,390, mostly from the Philippine Islands; New York Botanical Garden, Bronx Park, 1,018; Botanical Garden and Museum, Berlin, Germany, 895; A. K. Schindler, Jueterbog, Berlin, Germany, 616 specimens of *Meibomia* and related genera; Oakes Ames, Boston, Mass., 507 orchids; Royal Botanical Gardens, Kew, England, 427 specimens; Academy of Natural Sciences, Philadelphia, Pa., 356; Natural History Museum, Vienna, Austria, 275; Botanical Museum of the University, Copenhagen, Denmark, 244 specimens.

DISTRIBUTION AND EXCHANGE OF SPECIMENS

Duplicates distributed to high schools, colleges, and other similar institutions, aggregated 1,376, of which 745 consisted of mollusks in 5 prepared sets and one set of fishes of 77 specimens.

Exchanges to the number of 15,904 were sent out, of which 1,969 were zoological specimens. Of the 13,935 plants thus distributed, exchanges of 1,000 specimens and over were sent to the Arnold Arboretum, the Botanical Museum, University, Copenhagen, the Royal Botanic Garden, Edinburgh, and the Royal Botanic Gardens, Kew, England.

TOTAL NUMBER OF SPECIMENS IN DEPARTMENT OF BIOLOGY, INCLUDING DUPLICATE SPECIMENS

As explained in previous reports, the number of specimens can not be given with absolute exactness, because it would be a physical impossibility to accomplish a count at the present time. The figures cited are from counts previously taken to which there are added the annual increments, and deducted the annual distribution or loss of specimens due to initial defective preparation or other causes. It is believed that the census is well within the limits of the actual number of specimens on exhibition or contained in the study series

of the various divisions. The number of specimens in the helminthological collection has not been ascertained and the number of plants given below does not include unmounted material, or the lower cryptograms.

Division :

Mammals	81, 616
Bird skins	228, 118
alcoholics.....	7, 305
skeletons	8, 757
eggs.....	81, 167
	<hr/>
	325, 347
Reptiles and amphibians.....	79, 366
Fishes.....	688, 636
Insects	2, 494, 330
Marine invertebrates	734, 527
Mollusks.....	1, 566, 508
Echinoderms	151, 555
Plants	1, 223, 400
	<hr/>
Total.....	7, 345, 285

REPORT ON THE DEPARTMENT OF GEOLOGY

By GEORGE P. MERRILL, *Head Curator*

The department records show a decided decrease in both amount and value of material received during the past year, as compared with the year previous. It must not be overlooked, however, that 1923-24 was exceptional in that the acquisitions included a large dinosaur skeleton and two extensive collections of invertebrate fossils. Reference to reports previous to 1923-24 shows that the present year is probably about up to the average.

The most satisfactory additions to the collections were those made by our own force, notwithstanding the small amount of field work that it has been possible to carry on under Museum auspices. The advantage of having the collecting done by those in close touch with the department can not be overestimated, and it is not too much to say that the present chronic condition of poverty in funds is deplorable.

Progress in caring for materials received has been fairly satisfactory, and research work, to some extent, has been continued.

Accessions.—The accessions for 1923-24 numbered 227 with an estimated total of 159,921 specimens; those of the present year are tabulated below.

Divisions	Accessions	Specimens
Geology, systematic and applied.....	38	961
Mineralogy and petrology.....	59	696
Stratigraphic paleontology:		
Invertebrate paleontology.....	48	77, 581
Paleobotany.....	8	272
Vertebrate paleontology.....	45	164
Total.....	198	79, 674

These figures represent permanent acquisitions and are exclusive of duplicates.

Among the more notable of these accessions is a series of unusual forms of stalactites and stalagmites from the Carlsbad Caverns, in New Mexico. These were collected by Dr. Willis T. Lee under the auspices of the National Geographic Society, by whom the entire collection, supplemented by a number of enlarged photographic

views, was presented to the National Museum. They are undoubtedly the best and most attractive additions to the collections of physical geology received during the year.

The most important materials in point of number and desirability in the field of applied geology were secured by Assistant Curator Foshag while on detail with a United States Geological Survey party. In addition to a large amount of mineralogical material noted elsewhere, his collections included ores needed to fill out the series.

Among other accessions the following may be noted: From the White Caps Mining Co., Tonopah, Nev., through John J. Kirchen, president, a large specimen of very well crystallized stibnite superior in quality to anything heretofore received from an American locality. From the Mar-John Mining Co., Sheepranch, Calif., through Frank L. Hess, a large mass of cobalt ore. Mr. Hess was also influential in obtaining from A. J. Richards, Albany, Wyo., as an exchange, two large masses of the rare silicate allanite which, while not striking in the rough form, were made very attractive by polishing. J. E. McKeever, Castleton, Utah, contributed a large exhibition specimen of vanadium ore consisting of carnotite and hewettite in sandstone, from Polar Mesa, Utah. C. M. Snyder forwarded a specimen of bismuth-silver-gold ore from the Missouri mine, Halls Valley mining district, Colo., and A. E. Heighway added to the series of arsenic ores a specimen of arsenopyrite from Vermont. The most notable accession from a foreign locality is a gold ore from the Passagem mine, Minas Geraes, Brazil, received from Capt. Hugh Barclay of the American Embassy at Rio de Janeiro. With the one exception noted as an exchange, these are all recorded as gifts.

Several objects of onyx marble (travertine), including a stand for drop light, jewel box, paper weight, marbles, and balls for automobile gear shift levers have been presented by the Yavapai Onyx Mining Corporation, Dubuque, Iowa, and the California Agate Co., Huntington Park, Calif. These illustrate new uses for a well known stone.

As usual, several sets of specimens illustrative of reports by members of the United States Geological Survey were officially transferred by that institution for permanent preservation. These included collections illustrating a monographic report on the Leadville district, Colo., not yet published; a collection of rocks and ores from the Manhattan district, Nev., illustrative of Bulletin 723, by H. G. Ferguson; a collection of rock and ore specimens illustrating a report on the Saddle Mountain and Banner mining districts of Arizona; miscellaneous collections including diamond-bearing peridotite, minerals from the De Queen, Caddo Gap, and Hot Springs

quadrangles, and the Batesville manganese district of Arkansas; and analyzed potash salt samples from the Means well, Loving County, Tex.

A large block of Quincy granite with a vein of pegmatite was acquired by purchase.

Chiefly through exchanges a number of additions have been made to the meteorite collection. From Harvard University were obtained examples of the Cynthiana, Ky., stone; Coahuila, Mex., and New Baltimore, Pa., irons. From Prof. H. H. Nininger, McPherson, Kans., were acquired portions of two individuals of the Brenham stony iron, and slices of the Ivanpah, Chilkoot Inlet, and Tucson (Carleton) irons. The British Museum (Natural History) furnished seven irons, La Primitiva, Chinautla, Barranca Blanca, Tamarugal, Nedagolla, Kenton County, and Smithville. Two examples of the Olivenza, Spain, stone were obtained from C. Wendler, Geneva; and Ward's Natural Science Establishment furnished a small piece of the Russell Gulch iron. A 490-gram specimen of the interesting stone which fell near Johnstown, Weld County, Colo., in July, 1924, was secured by purchase. The above are all of moderate size and, while important from a scientific standpoint, add little to the exhibition series. An interesting example of synthetic nickel-iron alloy containing 11.9 per cent nickel, was received as an exchange from Dr. Carl Benedicks, Stockholm, Sweden.

Col. Washington A. Roebling, of Trenton, N. J., is credited with six gifts comprising 51 specimens of minerals, acquired chiefly through the fund deposited by him for the purchase of new material. A group of axinite crystals from California, which are thought to be the largest crystals of this mineral yet found, is probably the most noteworthy of these, but an interesting garnet of the spessartite variety, also from California; a large crystal of columbite from the Etta mine, Keystone, S. Dak.; a number of exceptional specimens of Franklin Furnace minerals; and rare species from Norway, Sweden, and other foreign localities, have added materially to both exhibition and study series.

The department is indebted to Alpheus F. Williams, general manager of the De Beers Consolidated Mines, Kimberley, for a crystal of the new mineral *afwillite*, a hydrous calcium silicate, discovered by the donor in the Dutoitspan mine and described by John Parry and F. E. Wright in the *Mineralogical Magazine* for March, 1925. Up to the present time less than a pound of this mineral has been found, and the Museum is fortunate in having a representative in its collection.

Some fine minerals for the exhibition series were furnished through Frank L. Hess, honorary custodian, the most notable being a group of large wulfenite crystals from the mines of the Ahumada Mining

Co., Mexico. These are so unusual in character that an expedition to the mine to procure additional material is tentatively planned. Mr. Hess was also instrumental in securing a large mass of pink muscovite with amblygonite, which is recorded as a gift from H. E. Spradlin, Harding, N. Mex.

Victor C. Heikes, of the United States Geological Survey, located at Salt Lake City, has shown his continued interest by forwarding, or having forwarded, crystals of miargyrite, bournonite, and other minerals, and Jack Hyland, Pazna, Bolivia, has added rare Bolivian minerals, including teallite and plumbostannite. Two interesting geodes of chalcedony, filled with water, were presented by Madame J. Varela, of the Uruguayan legation, and the Maine Feldspar Co., Auburn, Me., donated a large scepter quartz crystal.

Through the interest of Worcester R. Warner, of Tarrytown, N. Y., and by the courtesy of the Fukushima Co. (Inc.) of New York City, the division has had the privilege of exhibiting an object of unusual interest. This is a crystal ball, perfect in its purity, and said to be the largest known to exist in the world. It weighs 107 pounds and is $12\frac{3}{4}$ inches in diameter. The block from which it was carved is believed to have been mined in Burma and is said to have weighed 1,000 pounds, more or less. It was carved in China and polished in Japan, the entire process requiring some 18 months for completion. It is a wonderful specimen of oriental craftsmanship and has attracted much attention among visitors.

Assistant Curator Foshag, under conditions noted elsewhere, made extensive collections of minerals in Nevada. While on annual leave in California, he made further collections which he presented to the Museum. The former included fine crystallized powellite, rich masses of bindheimite, and natrojarosite; the latter, riversideite and associated minerals from Riverside. Details for short trips in Maryland and Virginia resulted in material of petrologic interest, chiefly minerals and large rock specimens illustrating pegmatites. Feldspar and mica from the quarries of the Maine Feldspar Co., Topsham, and gneiss from Sheepscot Bay, Me., were collected by the head curator in quantity for the preparation of school sets.

Continuation of our exchange account with Harvard University yielded a fine mass of native lead, a group of apatite crystals from Maine, rare Swedish minerals, an unusual specimen of pyrite and chalcopyrite, and a part of the type of a new mineral—*chalcoalumite*. From C. Wendler, Geneva, Switzerland, were acquired two rare minerals new to the collections; a number of desired species were received from the British Museum (Natural History) and others from the Canadian Geological Survey, while the Royal Ontario Museum of Mineralogy, Toronto, furnished unusually fine Canadian min-

erals and ores, all on an exchange basis. Particular mention should be made of two fine polished slabs of silver ore showing native silver, and one of rammelsbergite and silver of exceptional size and purity, included in the last-named lot.

Transfers from the United States Geological Survey included type specimens described and illustrated in publications of that organization and a large amount of miscellaneous material collected chiefly by Dr. W. T. Schaller.

Four minerals new to the collection were acquired by purchase.

Miss Moodey reports the following additions to the collection of gems under her charge. These are chiefly credited to the Chamberlain Fund, and comprise an unusually perfect star sapphire, weighing 33.77 carats; a chrysoberyl, weighing 46.32 carats; three large cut stones of Australian opal of varieties of coloring previously unrepresented; a carved pendant of lapis-lazuli; two peridots of large size and beautiful color; a string of turquoise beads made by the Navajo Indians; and a string of agate beads. Individual gifts to the collection are a pale yellow sapphire presented by W. H. Wright, Washington, D. C., and pins of coral, mosaic, and inlay, donated by Mrs. Charles D. Walcott. A. E. Heighway, Alexandria, Va., loaned a number of rough and cut sapphires.

Additions to the petrological collections consisted chiefly of rocks which were relegated to the duplicates.

Approximately 40,000 specimens of invertebrate fossils, representing the results of Secretary Walcott's field work for the seasons 1921 to 1924, inclusive, constitute the most valuable accession to the division of stratigraphic paleontology. These illustrate particularly the stratigraphy of the Cambrian and Ozarkian formations of the northern Rocky Mountain region, and are admirably supplemented by collections made under a grant from the National Academy of Sciences by Associate Curator Resser in the more southern regions. Of especial importance in the latter is the most complete example of a Cambrian crinoid thus far discovered.

Next in importance is a collection of Upper Cambrian fossils from Wisconsin obtained by Dr. E. O. Ulrich for the purpose of solving certain questions in the Cambrian stratigraphy of the northern States.

Curator R. S. Bassler during his vacation was engaged in a study of the Upper Paleozoic rocks of Kentucky and Tennessee. About 1,000 specimens of crinoids and other Mississippi fossils from northern Tennessee were collected during the course of this work. Collections made by Erwin R. Pohl, aid in paleobotany, in eastern New York enriched the stratigraphic series of Ordovician fossils.

Among the gifts deserving of special mention is a collection of more than 5,000 specimens of Cretaceous and Tertiary invertebrates

from the west coast of Africa, donated by Chester W. Washburne, New York City. A further addition to the Cretaceous collections consisted of approximately 700 specimens from the Island of Rugen, gift of Ehrhard Voigt, Dessau, Germany, while the Tertiary collections were enriched by 500 specimens of Pliocene fossils from Suffolk, England, donated by Prof. P. G. H. Boswell, of Liverpool. Other gifts of foreign material include 150 specimens from Nova Zembla selected from the material secured by the Norwegian expedition of 1921 and described by Secretary Walcott and Doctor Resser; a collection of fossil insects from the Tertiary of Argentina, received from George L. Harrington, Buenos Aires; and a small collection of invertebrates from the Tertiary rocks of Sakhalin Island, presented by Prof. T. D. A. Cockerell.

By bequest of Col. Thomas L. Casey, Washington, the series of Tertiary invertebrates was increased by several thousand specimens from the classic localities at Vicksburg, Jackson, and Claiborne, Miss., including types described by the donor.

Casts representing 425 type specimens of rare early Paleozoic fossils from North Greenland and Nova Zembla were made in the paleontological laboratory by Dr. C. E. Resser, through the courtesy of Dr. Laue Koch and Dr. Olaf Holtedahl.

The geological and geographical range of the study series was considerably extended through exchanges which included invertebrates from the Carboniferous, Chalk, and London Clay of England, and the Tertiary of Florida, France, and Nigeria. These were received from the British Museum (Natural History); Arthur G. Davis, London; the Royal School of Mines, South Kensington; and the Florida State Geological Survey.

Purchases comprised 500 specimens of miscellaneous fossils from the Ordovician and Silurian, and 25 echinoderms from the Cretaceous of Germany.

The notable accessions of paleobotanical material are composed entirely of type specimens. The Miocene plants from the Latah formation near Spokane, Wash., described by Dr. F. H. Knowlton, were in part presented by the Spokane Public Museum and in part transferred by the United States Geological Survey, and Prof. E. W. Berry of Johns Hopkins University donated his types of plants from the Pleistocene of Trinidad and the Cretaceous of Henry County, Tenn.

The most notable accession to the vertebrate collections is the large series of slabs containing tracks of extinct animals collected by C. W. Gilmore, under the auspices of the National Park Service, from the Coconino sandstone of the Hermit Trail, Grand Canyon National Park, Ariz. These tracks are of unusual interest, not only

on account of the fine preservation of the markings, but also for the number of new forms represented. As a whole, the collection constitutes the largest and most comprehensive series of Permian footprints known in North America. It has been admirably supplemented by a smaller collection made by Dr. John C. Merriam from the same locality and presented by the Carnegie Institution of Washington. Mention should also be made of two very large dinosaurian tracks from the Mesa Verde formation at Clear Creek, Utah, transferred by the United States Geological Survey. Their large size (30 by 31 inches) and the fact of their being the first dinosaurian imprints to be received from the Rocky Mountain region makes them of decided value.

An important collection of Pleistocene mammals from near Melbourne, Fla., donated by C. P. Singleton, contains the greater part of a skull, lower jaws, and partial skeleton of the Florida mastodon, and several good jaws and teeth of smaller mammals. This material was secured by Dr. J. W. Gidley while making investigations in Florida under the auspices of the Bureau of Ethnology. A second, though small collection of Pleistocene mammals from Erupcion mine, Chihuahua, Mex., was donated by Mrs. Bruce D. Smith, of El Paso, Tex.

Three large, beautifully preserved fossil turtles from the Upper Cretaceous of New Mexico were acquired from Ward's Natural Science Establishment by exchange. These represent the genera *Baena*, *Basilemys*, and *Adocus*. At least one new species is present and the *Basilemys* is the first adequate representative of that genus secured for the national collections.

Other exchanges added a number of casts to the collection. From the South African Museum, at Cape Town, were received casts of the types of the batrachian, *Batrachosuchus browni* Broom, and of the reptiles *Dicymodon kolbei* Broom and *Struthiocephelus whaitsi* Haughton; from the American Museum of Natural History, casts of skulls of *Andrewsarchos* and *Proamphycyon*, and of three dinosaur eggs. The last, on account of the publicity given the originals, are especially interesting exhibits.

The collection of fossil cetaceans has been materially enriched by the acquisition of several important specimens, the most noteworthy of these being two skulls of sperm whales, one nearly complete, the other smaller and disarticulated, presented by Charles Morrice, Bakersfield, Calif., to whom the Museum is further indebted for small lots of less important fossils sent in from time to time during the past year. The most perfect skull has been selected by Remington Kellogg as the type of a new species. Mention should also be made of the deposit by Earl Sloan, Charleston, S. C., of the type

specimen of *Xenorophus sloani* Kellogg, a beautifully preserved skull. In addition, various cetacean and sirenian bones from the Sooke formation, British Columbia, were presented by Ira E. Cornwall, Gordon Downes, and Rev. Robert Connell. These are important in being the only cetacean remains thus far found in the Oligocene of North America.

Dr. David Starr Jordan, Stanford University, Calif., presented remains of fish and other vertebrates from the Miocene deposits at Lompoc, and a specimen, apparently representing a new fossil species of ground squirrel, from Alaska, was contributed by Mike Myntti.

By purchase, were obtained a skull and lower jaws of a fossil horse; a collection of fossil fishes from Chaleur Bay, Quebec, Canada; and a skull of an extinct rodent from a cave in Porto Rico.

Explorations.—As noted previously in this report, important material was secured by members of the staff, although no major expeditions were undertaken under Museum auspices.

During the latter part of the last fiscal year and the early months of the present, Assistant Curator Foshag was engaged, in cooperation with one of the United States Geological Survey field parties in mapping the Hawthorne quadrangle in western Nevada. During his special study of the mineralogy and ore deposits of the area, opportunity was afforded for making collections; for visiting various mines; and for making the acquaintance of mine owners and collectors in the region, from all of which the Museum has benefited, and, it is hoped, will benefit further in the future. Following this work, and while in California on leave, Doctor Foshag collected a series of minerals from near Riverside, Calif., which he presented to the Museum.

Several short trips were made by Mr. Shannon to various mines and quarries in Maryland in cooperation with the Maryland Geological Survey in continuance of the work of preparing a report on the mineralogy of that State. Through a similar arrangement with the Geological and Natural History Survey of Connecticut three weeks were spent in a collecting trip in that State and some 350 specimens obtained.

Details were granted to Doctor Foshag and Mr. Shannon at various times for collecting in Maryland and Virginia, where materials of mineralogical and petrological interest were obtained as well as a quantity of rocks with their weathered products for use in the preparation of school sets illustrating rock weathering and the formation of soils.

The head curator while in Maine on his vacation last summer made brief trips, whence materials noted in the accessions were obtained.

In May Doctor Foshag was detailed to attend an exhibition of minerals by Ward's Natural Science Establishment held in New York City with a view to securing desirable specimens and also to study Colonel Roebling's collection at Trenton and make a trip to the Franklin Furnace region in search of rare minerals. Such as were obtained were purchased by the Roebling Fund.

Aided by grants from the O. C. Marsh and Joseph Henry endowment funds of the National Academy of Sciences, Secretary Walcott continued field work in the Canadian Rockies of western Alberta for the purpose of completing his reconnaissance of the pre-Devonian formations north of Bow Valley. Notwithstanding a most unfavorable field season, fossils were obtained from typical localities and a number of stratigraphic sections measured. The main objective of Doctor Walcott's work was to determine the correct geological horizon of the Lyell limestone. Many attempts to do this during the past six years resulted in failure, and it began to appear that these thick, coarse magnesian limestone beds were barren of fossils. In measuring geologic sections in the Tilted Mountain area interbedded bluish-gray layers with fragments of Upper Cambrian trilobites were at last found. The lowest horizon was rich in forms closely related to those of the Franconia formation, while the upper furnished types similar to those in the St. Lawrence member of the Trempealeau formation.

During August and September of 1924, Dr. Charles E. Resser continued his field explorations of the Cambrian and associated formations in the Rocky Mountains, financed partly by a grant from the National Academy of Sciences. Beginning at Colorado Springs, where the Lower Paleozoic beds along the Rocky Mountain front were studied and excellent collections of Ozarkian fossils obtained, work was continued in Logan Canyon, Utah, and extended to the Cooke City ranger station at the extreme northeastern corner of Yellowstone National Park. Cambrian fossils were secured at various points, the most interesting specimen of all being the entire Cambrian crinoid already mentioned, which was found in the Cooke City region. After a brief trip to the south end of Gallatin Range, work was continued in the Teton Mountains. The latter part of the season was spent in various parts of the Wasatch Range to determine the stratigraphic position of the beds from which some of the earliest collections of fossils were made by exploring parties sent out previous to the settlement of the country.

Curator Bassler spent his vacation in the Cumberland River district of Northern Tennessee, where, under the joint auspices of the Geological Survey of Tennessee and the National Museum, he studied the geology of the Lillydale and contiguous quadrangles, and

at the same time made collections of Mississippian fossils. Abundant faunas of crinoids were discovered, many of the species being new.

Dr. E. O. Ulrich spent a part of the field season in further studies of the Upper Cambrian and Ozarkian systems of Missouri and Wisconsin. The object of his work was to secure data toward the solution of certain stratigraphic problems. Late in the year, accompanied by Doctor Resser and in cooperation with the geological department of Princeton University, he started on a three months' field trip through various countries of Europe. The efforts of the party are to be directed mainly to a study of the Cambrian and Ordovician systems.

Erwin R. Pohl was detailed for a short time to make collections from the celebrated Rysedorph conglomerate of eastern New York. A good series of fossils resulted from this work.

In cooperation with the National Park Service, C. W. Gilmore visited the Grand Canyon National Park, Ariz., for the purpose of accompanying the Doheny scientific expedition as a scientific observer, to investigate and make collections of fossil tracks exposed in the Coconino sandstone on the Hermit Trail, and at the same time to prepare an exhibit of the tracks *in situ* by the side of the trail. Two weeks were spent in Havasupai Canyon with the Doheny expedition which, under the leadership of Samuel Hubbard, was engaged in the investigation of certain evidence relating to the early appearance in this region of prehistoric man. Upon the disbandment of the Doheny party, Mr. Gilmore returned to Grand Canyon where he spent two weeks at the footprint locality. A series of slabs, some 2,000 pounds in weight, were collected and shipped to the Museum. Under instructions from the director of the National Park, slabs were shipped to other museums and two placed in the museum at the Administrative Building at Grand Canyon. Several hundred feet of track-covered surface were cleared off, leaving a permanent exhibit near the trail. Preliminary study of the tracks has developed the fact that, in the absence of other fossil criteria, these imprints will probably furnish important correlative evidence.

In December, 1924, Dr. J. W. Gidley was detailed to visit the region around Melbourne, Fla. His work was undertaken in cooperation with the Bureau of Ethnology, and since the details belong more properly in that branch, they will not be given here except to state that he was enabled to meet local collectors and secured an interesting collection of fossil mammals. Later he was similarly detailed to visit Adel, Iowa, for the purpose of studying the geology of a formation in which had been found certain human artifacts. Late in the fiscal year he was again detailed to work in

cooperation with the Amherst expedition led by Prof. F. B. Loomis, to make further investigations of the Pleistocene deposits of Florida.

Norman Boss, continuing the practice of previous years, made several short trips to the Miocene deposits along Chesapeake Bay.

Preservation, installation, and present condition of the collections.—Few changes are to be noted in the exhibition halls. Chief among installations is an attractive addition to the exhibit of cave materials made possible by the acquisition of the collection from the Carlsbad Caverns, N. Mex., mentioned elsewhere. A series of enlarged photographs of views in the caverns supplements the specimens, the whole forming an exhibit which has attracted much attention. Publicity was given the collection by a series of lectures delivered by Dr. Willis T. Lee, who was in charge of the National Geographic Society's exploration of the caverns in the summer of 1924. The Museum is under obligations to both Doctor Lee and the National Geographic Society for material and photographs.

In this same hall of physical geology, a large polished block of Quincy granite with a vein of pegmatite forms an instructive object.

The exhibits in this division have for some time been in need of a general rearrangement and cleaning. Work to this end was begun early in the spring. Cases and specimens were thoroughly cleaned, the entire exhibit rearranged, much in the way of duplicates eliminated, and new material incorporated. This work was carried out largely by Miss Moodey assisted by James Benn and the necessary laborers, approximately six weeks being thus occupied.

Three new cases containing some of the choice specimens of the Teller collection have been installed in the section devoted to invertebrate fossils. This exhibit contains particularly good series of cephalopods, trilobites, and corals from the Silurian and Devonian rocks of the northern States in which the collection excelled. A few choice specimens were introduced into the paleobotanical exhibits, and rearrangement and cleaning of the collections also consumed a considerable amount of time.

A small pedestal case in which are exhibited casts of the dinosaur eggs from Mongolia secured by the American Museum's expedition, and an articulated cast of the large Rancho la Brea carnivorous bird, *Tetraornis*, are the only additions to the fossil vertebrate exhibits. Enlarged photographs showing important fossil localities, are in preparation for hanging on the east wall.

The large crystal ball noted among the accessions has been placed in the center of the mineral hall surrounded by a circular railing to avert danger from jarring or handling by the curious. This installation is only temporary awaiting the construction of a more fitting case. The exhibit of recently accessioned material has been

completely rearranged in order to make room for the more noteworthy of the year's acquisitions, and the systematic series of minerals largely cleaned and rearranged. A few minor changes were made in the gem collection.

In stratigraphic paleontology more time than usual has been spent on the study series. The classification and arrangement of the Edgar E. Teller collection was given first consideration, but it was found necessary to discontinue work on this, while still far from complete, in order to take up a rearrangement of other collections made possible by a more logical placement of certain Tertiary and Recent material heretofore stored in the division, and by the installation of a number of 6-foot cases in the corridors. This great shift gave opportunity for a general condensation and reduction, much worthless and duplicate material being eliminated. Part of the space gained has been used to house the Cambrian collections transferred by Secretary Walcott, and part the Mesozoic collections.

Work on the paleobotanical collections is going forward as rapidly as possible. All duplicate specimens of "Coal Measures" plants have been segregated and several hundred trays of pre-Cambrian algae arranged and removed from the attic, thereby lightening the weight on the upper floor of the building very considerably. In order to systematize the arrangement of the fossil plants, the separation of the duplicates from the study series of the Mesozoic and Cenozoic collections was begun, a task, however, which will occupy some months. Many of the collections stored in the attic have been cleaned and considerably reduced under the direct supervision of Dr. F. H. Knowlton. As time permitted, the work of preparing the large collection of Devonian and Mississippian black shales, which are yielding many interesting plant and animal remains, was continued. Routine, particularly the preparation of large exchanges, has occupied an unusual amount of the time of all members of the staff in the division of stratigraphic paleontology. Doctor Stanton and Doctor Dall have cared for the Mesozoic and Cenozoic collections as usual.

Practically all the energies of the preparatory force in vertebrate paleontology have been devoted to the preparation of the *Diplodocus* skeleton from the Dinosaur National Monument. Although the work advances slowly, due to the refractory nature of the matrix, good progress can be reported. The tail, comprising 32 vertebrae, with a combined length of about 30 feet, has been completely freed from the sandstone, as have all of the ribs, limb, foot, and pelvic bones. Of the total of 35 boxes shipped 21 have been opened and the contents of 19 completely worked up.

Remington Kellogg has continued to assist in the systematic arrangement of the fossil cetacean collection. It seems pertinent

to state that the division now has the largest and best preserved collection of fossil cetaceans ever assembled in an American institution, and its steady growth from year to year promises not only to maintain that distinction but to place it in a still higher position.

Doctor Gidley has completely overhauled the collection of mammalian material from the Cumberland Cave and rearranged it according to biological groups. A few remaining important specimens of this lot were cleaned for study. About 50 specimens of Pleistocene fossils from Melbourne, Fla., have been identified and catalogued.

The study collections in applied geology and mineralogy have required but little attention during the year. All new materials have been catalogued, numbered, and filed away. A general checking and rearrangement of the Shepard collection of minerals is now under way. This, it may be recalled, is held together for the present as a separate collection.

Miss Margaret Moodey has been occupied as usual in looking after the records, assisting with exhibition work and in the care of the study collections, revising manuscript, and proofreading. A beginning was made in segregating the types in the Orestes St. John collection of fossil fishes preparatory to cataloguing, but it was found necessary to defer the completion of this work until the coming year. James Benn, scientific helper, has assisted in the care of the collections, and Harry Warner, preparator, has continued his usual work of cutting and polishing specimens and preparing thin sections for study.

The collections in all divisions are reported as in good condition. As mentioned in previous years, the exhibits must now remain practically at a standstill unless money becomes available for exploration or purchase of desirable objects. The Chamberlain endowment permits additions to the gem collection, which is growing in value and attractiveness, and a number of new minerals, chiefly of value as study specimens, were purchased with money provided by Col. W. A. Roebling. The meteorite collection, though numerically large, is as yet little more than a study collection when compared with that of other leading museums. The representatives are mainly in the form of small pieces secured by exchanges with other collectors, and while, so far as numbers go, it has served the curator in his investigations fairly well, it is quite lacking in the spectacular features desirable. The exhibits are fully labeled, although in many instances it has been necessary to use temporary typed labels.

The study series are in good condition and available for reference. The additional storage room secured for the section of invertebrate

paleontology has made possible the most logical arrangement that has ever been obtained. The bulky nature of the material in vertebrate paleontology has caused these collections to become very crowded, and before they can be properly arranged additional storage space must be provided. The building of a balcony in the storage room is strongly urged.

Researches.—The head curator has continued his work on meteorites with especial reference to newly fallen stones from Forksville, Va., and Johnstown, Colo. He also devoted much time to a history of American geology, and is now engaged in preparing a systematic work on meteorites for publication by the Smithsonian Institution.

As in previous years Mr. Shannon's time has been devoted largely to laboratory investigations. In addition to the regular routine on material received for examination and report and in answering inquiries of visitors, much chemical consulting work has been done for members of other departments of the Museum. The joint work on the minerals of Italian Mountain, Colo., mentioned last year as in progress by Mr. Cross and Mr. Shannon, has been completed, and a beginning made on the description of very interesting zeolites from the Columbia basalt at Ritter Hot Springs, Oreg., assembled by D. F. Hewett, of the United States Geological Survey and transmitted to the Museum for investigation. Szaibelyite from the second known locality, Lincoln County, Nev., has been investigated in collaboration with Prof. J. L. Gillson, of the Massachusetts Institute of Technology, and work in collaboration with Prof. E. S. Larsen has been continued, particularly that on the alteration products of variscite from Utah. One of the most extensive pieces of work of the year has been the study, in collaboration with C. S. Ross, of the clay minerals, particularly the bentonites. This work has had very gratifying results and has gone a long way toward giving an understanding of the nature and composition of the minerals of the clay group, one of the last natural groups to yield to modern research methods. The work has further furnished totally unexpected data on the nature of the phenomenon of adsorption and the so-called colloidal properties, on the nature and operation of crystal-building forces, on the sodium chloride content of the ocean, and the origin of certain properties in soils.

In addition to the above there has been carried on a chemical investigation of the meteoric mineral merrillite, and analyses of the pyroxene and feldspar of the Johnstown, Colo., stone; an analysis of a stony meteorite left unstudied by the late Dr. Thomas L. Watson; the analysis of an iron belonging to Harvard University; and a number of minor qualitative tests.

Chemical and optical investigations on the minerals carnotite, hedyphane, and natrojarosite have been completed by Doctor Foshag. A study of the ore deposits of the Pilot Mountains in Nevada and of andalusite deposits in Mono County, Calif., have also been finished. There are now in progress studies of the ore deposits of the Hawthorne quadrangle, Nevada; of some mineral cavities in volcanic rocks from Nevada; and of a new calcium vanadate from Utah.

Paleontological researches include Secretary Walcott's studies on the stratigraphy of the Cambrian and associated formations of British Columbia, covering many years of field work. Studies on the same formations in the United States are under way.

Dr. R. S. Bassler has completed the illustrations for his work with Ferdinand Canu on the Recent Bryozoa of the Gulf of Mexico. He has also, in collaboration with Doctor Ulrich, completed a monograph on the fish-toothlike organisms known as conodonts from the Devonian and Mississippian of America. It is believed by the authors that this work will be as useful to future students as the various papers on foraminifera published by the Museum.

Dr. E. O. Ulrich has completed a monograph of the trilobite genus *Leiostegium* and its allies and a paper descriptive of 40 genera of Cambrian and Ozarkian trilobites. In collaboration with Dr. Charles E. Resser, he has continued work on the Cambrian of Wisconsin. Doctor Resser has likewise assisted Secretary Walcott throughout the year in paleontological studies.

Dr. Frank Springer, whose work has been much retarded by illness, has nevertheless made good progress in his studies of the Silurian crinoids of the Ohio Valley and hopes to complete his monograph within the coming year.

Dr. Mary J. Rathbun has completed a report on the fossil stalk-eyed Crustacea known to occur on the Pacific slope of North America from Alaska to California. The material used comprises all specimens from the leading universities, museums, and private collections on the Pacific coast, as well as those from the United States Geological Survey and National Museum.

Dr. W. H. Dall has studied the Tertiary and Pleistocene collections of the Canadian Arctic expedition; has revised a manuscript on the Lower San Pedro fauna of Nob Hill, Calif., for T. S. Oldroyd, the author; and studied and reported on a lot of dredged fossiliferous boulders from off the Atlantic coast, submitted by the department of paleontology of Yale University. He reports the most interesting discovery of the year to have been the finding of a peculiar fresh-water fauna, hitherto represented only in the Balkan

region, in collections from the Idaho formation of Snake River Valley.

Dr. F. H. Knowlton has continued his paleobotanical researches, having now in preparation a description of the flora of the Puget group of Washington.

Such time as could be allotted to research by Mr. Gilmore during the first half of the year was devoted to completing his monographic study on the North American fossil lizards. This work, undertaken under a grant from the Marsh fund of the National Academy of Sciences, was completed and transmitted for publication by the Academy.

Studies of the fossil footprints from the Grand Canyon are nearing completion and the results will shortly be submitted to the Museum for publication. A third manuscript dealing with the osteology of an unusually perfect skeleton of a new aetosaurian reptile from the Morrison formation of Utah has been prepared for publication by the Carnegie Museum of Pittsburgh, and a short paper descriptive of a beautifully preserved skull of an extinct anguid lizard was prepared and submitted to Kansas University for publication.

Dr. J. W. Gidley reports progress in his technical study of the mammals collected in the San Pedro Valley. He has completed studies of the Pleistocene material collected in 1921 at Willcox, in the Sulphur Springs Valley, Ariz., its geological occurrence and age of the deposits. The work is being carried on jointly with Dr. Kirk Bryan of the Geological Survey, who has worked up the geologic structure of the entire valley. A study of a new species of ruminant from a Pleistocene cave deposit of Chihuahua, Mexico, is under way.

Visiting scientists and others not directly connected with the Museum have had, as heretofore, free access to the collections for study and reference, the advantage in many cases being mutual. The mineral and economic collections have been utilized by members of practically all scientific institutions in the city; Dr. A. F. Foerste continued his monographic study of the Paleozoic cephalopods and cystids; Dr. L. W. Stephenson, Dr. J. B. Reeside, Dr. Julia Gardner, Dr. C. W. Cooke, Dr. W. P. Woodring, and W. C. Mansfield, all of the Geological Survey, have been actively engaged on the Mesozoic and Cenozoic collections of invertebrates; Dr. Arthur Hollick continued his study of the Tertiary flora of Alaska; Remington Kellogg, of the Biological Survey, his work on fossil cetaceans and other pelagic mammals; and Dr. O. P. Hay his researches on the Pleistocene vertebrates.

The meeting of the British Association for the Advancement of Science at Toronto brought various British scientists to Washington. Among these were Dr. F. A. Bather and Dr. L. J. Spencer, of the British Museum; Dr. George Hickling of Armstrong College, Newcastle-on-Tyne, England; and Dr. John L. Flett, director of the British Geological Survey, all of whom were interested in our museum methods. Other foreigners more particularly interested in studying certain of the collections included Dr. Othenio Abel and Dr. Kurt Ehrenberg, University of Vienna; Dr. Christian Poulsen of the Mineralogical Museum, Copenhagen; Dr. F. Shaffer, director of the Vienna Museum; Dr. G. D. Pritchard of the Melbourne Technical School; and Dr. Peter Sushkin, of Leningrad, Russia.

In addition to these, representatives of many of the universities and museums in the United States were visiting students for brief periods.

About 50 members of the Monumental Granite Association, meeting in convention in Washington, visited the department, being particularly interested in the building stone collection and in the minerals making up the granites.

As usual no small amount of research has been necessary in order to answer inquiries of correspondents and visitors, and to report on materials. Within the year, 485 letters have passed through the head curator's office, and 393 lots of materials were received for examination and report. It may not be out of place here to add that the amount of time expended in research either in answering these letters or in determination of the materials is little realized by one not actually engaged in the work. Long experience has shown the advisability of giving careful consideration to all these requests. This is not merely because the applicant is entitled to it, but because of the danger of bringing disrepute upon the institution through sending a report even capable of being misconstrued. As an example: Not so very long ago a mineral was submitted which, on examination, was found to contain a certain percentage of the element tantalum, but for which, on account of its method of combination and other reasons, there was no demand and was valueless. Nevertheless, the enterprising sender estimated, most liberally, the amount of the ore underlying the area and the amount in tons of the element it would carry, gained from some unknown source the commercial value of tantalum, and proceeded to broadcast through the newspapers the enormous wealth and value of his properties, which were, in fact, quite valueless. It is found necessary not infrequently to say not merely what a thing is, but what it *is not* as well, and this requires time.

Distributions.—Shipments comprising 739 specimens were transmitted to outside investigators during the year. The benefit derived from this is mutual since in many cases the material is unstudied and its value to the Museum greatly increased by the work of specialists. This is particularly true of the paleontological material. As exchanges, 6,009 specimens were distributed, while gifts, chiefly to educational institutions, comprised 548 specimens. This last is less than usual, owing to the fact that the so-called "school sets," prepared from time to time in lots of 100 or more, were exhausted more than a year ago. The preparation of new sets is going forward as rapidly as possible as materials become available. The assembling of material for those illustrating rock weathering and the formation of soils is well advanced as is also that for the rock collections. On those of minerals and ores, little progress has been made as our duplicates have been well-nigh exhausted and no funds are available for collecting.

Total number of specimens in the department.—During the year an estimated total of 79,674 specimens were added to the collection. Adding this to the total given for last year, we have 1,799,797 specimens in the department.

DEPARTMENT OF ARTS AND INDUSTRIES AND DIVISION OF
HISTORY

By W. DE C. RAVENEL, *Director of Arts and Industries.*

The collections in arts and industries and American history occupy the Arts and Industries Building, the Aircraft Building, a portion of the Smithsonian Building, and, temporarily, large areas in the Natural History Building.

Elaborate classifications for the arts and industries subjects have been proposed from time to time, but none of these has been strictly followed in the arrangement of the collections in the National Museum, due mainly to limitations of space, resulting in a more or less disorderly distribution of subjects, the conditions leaving no other choice than that based on convenience. Work is being chiefly centered at present on those subdivisions which are most prominent in relation to current industrial affairs, but there are other subdivisions with important collections which are not represented by experts on the staff, from lack of funds for their employment.

The Department of Arts and Industries, as represented by paid members on the scientific staff, at present consists of: The Divisions of Mineral and Mechanical Technology, under Carl W. Mitman, curator, with Paul E. Garber, assistant curator, and F. A. Taylor, aid; the Division of Textiles, Frederick L. Lewton, curator, with Mrs. E. W. Rosson, aid; Section of Wood Technology, William M. N. Watkins, assistant curator; Section of Organic Chemistry, Miss A. M. Doyle, aid; Division of Medicine, under the general supervision of Mr. Lewton, with Dr. Charles Whitebread, assistant curator; Division of Graphic Arts, R. P. Tolman, assistant curator, with R. C. Smith, aid; Section of Photography, Dr. A. J. Olmsted, custodian, and the Loeb Collection of Chemical Types, Maj. O. E. Roberts, jr., curator.

The Division of History which, when removed from the Department of Anthropology some years ago, was placed under the administrative assistant to the secretary, is under the immediate charge of T. T. Belote, curator, the other members of the scientific staff being Capt. Charles Carey, assistant curator, Miss Hortense Hoad, aid, and Mrs. C. L. Manning, philatelist.

The members of the staff have cooperated heartily in making the exhibition halls more attractive and the reserve and study collections more readily accessible to research workers than ever before.

The number of specimens acquired by the Department of Arts and Industries and the Division of History during the year was 17,007, an increase of 6,822 over those of the preceding year. These new specimens were assigned as follows: To mechanical technology, 145; mineral technology, 33; textiles, 271; organic chemistry, 7,493; wood technology, 425; foods, 17; medicine, 635; graphic arts including photography, 802; Loeb collection of chemical types, 616, and history, 6,570.

It has ever been the policy to give careful consideration to proffered objects and to accept only such as were of definite value to the Museum. Greater vigilance than ever has now to be exercised in this matter, and even much material which would assist in rounding out subjects at present not well represented, has to be refused or accepted only in form of photographs or other illustrations instead of the articles themselves, because of the crowded condition of the exhibition halls. In some sections it is now impossible to add to the exhibition even very unique objects without first retiring something, possibly equally interesting and important.

ACCESSIONS DESERVING SPECIAL NOTICE

The very diversity of the collections makes it difficult to state what are the most important additions to the Museum during the year, since some small object of little intrinsic value may be very important in filling a gap in a series, illustrating a type or method not represented, or because of association with some person or event. It is only possible here to mention some of the many important additions to the various collections.

Mineral and mechanical technology.—In the Division of Mechanical Technology, a full-size gasoline engine, especially made and presented to the Museum by the Buda Co., Harvey, Ill., attracts much attention. The engine is operated by electricity and its outside shell is removed at various places and sections of the interior moving parts are cut away so that the whole operative mechanism may be observed and studied. By the installation of electric lights within the engine proper, dark corners are illuminated. The engine is moved at such slow speed that there is no difficulty in studying the functions of the various parts. The Buda Co. does not manufacture or furnish such essential parts as carburetors, or magnetos, these being selected and installed by the purchaser. Accordingly, in making selection of these parts for the Museum specimen, care was taken not to duplicate other specimens already in the collection. As a result, the Zenith-Detroit Corporation, Detroit, Mich., presented the carburetor for the engine, and the Splitdorf Electrical Co., Newark, N. J., presented the magneto and spark plugs. The car-

buretor, the magneto, and two of the spark plugs were specially prepared by these companies for the exhibit, the spark plugs being equipped with small electric lights to indicate the spark flash and the magneto being so arranged that even though partially cut away, it is still able to function properly. The carburetor too, has been sectionalized so that the layman may see its interior construction.

Henry Ford, Dearborn, Mich., presented a full-size, hand-operated unit of the Ford automobile, namely, the planetary transmission. The Museum purposes to visualize the several primary mechanisms which compose the automobile. Besides the power plant these include transmissions, differentials, rear axles, and clutches, of which there are several distinct types universally used. The Clark Equipment Co., Buchanan, Mich., offered to present a full-size automobile rear axle of the distinct type made by that company, but because of limited exhibition space it was necessary to limit the donation to an enlarged phantom photograph of the axle, which the company prepared especially for the Museum.

The Portland Cement Association, Chicago, Ill., through its local office in Washington, D. C., presented a full-size photographic copy, suitably framed, of the original patent on Portland cement granted by King George IV to Joseph Aspdin in 1824. The presentation was made in the presence of about a dozen officials representing various departments of the Government interested in Portland cement. The gift was appropriately accepted on behalf of the Museum by Doctor Walcott and now hangs in close proximity to the exhibit of Portland cement in the Division of Mineral Technology.

Last year the Barber Asphalt Co., Philadelphia, Pa., at considerable expense, reconditioned the model of the natural lake of asphalt on the Island of Trinidad, which the company had donated to the Museum about 10 years ago. This year the company devoted considerable time and expense to revision of the exhibit of asphaltic products made from natural asphalt. Four colored transparencies visualizing their uses and many asphaltic products previously unrepresented in the Museum were added. These included types of roofing papers and shingles, asphaltic paints and cements—in fact, representations of practically all of the newer uses for this material.

Part of the section of metrology of the Division of Mechanical Technology is devoted to the subject of calculators and calculating machines. During the year the Burroughs Adding Machine Co., Detroit, Mich., presented in a specially designed case a series of five types of calculating machines, such as are used to-day in many branches of business. The series include a calculator, a billing machine, an automatic bookkeeping machine, an adding and listing

machine, and a section of an adding machine. The latter permits the visitor to see the mechanism involved in this particular type of calculator. These machines, with one of the earliest types of adding machines invented by William Burroughs, which was presented to the Museum by the company nine years ago, form a fairly complete visual record of the development of one of the distinct types of calculating devices in use at the present time.

In the section of communication the subject of writing machines and typewriters includes at the present time a fairly complete record by means of original machines of the development of the typewriter. The Museum received as a gift from the Corona Typewriter Co. during the year a series of three small-size, portable writing machines, which represent periods in the development of the portable type of writing machine, beginning with the machine of 1906 and ending with the type used in 1925.

The Automatic Electric Co., Chicago, Ill., which last year presented an operative unit of the Strowger automatic telephone, added to the exhibit this year a series of four automatic telephone switches of the periods of 1896, 1903, 1913, and 1925, respectively. These switches portray vividly the course of development of this very interesting method of communication and demonstrate quite forcibly that automatic telephony is the result of careful, deliberate, and slow development rather than the product of accidental discovery.

For addition to the section of land transportation there was received from Mrs. Lansing Van Auken, Watervliet, N. Y., an original Knox automobile, made in 1900. The Knox automobile was one of the first commercially successful automobiles of American manufacture and was used quite extensively for a number of years both for passenger carriage and for general delivery of light merchandise. Its particular feature was that it possessed three wheels, two in the rear and one in front, and was operated by a single cylinder, air-cooled engine located over the rear wheels.

The signal section of the American Railway Association presented 16 specimens for addition to the exhibit of railway signaling apparatus begun by that association in 1923. The specimens are of obsolete design but are of great value when used to visualize the development of the art of railway signaling. The work of securing these historically important pieces is being carried on by H. S. Balliet, secretary of the section, who has the cooperation of the signal departments of the various railway companies. Thus far the exhibit includes apparatus used on the Illinois Central, the Louisville and Nashville, the New York, New Haven and Hartford, the Pennsylvania, and the Southern Pacific Railroads. Signaling

is such an important part of the railway industry that it should be included, if only in a general way, in the transportation section of the Museum.

In the section of aeronautics a number of photographs of distinctive types of aircraft, both heavier-than-air and lighter-than-air, were received as transfers from the War and Navy Departments and as gifts from the Goodyear Tire and Rubber Co., Akron, Ohio. James V. Martin, Garden City, Long Island, N. Y., a noted pioneer in aviation, presented the original *K-III* airplane designed by him in 1917 for combat service. This embodies a retractable landing gear and K-strut wing fittings, both of which are features patented by him. This plane is unusual in its low horsepower and small size, its wing spread being about 20 feet. It is propelled by a two-cylinder Gnat engine.

In the electrical engineering section the Edison Lamp Works of the General Electric Co., Harrison, N. J., presented three new types of electric lamps for addition to the series of incandescent lamps which the company began in 1898. These represent the largest and the smallest incandescent electric lamps made. The two large lamps have a capacity of 30,000 and 10,000 watts, respectively. Their particular use is in searchlights and in places where an approach to the intensity of sunlight is desired, as in photographic work. The third specimen is of the size of a grain of wheat and is used in surgical work, particularly for illuminating the stomach, the lamp being swallowed temporarily by the patient. D. McFarlan Moore, inventor and noted pioneer in electric illumination, added to his collection of experimental electrical apparatus a type of incandescent electric lamp designated as a negative glow lamp. This type was invented by him approximately 30 years ago, but only recently was real use found for it in connection with radio movies.

Textiles, medicine, wood technology, organic chemistry, and food.—The most valuable additions to the textile collections this year were the gifts received from cooperators of former years, American manufacturers who had previously sent the Museum many fine examples of the textile industry. In this connection should be named Cheney Bros., South Manchester, Conn., who contributed 50 specimens of silk dress, millinery, drapery, and upholstery fabrics, comprising tinsel goods, printed silks, chiffon velvets, and cut velvets. These specimens were specially selected for the National Museum, and the dress materials and millinery velvets were installed in a large case at the foot of the main aisle in the South Hall by an expert decorator who had just returned from Paris, where he had set up in the Louvre an exhibit of American silks manufactured by this same firm.

To the Pacific Mills, Lawrence, Mass., the Museum is indebted for 150 yards of printed cotton fabrics which were sent to freshen the exhibit of cotton goods contributed by this firm several years ago. The Botany Worsted Mills, Passaic, N. J., contributed 10 specimens of new wool fabrics brought out for the spring and summer of 1925, and comprising dress goods, coatings, and sport fabrics.

There were received by gift from L. C. Chase & Co., Boston, Mass., nine specimens of mohair plushes and velvets which were added to the attractive exhibit of mohair upholstery fabrics previously contributed by this firm.

A series of beautiful embroidered filet laces, silk, and cotton nets, and silk crêpes made on the Schiffli machine in imitation of hand embroidery was contributed by Blanck & Co. (Inc.), New York City. The embroideries were made by the Alpha Embroidery Co., at West New York, N. J., and include reproductions of Hungarian embroideries collected in Budapest by Stewart Culin, of the Brooklyn Institute Museum. The embroidery on the filet laces and nets was made by the "burnt-out process," in which the lace or net is covered with a piece of chemically treated cotton scrim to serve as a foundation while the goods is being decorated by the Schiffli machine. The embroidered material is then baked in an oven to carbonize the scrim and put through a system of brushing machines to remove the particles of the carbonized cotton material.

A fresh series of fancy wool yarns for hand knitting, knitted pattern squares, hand-knitted scarfs, sweaters, and baby garments was contributed by S. B. & B. W. Fleisher (Inc.), Philadelphia, Pa., to replace a similar series presented to the Museum in 1923.

The exhibits of modern handicraft work shown in the National Museum and the encouragement given persons skilled in these arts led to the acquisition of a number of additional examples of handicraft during the year. A beautiful square of Norwegian tapestry weaving was loaned by Miss Mollie B. Weyman, of Washington, D. C., and a specimen of silk velvet, hand-dyed in soft blending shades suggesting sky tints, was presented to the Museum by Mrs. Gertrude S. Whittlesey, also of Washington. An interesting specimen of a hooked rug made in Labrador in the same manner as those done in colonial days was loaned by Maj. O. E. Roberts, jr., of the National Museum staff. A beautiful hand-woven white counterpane, made about 1775, was presented by Mrs. Charles W. Hurdle, of Washington, D. C., and a hand-woven pillow cover and a printed flannel table scarf were received by gift from Mrs. Jake Cruse and Mrs. Ernest Hammond, respectively.

Of accessions other than textiles, the most noteworthy were the gifts of industrial exhibits illustrating various branches of the rubber industry which were received from the Rubber Association of America (Inc.), New York City. This association added 960 specimens and photographs to its gifts of last year, and thus placed the representation of the rubber industry in the forefront of the industrial exhibits in the National Museum. Included in these gifts is the greater part of the exhibits illustrating American rubber industries which were shown at the Sixth International Rubber Exposition, held in Brussels, Belgium, in April, 1924, and comprising the following: Large statistical charts arranged to resemble open books resting on easels, painted screens or panels depicting the utilization of rubber, a life-size figure of a Malay native in the position of tapping a rubber tree, specimens of all kinds of rubber articles, automobile tires and mechanical rubber goods, and an automatic projecting lantern and set of slides illustrating rubber manufacture. The Bureau of Foreign and Domestic Commerce of the Department of Commerce transferred specimens of crude rubber and rubber substitutes, vegetable oils, and oilseeds brought back from South America by representatives of the department who had been detailed in 1923 to make a survey of the crude rubber situation.

With the approval of the Secretary of Agriculture, the Bureau of Biological Survey, as custodian of material seized in violation of Federal laws for the protection of birds, transferred to the Museum a large part of a remarkable collection of bird plumage and feather articles acquired by confiscation from plume hunters, importers, and manufacturers. This material consists of whole birds, parts of birds, feathers, and plumes of the bird of paradise and the American and the snowy egret. Other birds represented are goura, roseate spoonbill, wood ibis, ring-necked pheasant, whistling swan, gull, mallard duck, Canada goose, pied-billed grebe, American eared grebe, Holboell's grebe, western grebe, common loon, red-throated loon, penguin, great blue heron, and European and Japanese herons. Together with the bird skins and plumage in the natural condition, the collection includes dyed feathers and finished and partly finished millinery trimmings made from bird plumage coming under the ban of the law.

A most attractive exhibit illustrating the manufacture and utilization of sealing wax was obtained from the Dennison Manufacturing Co., of Framingham, Mass., to replace an old exhibit presented many years ago. The new material includes crude lac, fillers, pigments, and other ingredients of sealing wax put up in attractive containers, commercial sealing waxes of all grades, and a handicraft display of articles made from or decorated with sealing wax.

Specimens showing additional industrial uses of "pyralin," a pyroxylin plastic, were contributed by E. I. du Pont de Nemours & Co. (Inc.), of Wilmington, Del., for inclusion in exhibits contributed by this firm in previous years.

In wood technology there was added to the collections a large Douglas fir timber, for flanking the west side of the entrance to the Wood Court directly opposite a similar timber of Southern yellow pine. Douglas fir produces more lumber annually than any other single species of tree in the United States, and this magnificent specimen, representing the forests of the Pacific Northwest, deserves its prominent place. It was cut in Snohomish County, Wash., and was delivered to the Museum free of all expense by the West Coast Lumbermen's Association, Seattle, Wash. The Grand Rapids Wood Finishing Co., Grand Rapids, Mich., presented the Museum with a series of veneered panels of the most prominent woods used in the furniture industry to show the most popular finishes used to-day. Gift of a complete series of specimens, showing stages in the manufacture of lead pencils and demonstrating a most important use of red cedar, was made by the Wallace Pencil Co., St. Louis, Mo.

The greater part of the accessions credited to the division of medicine was for additions to the Hall of Health and dealt with the subject of public health.

An interesting and instructive exhibit was donated by the American Social Hygiene Association (Inc.), New York City, the work of J. H. M. Dudley, a well-known model maker of Elizabeth, N. J., The exhibit consists of three panels, upon the first of which is arranged a series of specimens illustrating the way life begins; the center panel deals with eugenics; and the third panel pictures social hygiene measures.

A model to illustrate in allegory the never-ceasing struggle of health against disease was specially constructed for the division. A section of a village is shown with a wall obstructing the entrance of diseases represented as beasts, from a dark and gloomy forest. This model emphasizes the fact that disease prevention is everybody's work, and that each individual owes it to himself and the community to render active assistance in this struggle to increase the life span and make the world a better place in which to live by complying strictly with all health laws and regulations.

Dr. John Uri Lloyd, Cincinnati, Ohio, who has cooperated with the Museum for several years in the development of exhibits illustrating the history and principles of the eclectic branch of American medical practice, donated a collection of 170 specimens of historically important, old type laboratory apparatus, many pieces of which were made and used by Dr. John King, a pioneer eclectic practitioner and pharmacologist, one of the authors of the American Dis-

pensatory and sometimes called "The father of American materia medica." Doctor Lloyd also contributed a case of 115 rare chemicals, which he himself prepared and which was awarded first prize at the sixth Cincinnati Industrial Exposition in 1875; a pharmaceutical counter balance with cup and block weights, in common use in drug stores of this country about 1860; one of the first suppository molds made by Prof. W. B. Chapman, fourth president of the American Pharmaceutical Association; an ophthalmoscope which had been owned and used by Dr. John King; a bottle of emetine believed to be the type specimen of this drug.

Due to the efforts of Doctor Lloyd the following material, which was presented to the donors by Dr. John King, was received as contributions from the persons named: An ophthalmoscope and a model of a human eye from Dr. William N. Mundy, Forest, Ohio; 30 ampoules of medicinal solutions and one case of "13 pure elements," from Dr. H. W. Felter, Cincinnati, Ohio; an ophthalmoscope from Dr. T. T. Sidener, Lima, Ohio; a spectroscope from Dr. John J. Sutter, Lima, Ohio; a barometer from Mrs. Hallie Stephens Caine, North Bend, Ohio; and Dr. John King's diary from Dr. Louise Eastman, Cincinnati, Ohio. An interesting old surgical instrument, called a scarificator, was presented by Dr. D. H. Welling, of Worthington, Ohio. This instrument was in vogue when bloodletting was a popular operation for many human ailments. The instrument consists of 10 blades set upon rotary axes, and was used for making shallow incisions in the skin, from which might be withdrawn, by means of an "exhausted cup," any desired quantity of blood.

The medals and decorations conferred on the late Maj. Gen. William C. Gorgas, Surgeon General of the United States Army during the World War, were loaned by Mrs. William C. Gorgas, Washington, D. C.; and Doubleday, Page & Co., Garden City, N. Y., presented through Mrs. Gorgas a copy of the book "William Crawford Gorgas—His Life and Work," by Marie D. Gorgas and Burton J. Hendrick, for exhibition with the Gorgas medals.

The Bureau of Chemistry, Department of Agriculture, made for the Museum and transferred to this division an exhibit consisting of 21 specimens to show steps in the bacteriological examination of water supplies to prove the absence or presence of pathogenic microorganisms.

One hundred and sixty-one colored posters bearing important health lessons to be observed from infancy to adult life were presented by the National Child Welfare Association, New York, N. Y.

Digitalis leaves vary in activity as much as 600 per cent, and a test is required by the United States Pharmacopoeia, to insure uniform therapeutic activity of the tincture made from this drug. The H. K. Mulford Co., Philadelphia, Pa., donated seven charts outlining the

"one-hour frog" method of standardizing this much-used medicine. A set of 14 colored posters showing the right and wrong way to diagnose and treat cancer was received as a gift from the American Society for the Control of Cancer, New York City. The Association for Improving the Conditions of the Poor, New York, N. Y., contributed 12 colored charts dealing with important phases of child hygiene. Dr. E. R. Booth, Cincinnati, Ohio, presented through Dr. Norman C. Glover, Washington, D. C., a copy of his recent book, "History of Osteopathy and Twentieth Century Medical Practice," for addition to the history of osteopathy collection.

Two specimens of medicinal arsenicals, arsphenamine and neoarsphenamine, were donated by the Powers-Weightman-Rosengarten Co., Philadelphia, Pa. Johnson & Johnson (Inc.), New Brunswick, N. J., presented a cotton roll toothbrush, 20 cotton rolls for use in the same, and specimens of dental floss; S. E. Howard's Son & Co., New York City, contributed 12 toothbrushes of various sizes and styles; and the Pro-phy-lac-tic Brush Co., Florence, Mass., donated six toothbrushes. This material was used in arranging the oral hygiene exhibit.

Graphic arts.—In the Division of Graphic Arts the exhibit illustrative of the history of writing was increased by three Babylonian tablets inscribed with cuneiform characters. The one of most interest is the work of a school boy learning to write. It is of sun-dried clay, nearly flat on one side and rounded on the other, the writing being on the flat side only. Tablets of this sort were not intended to be permanently preserved and were never burned, and were therefore in a fragmentary condition when discovered. These tablets are not dated, but from other objects found in the same ruins the Museum specimen is placed at about 2000 B. C. It was found at Warka, which is in the neighborhood of the Biblical city of Erech, where Abraham was living at about that time. The other two smaller tablets are of burned clay, very skillfully inscribed and are simple business accounts of about 2300 B. C.

The wood-engraving exhibit was augmented by new material, the result of changed economic conditions. Previous to the World War boxwood was imported in sufficient quantities to supply the demand of wood engravers, but since then a large part of the supply has been cut off. In order to make the much-reduced importation meet requirements, manufacturers have resorted to veneering. Boxwood of good quality is veneered on a hard maple base or on a poor grade of boxwood, the quality of the veneer determining the price. Samples of this new product were furnished by John G. Bjorkman, the wood engraver, and the Sandberg Manufacturing Co., both of Chicago. Mr. Bjorkman, in response

to the suggestion that celluloid might be used as a substitute for the expensive boxwood, also contributed a fine engraving on celluloid, which was mounted by the Museum printer, and satisfactory prints were made without difficulty.

The Christian Science Publishing Co., George Washington Life Insurance Co., and James E. Patton each contributed an artist proof wood engraving by Timothy Cole, all recent work. R. C. Smith, aid in the division of graphic arts, added proofs of the blocks used in his recently published book entitled "The Wood Engraved Work of Timothy Cole." Wood engravings were also received from John G. Bjorkman and James Bann, the work of the donors.

Alfred McEwen, of New York City, contributed two microengravings. One of these, a letter of 46 words from the donor to the curator of Graphic Arts, is the smallest letter ever received by the Museum. The second, especially prepared by Mr. McEwen for the exhibition series, consists of the Lord's Prayer, about 1/13500 of an inch square, engraved on glass and seen through the eye of a needle, mounted under a high-power microscope. The engraving is cut in glass with a diamond point by means of a micropantograph. Fifty or sixty years ago microengravings were quite common, but at present they are very rare.

The exhibit of letter-press printing was enhanced by gifts from William Edwin Rudge, of New York City, Woodward & Lothrop, of Washington, D. C., Dietz Printing Co., of Richmond, Va., and the Laboratory Press of the Carnegie Institute of Technology, Pittsburgh, Pa. The American examples present a fine appearance, but work of historical nature and of foreign printers is desired to round out this series.

George A. Simonds & Co. deserve mention for a contribution illustrating the making of a book, which shows the folding and assembling of the printed sheets and steps in binding. Miss Marian Lane gave an original design for a bookbinding, which was placed with the bookbinding specimens. The bookbinding series was further enlarged by four examples of fore-edge painting lent by B. M. Comerford, of Washington, D. C. Fore-edge painting consists of painting pictures and decorations on the fore edge of a book while the leaves are pulled back to expose a very minute part of the upper surface of each leaf. This exposed part receives the water-color paint. The pictures disappear when the book comes back to its normal shape.

Mrs. Harriet W. Nutting, of Washington, D. C., the great-granddaughter of the famous American painter, Thomas Sully, donated a valuable collection of 60 old prints, chiefly American, dating around 1830 to 1840. Among these are fine early impres-

sions from the more important plates of the eminent American mezzotint engraver, John Sartain (1808-1897), including a print after Sir Thomas Lawrence's self-portrait, considered Sartain's most important work in mezzotint; several lithographs by Albert Newsam (1809-1864), one of America's finest portrait lithographers; and other fine American lithographs published in Philadelphia in 1832 and 1833, or a little later. Both mezzotints and lithographs, except as noted, were after paintings of Sully, and probably all belonged to him.

The contemporary American mezzotint engraver, Frederick Reynolds, of New York City, contributed four examples of his work, two in black and white and two in color. These are especially interesting, not only for their skill in printing and engraving and their artistic effect, but because a black and white and a print in full color are shown from the same plate of "La Princesse de Conde," after Nattier. This plate was made especially for color printing, and by comparing these two impressions one sees how the engraver left certain parts darker than necessary for the black-and-white effect so that the color print would have the desired values. George C. Wales contributed the "destroyed" plate of his very fine soft-ground etching "Stand by to Let Go," a print of which he gave the Museum two years ago.

Sidney A. Kimber, of Cambridge, Mass., added to his previous donation of water-marked papers, 19 specimens of Italian manufacture, most of which show colored water-marks. They are remarkable examples of paper making and display great skill in the beautiful effects obtained.

Mention was made in last year's report of a new reproduction process called "aquatone," a sort of combination of the collotype with the use of a 400-line screen, printed on an offset press at a rate of 3,500 an hour. This is now in commercial operation for black and white prints. The only color prints produced were made with a 133-line screen. Besides prints from the Aquatone Corporation and the United States Printing & Lithograph Co., both of New York City, the Museum has received this year a technical series from William Edwin Rudge which shows the steps in making printing plates. The time consumed in preparing the plate for printing is very short and the finished results remarkable true.

The technical side of the exhibit of printing for the blind was enlarged and now gives an idea of the difficulties encountered in providing such reading matter. The Museum previously had specimens of finished raised printing, chiefly books printed by different systems, maps, and portraits. The material added this year illustrates how the results are obtained and used. The many systems of

printing for the blind may be divided into two classes, the alphabetical and the arbitrary. The additions have been almost exclusively of the arbitrary system known as the American Braille. The Museum is indebted to several organizations for assistance in this line, and especially to Frank C. Bryan, Perkins Institution for the Blind, Watertown, Mass., who not only contributed specimens but also interested other people in the exhibit here. The reading room for the blind, Library of Congress, Washington, D. C., furnished information and specimens regarding a duplicating process which they have been largely instrumental in developing. The Matilda Ziegler Magazine for the Blind contributed, besides other specimens, plates showing their method of printing on both sides of the paper at the same time. Other organizations also deserve credit for additions that improve the exhibit.

In connection with the new traveling exhibits, examples in their respective mediums have been contributed by the United States Printing & Lithograph Co., William Edwin Rudge, and the Aquatone Corporation, of New York City, Norman T. A. Munder, and the Baltimore Maryland Engraving Co., of Baltimore, and the Collo type Co., Elizabeth, N. J. Edward Epstein, chairman of the publicity committee of the American Photo-Engravers Association, was instrumental in having the association prepare special specimens for the photomechanical exhibits.

The Section of Photography has shown good progress during the year. Three early Prosch camera shutters were donated by Floyd Vail, H. A. Latimer, and Frank V. Chambers, respectively, and show the effort to control exposures automatically and do away with the lens cap. A very remarkable view camera, manufactured by E. & H. T. Anthony, was also donated by Mr. Vail. This camera shows the revolving back, no doubt an advanced idea in camera construction when it was made about 1890. The entire back with the bellows revolves in a ring in the front board. A reel of motion pictures, historical in character, was contributed by the Armstrong Cork Co., the subject being Frederick Walton, the inventor of linoleum. This film, with other of like character, is being preserved as a matter of record.

To his display on the wireless transmission of pictures, C. Francis Jenkins added a series of 18 prints sent by the method invented by him. These show early and more recent results, the latter closely resembling soft-focus lens work. The collection of Eadweard Muybridge material was rounded out by a fine portrait of Mr. Muybridge, made from an original negative owned and loaned for the purpose by Miss Frances Benjamin Johnston.

A fine enlargement, showing the apparatus used by the early photographer, Fox Talbot, was received from H. H. Blakelock, secretary of the Royal Photographic Society, London, England. The apparatus depicted is in the society's club rooms and is of special interest to the Museum since many of the original photographs by Talbot in the section of photography were probably made by this or similar equipment. P. H. Emerson, author of "Naturalistic Photography," donated a booklet with illustrations made from his photographs.

Dr. W. H. Wright, of Lick Observatory, Mount Hamilton, Calif., gave a very remarkable photograph, a view of the Sierra Mountains, an achievement in long distant photography, the distance being 135 miles. Even at that long range details are recognizable. Plates sensitive to the infra red rays were used with a red filter. In the aerial section, three fine views of the city of Washington, D. C., were donated by the Fairchild Aerial Surveys, (Inc.), of New York City. These are remarkable for their fine quality and clearness and should be of great interest to the tourist as they give an excellent idea of the Capital city.

The collection of pictorial photographs is becoming one of the most important public collections in the country, due to the efforts of Dr. A. J. Olmsted, custodian, and of Floyd Vail, of New York City. The latter generously sent four very rare pictorial prints from his portfolio. Three are original prints by Count von Gloeden which are entered as a loan, and the other, a reproduction of a print by W. A. Cadby, is a gift. These were much needed for the collection and, being early prints, are hard to obtain.

Other notable pictorial photographs included two additional prints from Dr. J. B. Pardoe, Bound Brook, N. J., well worthy of his style; three prints from Herbert Bairstow, of Halifax, England, "The Oyster Gatherers" being especially attractive; seven very forceful portraits from Aage Remfeldt, of Oslo, Norway, and three from Madam d'Ora, of Vienna, Austria, which have much charm and individuality. José Ortiz Echagüe, Madrid, Spain, furnished six of his studies of Spanish peasant life, very characteristic of his work and welcome additions. Dr. Emil Mayer, Vienna, Austria, who delights in architectural studies, sent six prints as beautiful and artistic as the subjects he pictures. From Switzerland, Max Rudolph contributed 10 prints full of feeling and atmosphere depicting Alpine heights, with sheep and flowers in the meadows.

Clark Blickensderfer, of Denver, Colo., is represented in the year's advance by one print, "A Ptarmigan in Winter," wonderful in tonal value and subject matter. Three prints made and donated by Mrs. Minna Keene, of Oakville, Canada, are unusual. The South African

types she portrays make lasting impression because of the sympathy with which they have been studied. From Robert Ure, of Glasgow, Scotland, the Museum received two prints charming in composition, and from A. W. Hill of Edinburgh, Scotland, three which rank high in all pictorial qualities.

Loeb collection of chemical types.—This collection, while maintained through the beneficence of the late Dr. Morris Loeb, is administered as a separate entity in the Department of Arts and Industries. The work is conducted under an advisory committee on the Loeb collection, consisting mainly of Government officials interested in the subject of chemistry. The committee for the year was composed as follows: Dr. James F. Norris, chairman of the Division of Chemistry and Chemical Technology, National Research Council, *ex officio*; Dr. C. A. Browne, Chief of the Bureau of Chemistry, United States Department of Agriculture, *ex officio*; Dr. S. C. Lind, chief chemist of the Bureau of Mines, United States Department of the Interior, *ex officio*; Dr. W. F. Hillebrand, deceased, Chief of the Division of Chemistry, Bureau of Standards, United States Department of Commerce, *ex officio*; James K. Senior, representative of the committee in the Middle West; Dr. C. L. Alsborg, representative of the committee on the Pacific coast; and F. L. Lewton, representative from the United States National Museum. The collection is in direct charge of Maj. O. E. Roberts, jr., curator.

The purposes and scope of the collection were defined by the advisory committee during the year, as follows:

“It shall be the general purpose of this collection to collect and preserve samples of substances, as defined below, the preservation of which shall, in the opinion of the board, be in the interest of those conducting chemical research.

“It shall, further, be the general purpose of this collection to provide, loan, or give to those requesting them to assist in the conduct of chemical research such small samples as may be spared of chemicals comprising this collection gratis or at a nominal charge to be fixed by this board.

“Specifically, the collection shall include the following classes of materials:

“(1) All new chemicals prepared as a result of chemical research, the preparation of which shall have been described in scientific literature. In all instances, where possible, such chemicals shall be obtained from the original source. Samples of these substances may be accepted, however, from other than the original source, provided they may be procured in a higher state of purity. [Note: ‘New’ in this paragraph signifies elements or compounds of definite composition prepared for the first time.]

"(2) Radioactive chemicals, isotopes, and the like, of which an analysis is available or of which a study has been made.

"(3) Unstable chemicals, such as pharmaceuticals of definite chemical composition, where a study of the rate, extent, and nature of their decomposition is deemed desirable.

"(4) Specimens of historic interest of chemicals which are likely to be of future value for purposes of comparison. [Note: This paragraph refers to samples which were prepared before the date of the establishment of this collection.]

"(5) Chemicals of an exceptionally high degree of purity not generally available, which are likely to be used for atomic weight determinations, standards of comparison, etc.

"(6) Unusual allotropic forms of the elements not generally available, a study of which at some time in the future is deemed likely.

"(7) Alloys which have been well defined and adequately described in the literature.

"(8) Chemicals which have been prepared by new methods."

Toward the first objective it may be said that the collection has made a good start. The addition of 616 specimens during the fiscal year has brought the total number of specimens in the series up to 650. A very high percentage of the specimens received during the year are compounds which have been prepared for the first time, and are therefore of considerable interest.

History.—The collections in the division of history are, for convenience, divided into the following classes: Antiquarian, costume, military, naval, numismatic, philatelic, and pictorial. This classification is, as a rule, based on the intrinsic character of the objects without reference to the special historical interest which they may derive from their association with some notable personality of American or foreign history.

In the antiquarian series a notable addition was made this year to the arms collection by the loan of a number of antique fowling pieces, rifles, powderflasks, powderhorns and swords received from Maj. Jerome Clark, United States Army. The fowling pieces include one owned by James II, King of Great Britain, 1685-88, made by John Cosens and bearing the royal arms and the inscription "James Rex"; a fowling piece with a gold flashpan and vent made by Joseph Manton and owned by the Duke of York, son of George III, King of Great Britain, 1760-1820; a fowling piece with barrels decorated with gold inlay work, made by Dumares, and owned by a French marquis during the reign of Louis XVI, 1774-1792; and two fowling pieces of ornate decorations, one of a Spanish gentleman and the other of an Englishman. The loan

included a number of rifles of types used during the early periods of American history; powderflasks made of silver, brass, horn and leather, richly decorated; and two swords, one presented to Midshipman James M. Baldwin, United States Navy, in recognition of services during the War of 1812-15, and the other presented to Col. H. R. Eddy, United States Army, in recognition of services during the Civil War. The latter is of special interest because of exceptionally fine decorations on the ivory grip.

The costumes collection was increased by the addition of a brown satin dress owned by Martha Washington, and lent to the Museum by Mrs. Wilfred P. Mustard, Baltimore, Md. This is displayed at the head of the exhibition series of White House costumes, in place of the Martha Washington dress recently withdrawn by its owner, Miss Sally P. McKenzie.

A lady's silk dress, parasol, and white kid shoes, and a gentleman's black embroidered vest of the period of the Civil War were presented by Miss Ella G. Gilson, Nyack, N. Y. A single specimen of interest belonging to the same period and donated by Miss Margaret Hillhouse, New York City, is a lady's "army cloak" of Confederate gray cloth made in the first Freedman's School established in Richmond, Va., in 1865. The court costume worn by Hon. Henry Cabot Lodge on the occasion of a reception at Buckingham Palace, London, in 1908, was presented by Mr. Lodge's estate, through his son, Mr. John E. Lodge. A costume of more recent historical interest is a dress worn by Mrs. George Maynard Minor when President General of the National Society of the Daughters of the American Revolution, 1920-23, and donated by her.

The military collections were increased by objects of exceptional interest. Many objects owned by Lieut. Gen. Nelson A. Miles, United States Army, were contributed by his son and daughter, Maj. Sherman Miles, United States Army, and Mrs. Samuel Reber. These included the sword presented to him in 1887 in recognition of his services in the capture of Geronimo and the hostile Apaches; a waistcoat worn when he was severely wounded at the battle of Chancellorsville; full dress uniform accessories worn when lieutenant-general, in command of the Army; a flag of the Second Army Corps of the period of the Civil War, and an Army headquarters flag; the Congressional Medal of Honor awarded him for gallantry in the battle of Chancellorsville, Va., May 3, 1863; and a number of United States Army service medals and badges of patriotic societies. One of the most interesting objects in this entire collection is a silver and bronze heart-shaped plaque or shield bearing a portrait of General Miles and commemorating his success over the Indians in war and his

humanity and justice in instructing the captive savages in the arts of civilization.

Mrs. Frank Wheaton donated, among other things, three swords which were owned by Maj. Gen. Frank Wheaton, United States Army. These were: A sword presented to him by the officers of the Anderson Zouaves, Sixty-second Regiment, New York State Volunteers; a sword presented by noncommissioned officers and privates of the Second Regiment, Rhode Island Volunteers, when he was colonel of that regiment, December 13, 1862; and a very handsome sword presented to him by the State of Rhode Island in 1865, the scabbard of which is inscribed "Presented to Brevet Major General Frank Wheaton, U. S. V., for gallant and meritorious services during the war and especially in the battles of Opequan, Fishers Hill, and Middletown, by the State of Rhode Island through James Y. Smith, Governor, in conformity with a Resolution of the General Assembly passed at the January Session, 1865."

From Mrs. Lillian W. Couillard was received a cavalry saber of ornate design owned during the Civil War, first by Lieut. William Wheelan, First New York Mounted Rifles, and later by his brother, Brig. Gen. James Wheelan, United States Army, and a number of pieces of military insignia also belonging to the latter. To the collection of Confederate uniforms was added a coat worn during the Civil War by Brig. Gen. Marcus J. Wright, Confederate States Army, presented by Mrs. Marcus J. Wright.

A collection of World War relics was lent to the Museum by Gen. John J. Pershing, United States Army, including a United States flag presented to the general in 1919 by citizens of New York City, a flag indicating his rank as General of the Armies, several French flags flown at his headquarters, four large military maps, and his personal office desk and accessories used at his headquarters at Chaumont, France, during the war.

The naval collections were increased by a number of relics of officers of the United States Navy. A sword and two uniform coats owned during the early part of the nineteenth century by Capt. Samuel Woodhouse, who was appointed a midshipman in 1800 and served on the U. S. S. *Constellation* during the famous engagement in that year between that ship and the French frigate *Vengeance*, were donated by Dr. S. W. Woodhouse, jr. To the large series of scientific awards relating to the career of Commander Matthew F. Maury, United States Navy, was added a diamond scarfpin presented to him in 1857 by the Archduke Ferdinand Maximilian of Austria, and given to the Museum by Mrs. Lucy Maury Van Doren. Besides these personal relics donated by private individuals, the United States Navy Department lent a series of 17 models

illustrating the development of the United States Navy from 1776 to 1920. These include models of the vessels *Bon Homme Richard*, *Constitution*, *Enterprise*, *Ohio*, *Merrimac*, *Hartford*, *Monitor*, *Benton*, *Chicago*, *Oregon*, *Brooklyn*, *Winslow*, *North Carolina*, and *Lexington*.

A number of valuable additions were made to the numismatic collection. From the Treasury Department were received two specimens each of the United States twenty-dollar gold piece, silver dollar, quarter dollar, dime, nickel, and cent issued in 1923 and in 1924, and a collection of about 100 modern foreign coins including some of the most recent foreign issues. The largest contribution to the coin collection from an individual was the loan from B. M. Comerford of Washington, D. C., of a collection of early Irish silver and bronze coins and a series of English maundy money, in all some 470 specimens. Four gold medals, two gold badges and two specially designed silver medals awarded to Maj. Lewis Merriam, United States Army, in recognition of skill in marksmanship were lent by Mrs. Lewis Merriam, of Washington, D. C.

The War Department lent a silver Médaille d'Honneur des Épidémies which was awarded Capt. Clayton R. Pollan, United States Sanitary Corps, by the French Government in 1919. The Treasury Department increased the collection of commemorative medals by bronze copies of the medals issued by that department in commemoration of the inauguration of President Warren G. Harding in 1921, of the death of President Harding in 1923, and of the inauguration of President Calvin Coolidge in 1923; also copies of medals commemorating the appointment of F. E. Scobey as director of the Mint in 1922, and the appointment of R. J. Grant to that position in 1923. From the Jusserand dinner committee was received a bronze copy of the gold medal presented to the Ambassador of the French Republic Jules Jusserand, and Madame Jusserand, by the people of Washington, D. C., on January 10, 1925. The United Daughters of the Confederacy, through Mrs. W. H. Estabrook, contributed a bronze cross of honor of the type awarded by that society in recognition of services rendered during the World War.

The value of the coin and medal collection was further enhanced by the transfer from the Treasury Department to the Museum of about 800 publications concerning the science of numismatics, and varying in scientific importance from standard treatises on various phases of the subject to mere sales catalogues. A large number of bound volumes of numismatic periodicals were included.

The portrait collection was enlarged by a portrait of Elizabeth Cady Stanton by Anna E. Klumpke, presented by the National American Woman Suffrage Association; portraits of Gen. John J.

Pershing and Marshal Ferdinand Foch by Victor Perard, of New York City, donated by the artist; and an oil painting by John Innes showing President Harding delivering an address at Stanley Park, Vancouver, B. C., July 26, 1923, presented to the Museum by the National Press Club, Washington, D. C.

The philatelic collections were increased by 5,608 specimens, all, with a single exception, received through the Post Office Department. Of these, 5,505 specimens were issued by foreign governments and forwarded to the Post Office Department by the Universal Postal Union, Berne, Switzerland. Both the foreign and the domestic issues of stamps during the fiscal year have been remarkable for the number of commemorative issues. In 1925 the Universal Postal Union celebrated the fiftieth year of its existence, and this event was the occasion for special issues of stamps by the governments of Germany, Salvador, Sweden, and Switzerland. Various other events were commemorated by special issues of stamps by the governments of Bolivia, Brazil, Costa Rica, Czechoslovakia, Denmark, Egypt, France, Germany, Great Britain, Greece, Hungary, Italy, the Netherlands, Norway, Peru, Portugal, Russia, Salvador, San Marino, Sweden, Switzerland, Uruguay, and Venezuela. The United States issued stamps commemorating the sesquicentennial of the battle of Lexington and the Norse American centennial anniversary. Examples of all these issues have been added to the Museum collection. An accession of special importance was the gift from the Indiana State Museum, through the Post Office Department, of 78 handstamped letters sent through the United States mail during the period from 1836 to 1850, prior to the general use of adhesive stamps. All of these are of the folded-sheet type and show postal markings of a distinctive and interesting character, among which names of towns and numerals in various colored inks predominate. Another unique addition to the collection was a postal card forwarded by the first air mail from Germany to the United States, October 12-15, 1924; on the *ZR 3*, later the *Los Angeles*, contributed by Dr. Charles D. Walcott, Secretary of the Smithsonian Institution.

PRESERVATION, INSTALLATION AND PRESENT CONDITION OF COLLECTIONS

An examination of the exhibition halls and the storage and office facilities in the Arts and Industries Building convinces one of the crowded conditions under which the art, industrial and historical collections are being maintained. The point has been reached in considering the acquisition of specimens when it is necessary to determine first of all the space required, regardless of value, and often the Museum must be content with photographic reproductions of

the object rather than the object itself. In fact in the Divisions of Mineral and Mechanical Technology the work of installing new collections this year required but very little time of the staff. This permitted the aid and the preparator to devote most of their time to repairing exhibition material, improving the arrangement of exhibits and constructing new exhibition material. Working models, of which the divisions have quite a number, require considerable attention but, in spite of such attention, breakdowns occasionally occur, and when they do all other work must be stopped to make the necessary repairs. Various parts of the large working model illustrating the salt industry, in the Division of Mineral Technology, began to show signs of impending failure, after continuous operation for approximately five years. To avoid a complete breakdown the model was entirely renovated. Similarly, a model of an early locomotive in the Division of Mechanical Technology was altered to make it hand-operative. A working model of a compound cylinder for a locomotive was repaired and put in working order, it having been completely worn out through constant use by visitors. Several new models were made in the division's shop for addition to the educational series on mechanical powers in the Division of Mechanical Technology, and under the direction of the assistant curator, a beginning was made toward a better exhibition of the materials relating to the railway industry.

The collections under the care of the curator of textiles, which, besides textiles, include medicine, wood technology, organic chemistry and foods, require constant vigilance from the nature of many of the specimens. All perishable material like wools and foodstuffs are regularly fumigated and the preserving fluid on fresh anatomical specimens is periodically renewed. The textile fabric storage space was rearranged. The cataloguing of new specimens has been kept up to date, and the installation of new material has been made as soon after its receipt as possible. The examination and indexing of new textile terms and other special information contained in the large number of trade papers and periodicals received by the sectional libraries of textiles, woods, medicine, and foods, have continued to occupy the time of the preparators when not engaged in other duties.

Thirty-six installations of new exhibit material or rearrangements of exhibits which were already on view were made in the textile halls during the year, and an entirely new arrangement was made in the east south range, which permitted all of the food exhibits to be grouped together on one side of the main aisle.

Nineteen installations or rearrangements of exhibits included in the sections of organic chemistry and foods were made, the most note-

worthy being a series showing the ingredients used in compounding and coloring dental rubbers and the applications of dental and base plate rubber when vulcanized; an exhibit of coal-tar dystuffs, and a large number of jars of foodstuffs canned according to the cold-pack method.

The installations made in the Wood Court during the present fiscal year included: Photographs and charts descriptive of the hardwood distillation industry; specimens showing the process and products of resinous wood distillation; a series of specimens illustrating the manufacture of lead pencils, and another showing steps in the making of a stock for the United States military rifle, model 1903; an exhibit showing the use of English willow in the production of an artificial limb; timbers of southern yellow pine and Douglas fir flanking either side of the entrance; and a complete reinstallation of the board specimens of mahogany and other commercial woods, which have been shown on the south wall.

In the Division of Medicine, 54 new or rearranged installations were made. The more important of these were: The Gorgas medals; specimens illustrating the history of electric medical practice; mementos of Dr. John King; the method of making medicinal preparations of digitalis uniform in therapeutic activity; the right and wrong way to deal with cancer; old pharmaceutical balances and weights; enlarged transparent representations of pathogenic parasites; a model depicting the value of public health activities; enlarged glass models of water microorganisms; health progress exhibit; health posters; and oral and social hygiene exhibits. Several exhibits—some installed during the year just closed and others arranged in previous years—were constructed in such a way that it was necessary to illuminate them, and they were appropriately lighted this year.

In the Division of Graphic Arts the permanent exhibit of mezzotint was entirely rearranged with two important technical series added which give a clear idea of both the early and the later methods, the first by the use of roulettes and the later by the use of the rocker. The series include plates in various stages, progress prints clearly illustrating the processes, and the various tools used. Other series help in the understanding of varying methods, such as the mixed method, in which the design is etched into the plate before rocking. The historical mezzotint series, which consists of only about 20 prints, contains examples of the work of some of the men who have contributed to the development of the art, but needs a few of the rare historical prints to make it more comprehensive, such as prints by von Siegen, Prince Rupert (both now represented by reproductions), and some of the other prominent workers in this field.

The exhibit, printing for the blind, which had been in storage for several years, was again placed on exhibition during the year, together with many additional specimens.

The present overcrowded condition of the exhibition and storage space devoted to the collections of the Division of History has rendered installation of specimens received during the year and the preservation of specimens already in the possession of the Museum, a serious problem. The collection of art china bequeathed to the National Gallery of Art by the Rev. Alfred Duane Pell, was temporarily installed on the gallery of the West Hall of the Arts and Industries building. The Dickins collection of historical chinaware, formerly shown on the first floor of this hall, was moved to space adjoining the Pell collection. The result has been the concentration on this gallery of a ceramic collection of exceptional importance from the point of view of history and art. While the permanent installation of the Dickins collection on the West Gallery has been the only major change in installation in the space assigned the Division of History, a large amount of time has been devoted to numerous minor changes in the installation scheme both in the Arts and Industries and the Natural History Buildings.

These changes have been undertaken either for the purpose of securing space for collections recently received or to render the general scheme of installation more in harmony with the general classification of the collections. A constant effort is now being made to unite in single units of space collections relating to each of the various classes of material. This is difficult of accomplishment owing to the limitation both in cases and floor space, but it has at least been approximately attained during the past few years. A second difficulty has been the insistence of contributors to the Museum collections that miscellaneous collections of materials relating to a single individual or family should be kept together regardless of the heterogeneous character of many such collections. This tendency is being corrected by the refusal to accept collections so conditioned and by uniting with the regular classes materials which are of biographical as well as intrinsic interest.

Present conditions.—The collections in the Department of Arts and Industries and the Division of History are, as a whole, in as good condition as the limited space permits. The permanent exhibits are slowly being rounded out, gaps being filled, and new information and additional specimens added as opportunity permits. In the Division of Graphic Arts it is desired to have the technical series as complete as possible and the historic series show chronologically examples of the best that have been produced in each period.

As the Museum is almost wholly dependent upon the generosity of friends for contributions, its growth must naturally be slow, particularly in a field like graphic arts, where prints by the master workers in the various mediums are of great intrinsic value.

In the Division of History the present condition of the collections is satisfactory only in a limited sense. This priceless aggregation of historical material is receiving all the care and attention possible in view of the crowded condition of exhibition and storage space. The wide separation of the various historical units detracts from the appearance of the historical collections as a whole but can not be remedied until another building is provided. Installation in parts of three buildings necessitates a considerable loss of time in connection with the care of the collections.

The Museum collections in art, industry and history have for some years outgrown their quarters. It is hoped, however, that this condition will not much longer continue. The Board of Regents of the Smithsonian Institution went on record at its annual meeting on December 11, 1924, as being in sympathy with the movement undertaken by the engineering societies of the country looking towards the establishment of a National Museum of Engineering and Industry as a branch of the Smithsonian Institution, controlled by the Regents, and with such funds as may be raised for its operation and maintenance deposited as an endowment to be administered by the Institution for commemorating and perpetuating the records and achievements of the engineering profession. This scheme includes the erection of an adequate modern building for housing the engineering collections.

Special exhibitions.—The Division of Graphic Arts and the Section of Photography arranged 14 special exhibitions during the year, all of which were of a high standard and well worthy of the Museum. It is planned to continue to hold similar exhibitions in the future as they are in themselves very instructive and interesting, and attract many visitors. The subjects covered by these special attractions were as follows:

In Smithsonian Building.—September 15 to October 11, 1924. Sixty examples of American typographical printing. Gift of the American Printer.

October 1 to 28. American wood-block prints. Courtesy of the American Federation of Arts.

October 29 to November 28. Eighty-one etchings by George Elbert Burr, of Phoenix, Ariz. Lent by Mr. Burr.

November 29, 1924, to January 2, 1925. Etchings by members of the Chicago Society of Etchers. Lent by the society.

January 3 to 30. Etchings and drawings by Roi Partridge, of California. Lent by Mr. Partridge.

January 31 to February 27. Mezzotints by Frederick Reynolds, of New York. Lent by Mr. Reynolds.

February 28 to March 27. Etchings, aquatints, and mezzotints by John Taylor Arms, of Connecticut. Lent by Mr. Arms.

March 28 to April 24. Seventy-eight etchings and engravings by Ernest Haskell, of New York. Lent by Mr. Haskell.

April 24 to May 22. Rotary exhibition of the Brooklyn Society of Etchers, consisting of 100 etchings, aquatints, dry points, and mezzotints by members of the society. Courtesy of the American Federation of Arts.

April 6 to May 2. "Fifty Books of 1924." Examples of the best bookmaking produced in America the latter part of 1923 and the early part of 1924. Selected and shown under the auspices of the American Institute of Graphic Arts.

In Arts and Industries Building.—September and October. Ninety pictorial photographs by the Scottish Photographic Federation. Lent by the Federation.

November and December. Seventy-five pictorial photographs by Mrs. Minna Keene, Fellow Royal Photographic Society, of Canada. Lent by Mrs. Keene.

January and February. One hundred pictorial photographs by Leonard Misonne, of Gilly, Belgium. Lent by Mr. Misonne.

March and April. One hundred pictorial photographs by Fred Judge, Fellow Royal Photographic Society, of Hastings, England. Lent by Mr. Judge.

In connection with the John Taylor Arms exhibit of etching, Mr. Arms personally demonstrated the making of an etching on the afternoon of March 21, in the exhibition hall. This was a complete success in every way. In one hour and fifteen minutes Mr. Arms clearly showed each step in the making of an etched plate, from the bare copper to the finished print. Every one of the 110 persons present was deeply interested, and the success of the demonstration will probably lead to others on similar subjects.

Practical results of special exhibitions are seldom immediately evident. It is all the more gratifying to report that, as the result of the showing of the Fred Judge prints in bromoil transfer, the Bureau of Public Roads, Department of Agriculture, is now using this process for making excellent road pictures for display purposes.

The Section of Wood Technology had a special exhibition in the Wood Court, Arts and Industries Building, during American forestry week, April 27 to May 3, 1925. This was designed to stimulate a better understanding and a keener appreciation of the rôle which forests play in every field of American life. The exhibit occupied five cases and four large panels, and literature on forest protection and similar topics was conveniently placed near the exhibit for free distribution to interested visitors.

In the Division of Textiles, Miss Katherine Crawford, a member of the Handicraft Guild, of Washington D. C., from time to time carried on her work of Norwegian tapestry weaving, in the exhibition halls, attracting a great deal of attention from the visitors. Likewise, demonstrations by the curator of textiles of the ancient

art of tablet or card weaving were enthusiastically received by the visiting public.

The Division of History arranged a special temporary numismatic exhibition during coin week, February 15 to 22, through the cooperation of the American Numismatic Association represented by its president, Moritz Wormser, of New York City. Three members of the association residing in Washington contributed to this exhibit.

George H. Russel lent a collection of 250 ancient silver coins. About one-third of these were coins issued by various Greek cities during the period of the finest development of the art of coinage in Greece, many of which were exceptionally well preserved and of special interest to all students of Greek numismatics. The remaining two-thirds consisted of Roman consular coins issued by various Roman officials during the latter portion of the republican era, also of exceptional historic and art interest.

A second contributor to the temporary exhibition was B. M. Comerford, who lent an exceptionally fine series of British maundy money beginning with the reign of Charles II, in 1660, and including specimens down to the reign of George V, the last series shown being the issue of 1915. Special interest attaches to the coins of this character and the collection lent by Mr. Comerford during coin week undoubtedly interested many visitors to the Museum. Mr. Comerford also lent a series of early Irish silver coins and a series of necessity coins struck in Ireland in 1689 under the authority of James II. Nearly every variety of this type of coinage was represented in Mr. Comerford's exhibit.

The third contributor was Leander McCormick Goodhart of the British Embassy, who lent a very interesting series of 64 British naval medals representing the period of British naval history between 1653 and 1827. The series began with medals of the type issued in commemoration of victories over the Dutch during the seventeenth century, and the medals of the eighteenth century included specimens commemorating the achievements of such famous leaders as Admiral Edward Vernon, Capt. James Cook, and Admiral Horatio Nelson.

RESEARCHES

No researches of major consequences have been underway in the Divisions of Mineral and Mechanical Technology. Since the death of George W. Spier, who was custodian of watches, the division has had no horology specialist. Toward improving this condition, the curator, C. W. Mitman, has devoted much attention to horology and has made a study of several private horological collections and libraries in Lancaster, Pa., and New York City. He has, furthermore, spent considerable time in the preparation of manuscript for

a descriptive catalogue of the Museum collections in metrology and communication.

The assistant curator, Paul E. Garber, made a first-hand study of an original Conestoga wagon in Lancaster, Pa., with a view to renovating the model which has been in the Museum for some time. Credit is due to John J. Bowman and to Mr. and Mrs. Amos S. Gingrich, all of Lancaster, and to Ferdinand T. Haschka, of New York City, for cooperation in the investigations by Mr. Mitman and Mr. Garber. As opportunity offered, Mr. Garber has carried forward studies begun last year looking to the construction of a model of Sir Hiram Maxim's steam airplane of 1896, and is also engaged in securing data for a descriptive catalogue of the aeronautical collection in the Museum.

Success with industrial plant models has brought numerous requests for information as to the manner in which models and parts of models may be constructed, also appeals for suggestions for visualizing phenomena of many sorts.

The curator of textile, F. L. Lewton, and one assistant devoted as much time as could be spared to the preparation of comprehensive technical definitions of textile fabrics based upon authentic specimens in the Museum collections. This has meant careful examination of available current textile literature, as the technical mill and trade terms used in older works of reference are often not in accord with those in current use in the United States. A little progress has been made toward the completion of a fabrics glossary based on actual specimens, as the Museum collection of named textiles has been steadily increased.

The United States Patent Office has made frequent reference to the collections and to the technical books in the sectional library for data in passing on the claims of patentees. In one case a chief examiner cited certain exhibits in the National Museum as his reason for denying the claims of an inventor. An examination of the exhibits cited convinced the attorney for the inventor that his client could not establish his claim. That the Museum is a valuable adjunct to the Patent Office is gradually being recognized.

Curator Lewton and Assistant Curators Watkins and Whitebread furnished special information on industrial raw material and the identification of specimens, from time to time during the year, to the bureaus of the Department of Agriculture and to the United States Tariff Commission. Identification of specimens of fibers and fabrics, gums, resins, seeds, and woods for individuals, both in and out of the Government service, has continued to be a regular part of the work. The curator furnished identification of cottons and cottonseeds introduced by the Office of Foreign Seed and Plant

Introduction and Distribution, Department of Agriculture, and to him have been referred letters requesting information on silk and artificial silk received by the various Federal departments.

The curator of history, T. T. Belote, continued work on a paper on the collection of American and European swords in the Museum, which will probably be completed during the coming fiscal year. Much work was also done along various other lines which will ultimately serve as the basis of publications on various phases of historical museum work, particularly those relating to the science of numismatics.

The various divisions of the Department of Art and Industries and the Division of History are called upon almost daily for assistance, or advice, by individuals engaged in private research along the lines of these varied collections. Every effort is made by the members of the staff to meet such requests, and the valuable collections under their charge are, as far as practicable, placed at the disposal of those engaged in research work.

DISTRIBUTION OF SPECIMENS

In furtherance of the organic principle of the Smithsonian Institution for the "diffusion of knowledge among men," 146 industrial art specimens were distributed by donation, 249 specimens were sent out in exchange, and 2,060 specimens were lent for study or exhibition elsewhere. These gifts consisted of 43 textile specimens and 103 study samples of various woods specially prepared for distribution for educational purposes. The loans were chiefly the two traveling exhibits of approximately 100 specimens each, illustrating the principal processes of the graphic arts, which were lent for display in 18 cities as follows:

Exhibit No. 1 was exhibited at the Milwaukee Graphic Arts Exposition, Milwaukee, Wis.; the Dayton Art Institute, Dayton, Ohio; Dallas Typothetae, Texas State Fair, Dallas, Tex.; Louisiana State Museum, New Orleans, La.; Museum of Fine Arts, Houston, Tex.; Brooks Memorial Art Gallery, Memphis, Tenn.; Wyoming Historical and Geological Society, Wilkes-Barre, Pa.; and the Pratt Institute, Brooklyn, N. Y.

Exhibit No. 2 was sent to the Arnot Art Gallery, Elmira, N. Y.; the Direct Mail Advertising Convention, Pittsburgh, Pa.; the Cincinnati Museum Association, Cincinnati, Ohio; Hackley Gallery of Fine Arts, Muskegon, Mich.; Advertising Club, Kalamazoo, Mich.; Graphic Arts Association, Binghamton, N. Y.; Toledo Museum of Art, Toledo, Ohio; Akron Art Institute, Akron, Ohio; Grand Rapids Art Association, Grand Rapids, Mich.; and the Public Schools, Westfield, N. J.

TOTAL NUMBER OF SPECIMENS

The total number of specimens in the Department of Arts and Industries and the Division of History on June 30, 1925, was 414,386, assigned as follows:

Mineral technology -----	4,037
Mechanical technology -----	7,220
Textiles -----	11,399
Wood technology -----	4,693
Organic chemistry -----	15,918
Foods -----	1,077
Medicines -----	12,975
Graphic arts, including photography -----	24,509
Loeb collection of chemical types -----	650
History -----	331,908
Total -----	414,386

LIST OF ACCESSIONS TO THE COLLECTIONS DURING THE FISCAL YEAR 1924-25

(EXCEPT WHEN OTHERWISE INDICATED, THE SPECIMENS WERE PRESENTED OR WERE
TRANSFERRED BY BUREAUS OF THE GOVERNMENT IN ACCORDANCE WITH LAW)

- ABBOTT, DANIEL A., Washington, D. C.: 1 complete and one sectional "Movie" spark plug; 1 porcelain insulator and 1 metal firing unit. (84690).
- ABBOTT, Dr. WILLIAM L., Philadelphia, Pa.: 85 mammals and 30 birds from China (83324).
(See also under Mrs. Sally Burbank Swart.)
- ABELL, W. B., West Palm Beach, Fla.: Specimen of praying mantis from Florida (83512).
- ADAMS, Dr. C. F., Atherton, Mo.: 5 flies (84213).
- ADAMS, JOSEPH, Philadelphia, Pa. (Through E. G. Vanatta): 3 shells from Schuylkill River, introduced from Asia (87505).
- ADAMS, Prof. ROGER, Urbana, Ill.: 97 specimens of organic chemicals (84804).
- ADKINS, W. S., Tampico, Mexico (through Dr. Julia Gardner): A collection representing 40 species of Tertiary fossils from Guayabal, Vera Cruz, Mexico. (87464).
- AELLEN, Prof. PAUL, Schaffhausen, Switzerland: 2 plants (87275). Exchange.
- AETSON, Dr. R. A. (See under Botanic Gardens, Science and Agriculture Department, Georgetown, Demerara, British Guiana.)
- AGRICULTURE, DEPARTMENT OF: Helmet, 6 pieces of armor, a sword and an antique cowbell (84836).
Bureau of Agricultural Economics: Set No. 196 of the practical forms of the official wool standards of the United States for grades of wool (84837).
- AGRICULTURE, DEPT. OF—Contd.
Bureau of Animal Industry: Congo eel collected at Suffolk, Va., by Lewis R. Johnson (84148); (through Dr. E. A. Chapin) 7 specimens of flies from Indo-China (84810).
Bureau of Biological Survey: 3 specimens of crustaceans from Juneau, Alaska, and Netarts Bay, Oreg. (83305); 38 specimens of crustacea, 6 specimens of bryozoans, 1 earthworm, 1 mollusk, 6 turtles and some toad tadpoles from Hog Island, Va., and 1 beetle and 1 earwig collected at Point Lookout, Md., by Maurice K. Brady (83323); (through Maurice K. Brady) 6 specimens of shrimps, and a small crayfish from Camp Humphreys, Va.; 7 amphipods from Dogue Creek, Va. (83403); nest and 12 eggs of Mearns quail from Arizona (83517); 18 lichens, 8 skeletons of birds, 198 birds' eggs with 6 nests (44 sets), mostly from Alaska (83645, 84695, 86960); 247 plants, collected in Alaska by L. J. Palmer (84159, 84821, 86236); 20 bird skins, including 4 species new to the Museum collections, 4 skeletons, 1 skull and 1 sternum (84057); 20 plants from Nevada (84127); fossil elephant bones from Eight Mile Creek, Oregon, collected by Stanley G. Jewett (84184); 726 specimens, representing 100 species, of mounted and identified insects, belonging to the orders Hemiptera, Hymenoptera and Diptera.

AGRICULTURE, DEPT. OF—Contd.

Bureau of Biological Survey—Continued.

including 1 paratype of a cicada (84561); 19 crabs collected by James Silver of the survey at Chapman Field, Plant Introduction Garden, near Coconut Grove, Fla., during the summer of 1924 (84954); 61 insects, including the types of 6 new species (86263); 6,013 specimens of bird plumage and prepared millinery trimmings, confiscated by Federal officers under the Lacey Act, migratory-bird treaty act and other Federal laws protecting birds (87418); 3 amphipods from birds' stomachs (87554); 1,232 mammals (87864).

(See also under W. A. Spate.)

Bureau of Chemistry: 21 specimens illustrating bacteriological examination of water supplies (86115).

Bureau of Entomology: The Fernald type collection of Microlepidoptera, consisting of 638 specimens, 221 species, of which 367 are represented by types (84054); 141 plants collected in Mexico by E. G. Smyth (86242); miscellaneous insects collected by Mr. Smyth or H. F. Wickham in Mexico (86431); (through Gypsy Moth Laboratory, Melrose Highlands, Mass.) 123 specimens, representing types of 12 species, of Braconid parasites; also 38 specimens of chalcid flies, being the types of 3 species (86588, 86742); 10 specimens, 2 species, of mollusks from Mobile, Ala. (87259); 12850 miscellaneous insects retained out of the material identified by the various bureaus specialists during the year ending June 30, 1925 (87963).

(See also under J. Malbis and Daniel D. Streeter.)

AGRICULTURE, DEPT. OF—Contd.

Federal Horticultural Board:

Miscellaneous material comprising 47 slugs, 89 shells, 33 isopods, 55 amphipods, 1 crab, 1 toad, and 39 tree frogs, collected by inspectors of the board at various ports on indigenous plant specimens and on specimens imported from many foreign countries and forwarded to the Museum for identification (83401, 83402, 83556, 83590, 83595, 83977, 84007, 84015, 84071, 84078, 84162, 84323, 84449, 84726, 84780, 84797, 84824, 84850, 84874, 84887, 84941, 84989, 85105, 85249, 85379, 85651, 85912, 86061, 86295, 86326, 86501, 86581, 86634, 87114, 87166, 87168, 87205, 87277, 87290, 87293, 87300, 87426, 87448, 87449, 87481, 87519, 87544, 87875, 87861).

Forest Service: Plant from California (85404); map showing the forest regions of the United States, and listing the principal trees of such regions (84956).

Bureau of Plant Industry: 110 plants collected by E. O. Wooton in the western United States and Texas (83322, 87688); about 20,000 plants collected in eastern Asia by Joseph F. Rock (83327); 5 plants from Mexico, collected by T. S. Brandegee (83328); (through A. R. Leiding) 10 plants from Arizona (83691); 71 plants and 4 photographs of plants (84932, 84968, 85030, 85125, 85400); (through C. B. Doyle) 2 photographs of plants (84012); willow (84036); (through Dr. C. V. Piper) 12 plants (84150, 84815, 86454), 35 plants from Cuba and the western United States (85420), 2 plants collected in Panama by H. Johansen (85838), 5 plants from the southern United States (86956), sedge from New Zealand (87252); (through Prof. A. S. Hitchcock) plant from

AGRICULTURE, DEPT. OF—Contd.

Bureau of Plant Industry—Contd.

Australia, grasses collected in Ecuador, Peru, and Bolivia, in 1923-1924, and 1,271 miscellaneous grasses (84812, 86801, 87173); (through P. L. Ricker) plant from Virginia (84813); 50 plants collected in Abyssinia by Harry V. Harlan (84930); 72 plants from Bolivia (85010); 65 plants collected in Utah by W. W. Eggleston (85280); 8 plants collected in Mexico by G. N. Collins and T. H. Kearney (85301); (through R. D. Rands) 30 specimens of mollusks from Louisiana (86102); 29 plants from the United States, chiefly Colorado, collected by I. Tidestrom (86298); 50 plants from California and Lower California, collected by H. G. McKeever (86443); 2 plants from Florida (86587); 25 ferns collected in China by P. H. Dorsett (85595); (through Dr. C. R. Ball) 3 plants from South Dakota (85811); 4 plants from Brazil (86815); (through Dr. S. F. Blake) 9 specimens of plants and 4 photographs (86816); (through Roy G. Pierce) 6 photographs of white pine on the Smithsonian grounds (86717); plant from Mexico (87498); plant from Geneva, New York (87906).

Bureau of Plant Industry, Sugar-Plant Investigation: 36 specimens of mollusks from Louisiana and the Hawaiian Islands (87943).

Bureau of Public Roads (through A. T. Goldbeck): 1-foot section of piling from Perth Amboy, N. J., covered with barnacles (84938).

AGUILAR, GERARDO, Payo Obispo, Quintana Roo, Mexico: 10 cocoons, 2 larvae in alcohol and a pupa (85421).

ALDRICH, T. H., Birmingham, Ala.: 146 specimens of land and freshwater shells from farther India, including types of 3 species (85422).

ALDRIGE, Mrs. FRANK P., Leland, Miss.: A tumblebug (85699).

ALFARO, Sr. Don ANASTASIO, San Jose, Costa Rica: 276 specimens of plants, mostly orchids, from Costa Rica (83311, 83550, 84852, 85888, 86450, 87274, 87506).

ALLEE, Prof. W. C., Chicago, Ill.: Collection of miscellaneous insects and 46 crustaceans collected at Barro Colorado Island, Panama (83956, 83981).

ALLEN, Mrs. LAURA M. (See under Mrs. Jake Cruse, and Mrs. Ernest Hammond.)

ALLISON, Miss F. C., West Falls Church, Va.: Political campaign banner carried by supporters of Abraham Lincoln and Hannibal Hamlin during the presidential campaign of 1860 (86265).

ALLISON, JACK J. H., Washington, D. C.: A bird (flicker) from Washington, D. C. (83954).

ALLISON, W. F., West Falls Church, Va.: Conoidal limestone pipe obtained by the father of the donor in the central Mississippi Valley. Made by the tribes formerly occupying that region and probably not over 75 years old, (87134).

ALUMINUM CO. OF AMERICA, New Kensington, Pa.: Collection of chemicals for the Loeb collection of chemical types (87839).

AMARAL, Dr. AFRANIO DO. (See under Instituto Butantan.)

AMERICAN FEDERATION OF ARTS, Washington, D. C.: 59 wood block prints for temporary exhibition (84694); (through Miss Leila Mechlin, secretary) the Rotary exhibition of the Brooklyn Society of Etchers, comprising 100 prints, etchings, aquatints, dry points, and mezzotints, and a small technical exhibit consisting of 13 specimens (87148). Loan.

- AMERICAN INSTITUTE OF GRAPHIC ARTS, New York City: "Fifty Books of 1924" with 18 duplicates, 68 in all, and 64 lantern slides (86981). Loan.
- AMERICAN MILITARY ENGINEERS, SOCIETY OF, Washington, D. C. (through L. R. Lohr, executive secretary): Medal, bar, button and ribbon of the Society of American military Engineers (83358).
- AMERICAN MUSEUM OF NATURAL HISTORY, New York City: Casts of 3 dinosaur eggs and of the skull of a giant mesonychia from the Upper Eocene of Mongolia, (83533); 85 birds from Polynesia, including 10 species and subspecies, new to the Museum collections (84779); cast of the skull of a fossil mammal (85656); 3 casts of fossil apes (86101); 67 bird skins, 61 species, mostly from Ecuador (86314); skin of a weaver bird, new to the Museum collections. Exchange.
- AMERICAN PHOTO-ENGRAVERS ASSOCIATION (through Edward Epstean, Walker Engraving Co., New York City); 5 sets of progressive proofs of a 4-color half-tone; 5 sets of progressive proofs of a Ben Day print in colors (87144).
- AMERICAN PHYSIOTHERAPY ASSOCIATION, Walter Reed General Hospital, Washington, D. C. (through Miss Eleanor E. Jones): Indoor and outdoor uniform of the types worn during the World War by reconstruction aids, Medical Department, U. S. Army (83898).
- AMERICAN PRINTER, THE, New York City: 60 mounted specimens of woodcuts, linoleum blocks, lithographs, half-tones, line cuts and typographical prints (84222).
- AMERICAN RAILWAY ASSOCIATION, Signal Section, New York City (through H. S. Balliet, secretary): Semaphore lamp used in the earliest type of signaling system in the United States and a pipe carrier used in the earliest type of interlocking signaling system in the United States (83518); 16 speci-
- AMERICAN RAILWAY ASSOCIATION—Continued.
- mens of early types of railway signaling apparatus originally used on the Southern Pacific Railway, Illinois Central Railway, New York, New Haven & Hartford Railway, and Pennsylvania Railway, and presented to the American Railway Association for addition to the exhibit of signaling (83893).
- AMERICAN SHEET AND TIN PLATE CO., Pittsburgh, Pa. (through J. C. Whetzel): Gray tin, an unusual allotropic modification of this element (84556).
- AMERICAN SOCIETY FOR THE CONTROL OF CANCER, THE, New York City: 14 colored posters on the right and wrong way to treat and diagnose cancer (86095).
- AMES, OAKES, Boston, Mass.: Plant collected in Costa Rica by C. H. Lankester (85933). Exchange.
- ANDERSON, B. F., Echo Farm, Utah: Beetle from Utah (84197).
- ANDERSON, F., Golden Grove, St. Croix, Virgin Islands of the United States: Miscellaneous insects (84899).
- ANSOVIN, FERNANDO, Havana, Cuba: 8 butterflies from Cuba (85336).
- AQUATONE CORPORATION, New York City: 25 aquatone prints (86762).
- ARCHAEOLOGICAL SOCIETY OF WASHINGTON, Washington, D. C. (through Dr. Mitchell Carroll, director): Collection of skeletal material and archeological specimens secured in France by the American School of Prehistoric Research in Europe (84988); (through Count Byron Khun de Prorok) 6 antiquities from Carthage (86076). Loan.
- ARGO, VARGIL, Ithaca, N. Y.: A small collection of flies (86998).
- ARISTE JOSÉPH, Brother, Bogota, Colombia, South America. (See under Maurice A. Rollot.)
- ARMS, JOHN TAYLOR, Fairfield, Conn.: 75 prints, etchings, aquatints, and 1 mezzotint for special exhibition from February 28 to March 27, 1925 (86437). Loan.

- ARMSTRONG CORK CO., Linoleum Division, Lancaster, Pa.: Motion picture film. Subject: "Frederick Walton, the inventor of linoleum" (86198).
- ARNOLD, BENJAMIN WALWORTH, Albany, N. Y.: 4 starfishes from Korea (84787).
- ARSENE, Rev. Brother G., Covington, La.: 744 specimens of mosses and hepatics from Louisiana (84165).
- ARTEMIO RÉNÉ, Rev. Brother, Managua, Nicaragua, Central America: 83 plants from Nicaragua (84130).
- ARTHUR, Dr. J. C., Lafayette, Ind.: 54 specimens of rusts from Glacier National Park, Mont. (84118, 85840).
- ASCHEMEIER, B. F., Plant City, Fla.: Skin and skull of a fox squirrel (86285).
- ASCHEMEIER, C. R., U. S. National Museum: 15 birds from Maryland; bat; 3 skins and 3 skulls of squirrels; 3 musk turtles from Florida; wood specimens of Brazilian cedar; young purple grackle from Washington, D. C. (84172, 84215, 84803, 85031, 87487, 87845).
- ASHBY, EDWIN, Blackwood, South Australia: 80 specimens, including 1 topotype and 4 paratypes of chitons from Tasmania and Australia (87195). Exchange.
- ASHTON, Gen. JAMES M., Tacoma, Wash.: Collection of ivory carvings from the natives of Siberia (86056). Loan.
- ASSOCIATED CORN PRODUCTS MANUFACTURERS, Chicago, Ill.: 7 specimens of products derived from corn; 4 grades of sugars; 2 glutens, and a refined oil (87258).
- ASSOCIATION FOR IMPROVING THE CONDITION OF THE POOR, New York City: 12 health charts (85895).
- ATLANTIC GULF AND PACIFIC CO., New York City: Internal shell of a cephalopod from the Cretaceous rocks of Delaware (87225).
- AUSTRALIAN MUSEUM, THE, Sydney, New South Wales, Australia: 200 specimens of the lower crustaceans (85718). Exchange.
- AUTHIER, GEORGE F. (See under National Press Club.)
- AUTOMATIC ELECTRIC CO., Chicago, Ill.: 4 automatic telephone switches representing 4 stages in the development of the automatic telephone, installed in 1896, 1903, 1913, and 1925, respectively (85593).
- AVRIT, F. C., Washington, D. C.: Knife blade found at Mary's Peak, Oreg., 90 miles south of Portland (87310).
- BAILEY, Prof. L. H., Ithaca, N. Y.: 9 plants (83368, 83380); 200 plants from Venezuela (83411, 84055, exchange); (through Dr. S. F. Blake) 3 plants from Venezuela (83521); 12 fragmentary plants (84132, exchange); 3 plants (84777, exchange).
- BAILEY, S. WALDO, Williamstown, Mass.: Fern from Massachusetts (84845).
- BAILEY, VERNON, Washington, D. C.: 9 mollusks, 3 species, from Bighorn Cave, in Slaughter Canyon, Guadalupe Mountains, New Mexico (83454).
- BAIRSTOW, HERBERT, F. R. P. S., Halifax, England: 3 bromoil transfers, namely, "The Oyster Gatherers," "Sand Dunes," and "The Staithe Whitby" (83519).
- BAKER, Prof. C. F., Los Banos, P. I.: 14 specimens, 7 species, of land shells; also 2046 moths, all from the Philippine Islands (83383, 84759, 86577).
- BAKER, Dr. F. H., Richmond, Victoria, Australia: Beetle from Australia; a small collection of insects from Victoria, Australia; a small collection of miscellaneous insects (86044, exchange); a small collection of insects, comprising termites, a dragon fly, a bee, and a wasp (84696, 84981, 86974).

- BALL, Dr. C. R., Washington, D. C.: 28 plants from the western United States and Canada (86761, 87690).
(See also under Agriculture, Department of, Bureau of Plant Industry.)
- BALLIET, H. S. (See under American Railway Association.)
- BALLIET, LETSON, Tonopah, Nev.: A small collection of fossils from Nevada (84931).
- BALLOU, Miss. Lois M. (See under Pomona College.)
- BALTIMORE MARYLAND ENGRAVING CO., THE, Baltimore, Md.: 4 copies of "The A-B-C of Photo-Engraving" (83387); 96 prints illustrating the making of line cuts and half-tones (86611).
- BANKS, R. R., Smithsonia, Ala.: Glass snake from Alabama (84220).
- BANN, JAMES, Cincinnati, Ohio: 2 wood engravings (87249).
- BARBER ASPHALT CO., THE, Philadelphia, Pa.: 4 colored transparencies; asphalt water tank; automobile door panels and japanned products; storage battery container; 6 models of asphalt roofing construction; and 5 full-size displays of asphalt roofing materials and shingles (86060); panel of natural asphalt "Hex-lock" shingles; panel of natural asphalt stucco base; and model of a house illustrating the application of stucco and shingles on original frame and old shingles (86248); model showing application of asphalt to concrete tank; section of asphalt-covered wire armature coil; framed page of New York Times rotogravure section, printed with Gilsonite ink, and section of cast-iron pipe partly covered with asphaltic dip (87854).
- BARBER, H. S., Washington, D. C.: 8 copepods and 5 earthworms collected on Plummer Island, Md. (Potomac River), by the donor (83445, 84798).
- BARBER, J. K., Boston, Mass.: Automobile circular (Duryea, 1895) (86792).
- BARBER, MANLY D., Knoxville, Tenn.: 3 specimens, 2 species, of Unionidae from West Palm Beach, Fla., and 38 specimens of fossil shells, including types of 4 new species and 34 paratypes from canals at West Palm Beach (85827, 86067).
- BARCLAY, Capt. HUGH, U. S. Army, American Embassy, Rio de Janeiro, Brazil: Examples of gold ore from the Passagem mine, Minas Geraes, Brazil (85606).
- BARNES, F. R., Wahpeton, N. Dak.: 7 specimens, 1 species, of mollusks from Minnesota (87823).
- BARNEY, R. L., South Glastonbury, Conn.: 2 species of fresh-water mussels from the Connecticut River at South Glastonbury (83458).
- BARR, JOSEPH A., Gates, N. Y.: 4 glass models of a siphon, patented by the donor, Patent No. 1133606, granted October 3, 1915 (87294).
- BARRETT, W. R. (See under Prof. W. R. Orndorff.)
- BARTLETT, Prof. H. H. (See under Michigan, University of, Department of Botany.)
- BARTLETT, Capt. R. A., Washington, D. C.: 48 plants from Unalaska (84686); a comprehensive collection of marine invertebrates from Bering Sea and arctic Alaska, made by the donor, during the summer of 1924, consisting of more than 300 specimens of crustaceans, 7 anemones, 3 alcyonarians, 6 bryozoans, 10 marine annelids, 6 lots of echinoderms, and 4 lots of mollusks (84734).
- BARTRAM, EDWIN B., Bushkill, Pa.: 147 packets of mosses from Arizona (84069, exchange); 18 plants (85390, 85932).
- BARTSCH, HENRY G., Washington, D. C.: Skeletons of 2 young humming birds in a nest from California (83524).
- BASSETT, GEORGE W., Philadelphia, Pa. (through Dr. Edgar T. Wherry): Orchid from New Jersey (87890).

- BATHER, Dr. F. A. (See under British Government, British Museum (Natural History).)
- BAUM, JULIAN A., Poplar Branch, N. C.: Small collection of amphipods, and a piece of piling from which they were taken (86979).
- BAUMGARDNER, Dr. EDWARD, Lawrence, Kans.: Specimen of oak (84915).
- BEAMER, R. H. (See under Kansas, University of.)
- BEAN, Dr. R., Charlottesville, Va.: Fragmentary human skeleton collected by Dr. C. P. Obenschain and given to the donor (85583).
- BEATTIE, R. KENT, Washington, D. C.: 10 plants from the eastern United States (86983).
- BECKER, Dr. GEORGE F. (through Mrs. Florence Campbell Forrester, Washington, D. C.): Egyptian necklace of colored glass pieces (87289).
- BELLARD, Dr. E. P. DE, Valera, Venezuela: Insects from Venezuela (84014, 85560).
- BENEDICKS, Dr. CARL, Stockholm, Sweden: An example of synthetic iron-nickel alloy containing 11.9 per cent nickel, presenting the main constituents of meteoric iron (87228). Exchange.
- BENEDICT, JAMES E., jr., Linden, Md.: Sharp-shinned hawk from Maryland (85403).
- BENEDICT, N. D., Hastings, Fla.: Skin of a barn owl from Florida (86083).
- BENEDICT, Dr. R. C. (See under Brooklyn Botanic Garden.)
- BENJAMIN, Mrs. CAROLYN GILBERT. (See under Colonial Dames of America, National Society of.)
- BENJAMIN, Dr. MARCUS. (See under Mrs. W. C. Gorgas.)
- BEQUAERT, Dr. Jos., Boston, Mass.: 7 specimens of flies (85232).
- BERGER, ALWIN. (See under New York State Agricultural Experiment Station.)
- BERNER, GLENN, Jamestown, N. Dak.: 11 plants (85038, 85100); 5 plants from North Dakota and Montana (84712). Exchange.
- BERRY, Prof. E. W., Baltimore, Md.: Collection of Pleistocene flora from Trinidad described by the donor (84251); (through Dr. Julia Gardner) fossil crab from Forest Clay, Island of Trinidad (Miocene) (86795); 140 type specimens of fossil plants from the Cretaceous (Ripley) of Henry County, Tenn. (87178).
- BERTOLET, A. B., Thayer, Ind.: Beetle from Indiana (85087).
- BEZZI, Prof. MARIO, Turin, Italy: 10 specimens of flies, including paratypes of 3 species; fly, type species of a genus (87217, 85896). Exchange.
- BIGELOW, N. K. (See under Royal Ontario Museum of Zoology.)
- BIRGE, Miss JUDITH, Falls Church, Va.: 4-legged chick (84146).
- BISCHOFF, Dr. H. (See under Zoologisches Museum der Universität.)
- BISHOP MUSEUM, BERNICE P., Honolulu, Hawaii: Colored cast of a Hawaiian stone sling-club (83400), exchange; (through Dr. A. Wetmore) bird skin from the Marquesas Islands (84013), exchange; palm from the Marquesas Islands (87508), exchange.
- BIXBY, W. K., St. Louis, Mo.: Reproduction of the author's manuscript of "Home, Sweet Home" (85613).
- BJORKMAN, JOHN G., Chicago, Ill.: 2 wood engravings made by the donor (84979); a small block for wood-engraving (85342); zinc etching, and an original scratch-board drawing by the donor in imitation of a wood engraving (85409); 9 examples of commercial wood engraving (85114); engraving on celluloid and 2 proofs (86482).
- BLACKMAN, Dr. M. W., Syracuse, N. Y.: 35 bark beetles, being paratypes of 8 species (84026).
- BLAKE, IRVING H., Champaign, Ill.: Mosquito (86502); mollusk from Maine (85627).

- BLAKE, Dr. S. F. (See under Agriculture, Department of, Bureau of Plant Industry, and Prof. L. H. Bailey.)
- BLANCK & CO. (INC.), New York City: 39 specimens of cotton, wool, and silk embroideries made on the Schiffli embroidery machine (86090, 86617).
- BLATCH, Mrs. HARRIET STANTON. (See under National American Woman Suffrage Association.)
- BLICKENSBERGER, CLARK, Denver, Colo.: Bromide enlargement entitled "A Ptarmigan in Winter" (86924).
- BLUTHGEN, P., Naumburg a. Saale, Germany: 21 determined European bees, representing 16 species; 16 identified bees, representing 11 species (84175, 86438). Exchange.
- BLY, Mrs. CHARLES, Kingman, Ariz.: 4 plants (83571, 87456, 87708).
- BOARD OF COMMISSIONERS OF AGRICULTURE AND FORESTRY, Honolulu, Hawaii (through D. T. Fullaway): 16 specimens of flies collected in Panama (84684).
- BODEKER, Dr. FR., Cologne, Germany: 7 plants (83623, 83694, 85039.) Exchange.
- BOGERT, Dr. MARSTON T., New York City: 34 specimens of chemicals for the Loeb collection of chemical types (87697).
- BOOTH, Dr. E. R., Cincinnati, Ohio (through Dr. Norman C. Glover, Washington, D. C.): Copy of Booth's "History of Osteopathy and Twentieth Century Medical Practice" (85897).
- BOSCHMA, Dr. H., Leyden, Holland: 2 starfishes (87556).
- BOSWELL, Prof. P. G. H., Liverpool, England: Small collection of Pliocene fossils, bryozoa, from Suffolk, England (86320).
- BOTANIC GARDENS, Brisbane Australia (through C. T. White): 56 plants from Queensland (84688). Exchange.
- BOTANIC GARDENS, Buitenzorg, Java: 12 East Indian ferns (83373). Exchange.
- BOTANIC GARDENS, St. George's, Grenada, B. W. I. (through Dr. William O'Brien Donovan, superintendent): 8 plants (84717). Exchange.
- BOTANIC GARDENS, SCIENCE AND AGRICULTURAL DEPARTMENT, Georgetown, Demerara, British Guiana (through Dr. R. A. Aetson): 2 plants (87835). Exchange.
- BOTANISCHER GARTEN UND MUSEUM, Berlin-Dahlem, Germany: 21 fragmentary specimens of plants (83706). Exchange.
- BOTANY WORSTED MILLS, Passaic, N. J.: 10 specimens of worsted dress fabrics (84869).
- BOTCHFORD, Mrs. H. J., Woodland, via Phoenicia, N. Y.: 10 specimens of weevils (84244).
- BOTTIMER, L. J., Houston, Tex.: Plant from Texas (84051).
- BÖVING, Dr. A. G. (See under Smithsonian Institution, Division of Insects, and Dr. A. Cros.)
- BOWDISH, B. S., Demarest, N. J.: Skin of a red-tailed hawk from Porto Rico (84123).
- BOWDOIN, Mrs. KATE G. (See under Miss M. Winchester).
- BOX, HAROLD E., Entomological Laboratory, Plantation Blairmont, Berbice, British Guiana: 53 insects from British Guiana (84794).
- BRADY, ALEXANDER CURT, Iguape (Morro das Pedras), Estado Sao Paulo, Brazil: 25 specimens of ferns from Brazil and Costa Rica (85602).
- BRADY, MAURICE K., Washington, D. C.: Crayfish collected by Dr. Omar T. Cruickshank, Pittsburgh, Pa. (84247); 8 fishes from Hog Island, Va. (87935).
- (See also under Agriculture, Department of, Bureau of Biological Survey).

BRANDEGEE, T. S., Berkeley, Calif.: 10 plants from Mexico (83369, 84189).

(See also under California, University of, Department of Botany).

BRANDT, Commander GEORGE E., U. S. Navy, Washington, D. C.: Chinese vase of the Yung Cheng Dynasty, 1723-1736, the stand, and the wooden box with a carved inscription which contains them (87843). Loan.

BRAY, Dr. S. ELSON, Savannah, Ga.: 7 earwigs from Georgia (86600).

BREWSTER, Dr. C. M., Pullman, Wash.: 16 specimens of chemicals for the Loeb collection of chemical types (87713).

BRIDWELL, J. C., Washington, D. C. Sawfly (type specimen) (85859).

BRIMLEY, C. S. (See under North Carolina, Department of Agriculture, Division of Entomology.)

BRINKMAN, A. H., Craigmyle, Alberta, Canada: 52 plants from Canada (85826).

BRITISH GOVERNMENT:

British Museum (Natural History), London, England (through Ward's Natural Science Establishment, Rochester, N. Y.): Meteoric irons from Kenton County, Ky., and Smithville, Tenn. (83389); 5 meteoric irons, La Primitiva, Chintautla, Barranca Blanca, Tamarugal, and Nedagolla (83553); 2 drawings of the type specimen of a fern (83697); (through Dr. F. A. Bather) plaster cast of the skull from Broken Hill, Rhodesia (84093), a series of British Carboniferous fossils, comprising 156 specimens representing 105 species (85355); 7 specimens of minerals (85748); fragmentary specimen of fern from British Guiana (87214). Exchange.

BRITISH GOVERNMENT—Contd.

Imperial Bureau of Entomology, London, England (through Mr. James Waterston): 3 unidentified specimens of chalcid flies (84256).

Royal Botanic Gardens, Kew, Surrey, England: 1,320 plants (84258, 86493), exchange; specimen of fern (87172), exchange.

Royal School of Mines, Imperial College of Science and Technology, London, England: 260 specimens representing 65 species of invertebrate fossils from the Upper Miocene of Touraine, Upper and Lower Burdigalian of Gironde, and Middle Eocene of southern Nigeria (85136).

BRITTON, Dr. N. L. (See under W. E. Broadway.)

BROADWAY, W. E., Port-of-Spain, Trinidad, British West Indies: 7 plants (83426, 84145, 87700); plant and 9 ferns from Trinidad (85659, 87504); (through Dr. N. L. Britton) 3 ferns from Trinidad (85866).

BROOKES, ALBERT E., Okauia, Matamata, Waikato, New Zealand: 41 specimens of named Coleoptera from New Zealand (86614). Exchange.

BROOKLYN BOTANIC GARDEN, Brooklyn, N. Y. (through Dr. R. C. Benedict): 44 specimens of ferns (85841). Exchange.

BROOKLYN MUSEUM, THE, Brooklyn, N. Y. (through Charles Schaeffer): Beetle (86112). Exchange.

BROTHERUS, Dr. V. F., Helsingfors, Finland: 254 mosses (84947). Exchange.

BROWN, EDGAR, Lanham, Md.: Cross section of a partial trunk of an ancient cypress taken from the Mayflower Hotel excavation, Connecticut Avenue and De Sales Street, Washington, D. C., in 1922 (87953).

BROWN, EDWARD J., Eustis, Fla.: Posterior molar of a bear, sharks teeth, and numerous fragmentary parts of the carapace and plastron

- BROWN, EDWARD J.—Continued.
of an extinct turtle (83393); fragmentary remains of mammalian and reptilian fossils, from Rock Springs, Orange County, Fla. (87124).
- BROWN, EDWARD J., SAMUEL K. BROWN, and B. M. KINSER, Eustis, Fla.: Portions of two large turtles and fragmentary parts of several others, and a few scutes of a glyptodont (87041).
- BROWN, OLIVER, Laurel, Md.: Red-shouldered hawk from Maryland (87182).
- BROWN, S. K. (See under Edward J. Brown.)
- BROWN, W. L., U. S. National Museum: Skeleton of a gray fox (85447).
- BROWNE, Prof. A. W., Ithaca, N. Y.: 7 specimens of chemicals for the Loeb collection of chemical types (86054).
- BROWNE, EDWIN, Washington, D. C.: Skeleton of a barn owl (84854).
- BRUNER, W. E., Norman, Okla.: 400 plants from Oklahoma (86900). Exchange.
- BUDA CO., THE, Harvey, Ill. (through Lawrence M. Viles, president): Full size, four-cylinder gasoline engine, sectioned in parts and electrically operated (84957).
- BUFFALO SOCIETY OF NATURAL SCIENCES, Buffalo, N. Y.: Human skeletal material from an old Indian cemetery near Akron, Erie County, N. Y. (84174).
- BUJASE, A., Esmeraldas, Ecuador: Skin of roseate spoonbill from Ecuador (84187).
- BULLOCK, D. S., Angol, Chile: Small collection of insects, chiefly moths and flies from Chile (85814, 87240).
- BURDETT, W. R., Occoquan, Va.: Duck from Virginia (85352).
- BURKE, Dr. WILLIAM E., Trona, Calif.: 3 specimens of chemicals for the Loeb collection of chemical types (87712).
- BURNETT, SIM. (See under V. Allison Holmes.)
- BURR, GEORGE ELBERT, Phoenix, Ariz.: 81 prints, aquatints, soft ground, dry, points and line etchings, all the work of the donor for temporary exhibition (84183). Loan.
- BURROUGHS ADDING MACHINE CO., Detroit, Mich.: 5 machines, with mahogany case for their exhibition, namely, a calculator; adding and listing machine; section of adding machine; billing machine, and an automatic bookkeeping machine (85283). Loan.
- BUSCK, AUGUST. (See under Smithsonian Institution, Division of Insects.)
- BUSHNELL, D. I., Washington, D. C.: Italian dagger of carved steel, copper, brass, silver, and horn of the period of the sixteenth century (85906); 5 stone scraper blades showing areal distribution across the United States, and 1 Makah cord basket from Washington (86118).
- BUTLER, Commander C. S. (M. C.), U. S. Navy, Port au Prince, Haiti: 36 specimens, 1 species, of freshwater shells from Rivere Pederuales des Anse-à-Pitres, just above the mouth at Anse-à-Pitres, Haiti (84890).
- CAINE, Mrs. HALLIE STEPHENS, North Bend, Ohio (through Dr. John Uri Lloyd): Barometer used by Dr. John King in recording meteorological data before the establishment of the State or Federal weather bureaus (87851).
- CALBECK, Dr. JOHN HENRY, Joplin, Mo.: Specimen of chemical, basic sulphate of lead (87698).
- CALDERON, Dr. S. (See under Salvador, Government of, Direccion General de Agricultura.)
- CALIFORNIA ACADEMY OF SCIENCES, San Francisco, Calif.: 846 plants from Lower California (83381), exchange; 75 shrimps collected, at Pohoika, Lower Puna Island of Hawaii, by Walter M. Giffard (84201); (through E. P. Van Duzee) 8 flies (84925, exchange); 37 plants (85247), exchange.

CALIFORNIA AGATE CO. Huntington Park, Calif. (through Interior Department, U. S. Geological Survey): 25 marbles and 1 gear shift lever ball made of onyx and a piece of rough onyx with one corner polished (86740).

CALIFORNIA, UNIVERSITY OF, Berkeley, Calif. (through Prof. Bruce L. Clark): A crustacean from the Monterey shales, Middle Miocene, of California (86514).

Department of Botany (through T. S. Brandege) 6 plants (85351), exchange; 26 photographs of type specimens of plants from the western United States (85791), exchange; (through Dr. Elmer D. Merrill) 10 specimens of ferns from eastern Asia (86984), exchange.

Museum of Vertebrate Zoology: 2 skins (cotypes) of a new sparrow from British Columbia (87162); 2 skins with skulls and 1 skin of the native rat of the Hawaiian Islands (87454).

Museum of Vertebrate Zoology and J. R. Pemberton, Hollywood, Calif. (through Dr. A. Wetmore): 3 skins of birds from Patagonia new to the Museum collections (83675).

CAMPOS, R., Prof. FRANCISCO, Guayaquil, Ecuador: 2 tropical wingless glow-worms and 63 mosquitoes from Ecuador (84169, 85863).

CANADIAN GOVERNMENT:

Canada Geological Survey, Department of Mines, Ottawa, Canada: Specimen of the mineral colerainite from Quebec (85579); also 48 specimens of minerals from Canada (86747). Exchange.

Department of Agriculture, Entomological Branch, Ottawa, Canada (through C. Howard Curran): 39 specimens of flies (84693); paratype of a chalcid-fly (84928), exchange; (through C. Howard Curran) 2 specimens of flies (87312), exchange.

CANADIAN GOVERNMENT—Contd.

Department of Marine and Fisheries, Ottawa, Canada (through Frits Johansen): 8 specimens of amphipods from Greedy Island Harbour, Labrador, collected by the Canadian Arctic expedition (83710).

CANSON & MONTGOLFIER, New York City: Portfolio of French handmade papers manufactured by the donors (85061).

CARLETON, M. A., Piura, Peru: 200 plants from Honduras (84683).

CARMIN, JOSEPH, Louisville, Ky.: 326 plants from Palestine (84001).

CARNEGIE INSTITUTE OF TECHNOLOGY, The Laboratory Press, Pittsburgh, Pa.: Broadside, designed and put in type by Porter Garnett and printed at the Laboratory Press (85324); 14 examples of letterpress printing, the work of the students of the Laboratory Press (87664).

CARNEGIE INSTITUTION OF WASHINGTON, Washington, D. C. (through Dr. D. T. MacDougal, Tucson, Ariz.): 3 photographs of plants (83649); 4 slabs of fossil footprints from the Hermit Trail, Grand Canyon National Park, Ariz. (86436); (through Dr. Forrest Shreve, Tucson, Ariz.) plant from Patagonia (86618).

CARNEGIE MUSEUM, Pittsburgh, Pa.: 48 moths of the family Pocerinae, including paratypes of 23 new species (84755).

CARR, D. D., University, Va.: 8 specimens, 2 species, of mollusks (84254).

CARROLL, Dr. MITCHELL. (See under Archaeological Society of Washington.)

CARRUTHERS, M. E., Glendale, Calif. (through Dr. W. H. Dall): 25 shells from 2 miles southeast of Laguna Beach, Orange County, Calif. (85861).

CARTER, WALTER, Toppenish, Wash.: 9 specimens of determined wasps (86794). Exchange.

- CARTY, ALTON B. (See under Electro-Tint Engraving Co.)
- CASEY, Miss SOPHIE PEARCE, Washington, D. C.: Support, "crab" consisting of an iron cramp inclosed in lead, from the New York Obelisk and excavated at Alexandria, Egypt, by Lieut. Commander Henry H. Gorrige, U. S. Navy, in 1879, and given by him to Commander Silas Casey, U. S. Navy; also a Chinese embroidered crêpe shawl (83438). Loan.
- CASEY, Col. THOMAS L. (through Mrs. Thomas L. Casey, executor, Washington, D. C.): A large collection of insects (Coleoptera) comprising approximately 16,000 species, several thousand of which are represented by types; and of Tertiary and recent mollusks (86209). Bequest.
- CASTELLANOS, Prof. ALBERTO, Buenos Aires, Argentina: 4 plants (86121).
- CAWSTON, Dr. F. G., Durban, Natal, South Africa: 15 specimens, 4 species, of fresh-water mollusks from South Africa (83687); 3 specimens, 1 species, of marine shells (85441).
- CHACE, E. P., San Pedro, Calif.: 3 specimens, 3 species of shells, one representing a new species (84680); 4 bryozoans and 17 specimens of crustaceans collected by the donor (85103); a small collection of marine invertebrates, comprising 61 specimens of crustaceans, 1 bryozoan, 2 annelids, 3 echinoderms, and 1 lancelet (85402).
- CHAMBERLAIN FUND, FRANCES LEA, Smithsonian Institution: A string of agate beads (83993); a star sapphire weighing 33.77 carats, and a chrysoberyl weighing 46.32 carats (84676); 2 peridotets weighing 10.36 and 8.9 carats (84731); a string of turquoise beads made and strung by Navaho Indians (85601); a pendant of lapis-lazuli, carved (86481); 3 cut stones and 2 pieces of opal in the rough from Queensland, Australia (85658); 57 specimens of cerions (87886); 11 specimens, 4 species, of mollusks, repre-
- CHAMBERLAIN FUND, FRANCES LEA—Continued.
 sending genotypes not heretofore in the Museum collections (87893).
- CHAMBERLAIN, Dr. R. V., Cambridge, Mass.: 2 specimens of isopods taken from a well in Maynard County, Ill., on September 22, 1924 (84934).
- CHAMBER OF COMMERCE OF THE UNITED STATES OF AMERICA, Washington, D. C.: 10 half-tones of etchings of bridges and railroad terminals by Joseph Pennell (86966).
- CHAMBERS, B. L., U. S. National Museum: Skull of a woodchuck, and a land shell from Harpers Ferry, West Va. (85446, 85862).
- CHAMBERS, FRANK V., Philadelphia, Pa.: Prosch duplex camera shutter (86296).
- CHAPIN, Dr. E. A., Washington, D. C.: 17 mollusks from Forest Park Lily Pond, Springfield, Mass. (84950); 11 specimens of exotic beetles (86476).
 (See also under Agriculture, Department of, Bureau of Animal Industry.)
- CHAPMAN, Prof. R. N. (See under Minnesota, University of.)
- CHAPPELL, R. H., Kensington, Md.: 75 specimens, 20 species, of Unionidae from the streams of Macon County, Ala., collected in 1923 (84889).
- CHASE, Mrs. AGNES, Washington, D. C.: 87 plants from Brazil (84173); type and 7 paratypes of a land shell from Paulo Affonso Falls, Rio Sao Francisco, State of Alagoas, Brazil (86108).
- CHASE & CO., L. C., Boston, Mass.: 9 specimens of mohair velvets manufactured at the Sanford Mills, Sanford, Me. (86130).
- CHASE, Mrs. OCTAVIA W. (See under Mrs. Frank Wheaton.)
- CHASE, Mrs. W. S., Washington, D. C.: 4 pieces of Bell telephone equipment consisting of 2 magneto call bells, 1 Blake transmitter, and 1 wooden case receiver, used about 1880 (85303).

- CHENEY BROS., New York City: 37 specimens of silk dress, upholstery, and drapery fabrics, 6 specimens of tie silks and 7 cravats (87434).
- CHICAGO SOCIETY OF ETCHERS, Chicago, Ill. (through Mrs. Bertha E. Jaques, secretary); 68 etchings by members of the Chicago Society of Etchers (85329). Loan.
- CHRISTEE, Mrs. CORA L. ARMISTEAD, Washington, D. C.: Collection of antique watch bridges consisting of 5 English and 2 French make (84691).
- CHRISTIAN SCIENCE PUBLISHING SOCIETY, Back Bay, Boston, Mass.: Portrait of Mary Baker Eddy, engraved on wood by Timothy Cole (86780).
- CHRISTIANSEN, Dr. WALTER G., Boston, Mass.: 15 samples of chemicals representing new arsenical and antimonyl organic compounds for the Loeb collection of chemical types. (83453).
- CHRYSLER, Prof. M. A., New Brunswick, N. J.: 3 ferns from Cuba (85829).
- CHURCHILL, J. R., Dorchester, Mass.: 52 plants (83960).
- CLARK, AUSTIN H., U. S. National Museum: Parrot from Bolivia, and 3 cocoons from Rock Creek Park (83962, 87871).
- CLARK, Prof. BRUCE L. (See under California, University of.)
- CLARK EQUIPMENT CO., Buchanan, Mich.: Framed photograph giving a phantom view of the Clark internal gear, rear axle for automobile trucks (86800).
- CLARK, Maj. JEROME, U. S. Army, Washington, D. C.: Fowling pieces, rifles, powderflasks, powderhorns, swords, and framed documents (86444). Loan.
- CLARK, ROBERT STERLING, New York City: Mammals, birds, fishes, reptiles, batrachians, and marine invertebrates from China, collected by Arthur deC. Sowerby (84701).
- CLARKE, Dr. F. W., U. S. Geological Survey, Washington, D. C.: Sheet of mica with inclusions of magnetite (86284).
- CLAUDE JOSEPH, Brother, Correo Nunoa, Chile: 233 plants from Chile (83554); 395 plants (87272).
- CLELAND, H. F. (See under Williams College, Department of Geology, Williamstown, Mass.)
- CLEMENT, Dr. E., physician in charge of French colonial troops, Cayenne, French Guiana, S. A. (through Elwin R. Sanborn): Wasp from French Guiana, and 2 cells made by it.
- CLEMENTS, J. MORGAN, Papeete, Tahiti, Society Islands: Small collections of miscellaneous insects, shells, and 3 lizards (85079, 85397, 85626, 86936).
- CLENCH, WILLIAM J., Ann Arbor, Mich.: 6 specimens, 3 species, of shells from Alabama and South Carolina, including 4 paratypes (84997); 421 specimens, 21 species, of land, fresh-water, and marine shells from Michigan, and Eastern and Southern States (86791). Exchange.
- CLIFFORD, F. J., Brewster, Wash.: Stomach of a puma (86041).
- CLINTON, H. G., Manhattan, Nev.: 27 specimens of minerals from the White Caps Mine, Manhattan, Nev. (84064); 7 lots of Tertiary invertebrates from Nevada (84790); a sample of gold from Consolidated Mine Manhattan, Nev., and examples of the mineral haidingerite from the White Caps Mine (86625).
- CLOQUET LUMBER CO., Cloquet, Minn. (through the Northern Pine Manufacturer's Association, Minneapolis, Minn.): Specimen board of eastern white pine (87941).
- CLUTE, WILLARD N., Joliet, Ill.: Plant (84011).
- COBB, Prof. COLLIER, Chapel Hill, N. C.: Fossil bone collected by the donor at Enfield, Halifax County, N. C. (86051).

- COBLENTZ, Dr. W. W., Washington, D. C.: 3 grasshoppers, a photograph of them, and 2 glowworms from Arizona (86291); a sandstone concretion from the Colorado Desert north of Flagstaff, Ariz. (86451).
- COCKAYNE, E. O., Boston, Mass.: 8 fossils from the Solenhofen lithographic stone quarries (85920). Exchange.
- COCKERELL, Prof. T. D. A., Boulder, Colo.: 12 invertebrate fossils from the Tertiary rocks of Sakhalin Island (83360); 15 specimens of aculeate Hymenoptera representing 7 species new to the Museum collections (83414, exchange); 25 miscellaneous unidentified insects and 4 specimens of identified bees, representing 3 species new to the Museum collections (83991); 15 plants from Siberia (85229); 37 named bees, being types of 33 species, 1 type of a species of weevil, and 32 miscellaneous unidentified insects (85263); 12 holotypes of 12 species of bees (85448); 11 specimens of bees, representing 11 species, 8 of which are holotypes and 1 a cotype (86047); 25 specimens of determined bees, representing 25 species, including types of 21; also 26 undetermined insects (86302); 22 slides of mouth parts of bees representing 21 species, 4 of which are made from type material (86763); type of land shell from Japan, and 4 specimens, 4 species, of sea shells from Siberia (86802); 12 unidentified miscellaneous insects; type of a moth; holotypes of 31 species of bees, and 1 identified grasshopper (86957); 32 specimens of insects, including the holotypes of 25 species of bees (87007); plant (87672).
- COLLADO, Sr. Don ENRIQUE, San José, Costa Rica (through Sr. Don Oton Jimenez): Specimen of a tree from Costa Rica (85604).
- COLLEY, A. G., Sacramento, Calif.: 2 stone mullers from El Dorado County, Calif. (86973).
- COLLINS, Prof. J. FRANKLIN, Providence, R. I.: 3 grasses and 125 plants from Rhode Island (85267, 85360).
- COLLINS-GARNER CONGO EXPEDITION, Fernan Vaz, French Congo: A twist of native smoking tobacco obtained by C. R. Asche-meier at Anguanamo, N'govi, French Congo, in 1919 (84927). Collected for the Museum.
- COLLOTYPE CO., THE, Elizabeth, N. J.: 18 collotype prints in black and white and in colors (86589).
- COLONIAL DAMES OF AMERICA, NATIONAL SOCIETY OF, Washington, D. C. (through Mrs. Carolyn Gilbert Benjamin): Pearl tiara, necklace, and 2 brooches, a gold mourning ring, a tortoise-shell snuff-box, a silver tea caddy, and a china saucer (8 specimens) (86968). Loan.
- COLORADO, UNIVERSITY OF, Boulder, Colo. (through Prof. Junius Henderson): 41 specimens of mollusks from Colorado, Wyoming, Utah, and Montana (86235). Exchange.
- COLORPLATE ENGRAVING CO., THE, New York City: Half-tone reproduction of the painting "The Storm" by P. A. Cot (87000).
- COMBS, L. B., Lexington, Ky.: 2 fishes "rainbow darter" (87123).
- COMERFORD, B. M., Washington, D. C.: 4 books, each with a fore edge painting (86304); a series of Irish coins issued 1034-1797; a series of English maundy coins, issued 1660-1915, and a series of Irish gun money 1689-1690 (356 specimens) (86623); English maundy coins issued 1660-1906 (120 specimens) (87959). Loan.
- COMMERCE, DEPARTMENT OF:
Bureau of Fisheries: The type specimens of 2 new species of echinoderms, 1 starfish, and 1 brittle-star (83301); 4 specimens of devil fish caught in the spring of 1924 in the Mediterranean Sea, off the coast of

COMMERCE, DEPARTMENT OF—
Continued.*Bureau of Fisheries*—Continued.

Italy (84062); 16 specimens of isopods collected by Messrs. Hildebrand and Foster, in a salt water estuary at Triunfo, El Salvador (84801); specimen of Atlantic salmon from Upukoro River, Lake TeAnau, New Zealand, where it had been introduced, collected by Edgar F. Stead of Canterbury, New Zealand (85075); 10 specimens, 3 species, of fresh-water mollusks (85286); type specimen of new whitefish from Lake Nipigon, Ontario, collected by Walter Koelz (85427); a small collection of invertebrates, comprising several mollusks, a sipunculid worm from the stomach of a walrus, an ophiuran, 12 amphipods, several barnacles and bryozoa attached to a dead pecten shell, and a fish, all collected in Greenland by D. B. Macmillan, expedition of the *Bowdoin*, 1924 (85624); anomuran crab taken by halibut fishermen in Lynn Canal, Alaska, and given to the bureau by the Rev. A. P. Kashevaroff (85843); 9 specimens of prepared commercial Bahama and Florida sponges from the Bureau of Foreign and Domestic Commerce (86077); 520 specimens of fishes from North Carolina and Connecticut, received by the bureau from Dr. R. E. Coker, department of zoology, University of North Carolina, Chapel Hill, N. C. (86249); a collection of fishes (2,150 specimens) from El Salvador, Central America, made by Samuel F. Hildebrand and Fred J. Foster, during January and February, 1924 (87003); 5 type specimens of whitefishes (87184); 11 specimens of sponges from Florida

COMMERCE, DEPARTMENT OF—
Continued.*Bureau of Fisheries*—Continued.

in their natural state (87239); a collection of sponges comprising 2 "grass," 2 "yellow," 2 "wire," and 3 "wool," all taken off Cedar Key, Florida; (87532); 61 specimens of shrimps from Alaskan waters (87858).

(See also under F. C. Curtis.)

Bureau of Foreign and Domestic Commerce: 34 samples of crude rubber, gutta-percha and chicle, collected by members of the Amazon Party Crude Rubber Survey; 5 samples of crude rubber and chicle, 2 tapping knives and 1 sample of gutta-percha mending tissue, from various sources; also 15 specimens of oil seeds and 28 specimens of vegetable oils from the Commercial Museum, Para, Brazil (84679).

Coast and Geodetic Survey: 4 models illustrating various phases of the work of the United States Coast and Geodetic Survey (84613); 197 bottles of bottom samples taken by the Coast and Geodetic Survey steamer *Isis*, operating off the coast of Florida in March and April, 1917 (85645).

Lighthouse Service (through superintendent of lighthouses, seventh district, Key West, Fla.): 7 marine annelids from Key West, Fla. (83526).

CONGER, L. J. (See under Corona Typewriter Co.)

CONGRESS, LIBRARY OF, Washington, D. C.: 3 specimens showing duplicating process of printing for the blind (87952). Transfer.

CONNELL, Rev. ROBERT, Victoria, B. C. (through Ira E. Cornwall): Greater portion of a cetacean scapula from the Sooke formation, Oligocene, of British Columbia (84944).

- CONZATTI, Prof. C., Oaxaca, Mexico: 54 Mexican plants (85835).
- COOKE, Dr. C. MONTAGUE, jr., Honolulu, Hawaii, 13 specimens, 1 species, of shells from Oahu, Manoa, Hawaii (84685).
- COOMBES, J. E., Montclair, N. J.: 6 specimens of foreign and military equipment (84210); United States Army recruiting poster of the period of the Civil War (84728).
- COOPER ENGINEERING AND MANUFACTURING CO., Chicago, Ill.: 2 photographs of the Hall-Braille writer (86106).
- COOPER, Dr. HERMON C., Glen Ellyn Ill.: Specimen of chemical for the Loeb collection of chemical types (87704).
- COOPER, I. W., Fort Worth, Tex.: 2 beetles from Texas (83330).
- COPENHAGEN, DENMARK, UNIVERSITETETS BOTANISKE MUSEUM, Copenhagen, Denmark: 19 plants from Panama (85086); 467 plants (mainly Compositae, Acanthaceae, and pterodophyta) from tropical America (87488). Exchange.
- CORNWALL, IRA E., Quarantine Station, William Head, Victoria, B. C.: 12 fossil cetacean and sirenian bones from the Sooke formation, Oligocene, of British Columbia (84831). (See also under Rev. Robert Connell and Gordon Downes).
- CORONA TYPEWRITER CO., Groton, N. Y. (through L. J. Conger, president): 3 machines visualizing the development of the "Corona" typewriter, the chief features of which are lightness, compactness, and portability (85488).
- CORRINGTON, Dr. J. D., Columbia, S. C.: Specimen of jellyfish from Calibogue Sound, near Savannah, Ga. (83452).
- COUILLARD, Mrs. LILIAN WALKER, New York City (through Rev. John Van Schaick, jr., Boston, Mass.): Cavalry saber owned during the Civil War, first by Lieut. William Wheelan, First New York Mounted Rifles, and later by his brother, Brig. COUILLARD, Mrs. LILIAN WALKER—Continued.
- Gen. James Wheelan, United States Army; also various pieces of military insignia owned by Brigadier General Wheelan (55 specimens in all) (86185).
- COURT, EDWARD, Washington, D. C.: 25 specimens, 3 species, of land shells from Florida (87957).
- CROS, Dr. A., Mascara, Algeria (through Dr. A. G. Böving): 6 slides with beetle larvae from Algeria (83712). Exchange.
- CROSBY, Prof. C. R., Ithaca, N. Y.: Isoped from San Clements Island, Calif. (86251).
- CRUSE, Mrs. JAKE, Greenland, Ark. (through Mrs. Laura M. Allen, Rochester, N. Y.): A hand-woven pillow cover, woven in coverlet pattern in 1922 by Miss Eliza Lee, sister of the donor (85252).
- CRUSHED SHELL CO., THE, Muscatine, Iowa: 1 specimen of mollusk from Japan (86949).
- CUDMORE, TOM, Washington, D. C.: Bat from the District of Columbia (84805).
- CULBERTSON, J. G., Wichita Falls, Tex.: Collection of feather-work, woven objects and a shrunken human head (86326). Loan.
- CURRAN, C. HOWARD. (See under Canadian Government, Department of Agriculture, Entomological Branch.)
- CURTIS, F. C., Punta Gorda, Fla. (through Commerce, Department of, Bureau of Fisheries): Piece of planking from bottom of a vessel, containing marine borers.
- CUSHMAN, Dr. JOSEPH A., Sharon, Mass.: The paratypes of 6 species of Pliocene and Pleistocene foraminifera from California (87283).
- DABBENE, Dr. ROBERTO, Buenos Aires, Argentina: Skin of a bird (84300). Exchange.
- DAHLGREN, ULRIC, Salisbury Cove, Me.: 3 specimens of amphipods and 4 isopods (87317).
- DALL, Dr. W. H. (See under M. E. Carruthers, and D. Thaanum.)

- DAMIANI, PHILIP, Philadelphia, Pa.: English halfpenny of the year 1899 (87285).
- DAMPF, A., Mexico, D. F., Mexico: 10 flies from Mexico (86605, 86808).
- DANFORTH, STUART T., Mayaguez, Porto Rico.: 6 fishes from Catagena Lagoon, Porto Rico, and 5 specimens, 4 species of crabs and a small collection of insects (Hemiptera) from Porto Rico (83574, 87553).
- DA ROCHA, Prof. DIAS, Ceara, Brazil: 11 specimens, 4 species of freshwater shells and 1 specimen of mollusk, all from Brazil (84698, 87223).
- DAVIDSON, Dr. A., Los Angeles, California: 4 plants (84560, 84761, 87844).
- DAVIDSON, W. M., Vienna, Va.: 2 flies, type and paratype (86993).
- DAVIS, ARTHUR G., London, England: Fossils from the Chalk and London Clay formations of England (84753). Exchange.
- DAVIS, Prof. D. W., Williamsburg, Va. (through Dr. Edgar T Wherry): Orchid from Virginia (87889).
- DAVIS, Hon. JAMES J. (See under David W. Evans.)
- DAVIS, S. B. (See under T. W. La Rue.)
- DAVIS, Wm. T., Staten Island, N. Y.: 13 specimens of cicadas (85935, 86736). Exchange.
- DAVIS-GUILFORD, Mrs. J. S. (See under Miss M. Winchester.)
- DEAM, CHARLES C., Bluffton, Ind.: 200 plants from Mexico, Arkansas, and Florida (84893).
- DECKER, Mrs. E. BENNETT, United States National Museum: Pottery jar (85321).
- DEEMER, R. B., Takoma Park, Washington, D. C.: 2 plants from Texas, and a sample of wax (86773).
- DEGENER, OTTO, New York City: 10 specimens of ferns and 3 plants from Hawaii (86269, 87459, 87689).
- DEICHMAN, Miss ELIZABETH, Korinth, Fyen, Denmark: 118 specimens of crustaceans from Panama, collected by the donor during May and June, 1924 (87555).
- DENLEY, C. F., Washington, D. C.: 4 pheasants (86319).
- DENNISON MANUFACTURING CO., Framingham, Mass.: Specimens of various grades of sealing wax; specimens of the ingredients and coloring matters used in their manufacture, and various articles decorated with sealing wax (84752). Exchange.
- DENSMORE, Miss FRANCES, U. S. National Museum: 2 harpoons from the Makah Indians, Neah Bay, Washington (one for seal, and the other for whales) (87181).
- DICKEY, Prof. S. S., Cambridge, Springs, Pa.: 5 plants (86068).
- DICTAPHONE CORPORATION, Bridgeport, Conn.: Voice recording and reproducing machines made by the Dictaphone Corporation and used chiefly for commercial correspondence, including one dictaphone machine, complete; one transcribing machine, complete; 6 wax records and stand, and a photograph of record shaving machine (86556).
- DIETZ PRINTING CO., THE, Richmond, Va.: 24 specimens of typographical and hand-lettered printing (85434).
- DIGESTIVE FERMENTS CO., Detroit, Mich.: 1 lot each of two chemical specimens for the Loeb collection of chemical types (84157).
- DILL & COLLINS, Philadelphia, Pa.: Pictorial life of Benjamin Franklin, published in commemoration of the two hundredth anniversary of the arrival of Franklin in Philadelphia (84807).
- DILWORTH, JAMES O., Jonesboro, Tenn.: Military canteen of the period of the Civil War (85325).
- DINGES, WILLIAM F., Hyattsville, Md.: Star-nosed mole (87848).
- DIXON, H. N., Northampton, England: 7 specimens of mosses (85241). Exchange.
- DODD, ALAN P., Uvalde, Tex.: 13 plants from Texas, New Mexico and California, and 5 photographs of South American plants (83946, 84341, 87230).

- DONOVAN, Dr. WILLIAM O'BRIEN. (See under Botanic Gardens, St. George's Grenada, B. W. I.)
- DOTSON, E. M., Haver, Mont.: 4 specimens of a new phosphate mineral from Francois Lake, British Columbia (86498).
- DOUBLEDAY, PAGE & CO., Garden City, N. Y. (through Mrs. W. C. Gorgas, Washington, D. C.): Copy of the book entitled "William Crawford Gorgas—His Life and Work" by Marie D. Gorgas and Burton J. Hendrick, for exhibition with the Gorgas medals (86940).
- DOWELL, Dr. PHILIP, Port Richmond, N. Y.: 6 colored plates of plants (83440).
- DOWNES, GORDON, F. G. S., Oak Bay, British Columbia (through Ira E. Cornwall): A considerable portion of a cetacean scapula from the Sooke formation, Oligocene, of British Columbia (84943).
- DOWNES, Dr. C. R. (See under Dr. John M. Weiss.)
- DOYLE, C. B. (See under Agriculture, Department of, Bureau of Plant Industry.)
- DRAKE, Dr. CARL J., Ames, Iowa: 9 specimens representing paratypes of 4 species of bugs, and 22 bugs representing 5 species (85006, 85341).
- DRUSHEL, J. ANDREW, Westfield, N. J.: 200 Ordovician and Silurian invertebrates from the Mississippi Valley (83398).
- DUBASH, Dr. PESHOTON SOBABJEE GOOLBAI, Keamari, Karachi, India: A small collection of pebbles containing nummulites (84796).
- DUBOIS, Prof. EUGENE, Haarlem, Holland: Casts of the remains of *Pithecanthropus erectus* (83927).
- DUNN, Maj. L. H., New York City: A collection of insects from Columbia, South America (84168, 86098).
- DUNNING, Dr. H. A. B. (See under Dr. Edwin Charles White.)
- DUPONT DE NEMOURS & CO. (INC.), E. I., Pyralin Department, Arlington, N. J.: 27 articles illustrating the use of Pyralin (86631).
- DURAN, VICTOR, Los Angeles, Calif.: 2 flies (83564).
- DURSTON, Mrs. GEORGIA R., Wheeling, W. Va.: Doll's carriage of the nineteenth century (83651).
- DUTTON, D. L., Brandon, Vt.: 20 plants from Vermont (85392).
- DYER, FRANCIS J., Coblenz, Germany: 24 snails, 1 salamander, 2 crustaceans, 1 worm, 7 spiders, and 19 miscellaneous insects (85316).
- EAKLE, Prof. A. S., Berkeley, Calif.: Specimen of the mineral voltaite from New Mexico (85789). Exchange.
- EAST, CHARLES S., U. S. National Museum: 2 snakes and a monitor-lizard (85418).
- EASTMAN, Dr. LOUISE, Cincinnati, Ohio (through Dr. John Uri Lloyd): Diary of Dr. John King (83999).
- ECHAGÜE, José O., Madrid, Spain: 6 pictorial photographs (85370).
- EDIE, Capt. JOHN R., U. S. Navy (retired), Washington, D. C.: Gilded wooden crown from the figurehead of the Spanish cruiser *Reina Mercedes* sunk in the entrance to the harbor of Santiago, Cuba, July 4, 1898 (87187).
- EDISON LAMP WORKS OF GENERAL ELECTRIC CO., Harrison, N. J.: 3 incandescent electric lamps of 1925, consisting of a 30,000 watt lamp, the largest ever made; a 10,000-watt lamp, and "Grain of Wheat" lamp, the smallest ever made (86939).
- EDSON, WILLIAM L. G. (See under Rochester Park Department.)
- EIGENMANN, Dr. C. H. (See under Mulford Biological Exploration of the Amazon Basin.)
- ELECTRO-TINT ENGRAVING CO., Philadelphia, Pa. through Mr. Alton B. Carty, Washington, D. C.): 1 half-tone in four colors, 33 by 22½ inches, said to be the largest half-tone ever made without splicing and produced with the largest screen ever made (83441).
- EMERSON, P. H., Sussex, England: A book entitled "Continued Notes on the Emersons, alias Embersons,

EMERSON, P. H.—Continued.

of Ipswich, Massachusetts Bay Colony, 1638, and of Bishops Stortford, Co. Herts, England, 1578" (84363).

ENGBERG, Dr. CARL C., Lincoln, Nebr.: Approximately 1212 specimens of land, freshwater, and marine shells, from Washington, Nebraska, and Kansas (85276, 87507); 13 mollusks from Olga, Wash. (85817).

ENGELHARDT, GEORGE P., Brooklyn, N. Y.: A collection made by the donor, comprising 4 specimens of amphipods, 10 specimens of isopods, and 2 earthworms (83648).

EPLING, CARL, Los Angeles, Calif.: 10 photographs of herbarium specimens (Menthaceae) (86994).

EPSTEAN, EDWARD. (See under American Photo-Engravers Association.)

ESSIG, Prof. E. O., Berkeley, Calif.: Amphipod taken from the water system of the city of San Francisco, Calif. (84074).

ESTABROOK. Mrs. W. H. (See under United Daughters of the Confederacy.)

EVANS, DAVID W., Pittston, Pa. (through Hon. James J. Davis): Welsh translation of the Bible (86151).

EVANS, VICTOR J., Washington, D. C.: Specimen of bird—White-backed trumpeter (87303).

EYERDAM, WALTER J., Seattle, Wash.: 150 specimens of mollusks from Shuyak Strait, Afognak Island, Alaska; Kodiak Island, Alaska, and Puget Sound (85652).

FAGAN, CHARLES L., Rahway, N. J. (through Dr. A. Wetmore): Specimens of diving petrel from Peru; 13 bird skins and an alcoholic specimen of Hornby's petrel from Peru; 4 bird skins from the coast of Peru and Panama; skin of a petrel from the coast of South America (83992, 84010, 84853, 85391).

FAIRCHILD AERIAL SURVEYS (INC.), THE, New York City: 3 bromide enlargements of aerial views of the city of Washington (86590).

FARWELL, O. A., Detroit, Mich.: Plant (84034). Exchange.
(See also under Parke, Davis & Co.)

FAUSTINO, Dr. L. A., Manila, P. I.: Mollusk from the Philippine Islands (85828).

FAWCETT, G. L. (See under Tucuman, Argentina, Agricultural Experiment Station.)

FAZ, SENOR ALFREDO, Santiago, Chile: A small collection of insects from Chile (83982, 85810); 60 beetles from South America (84447, 86045). Exchange.

FEDERAL ADVERTISING AGENCY, (INC.), New York City: 2 pamphlets, namely "Paper is Part of the Picture" and "Responsible Helpfulness" (83662).

FEDERATED MALAY STATES AND STRAITS SETTLEMENTS, Office of Secretary of Agriculture, Kuala Lumpur, F. M. S. (through B. A. R. Gater): 32 specimens of tachinid flies, parasitic on a moth injurious to coconuts in Malay (85275).

FELIPPONE, Dr. FLORENTINO, Montevideo, Uruguay: 7 shells, a bird skin, 2 crustaceans, and a collection of natural history specimens comprising reptiles, a batrachian, insects, mollusks, and other marine invertebrates, all from Uruguay (83558, 84830, 85227); 19 specimens, 12 species, of land shells from the Canary Islands, and an insect (83640); 2 sipunculid worms, 4 anemones, and a compound ascidian collected at Cape Santa Maria, Department of Rocha, Uruguay (84029); collection of natural history specimens (85923); miscellaneous zoological specimens comprising 18 insects, 1 scorpion, 2 echinoderms, 42 recent and fossil shells, and 12 reptiles (86636).

- FELT, Dr. E. P., Albany, N. Y.: 3 insects (87191).
- FELTER, Dr. H. W., Cincinnati, Ohio (through Dr. John Uri Lloyd): 3 cases containing 30 ampules of medicinal solutions, and 1 case of 13 "pure elements," presented to the donor by Dr. John King (83996).
- FERGUSON, WILLIAM C., Hempstead, N. Y.: 53 plants (84872).
- FERRIS, JAMES H., Joliet, Ill.: 51 plants (84035, 86575, 86624, 86790, 86925, 86926, 87266), exchange; 53 plants (84818, 85386, 86258, 86461, 86985, 86999, 87229, 87261); lizard from Texas (86619).
- FEWKES, Dr. J. WALTER. (See under Mr. and Mrs. Charles H. Griner.)
- FIELD MUSEUM OF NATURAL HISTORY, Chicago, Ill.: Skin and skull of a mammal, 2 specimens of ferns from South America, 285 plants from South America (84170, 84894, 86793, 87321, 87515). Exchange.
- FINK, Prof. BRUCE L., Oxford, Ohio: 436 specimens of lichens (86129).
- FINNDER, PAUL R., Corona, N. Mex.: Tooth of a fossil elephant (87885).
- FISHER, Dr. A. K. (See under Edward C. Green.)
- FISHER, GEORGE L., Houston, Tex.: 402 plants (84863, 84909); 5 specimens of ferns from Mexico (86123).
- FISHER, W. S., Washington, D. C.: 681 miscellaneous Hymenoptera (87130).
(See also under Prof. James S. Hine).
- FITCH, Miss ELEANOR SHERMAN, New York City: A pair of white kid shoes worn by Eleanor Ewing on the occasion of her marriage to Gen. William Tecumseh Sherman (87904).
- FITCH, JOHN C., East Liverpool, Ohio: 29 chipped arrow and spear points, blades, and rejects found in Ohio (84973). Exchange.
- FLANDERS, STANLEY E., Saticoy, Calif.: 8 specimens of flies (84143, 84870).
- FLEISHER (Inc.), S. B. & B. W., Philadelphia, Pa.: Specimens of knitting yarns and articles knitted therefrom (84008).
- FLORIDA STATE GEOLOGICAL SURVEY, Tallahassee, Fla.: 720 specimens, 151 species, of Tertiary invertebrates from Florida (87049).
- FLUCK, Rev. W. H., Great Kills, Staten Island, N. Y.: 2 specimens, 1 species, of mollusk from Antigua, West Indies (87159).
- FOERSTE, Dr. AUGUST F., Dayton, Ohio: A collection of fossil invertebrates, including types, from the classic Silurian locality at Jephtha Knob, Ky. (83408).
- FORD, Mrs. CELYNDRA WERNER, Freehold, N. J.: Old English silver watch used from 1884 to 1896 by the donor's father, Dr. Philip P. Werner (85331).
- FORD, HENRY, Dearborn, Mich.: Ford automobile planetary transmission, a full size unit, nickel plated, and so arranged that it may be operated by hand (85719).
- FOREST RESEARCH INSTITUTE AND COLLEGE, Dehra Dun, United Provinces, India: 90 plants from India (84156). Exchange.
- FORRESTER, Mrs. FLORENCE CAMPBELL. (See under Dr. George F. Becker.)
- FOSHAG, W. F., U. S. National Museum: Minerals from Riverside, Calif. (85037).
- FOSTER, Mrs. ADDIE P., Balboa, Canal Zone: Plant from the Canal Zone (83551).
- FOSTER, J. G., Greenwood, Miss.: Fly and wasp from Mississippi (84883); a small collection of insects representing a parasite of wild bees (85027).
- FOUTS, ROBERT N., Washington, D. C.: 13 specimens, representing paratypes of 9 species, of parasites of the subfamily Platygasterinae (86627).
- FOWKE, GERARD, St. Louis, Mo.: Shed snake skin (87273).

- FOX, EMILY RUTH, New York City (through Mrs. Flora J. Long, San Francisco, Calif.): Silver coin issued by the Graeco-Italian town of Velia during the fifth century, B. C. (85108).
- FRANK, C. L., Washington, D. C.: Oil painting by Ed. Beyer, 1852, of the Pennsylvania Railroad bridge at Portageville, N. Y. (87461); specimen of hydrometer, or so-called saccharometer, used to determine the strength of sugar solution in the process of clarifying and crystallizing crude sugar, made by Drain & Page, of London (87931).
- FRANKLIN, ARTHUR E., London, England: 5 photographs of objects of Jewish religious ceremonial (83705).
- FRANKS, Dr. F., Dortmund, Germany: 100 specimens of Upper Cretaceous fossils from Germany (84820).
- FREEMAN, O. P., Washington, D. C.: 5 plants from the southern United States (85113).
- FRIERSON, L. S., jr., Gayle, La.: Water snake from Louisiana (86126).
- FRISON, Dr. THEODORE H., Urbana, Ill.: 4 specimens of South American bees, representing 4 species, 3 of which are paratypes (84808). Exchange.
- FROST, C. A., Framingham, Mass.: 297 specimens of identified North American Coleoptera, comprising 118 species and including paratypes of 2 species (87135).
- FRYE, Prof. T. C., Seattle, Wash.: Fern from Washington (85296).
- FUKUSHIMA CO. (INC.), New York City: A crystal ball weighing 107 pounds and $12\frac{3}{4}$ inches in diameter (86180). Loan.
- FULCHER, Roy, Arlington, Va.: English sparrow showing traces of albinism (85931).
- FULLAWAY, D. T. (See under Board of Commissioners of Agriculture and Forestry.)
- GARDNER, Dr. JULIA, Washington, D. C.: Approximately 1,000 specimens, 35 species of land shells from Porto Rico (86593).
(See also under Prof. E. W. Berry and W. S. Adkins.)
- GARDNER, Dr. LEON L., U. S. Army, Carlisle, Pa.: Collection of tongues of birds, several hundred in number (86246).
- GARRETT, A. O., Provo, Utah: 110 plants (83385, 83572, 85102).
- GATCHEL & MANNING (INC.), Philadelphia, Pa. (through P. L. Hildebrand): 2 half-tone prints, different subjects, in four colors, entitled "The Pied Piper of Hamlin" (84713). Exchange.
- GATER, B. A. R. (See under Federated Malay States and Straits Settlements.)
- GATES, Rev. SEBASTIAN, R. N., Grenada, B. W. I.: Whip scorpion, a dragon fly, partly real and partly painted, and a painting of a grasshopper, the two latter collected in Spain (84851).
- GEE, Dr. N. GIST, Peking, China: 51 fresh-water sponges from China (84878). Exchange.
- GENERAL FEDERATION OF WOMEN'S CLUBS, Washington, D. C.: Ceylonese ear plugs, western Indian horse trappings, a baboon skull and the skull of an antelope (84816).
- GEORGE WASHINGTON LIFE INSURANCE CO., Charleston, W. Va.: Portrait of George Washington engraved on wood by Timothy Cole after Wilford S. Conrow (85285).
- GILSON, Miss ELLA L., Grand View, Nyack, N. Y.: Lady's silk dress, parasol, and pair of white kid shoes; and gentleman's silk vest of the period of the Civil War (84760).
- GLASIER, Dr. W. F., Carlsbad, N. Mex.: Human skull collected by the donor about 40 years ago (87531).
- GLOVER, ALFRED K., Grossmont, Calif.: Insect from California (86257).
- GLOVER, Dr. NORMAN C. (See under Dr. E. R. Booth.)

- GODING, Dr. F. W., Livermore Falls, Me.: Plant from Maine (85320).
- GOLDBECK, A. T. (See under Agriculture, Department of, Bureau of Public Roads.)
- GOLDMAN, M. T., Washington, D. C.: 2 compound ascidians collected at Nantucket (85109).
- GOODMAN (INC.), BERTRAM J., New York City: Working model of a factory containing fur dressing and dyeing machinery (87219). Loan.
- GOODMAN, G. H., Takoma Park, D. C.: 2 specimens of shells from West Haven, Conn. (84675).
- GOODSON, W. A., Dome Creek, British Columbia, Canada: 2 photographs of a large tree cut down by beavers (83347).
- GOODYEAR TIRE & RUBBER CO., THE, Akron, Ohio (through Mr. Herbut W. Maxson): 9 photographs showing types of lighter-than-air craft, manufactured by the Goodyear Rubber Co. for the U. S. Air Service (84151).
- GORGAS, Mrs. W. C., Washington, D. C. (through Dr. Marcus Benjamin): 21 medals and decorations of the late Maj. Gen. William Crawford Gorgas, U. S. Army (85930). Loan. (See also under Doubleday, Page & Co.).
- GORTNER, Prof. R. A., St. Paul, Minn.: 1 lot of 13 specimens consisting of a class of substances produced by the condensation of indole derivatives with aldehydes, for the Loeb collection of chemical types (85818).
- GORTNER, Prof. R. A., and Dr. WALTER FRED HOFFMAN, St. Paul, Minn.: 14 samples of chemicals representing vegetable proteins (83451).
- GOUGH, Miss LULA C., Stephenville, Tex.: 39 plants (83313).
- GRAHAM, Rev. DAVID C., Suifu, Szechuen, China: A small collection of miscellaneous insects, mollusks, fishes, amphibians and crustaceans from China (83353); 6 frogs, 1
- GRAHAM, Rev. DAVID C.—Continued. turtle, 1 lizard, 36 fishes, 7 mollusks, 1 crab, 100 shrimps, 4 amphipods, 15 worms, and a collection of insects from China (83537); collection of birds, 6 mammals, 18 frogs, 1 lizard, 66 fishes, 5 crustaceans, mollusks, 1 worm, and a collection of insects from the province of Szechuen, China (83654); a mold for making charms of tsamba or barley dough and a large collection of natural history specimens comprising mammals, birds, reptiles, fishes, earthworms, mollusks, insects, and plants, all collected by the donor on a trip from Suifu to Songpan, China, during July-August, 1924 (85081); collection of natural history specimens from western China, comprising birds, mammals, reptiles, fishes, plants, insects and mollusks (85625); collection of insects, shells and a mammal skin; also 1 gordian worm, 2 crustaceans and 4 frogs (86317); collection of insects, a fish and a turtle (86635); 32 bird skins, 2 mammals, mollusks, marine invertebrates, fishes, and insects from west China (87208); insects, fishes, mollusks, marine invertebrates, reptiles and batrachians (87497).
- GRAND RAPIDS WOOD FINISHING CO., Grand Rapids, Mich.: 33 veneered panels of furniture woods showing popular finishes (87926).
- GRANT, ROBERT J. (See under Treasury Department.)
- GRANT, SAMUEL E., Washington, D. C.: Great blue heron (85372).
- GREEN, EDWARD C., Urbana, Ill. (through Dr. A. K. Fisher): 8 specimens, 1 species, of mollusks, 3 snakes, 1 snake skin and a small collection of insects from Brazil (87306).
- GREENE, FRANK C., Tulsa, Okla.: Fern from Oklahoma (83972); 30 specimens, 9 species, of fresh-water shells from Arkansas and Texas (85803).

- GREENE, J. W., Washington, D. C.: 4 specimens, 2 species, of Unionidae from Cacapon River, Morgan County, W. Va. (86065).
- GREENWALD, Dr. ISIDOR, New York City: 1 lot of 2 specimens for the Loeb collection of chemical types, comprising red tautomer of creatinine picrate and creatinine rubidium picrate (85637).
- GREER, CHARLES I., Washington, D. C.: Broken stone ax found on Ridge Road near New Cut Road Georgetown, D. C. (84255).
- GREGORY, J. W., Rock Island, Ill.: Rocking-chair made during the latter part of the eighteenth century (83531).
- GRIMES, Mrs. MARGARET McA., Washington, D. C.: A beaded bag of the latter part of the nineteenth century (86733).
- GRINER, Mr. and Mrs. CHARLES H., Caxambas, Fla. (through Dr. J. Walter Fewkes): Stone and shell specimens from Florida (85340).
- GROFF, G. C., Canton, China (through Mr. Joseph F. Rock, Washington, D. C.): Plant from China (84144).
- GROSVENOR, GILBERT. (See under Jusserand Dinner Committee.)
- GUATEMALA, GOVERNMENT OF:
Direccion General de Agricultura (through Sr. Don Jorge G. Salas, director): 39 plants from Guatemala (83364).
- GUEST, Dr. HERBERT H., Glastonbury, Conn.: Specimen of chemical for the Loeb collection of chemical types (87710).
- GUNNELL, LEONARD C., Smithsonian Institution: A silver service made during the early part of the nineteenth century and consisting of a hot water pot, 2 tea pots, a waste bowl, a sugar bowl and a cream pitcher (85633). Loan.
- HALL, F. S. (See under Washington State Museum, University of Washington, Seattle, Wash.)
- HALL, H. C., Tyngsboro, Mass.: 13 beetles, representing the same number of species, most of them paratypes (76477). Exchange.
- HALLOCK, H. C. (See under Japanese Beetle Laboratory.)
- HAMILTON, Dr. CLIFF S. (See under Dr. C. W. Muehlberger.)
- HAMMOND, CHARLES, El Paso, Tex.: 6 plants from Texas (83634, 85865); 13 plants 84216, 84919, 85007, 85354; 3 plants from Mexico (85815, 87439). Exchange.
- HAMMOND, Mrs. ERNEST, Rochester, N. Y. (through Mrs. Laura M. Allen): A table scarf of red flannel printed with a scroll and flower pattern in black, used as a melodeon cover in the family of the donor's grandmother (85239).
- HAMMOND, James K., El Paso, Tex.: Plant (83592).
- HARDIE, The Misses CATHERINE M. and ISABELLE H., Washington, D. C.: 40 ethnological specimens from the Philippines and North American Indians (85435).
- HARK, Mrs. LOUISE B., New York City: Bones of birds and mammals from kitchen middens in the Virgin Islands (85411).
- HARPER, Dr. R. M., Tallahassee, Fla.: 11 plants (84990).
- HARRINGTON, G. L., Buenos Aires, Argentina: 16 slabs containing insects from the Tertiary rocks of Argentina (84858); 2,600 beetles and 200 specimens of Microlepidoptera, mostly from Argentina (85431).
- HARRIS, HARRY, Richmond, Va.: String of trade beads found in graves in New York (86746). Exchange.
- HARRISON, W. H., Washington, D. C.: Skull and leg bones of a black bear from Dismal Swamp, Va. (86484).
- HARTSHORN, Prof. ELDEN B., Hanover, N. H.: 2 specimens of chemicals for the Loeb collection of chemical types (87705).

- HARVARD UNIVERSITY, Cambridge, Mass.:
- Department of Mineralogy and Petrography* (through Prof. Charles Palache): Specimens of native lead from Langban, Sweden, 1 of apatite and quartz and 1 of quartz from Greenwood Mine, Noyes Mountain, Me.; a piece weighing 525 grams of the Cynthiana, Harrison County, Ky., meteoric stone; a large mass of the Coahuila, Mexico, meteoric iron; a 1500-gram piece of the New Baltimore, Pa., meteoric iron; portion of a mass of pyrite from Sulitjelma, Norway; specimen of the type material of chalcocalumite described by E. S. Larsen (85126, 85268, 86439, 86647, 87445, 87684, exchange); 5 specimens of minerals from Langban, Sweden (86475).
- Gray Herbarium*: 368 plants from New England and eastern Canada (85567, 87462, 87891). Exchange.
- Museum of Comparative Zoology*: Skin and skull of a rodent from western Szechuen; 5 batrachians and reptiles from China; 2 lizards (84438, 85839, 86064). Exchange.
- HASKELL, ERNEST, New York City: 78 etchings and engravings for special exhibition (86811). Loan.
- HASKIN, LESLIE L., Brownsville, Oreg.: 4 plants from Oregon (83399, 83976).
- HATTON, DR. EDGAR M., Columbus, Ohio: Human ulna bone, recovered from a pile of debris in the officers' mess room on the U. S. S. *Maine*, at Havana, Cuba, in the winter of 1911-12, just after the resinking of the *Maine* (87822).
- HAVENS, O. C., Joplin, Mo.: Earthenware bowl found at a small ruin six miles north of Gallup, N. Mex. (84844).
- HAVMOLLER, R., Singora, Siam: 2 crocodile skulls from Siam (84901).
- HAWAIIAN SUGAR PLANTERS' ASSOCIATION EXPERIMENT STATION, Honolulu, Hawaii (through Frederick Muir): 4 flies from Ecuador; 22 specimens of leaf hoppers, representing 13 species, of which 7 are represented by types and 3 by paratypes; 47 flies from South America, collected by F. X. Williams; 26 specimens of flies, several new to the Museum collection (84969, 85922, 86042, 86495).
- HAYES, DR. MURRAY O., Provo, Utah: 150 specimens of Middle Cambrian fossils from the Wasatch Mountains north of Provo, Utah (87849).
- HEIGHWAY, A. E., Alexandria, Va.: Sapphires, including rough, cut, and star (87175), loan; specimen of arsenopyrite from Vermont (85238).
- HEIKES, VICTOR C., Salt Lake City, Utah: 5 specimens of minerals from Utah, and examples of the mineral miargyrite from the Flint District, Owyhee County, Idaho (83552, 86571).
- (See also under Dr. W. W. Jones.)
- HENDERSON, HAROLD J., Clemson College, S. C.: 2 flies (84826). Exchange.
- HENDERSON, Prof. JUNIUS. (See under Colorado University of.)
- HENDERSON, DR. W. W., Logan, Utah: 48 specimens of Oedipodine grasshoppers from Utah, including male and female types of 2 species described by the donor (87314).
- HERRERA, DR. A. L. (See under Mexico, Government of, Direccion General de Estudios Biologicos).
- HERRERA, Sr. Prof. Fortunato L., Cuzco, Peru: 11 plants (83570, 85407); 98 plants from Peru (84188, 84343, 85640, 86990, 87469).
- HESS, FRANK L., Washington, D. C.: Specimen of wulfenite from Ahumada, Mexico, and 1 of petzite from Timmins, Ontario (85925).
- (See also under J. E. McKeever, Mar-John Mining Co., A. G. Richards, C. M. Snyder, H. E. Spradlin.)

- HIBBERT, Prof. HAROLD, New Haven, Conn.: 1 lot of 3 specimens for the Loeb collection of chemical types. (85638).
- HICKEN, Dr. C., Buenos Aires, Argentina: 2 plants from Argentina (86055). Exchange.
- HIGGINS, MORTIMER L. J., Hartford, Conn.: 150 beetles from Paraguay, Rhodesia, and China (83617): 17 beetles, representing 14 species, including 2 Buprestidae and 15 Cerambycidae, from southern Rhodesia (83647); 14 unidentified insects from Richmond, Victoria, Australia; also 4 beetles from Gazi, Kenya, Africa (84000); insect from Bogota, Colombia, collected by Brother Apollinaire Marie; 56 insects, including 23 grasshoppers, 14 walking sticks and 19 beetles, the latter representing 2 species, all from South America; skin of a hummingbird from South America; 34 miscellaneous unidentified insects from Ecuador; 13 beetles from Paramaribo, Dutch Guiana; 29 butterflies and moths from South America (84072, 84903, 85250, 85600, 86262, 86572); 2 beetles from Australia (84242); syrphid fly from Mexico (84673); 3 butterflies and 1 moth (84758); 14 selected beetles from Cartago, Costa Rica, collected by Arthur E. Gillatt, including several varieties and 1 species new to the Museum collections; also 5 miscellaneous insects from Costa Rica (86109, 86120); 165 beetles and 2 specimens of Orthoptera (86510); 20 specimens of miscellaneous exotic insects (86594); 7 specimens, 6 species, of land shells, including the type of a new subspecies from the Philippine Islands (87270).
- HILDEBRAND, S. F. (See under F. R. Shaw.)
- HILDEBRAND, P. L. (See under Gatchel & Manning (Inc).)
- HILL, A. W., Edinburgh, Scotland: 3 pictorial photographs (87255).
- HILL, Mrs. C. (See under Mrs. Burton Thompson.)
- HILL, HOWARD R., Los Angeles, Calif.: 7 brachiopods from California (84552); 20 specimens of marine shells, from off California and from the Gulf of California (85905); 40 shrimps from the Los Angeles River (87142).
- HILL, Dr. J. BENNETT, Philadelphia, Pa.: A new chemical compound of tungsten (84840).
- HILLHOUSE, Miss MARGARET, New York City: Lady's "army cloak" made of captured Confederate gray cloth in the first Freedman's School established in Richmond, Va., in 1865 (87112).
- HINE, Prof. JAMES S., Columbus, Ohio (through W. S. Fisher): 50 specimens of Alaskan Coleoptera (86601).
- HITCHCOCK, Prof. A. S. (See under Agriculture, Department of, Bureau of Plant Industry.)
- HOBBS, KENNETH, Hampton Beach, N. H.: A collection of marine invertebrates from Hampton Beach, N. H., consisting of 25 specimens of amphipods, 10 isopods and 1 crab, collected by the donor (83601).
- HOES, Mrs. R. G. (See under Brig. Gen. Richard L. Hoxie and Mrs. Hoxie.)
- HOFFMAN, Dr. WALTER FRED. (See under Prof. Ross Aiken Gortner.)
- HOLDEN, Miss MARGARET L., Evanston, Ill. Wood block print, hand colored (84806).
- HOLLINS COLLEGE, Department of Zoology, Hollins, Va. (through Miss Ida Sitler): 2 specimens of fleas and 2 snails from Hollins, Va. (84742).
- HOLMES, Dr. S. J., Berkeley, Calif.: 2 shrimps from a stream near Pasadena, Calif. (85246).
- HOLMES, V. ALLISON, and SIM BURNETT, Oakland City, Ind.: Specimen of coal showing carbonized trunk of a fern (84224).
- HOLMES, Dr. W. H., National Gallery of Art, Washington, D. C.: Photographs of various South American Indian tribes (87691).

- HOLMQUIST, Prof. A. M., Chicago, Ill.: 10 specimens of crustaceans (87295).
- HOLT, ROBERT T., New York City: Hermit crab from Fort Lauderdale, Fla., collected by the donor (86626).
- HOLTEDAHL, Dr. OLAF. (See under Norwegian Expedition to Novaya Zemlya, 1921.)
- HOPE GARDENS, Kingston, Jamaica: Plant from Hope Gardens (84559).
- HOPKINS, J. D., Price, Utah: 4 plants (83382, 84339).
- HOPKINS MARINE STATION OF STANFORD UNIVERSITY, Pacific Grove, Calif.: Type specimens of 4 new species of holothurians (83308).
- HOPPING, ROY DE GRAW, Keokuk, Iowa: Collection of invertebrate fossils from the Keokuk limestone at St. Moriah, Hancock County, Ill. (83562).
- HOTCHKISS, NEIL M., Smithsonian Institution: 14 plants from the eastern United States (86805).
- HOUGH, PHILIP R., East Falls Church, Va.: Wood specimens of Alaska Cedar (87509).
- HOUGH, Dr. WALTER, U. S. National Museum: Chiseled bronze chandelier, probably French, of the period about 1780 (83974); tripod stone mortar collected near Holbrook, Ariz. (84315); 2 small earthenware vessels from a prehistoric ruin at Jettyto Springs, Ariz., collected and presented to the donor by Mr. Roberts (84757).
- HOUSE, Dr. HOMER D. (See under New York State Museum.)
- HOUSEHOLDER, Vic H., Phoenix, Ariz.: 2 fishes (87850).
- HOWARD, J. D., Klamath Falls, Oreg.: Glass ink well found on the site of the conference between the Modoc Indians and the United States peace commissioners in April, 1873, which terminated in the murder of Maj. Gen. E. S. Canby, U. S. Army, and the two other commissioners (86599).
- HOWARD'S SON & CO., S. E., New York City: 12 toothbrushes (85098).
- HOWELL, A. H., U. S. National Museum: 4 small mammals, 2 from Montenegro and 2 from Minnesota (85430); 15 small mammals from California (86483); skeleton (without skull) and 2 alcoholic wood rats from California (87435).
- HOXIE, Brig. Gen. RICHARD L., U. S. Army (retired), and Mrs. Hoxie (through Mrs. R. G. Hoes): Girl doll of the latter part of the nineteenth century (84754).
- HUBBY, Miss ELLA F. (through Rollin G. Hubby, Los Angeles, Calif.: 119 baskets and 6 miscellaneous specimens (85929). Bequest.
- HUCKETT, H. C., Riverhead, Long Island, N. Y.: 44 flies, including paratypes of 5 new species (85299). Exchange.
- HUDELSTON, MARSHALL, Kenilworth, D. C.: Barred owl (87263).
- HULL, J. P. D., Shreveport, La.: 4 nodules containing crustaceans and fossil claws belonging to a burrowing shrimp from Buzzards Bluff, Miller County, Ark. (83397, 83436).
- HUMMEL, Rev. KARL D., Glendale, Calif.: Small collection of insects in alcohol; also a small lot of shells all taken in or near Managua, Nicaragua, Central America (84924).
- HUNGERFORD, Prof. H. B., Lawrence, Kans.: 10 specimens of water bugs, including paratypes of 4 species new to the Museum collections (85889).
- HUNNEWELL, F. W., Cambridge, Mass.: 2 plants from North Carolina (84186).
- HUNT, HECTOR D. R., Kampala, Uganda, East Africa: Small collection of miscellaneous insects from East Africa (84017).
- HURD, Dr. CHARLES DEWITT, Evanston, Ill.: 14 specimens of chemicals for the Loeb collection of chemical types (85348).
- HURDLE, Mrs. CHARLES W., Washington, D. C.: White cotton counterpane woven about 1775 by Miss

HURDLE, Mrs. CHARLES W.—Contd.

Nancy Manlow from cotton grown and picked by her at Petersburg, Va.; also three small dressed dolls made from rolled linen rags by Miss Manlow for her god-daughter, Ann C. Archer, and contained in a fancy pincushion box (85240).

HYLAND, JACK, Pazna, Bolivia: 10 specimens of minerals from Bolivia (84984); examples of cassiterite and teallite from Monserrat Mine, Antequerra, Bolivia (86976). Exchange.

ILLINGWORTH, Dr. J. F., Bishop Museum, Honolulu, Hawaii: 8 specimens of flies (86294). Exchange.

ILLINOIS NATURAL HISTORY SURVEY, Urbana, Ill.: 47 specimens of flies including paratypes of 7 species, in the family Simuliidae (86782).

ILLINOIS SCHOOL FOR THE BLIND, Jacksonville, Ill.: Music printing plate and prints from the same, and 3 bound copies of songs in Braille type (86117).

ILLINOIS, UNIVERSITY OF, Urbana, Ill. (through Prof. F. L. Stevens): 131 plants from Panama and South America (87002).

INDIANA CENTRAL COLLEGE, Indianapolis, Ind. (through W. P. Morgan): 15 insects (85376).

INDIANA STATE MUSEUM, Indianapolis, Ind. (through Post Office Department): Handstamped letters sent through the United States mail prior to the general use of adhesive stamps, 1836-1850 (78 specimens) (86768).

INSTITUTO BUTANTAN, Sao Paulo, Brazil (through Dr. Afranio do Amaral): 102 Brazilian snakes (87860).

INTERNATIONAL HEALTH BOARD OF THE ROCKEFELLER FOUNDATION, New York City (through Dr. Frederick F. Russell): 35 fishes from Porto Rico (84718); fish known as Mulatinho (87909).

INTERNATIONAL SHOE CO.,

Chemical Laboratory, Morgantown, N. C. (through Sam Taylor): Glow-worm from North Carolina (84725).

INTERIOR DEPARTMENT:

National Park Service: 25 slabs of Coconino sandstone containing tracks of prehistoric animals, collected by C. W. Gilmore on the Hermit Trail, Grand Canyon, National Park (85556).

U. S. Geological Survey: 2 dinosaurian footprints from the Mesaverde formation at the Clear Creek coal mine, Clear Creek, Utah (83348); set of Creede Special rocks of the San Juan area and a set of specimens representing the igneous rocks of the Creede formations (83588); a small lot of vertebrate fossils from the Wasatch formation about 3 miles south-east of Sussex, Wyoming, collected by C. E. Dobbin, W. W. Rubey, and T. W. Stanton (84137); miscellaneous collections including diamond-bearing peridotite and associations from Arkansas; minerals from the Queen Caddo Gap, and Hot Springs, quadrangles, and minerals from the Batesville manganese district, Arkansas (84702); portion of a femur collected by Wilmot H. Bradley in the Bridger formation, Sand Wash Basin, Moffat County, Colo. (84916); a duplicate set of rocks from the San Juan, Colo. region (84961); collection of rock and ore specimens illustrating a report on the Saddle Mountain and Banner mining districts, Ariz. (84971); collection of rocks and ores from the Manhattan Mining District, Nye County, Nev., descriptive of Bulletin 723, U. S. Geological Survey, by Henry G. Ferguson (85033); remains of a phenac-

INTERIOR DEPARTMENT—Contd.

U. S. Geological Survey—Contd.
 codont collected in Sweetwater County, Wyo., by Edwin T. McKnight (85289); 2 specimens of Eocene fossil fish collected by E. M. Spieker and J. B. Reeside, jr., near Manti, Utah (85381); Miocene plants from the Latah formation near Spokane, Wash., collected by Kirk Bryan and J. T. Pardee and described by F. H. Knowlton in Professional Paper 140-A (85412); 6 boxes of miscellaneous rock and mineral specimens collected chiefly by W. T. Schaller (85437); 8 lots of vertebrate fossils collected by W. W. Rubey and party in Wyoming and Montana, adjacent to the Black Hills (85847); collection of Cretaceous fish remains from the Smoky Hill chalk of Ellis County, Kans. (85915); 10 specimens of minerals, chiefly types, illustrated in Bulletins 750 and 761, U. S. Geological Survey (86081); the type specimen of colemanite in limestone, described by H. S. Gale in Professional Paper 85-A, U. S. Geological Survey (86509); fossil bones of fishes from Greenhorn limestone, Republic County, Kans. (86615); collections illustrating a monographic report on the Leadville, Colo., district, by J. D. Irving and G. F. Loughlin (87133); analyzed potash salt samples from the Means well, Loving County, Tex. (87720).

(See also under California Agate Co., Dana Parkinson, Spokane Public Museum, Standard Oil Co., New York City, and J. M. Stone.)

IOWA STATE COLLEGE, Ames, Iowa (through Harvey L. Sweetman): 14 insects (83582); (through E. G. Kelsheimer); 2 slides of chalcid flies (87278).

IVES, Prof. J. D., Jefferson City, Tenn.: Small collection of insects from a cave near Jefferson City, Tenn. (85244); small collection including myriopods, a salamander, and 1 crayfish; also some teeth, 4 earthworms, 17 crayfishes, 10 bats and some insects from Indian Cave, Tenn. and near there (85788, 87836); 3 bats, a salamander, 14 isopods, and a few insects (86316, 87202).

JACKSON, RALPH W., Cambridge, Md.: About 200 marine mollusks, including the type of a new species; 6 skins with skulls of small rodents, and skins and skulls of 2 squirrels, and 1 insect (83702, 83967, 87121).

JACOT, ARTHUR P. (See under Shantung Christian University.)

JAHN, Dr. ALFREDO, Caracas, Venezuela (through H. Pittier): Plant Venezuela (84855); 10 plants from Venezuela (87437).

JAHN, Prof. Dr. JAROSLAV J.: 21 minerals from Czechoslovakia (86494). Exchange.

JAMES WALKER MEMORIAL HOSPITAL, Wilmington, N. C. (through Josephine Lyle, laboratorian): Tape-worm and part of liver of a white rat (87137).

JAPANESE BEETLE LABORATORY, Riverton, N. J. (through Robert J. Sim): 32 beetles including 8 species (85807), exchange; (through H. C. Hallock) 12 specimens of flies (86104, 86961); (through J. L. King) 2 specimens of flies (86321).

JAQUES, Mrs. BERTHA E. (See under Chicago Society of Etchers.)

JARDIN BOTANIQUE DE L'ETAT, Brussels, Belgium: 98 plants from Africa (84217). Exchange.

JAYNES, H. A., Shanghai, China: A small collection of flies from China (85805).

JENKINS, C. FRANCIS, Washington, D. C.: Display card with 18 photographic prints mounted upon it, all of which were sent and received by radio, Jenkins System (83549).

JIMENEZ, Sr. Don OTON. (See under Sr. Don Enrique Collado.)

- JOHANNSEN, Prof. O. A., Ithaca, N. Y.: 2 specimens of flies (85804).
- JOHANSEN, FRITS, Ottawa, Canada: 5 specimens of copepods collected by Professor O'Donoghue on Vancouver Island; 2 fishes, and 3 amphipods (83711); approximately 24 specimens of worms from Cape Bathurst, Arctic Canada (86113); approximately 700 specimens of helminths (87141); 86 specimens, 16 species, of amphipods collected by the donor in Hudson Bay during the summer of 1920 (87460).
- (See also under Canadian Government, Department of Marine and Fisheries, Ottawa, Canada.)
- JOHANSEN, HOLGER, Summit, Canal Zone: 12 plants from the Canal Zone (83579, 87151, 87520) (through Dr. C. V. Piper) 13 plants from Ecuador, 3 plants from the Canal Zone (86928, 86969, 87006); 6 plants (83637, 87884).
- JOHNSON, BERTRAND L., Washington, D. C.: Mounted skin of a pine snake (85443).
- JOHNSON, CHARLES, keeper of the light, Tortugas, Fla.: 7 birds from Dry Tortugas, Fla. (83516).
- JOHNSON, C. W., Boston, Mass.: 10 specimens of named flies, and a mosquito (cotype) (84330, 85008).
- JOHNSON, Dr. DUNCAN S., Baltimore, Md.: 2 amphipods from Mount Desert Island, Me. (85399).
- JOHNSON, ELMER, Chesterton, Ind.: Skin and skeleton of a fox squirrel, and a skeleton and 6 skulls of small mammals (86243).
- JOHNSON, Maj. H. B., Washington, D. C.: 3 mammals from Panama (85449).
- JOHNSON & JOHNSON (INC.), New Brunswick, N. J.: Specimens of dental floss, cotton rolls, and a cotton roll toothbrush (85312).
- JOHNS-MANVILLE (INC.), New York City: Specimens of asbestos yarns, fabrics, and cordage (85092); 2 specimens of asbestos (85238).
- JONES, Miss ELEANOR E. (See under American Physiotherapy Association.)
- JONES, Dr. G. W., Laurel, Md.: Skin and skull of a squirrel (85444).
- JONES, Dr. W. W., Jordan Valley, Oreg. (through Victor C. Heikes): 2 specimens of quartz with inclusions of miargyrite from the Flint district, Owyhee County, Idaho (87251).
- JORDAN, Dr. DAVID STARR, Stanford University, Calif. (through Dr. Remington Kellogg): 5 specimens of fossil fishes, paratypes, from the Puente series, Upper Miocene, Lompoc, Calif. (83953); 7 slabs containing vertebrate remains from the Miocene deposits at Lompoc, Calif. (84884).
- JOSEPH, ELLIS, New York City: 2 specimens of hyrax from Abyssinia (87863).
- JUDAY, Dr. CHANCEY, Madison, Wis.: A collection of amphipods, isopods and mysids from Green Lake, Wis., and Soo Chow, China (86817); 29 lots of Arctic crustaceans, 1 lot of salpa, and 359 specimens of marine invertebrates, together with 9 lots of bottom samples, also insects and mollusks collected by Dr. N. Gist Gee in China (86978).
- JUDD, E. T., Cando, N. Dak.: 3 skeletons of prairie chickens from North Dakota (83525, 86796).
- JUDD, NEIL M. (See under National Geographic Society.)
- JUDGE, FRED., F. R. P. S., Hastings, England: 100 pictorial photographs, oil transfers, for special exhibition during the months of March and April (86280). Loan.
- JULIO, Brother, La Paz, Bolivia: 34 plants from Bolivia; also specimen of native copper from the Corocoro Mines (83379).
- JUNGMANN, Dr. WILLIAM, Joliet, Ill.: 4 plants and 2 photographs (85902).

- JUSSERAND, Madame J., care, the French Embassy, Washington, D. C.: Japanese doll in court dress (85924).
- JUSSERAND DINNER COMMITTEE (through Gilbert Grosvenor, National Geographic Society, Washington, D. C.): Bronze copy of the gold medal presented to the French Ambassador and Madame Jules Jusserand, by the people of Washington, January 10, 1925 (86787).
- JUTZ, E. J., Washington, D. C. (through Smithsonian Institution, National Zoological Park): Skin and skeleton of a margay from Honduras (86463).
- KANSAS, UNIVERSITY OF, Lawrence, Kans. (through R. H. Beamer): Specimen of fly (86028); 12 specimens of flies (86783). Exchange.
- KARCHUTA, MILO, Cleveland, Ohio: Specimen of bauxite from Ervenik, Yugoslavia (86622). Exchange.
- KEENE, Mrs. MINNA, F. R. P. S., Oakville, Ontario, Canada: 75 photographs for special exhibition (84986, loan); 2 portraits entitled respectively, "The Shepherd" and "Elizabeth"; also a group entitled "Malay Laundry" (86959).
- KELLERS, Lieut. H. C., Naval Air Station, Hampton Roads, Va.: 600 crabs taken by the donor from oysters at Lynn Haven Bay, Va. (85949).
- KELLOGG, REMINGTON, Washington, D. C.: Casts of the articulated fore limb and foot and hind flippers of a fossil seal, from originals found in the Lompoc deposits, California (84951).
(See also under Dr. David Starr Jordan).
- KELSHEIMER, E. G. (See under Iowa State College.)
- KELTON, Mrs. ROBERT, Washington, D. C.: Drawings and reproductions of costumes in color, received through W. H. Holmes (87521).
- KENYON, Lieut. HOWARD N., Port-au-Prince, Haiti (through National Geographic Society): Land hermit crab collected at Haiti (85384).
- KEYSER, E. W., Washington, D. C.: Earthenware bowl from a ruin 30 miles west of Adamana, Ariz., collected by Maj. J. M. Culp in 1910 (85302). Exchange.
- KIDWELL, GEORGE P., Washington, D. C.: One bird, a sanderling (84788).
- KILLIP, ELLSWORTH P., U. S. National Museum: 1,160 plants from Panama, Jamaica, and the United States (83412, 84905).
- KIMBER, SIDNEY A., Cambridge, Mass.: 19 light and shade watermarks (86075).
- KING, J. L. (See under Japanese Beetle Laboratory.)
- KINSER, B. M., Eustis, Fla.: Fragmentary remains of fossil turtle from Rock Springs, Orange County, Fla. (87232).
(See also under E. J. Brown.)
- KLASE, J. S., Avon Park, Fla.: 8 insects and 1 mollusk from Florida (86975).
- KNIGHT, Prof. H. H. (See under Minnesota, University of.)
- KNOLL, J. N., Hummelstown, Pa.: 17 beetles, representatives of 12 species (85281).
- KOCH, DR. LAUGE. (See under Mineralogical Museum, Copenhagen, Denmark.)
- KUSCHEL, RICHARD, Chicago, Ill.: 2 plants from Texas (86803).
- KUWANA, Prof. S. I., Yokohama, Japan: 4 specimens of flies from Japan (86276).
- LAIDLAW, Dr. F. F., Hyfield, Uffculme, Devon, England (through E. B. Williamson, Bluffton, Ind.): 17 specimens of dragon flies from Burma (86574).
- LAMPE, Dr. O. J., Paramaribo, Dutch Guiana: 14 specimens of mollusks from Dutch Guiana (86758).

- LANDON, JOHN, Laurel, Md.: Skin, skull, and leg bones of a woodchuck (87534).
- LANE, Miss MARIAN, Washington, D. C.: A working design as used in bookbinding (87522).
- LANG, W. B., Midland, Tex.: About 300 specimens, 11 species, of fresh-water shells from Duck Creek (85000).
- LANGWORTHY, Dr. CHARLES F. (See under Mrs. Burton Thompson.)
- LANKESTER, C. H., Cartago, Costa Rica: 67 plants from Costa Rica (84998, 87264).
- LA RUE, T. W., East Las Vegas, N. Mex. (through Mr. S. B. Davis, Washington, D. C.): A right lower molar of a fossil elephant (84719).
- LATCHFORD, Hon. F. R., Toronto, Ontario, Canada: 77 specimens, 15 species, of land and fresh-water shells from Canada and Florida (85373).
- LATHAM, ROY, Orient, N. Y.: 4 specimens of ferns from New York, and 7 specimens, 5 species, of shells from Long Island (85851, 86777).
- LATIMER, H. A., Boston, Mass.: Camera shutter (eclipse) made by C. Prosch (86119).
- LAUDOLF, MATH. J., Peebles, Wis.: 3 slabs of stone containing fossil remains from Fond du Lac County, Wis. (83377).
- LAUVMANN, Dr. A., Munchen, Bayern, (90) Germany: 8 bird skeletons from Europe (87302). Exchange.
- LA VOY, MERL, New York City: Photographs of natives of British Solomon Islands and miscellaneous subjects (85214).
- LAWRENCE & CO. (See under Pacific Mills.)
- LECOMTE, Dr. H. (See under Museum National d'Histoire Naturelle, Paris, France.)
- LEDING, A. R., Sacaton, Ariz.: 2 plants from Arizona (87682).
(See also under Agriculture, Department of, Bureau of Plant Industry.)
- LEE, HENRY E., Rapid City, S. Dak.: 5 slabs containing fossil plants from the Lakota formation, near Blackhawk, S. Dak., and 20 plants (85364, 86313).
- LEE, JOSEPH, Passagrille, Fla.: Cluster of specimens which appear to be eggs of some gastropod (87542).
- LEE, W. T. (See under National Geographic Society.)
- LEMLY, Maj. R. P., U. S. Army, Washington, D. C.: Specimen of red siskin (a bird) from South America (85371).
- LENINGRAD, RUSSIA, AGRICULTURAL SCIENTIFIC COMMITTEE, Experimental Station of Bureau of Applied Entomology (through Dr. N. Troitsky): 23 specimens of flies (85330, exchange).
- LEON, Rev. Brother, VEDADO, Havana, Cuba: 33 specimens of ferns from Cuba (85676).
- LEONARD, EMERY C., U. S. National Museum: 8 plants from Ohio (86074).
- LEWTON, F. L., U. S. National Museum: Wood specimens of David's Summer Lilac (87304).
- LIEBERMAN, Miss L., Washington, D. C.: Passover plate, 2 parchment marriage contracts and 1 passport dated Bremen 1837 (83695).
- LIGHT, Prof. S. F., Berkeley, Calif.: 700 specimens of crustaceans, 5 horseshoe crabs, and 3 lots of echinoderms collected by the donor, at Amoy, China, and adjacent regions (83534).
- LILLY, WILLIAM, New York City: United States and foreign coins and tokens, and a pocket cutter for making quill pens (37 specimens) (84948).

- LINES, DELOS E., Jefferson, N. Y. (through Mrs. Willard S. Lines, Lanham, Md.): A Colt's revolver, cal. .32, of the Civil War period (84842).
- LINES, MRS. WILLARD S. (See under Delos E. Lines.)
- LINK, FRANCIS L., Jolo, Sulu, P. I.: 91 specimens of Philippine shells (84226).
- LLOYD, DR. JOHN URI, Cincinnati, Ohio: Plant from Florida (83329); 3 plants from Mexico (83384); 115 specimens of "fine and rare chemicals" made by the donor and contained in an exhibition cabinet (83413); collection of laboratory apparatus used by Dr. John King; a bottle of emetine, believed to be the type specimen of this drug; an autographed photograph of Doctor King, and a suppository mold made by Dr. B. W. Chapman (83422); a pharmaceutical counter balance of the period of 1860; a set of avoirdupois block weights and a set of troy cup weights for the same (84176); plant (85405); ophthalmoscope used by Dr. John King (85844).
- (See also under Mrs. Hallie Stephens Caine; Dr. Louise Eastman, Dr. H. W. Felter, Dr. W. N. Mundy, Dr. T. T. Sidener, Dr. John J. Sutter, and Dr. D. H. Welling.)
- LODGE, ESTATE OF HENRY CABOT (through John E. Lodge): Court costume worn by Hon. Henry Cabot Lodge on the occasion of a reception at Buckingham Palace, London, in 1908 (11 specimens) (87902).
- LOFTUS, MRS. KATE, Washington, D. C.: Canary bird (87185).
- LOHR, L. R. (See under American Military Engineers, Society of.)
- LONG, Miss EDITH C., Washington, D. C.: Glass fairy lamp made in England about 1870 (83449).
- (See also under the Misses Long.)
- LONG, the MISSES, Washington, D. C. (through Miss Edith C. Long): Silver spoon holder, cake basket, butter dish and knife of the latter part of the nineteenth century; 3 pieces of heavy American embroidery, about 1840, and 5 pieces of fine American tatting; 3 small oriental china dishes and 6 china tea cup covers (9 specimens); a very fine example of duchesse guipure lace (83619, 86290, 86788, 87260). Loan.
- LONG, Mrs. FLORA J. (See under Emily Ruth Fox.)
- LONGWELL, Prof. CHESTER R., New Haven, Conn.: 85 specimens of Cambrian fossils collected in the Virgin and Spring mountains of southern Nevada (87683).
- LOWE, HERBERT N., Long Beach, Calif.: 21 specimens, 15 species, of marine shells from Fiji and Samoa (83701); 72 specimens, 36 species, of marine shells from Fiji Islands, etc. (84225); coconut crab, collected by the donor on Nine Islands, Oceanica (85297); 25 isopods, 50 amphipods, 5 shrimps, and a crab collected by the donor at Long Beach, Calif. (85585).
- LOWE, JOHN N., Marquette, Mich.: Crayfish taken from the stomach of a Merganser duck shot on the Boardman River, Grand Traverse City, Mich. (85628).
- LOWELL, Mrs. HARRIET D., Washington, D. C.: A Burnside carbine and a Remington rifle of the Civil War period (86105).
- LOWY, Prof. ALEXANDER, Pittsburgh, Pa.: Lot of 49 specimens of chemicals for the Loeb collection of chemical types (85621).
- LUEDERWALDT, H., Sao Paulo, Brazil: 4 wasps and 3 nests; also 11 specimens of coleopterous larvae, all from Brazil (83593); 12 specimens of flies from Brazil (85880). Exchange.
- LUMMIS, STANDLEY B., Fort Myers, Fla.: 15 plants from Florida (83376).
- LYLE, JOSEPHINE. (See under James Walker Memorial Hospital.)

- LYON, Dr. MARCUS W., jr., South Bend, Ind.: 2 skeletons of mink from Tremont, Ind.; skin and skull of a rabbit; 31 skins and skulls of small mammals from Porter County, Ind. (83671, 84249, 86238).
- LYONNET, Senor Don ERNEST, Mixcoac, D. F., Mexico: 20 plants from Mexico (85236, 86449).
- MACCALLUM, Dr. G. A., Baltimore, Md.: 2 slides showing the type and paratype of a parasitic worm (85124).
- MACDOUGAL, Dr. D. T., Tucson, Ariz. (See under Carnegie Institution of Washington.)
- MACBRIDE, J. FRANCIS, Chicago, Ill.: Plant from Salvador (86456).
- MACKENZIE, JAMES. (See under Scottish Photographic Federation, Trynlaw, Strathaven, Lanarkshire, Scotland.)
- MAIDL, Dr. F. (See under Naturhistorisches Museum, Vienna, Austria.)
- MAINE FELDSPAR CO., Auburn, Me.: A capped quartz crystal and a specimen of pegmatite from Auburn, Me. (84200).
- MALBIS, JASON, Daphne, Ala. (through Agriculture, Department of, Bureau of Entomology): Box of silkworm cocoons (87663).
- MALTE, Dr. M. O. (See under Victoria Memorial Museum.)
- MANEE, Rev. A. H., Southern Pines, N. C.: 2 beetles (paratypes) (83951); 25 miscellaneous insects from North Carolina (84223); 305 beetles, including the donor's type of one (84933). Exchange.
- MANN, Dr. WILLIAM M., U. S. National Museum: 24 bats and a small collection of mollusks (83520); 12 bird skins from Costa Rica (83708); mock-turtle from Cosolapa, Oaxaca, Mexico, collected by Paul Ruthling (85926).
- (See also under Ferdinand Nevermann.)
- MANSFIELD, W. C., Washington, D. C.: 2 specimens of fresh-water muskels from Lake Erie, Chautauqua
- MANSFIELD, W. C.—Continued.
County, N. Y., and 2 specimens of mollusks from North Carolina (83669, 87945).
- MANZ CORPORATION, Chicago, Ill.: Book entitled "Manz Engraving Company, Chicago" (86084).
- MAPES, C. A., Louisa, Va.: Florida gallinule from Virginia (87425).
- MARCHAL, Dr. PAUL, Paris, France: A slide containing 6 paratypes of chalcid-flies (85014). Exchange.
- MARINE FISH HATCHERY & BIOLOGICAL STATION, Portobello, Dunedin, New Zealand (through George W. Thomson, chairman): Miscellaneous marine invertebrates and mollusks, being tow net material collected at Portobello (86352).
- MAR-JOHN MINING CO., Sheep-ranch, Calif. (through Frank L. Hess): Specimen of cobalt-bearing ore from the mines of the Mar-John Mining Co. (84005).
- MARKHAM, WILLIAM, Cristobal, Canal Zone: Ethnological specimens from Panama, mainly from the San Blas Indians (83668).
- MARSH-DARIEN EXPEDITION, THE (through R. O. Marsh), Washington, D. C.: Collection of ethnological material, 8 shrimps, 1 crab, monkey skins, skeletons, etc., a small collection of mollusks and insects, an iguana skin, and a trunk skeleton of a bird, secured by the expedition in 1923-24 (84900); 47 bird skins collected by John L. Baer in Panama (87499).
- MARSH, CLAYTON C., Washington, D. C.: 30 specimens of blind insects and 1 blind amphipod, taken from a well at Fair View, Loudoun County, Va. (83663).
- MARSH, R. O., Washington, D. C. (through Mr. Paul Vogenitz): Lower jaw and part of skull found about 20 years ago on the bed of the St. Lawrence River, below Prescott, Ontario (85901).
- (See also under Marsh-Darien Expedition.)

- MARSHALL, BYRON C., Imboden, Ark.: 5 insects; grasshopper and 2 crickets; 4 yellow jackets; 5 fishes; 10 isopods and 2 insects and a small collection of moths and beetles (85003, 85291, 85653, 85667, 86799, 87222); 9 insects from Arkansas (85090); 52 specimens, 2 species, of fresh-water amphipods, and a small collection of miscellaneous insects from Imboden (87483).
- MARSHALL, ERNEST B., Laurel, Md.: 4 birds from Maryland; specimen of mourning dove from Maryland; red-shouldered hawk from North Carolina; shrew and the skull of a mink; plant from Maryland; 3 specimens of scoters and 1 gull from North Carolina (85788, 86049, 86245, 86479, 87466, 87841).
- MARSHALL, HENRY R., Wilson, N. C.: a merganser and 2 skulls of muskrats (85900); 5 bird skins and 1 egg (87716).
- MARSHALL, WILLIAM B. (See under Smithsonian Institution, U. S. National Museum, collected by members of the staff.)
- MARTIN, JAMES V., Garden City, Long Island, N. Y.: Original light scout airplane known as the *K-III* or *Blue Bird* (83905).
- MARTIN, Miss JANET, Worcester, Mass.: Small collection of European ethnological specimens (83631).
- MARTINEZ, Sr. DON MAXIMINO. (See under Mexico, Government of, Direccion General de Estudios Biologicos.)
- MARVEL, Prof. C. S., Urbana, Ill: 15 new chemical compounds (84838).
- MATILDA ZIEGLER MAGAZINE FOR THE BLIND, New York City: Map printing plate and print from it; 1 set of sheet iron printing plates, and a grooved writing card (86114).
- MAXSON, HERBERT W. (See under the Goodyear Tire & Rubber Co.) (84151).
- MAYER, Dr. EMIL, Vienna, Austria: 6 pictorial photographs (bromoil transfers) (85646).
- McATEE, W. L., Washington, D. C.: Plant from Virginia (84817).
- McCOLL, W. R., Owen Sound, Ontario, Canada: Plant from Canada (83660).
- McCONNICO, A. J. (See under Paul Rener.)
- McDADE, Miss MARY L., Hagerstown, Md.: 2 moths with pupae and larvae, new to the Museum collection; also 3 butterflies, 1 other moth, and 1 beetle from China (84756).
- McELVAIN, Dr. S. M., Madison, Wis.: 3 new piperidine derivatives related in structure to cocaine for the Loeb collection of chemical types (84668).
- McEWEN, ALFRED, New York City: 2 microengravings (85432); microengraving of the Lord's Prayer with a microscope and especially designed stand (87533); photograph of a drawing of the micropantograph with improvements by the donor (87900).
- McFARLAND, FRANK T., Lexington, Ky.: Plant of a type collection from Kentucky (83342).
- McGREGOR, R. C. (See under Philippine Islands, Government of, Bureau of Science.)
- McGUIRE, JAMES C., New York City: Silver card case owned during the early part of the 19th century by Jane Milburn of Washington, D. C. (85575).
- McINTOSH, CHARLES F., and LAWRENCE TUCKER, Norfolk, Va.: Clay pipe from White Hill, Princess Anne County, Va. (84886).
- McKEE, Prof. RALPH H., Long Island City, N. Y.: Glyceryl margarate (Intarvin), the first synthetic food prepared which is not, so far as is known, found in nature (84819).
- McKEEVER, J. E., Castleton, Utah (through F. L. Hess): Specimen of hewettite and carnotite from Polar Mesa, Utah (86080).
- McLAURIN-JONES CO., Brookfield, Mass.: 11 samples of flat gummed paper, 9 of them being printed on (85664).

- MCNEIL, GEORGE M., Nelsonville, N. Y.: Skin and skull of a gray squirrel (87467).
- MECHLIN, Miss LEILA. (See under American Federation of Arts.)
- MELANDER, Prof. A. L., Pullman, Wash.: 5 flies (type material) (85231). Exchange.
- MERRIAM, Dr. C. H., Washington, D. C.: 7 fresh-water shells from California (84765).
- MERRIAM, Mrs. LEWIS, Washington, D. C.: 4 gold medals, 2 gold badges, and 2 silver medals awarded to Maj. Lewis Merriam, U. S. Army, in recognition of his skill in marksmanship, also 2 bronze badges awarded to him for service during the Civil War and the Indian wars (84211). Loan.
- MERRILL, ELMER D., Berkeley, Calif.: 5 ferns from China, collected by A. N. Steward (84778); 32 East Indian plants (85440).
(See also under California, University of, Department of Botany.)
- METCALF, Dr. MAYNARD M., Washington, D. C.: Collection of frogs from Ceylon, and 2 very rare frogs from South Africa (85322); a small collection of 8 half-grown frogs and 54 tadpoles from Madras, Southern India; also 1 insect and a leech (87216).
- MEXICO, GOVERNMENT OF, DIRECCION GENERAL DE ESTUDIOS BIOLOGICOS (through Senor Don Maximino Martinez): Plant from Mexico (86447), exchange; (through Dr. A. L. Herrera, Director) lizard from Guerrero, Mexico (84677); insects from Mexico (84936); 3 packets of seeds from Mexico (87196), exchange; 3 specimens of phyllopod from Mexico (87244).
- MEYER, Dr. W. E., Cachuella Esperanza, Beni, Bolivia: 16 plants (83698, 86992).
- MICHIGAN, UNIVERSITY OF, Department of Botany, Ann Arbor, Mich. (through Prof. H. H. Bartlett): Fern from Georgia (85662). Exchange.
- MILES, Maj. SHERMAN, U. S. Army, War Department, Washington, D. C.: Presentation sword, medals, and badges owned by Lieut. Gen. Nelson A. Miles, U. S. Army; 27 specimens (87861). Loan.
- MILES, Maj. SHERMAN, U. S. Army, Washington, D. C., and Mrs. SAMUEL REBER, New York City: Military uniforms and accessories, and 2 flags owned by Lieut. Gen. Nelson A. Miles, U. S. Army, and a large photograph of him showing him in dress uniform (26 specimens) (87946).
- MILLER, GERRIT S., jr., U. S. National Museum: Portion of a humerus of a fossil dugong from near Charleston, S. C. (84709); 8 plants from Haiti (87307).
- MILLER, ROBERT C., Berkeley, Calif.: 3 species of shipworms (83947); 3 specimens representing paratypes of 3 new species of *Teredo* (85891).
- MILLS, Capt. JOHN W., Miami, Fla.: 63 specimens of crustaceans and 1 fish dredged by the donor off Cape Florida (86050).
- MILLS, Dr. WILLIAM C. (See under Ohio State Archaeological and Historical Society, Columbus, Ohio.)
- MINERALOGICAL MUSEUM, Copenhagen, Denmark (through Dr. Lauge Koch): 25 specimens of Paleozoic invertebrates from North Greenland (84581). Exchange.
- MINNESOTA, UNIVERSITY OF, St. Paul, Minn. (through Prof. H. H. Knight) 3 specimens of seed corn maggot (83989); (through Prof. R. N. Chapman) 4 specimens of flies (85577); (through Prof. C. O. Rosendahl) 28 plants (85661). Exchange.
- MINOR, Mrs. GEORGE M., Washington, D. C.: Dress worn by Mrs. Minor, the donor, when president general of the National Society of the Daughters of the American Revolution, 1920-1923 (83620).
- MIRGUET, C. E., U. S. National Museum: 2 skeletons of skunks from Rochester, N. Y. (86478); skeleton of a long-eared owl from

- MIRGUET, C. E.—Continued.
New York (87164); skin of an anteater from Brazil (87535).
(See also under Smithsonian Institution, National Museum, collected by members of the staff.)
- MIRGUET, J. C., Rochester, N. Y.: Skeleton of a skunk (87538).
- MISONNE, LEONARD, Gilly, Belgium: 100 pictorial photographs for temporary exhibition (87362). Loan.
- MISSOURI BOTANICAL GARDEN, St. Louis, Mo.: 4 plants (83547, 86122), exchange; 1,928 plants from the United States (84317). Exchange.
- MOELLER, A. F., San Pedro, Coahuila, Mexico: 34 plants (83304, 84340, 87237, 87468, 87681).
- MOFFAT, ALBERT L., New York City: 11 photographs of natives of northwest China (86595).
- MOHL, JOHN M., U. S. National Museum: Bronze coins of Costa Rica issued 1921-22, and a robin (86764, 86930).
- MOILLET, T. A., Vavenby, British Columbia: 125 miscellaneous insects from British Columbia (87218).
- MOLL, Dr.-Ing. FRIEDRICH, Sudende-Berlin, Germany: Piece of wood infested by shipworms, and 2 specimens of shipworms (87512). Exchange.
- MONOD, M. THEODORE. (See under Museum National d'Histoire Naturelle, Paris, France.)
- MONROE, PERCY R., Lynchburg, Va.: Plant (83439). Exchange.
- MOOK, Dr. W. H., St. Louis, Mo.: Fragment of a shell fired into Paris, by a German long range gun, August 7, 1918 (83944).
- MOORE, D. McFARLAN, Harrison, N. J.: Negative glow gaseous incandescent electric lamp, made by the donor between 1894 and 1895 (83688).
- MORGAN, BRENT M., Washington, D. C.: Specimen of hybrid duck from Virginia (85272).
- MORGAN, Mrs. LAURA P. (See under Women's World Court Committee.)
- MORGAN, W. P. (See under Indiana Central College).
- MORRICE, CHARLES, Bakersfield, Calif.: 2 fossil whale skulls and a number of miscellaneous bones (87901).
- MORTENSEN, E., Uvalde, Tex.: 27 plants from Texas (86282, 86603).
- MORTENSEN, Dr. Th. (See under Zoological Museum, Copenhagen, Denmark.)
- MUEHLBERGER, Dr. C. W. and Dr. CLIFF S. HAMILTON, Madison, Wis.: Specimen of an arsenical drug for the Loeb collection of chemical types (84966).
- MUENSCHER, Dr. W. C. (See under Dr. F. B. Wann.)
- MUIR, FREDERICK. (See under Hawaiian Sugar Planters' Association Experiment Station.)
- MULFORD BIOLOGICAL EXPLORATION OF THE AMAZON BASIN, Philadelphia, Pa. (through Dr. C. H. Eigenmann): 441 specimens of fishes collected by the expedition in the Amazon basin, South America (83957).
- MULFORD, H. K., CO., Philadelphia, Pa.: 7 charts illustrating the standardization of tincture of digitalis (84908).
- MUNDER, NORMAN T. A., Baltimore, Md.: 6 reproductions of etchings (85446).
- MUNDT, WALTER, Mahlsdorf a. d. Osth, Germany: 3 plants (85026). Exchange.
- MUNDY, Dr. WILLIAM N., Forest, Ohio (through Dr. John Uri Lloyd): An ophthalmoscope and a model of a human eye, presented to the donor by Dr. John King (83997).
- MUSEU NACIONAL DO RIO DE JANEIRO, Rio de Janeiro, Brazil: 960 plants from Brazil (87128).
- MUSEUM NATIONAL D'HISTOIRE NATURELLE, Paris, France (through Dr. H. Lecomte): 7 photographs of type specimens of ferns from Nicaragua, and 7 fragmentary specimens of the ferns represented (83372), exchange; (through M.

MUSEUM NATIONAL D'HISTOIRE
NATURELLE—Continued.

- Theodore Monod) 30 specimens of isopods collected at Rivière de Pengé, Bretagne (85005), exchange: 2 photographs of plants and a plant (85323, 86085), exchange.
- MUSTARD, Mrs. WILFRED P., Baltimore, Md.: A brown satin dress owned by Martha Washington (85663). Loan.
- MYERS, G. S., Bloomington, Ill.: 2 fishes from eastern North Carolina (87936).
- MYNTTI, MIKE, Ophir, Alaska: A specimen apparently representing a new species of ground squirrel from Alaska (85367).
- NATIONAL AMERICAN WOMAN'S SUFFRAGE ASSOCIATION, New York City (through Mrs. Harriet Stanton Blatch): Portrait of Elizabeth Cady Stanton by Anna E. Klumpke (85083).
- NATIONAL CHILD WELFARE ASSOCIATION (Inc.), New York City: 161 child welfare health posters (86094).
- NATIONAL COMMITTEE ON EXHIBITS SHOWING ADVANCES IN SANITARY SCIENCE, Washington, D. C.: Exhibit of the American Social Hygiene Association (Inc.), New York City, showing "The way life begins" and illustrating social hygiene measures (86207). Deposit.
- NATIONAL GEOGRAPHIC SOCIETY, Washington, D. C.: Collection of approximately 60,000 sheets of plants, about 1,600 birds, and 60 mammals from Yunnan and Szechuen, China, and southeastern Tibet, collected by the society's expedition under the direction of J. F. Rock (83334).

Carlsbad Cavern Expedition, under the direction of Dr. Willis T. Lee: 7 specimens of algae collected at Carlsbad Cavern, N. Mex. (83336); 1 plant (84342); 137 plants from the vicinity of Carlsbad Cavern

NATIONAL GEOGRAPHIC SO-
CIETY—Continued.

- Carlsbad Cavern Expedition*—Con. (83341); 2 specimens of plants (84689); 57 plants collected in the vicinity of Carlsbad Cavern, by Dana W. Lee, while a member of the expedition (85001); specimens of geological material (85020).
- Central China Expedition*, under the direction of F. R. Wulsin: Plants; collection of reptiles and batrachians, 277 skins, and 73 alcoholic specimens of birds, collection of mammal specimens, 6 crabs, 9 fishes, and 33 miscellaneous ethnological specimens, principally from Indo-China; miscellaneous natural history specimens, comprising reptiles and batrachians, mammals, birds, fishes, and insects; 13 boxes of plants; zoological material comprising 12 mammals, 173 bird skins, a number of birds in alcohol, and a collection of birds' eggs; 106 birds, a collection of mammals, reptiles, and batrachians, 7 fishes, and 1 mollusk from China (83339, 85377, 85870, 86086, 86469, 87004).
- Pueblo Bonito Expedition of 1924*, under the direction of Neil M. Judd: 6 archeological specimens collected in Chaco Canyon, N. Mex.; skeletal material thus far recovered in Pueblo Bonito and Pueblo del Arroyo; archeological specimens obtained in or near Chaco Canyon (84885, 85084, 85832); human skeletal and archeological material from Carlsbad Cavern (87718).
- (See also under Lieut. Howard N. Kenyon.)
- NATIONAL MUSEUM OF IRELAND, Dublin, Ireland: 382 plants from Ireland (86030). Exchange.
- NATIONAL PRESS CLUB, Washington, D. C. (through George F. Authier, president): Oil painting by

NATIONAL PRESS CLUB—Contd.

John Innes showing President Harding delivering an address at Stanley Park, Vancouver, British Columbia, July 26, 1923 (83642).

NATURHISTORISCHES MUSEUM, Vienna, Austria (through Dr. F. Maidl): 18 specimens, representing 11 species, of bembecid wasps (through Dr. H. Zerny); 4 flies, one of them a type, a specimen of fly; 100 specimens of cryptogams (*Kryptogamae Exsiccatae* 28); (83443, 84027, 84079, 85904), exchange; fragmentary type specimen of a Chinese plant (87235). Exchange.

NATURHISTORISKA RIKSMUSEUM, Stockholm, Sweden (through Dr. Nils Odhner): 14 specimens of fossils from freshwater beds of China (87204). Exchange.

NAVY DEPARTMENT:

Series of ship models showing the development of the United States Navy, 1776-1920 (17 specimens) (83713); German submarine periscope captured during the World War (85233).

Bureau of Aeronautics: 3 aviation photographs to complete the Museum's collection of prominent aircraft (83963); 8 aviation photographs (85564).

Bureau of Navigation: 8 silver cups and 1 silver plaque awarded to the winners in athletic events held under the auspices of the United States Navy (83961).

NEERGAARD, Miss ELNA M. DE, New York City: Piece of tapestry and 7 photographs of tapestries (83430); a Tawido Little Indian loom (87489).

NESLINE, Miss DOROTHY, Washington, D. C.: Young yellow-billed cuckoo (83692).

NESSEL, HERMAN. (See under Pflanzenphysiologisches Institut der Universitat, Berlin.)

NEVERMANN, FERDINAND, San Jose, Costa Rica: Collection of ants and beetles (85582); (through Dr. William M. Mann) 2 salamanders and 4 snakes from Costa Rica (87129); miscellaneous insects from Costa Rica (87908).

NEW JERSEY ZINC CO., New York City: 6 exhibition jars containing cadmium metal; "Golden yellow" cadmium oxide; "Lemon yellow" cadmium oxide; zinc sulphide; "Kadox" zinc oxide; "Albalith" lithophone (83415).

NEW YORK BOTANICAL GARDEN, Bronx Park, New York City: 44 plants from Cuba (83306, 83589, 85786, 87183, 85660); 52 plants and 1 drawing (83310, 83386, 83514, 83591, 83644, 84125, 84238, 85654, 87465); 88 plants from the West Indies (83378, 83542, 84240); 128 plants from Porto Rico (83418, 84829, 87286, 87311); 4 plants from Trinidad (83653, 84166, 84839); photograph of a plant (84257) plant from Panama (87551). Exchange.

NEW YORK STATE AGRICULTURAL EXPERIMENT STATION, Geneva, N. Y. (through Alwin Berger): Plant (83664). Exchange.

NEW YORK STATE MUSEUM, Albany, N. Y. (through Dr. Homer D. House): 78 plants from New York (85251). Exchange.

NIEUWLAND, Prof. J. A., Notre Dame, Ind.: 26 specimens of chemicals for the Loeb collection of chemical types (87703).

(See also under Notre Dame University.)

NININGER, Prof. H. H., McPherson, Kans.: Portion of an individual of the Brenham, Kans., meteoric stony iron (85823); portion of an individual of the meteorite of Brenham, Kans. (86741); 2 slices of meteoric iron, Ivanpah, Calif., and Chilkoot Inlet, Alaska (87458); slice of the Carleton, Ariz., meteoric iron (87693). Exchange.

- NORTH CAROLINA DEPARTMENT OF AGRICULTURE**, Division of Entomology, Raleigh, North Carolina: (through C. S. Brimley): 4 flies including types of 3 new species (87895).
- NORTH CAROLINA AGRICULTURAL EXPERIMENT STATION**, Raleigh, N. C.: 6 bees, being types of 5 species recently described by Mr. T. E. Mitchell (87855).
- NORTH CAROLINA, UNIVERSITY OF**, Chapel Hill, N. C.: 5 specimens of butterflies from Peru (85710).
- NORTHERN PINE MANUFACTURER'S ASSOCIATION, THE.** (See under Cloquet Lumber Co.)
- NORWEGIAN EXPEDITION TO NOVAYA ZEMLYA, 1921** (through Dr. Olaf Holtedahl Geological Museum, Oslo, Norway): 150 specimens of Cambrian fossils from Novaya Zemlya (87694).
- NOTRE DAME UNIVERSITY**, Department of Botany, Notre Dame, Ind. (through Dr. J. A. Nieuwland): 171 plants (87852). Exchange.
- NOVOGRABLENOF, P. T.**, Petropavlovsk, Kamchatka via Vladivostok, Russia: 25 plants from Kamchatka (83678).
- NOYES, FAMILY OF BENJAMIN B.** (through Miss Louise A. Noyes, Baltimore, Md.): Silver medal awarded by Emperor Alexander II of Russia to Benjamin Noyes in 1857 in recognition of his services in connection with the construction of screw engines for the Russian Gunboat fleet, and a diploma awarding the medal (87065).
- NOYES, Miss LOUISE.** (See under Noyes, Family of Benjamin B. Noyes.)
- NUTTING, Mrs. HARRIET W.**, Washington, D. C.: 21 engravings, 6 mezzotints, 27 lithographs, and 6 collotypes, comprising 60 prints in all; also a damaged painting in oil on paper, probably an early Thomas Sully (83952).
- ODHNER, Dr. NILS.** (See under Naturhistoriska Riksmuseum.)
- O'HARA, CHARLES E.** (See under the Seymour Co., New York City.)
- OHIO STATE ARCHAEOLOGICAL AND HISTORICAL SOCIETY**, Columbus, Ohio (through Dr. Wm. C. Mills, director): Skeletal material from various localities in Ohio (85936).
- OLDROYD, Mrs. I. S.**, Stanford University, Calif.: 3 specimens, 2 species, of mollusks from California (86786); approximately 40 specimens, 9 species, of land, fresh-water and marine shells from various localities, including the types of 2 new species (87271).
- O'NEILL, Rev. HUGH**, Gainesville, Fla.: 116 plants from Florida (85792, 86951, 87537); 120 plants (86738); 155 plants from Tennessee and Florida (86739).
- D'ORA, Madam**, Vienna, Austria: 3 portraits (86239).
- ORCUTT, C. R.**, El Paso, Tex.: 26 plants from Texas (83302, 83346, 83685, 84147, 84892, 84558); 3 plants and a small collection of Cretaceous invertebrates; also 67 specimens, 7 species, of land and fresh-water shells from Texas (83434); 133 plants (83437, 83567, 85928, 86789, 87287); 8 plants and a small lot of invertebrate fossils (83633); skeleton of an opossum (83987); 212 plants from Mexico; 1 crab, 1 lot of shells, and 1 lot of insects, all from Mexico (87473, 84745, 84861, 84920, 85085, 86281, 86596, 86987, 87453).
- ORNDOFF, Prof. W. R.**, Ithaca, N. Y.: 12 specimens of new chemical compounds for the Loeb collection of chemical types (84936).
- ORNDOFF, Prof. W. R.**, and **W. R. BARRETT**, Ithaca, N. Y.: Sample of isophenolphthalein which is the first compound to be prepared of a new class of phthaleins (84241).
- O'ROKE, Prof. E. C.**, Brookings, S. Dak.: 8 amphibians from South Dakota (84922).
(See also under South Dakota State College.)

- ORTEGA, J. G., Mazatlan, Sinaloa, Mexico (through Department of State): 14 plants (Cacti) (83325); 2 plants (83988, 84058); 310 Mexican plants and 21 photographs of cacti (84978); 192 plants from Mexico (83945, 87131).
- OTIS, IRA C., Seattle, Wash.: 20 ferns from Washington (85927).
- OVER, Prof. W. H. (See under South Dakota, University of.)
- OZMER, R. R., Everglades, Fla.: Moth from Florida (86234).
- PACKARD, Mrs. HENRIETTA MARIE, Washington, D. C. (through Miss Marie Allen Packard): Serape from Saltillo, Mexico, about 100 years old (84707).
- PACKARD, Miss MARIE ALLEN. (See under Mrs. Henrietta Marie Packard.)
- PACIFIC BIOLOGICAL LABORATORIES, Pacific Grove, Calif. (through Dr. E. F. Ricketts): 5 crinoids (87717).
- PACIFIC MILLS, Lawrence, Mass. (through Lawrence & Co., Boston, Mass.): 49 3-yard cuts of cotton goods, and sample cards showing 22 fabrics in various patterns and color combinations (87702).
- PADILLA, Senor Dr. SISTO ALBERTO, Ahuachapan, El Salvador, Central America: 7 plants from Salvador (83539, 86072).
- PALACHE, Prof. CHARLES. (See under Harvard University, Department of Mineralogy and Petrography).
- PALMER, R. H., Palo Alto, Calif.: Fossil crab (holotype) (87281).
- PARAMARIBO, DUTCH GUIANA, AGRICULTURAL EXPERIMENT STATION (through Mr. A. Reyne): A small collection of insects from Dutch Guiana (84157); also through Mr. Reyne, insects and 9 parasitic worms from fishes (84194); 15 plants (87288, exchange).
- PARCE, S. C., Washington, D. C.: 300 moths from Colombia, and 60 miscellaneous insects (86586).
- PARDOE, Dr. J. B., Bound Brook, N. J.: 2 pictorial bromide prints (83340).
- PARISH, S. B., Berkeley, Calif.: Plant from the Colorado Desert (85873); plant from California (86299).
- PARKE, DAVIS & CO., Detroit, Mich. (through Mr. O. A. Farwell): Plant (83638); (through Dr. F. O. Taylor) 13 samples of organic chemicals for the Loeb collection of chemical types, all of which have been prepared for the first time (87180).
- PARKER, A. C., Altmar, N. Y.: A female specimen of green cockroach (87246).
- PARKINSON, DANA, Salt Lake City, Utah (through Interior Department, U. S. Geological Survey): 4 specimens of stalactites from Timpanogos Cave (84980).
- PARKS, Prof. W. A. (See under Royal Ontario Museum of Paleontology.)
- PARMELEE, Mrs. JAMES, Washington, D. C.: A framed photographic portrait of the grandfather of the donor, Lieut. (later Commander) Matthew Fontaine Maury, U. S. Navy (86982).
- PARTRIDGE, Roi, Mills College, Calif.: 67 etchings and 6 drawings for special exhibition (85665). Loan.
- PATTISON, Mrs. SUSAN L., Canutillo, Tex.: Specimen of cactus (83449).
- PATTON, JAMES E., Brookline, Mass.: Wood-engraving by Timothy Cole, portrait of Mrs. James E. Patton (87956).
- PAYNE, EUGENE H., Columbia, Mo.: 22 bats (84179).
- PAYSON, Prof. E. B. (See under Wyoming, University of, Department of Botany.)
- PEARCY, ERNEST H., Jonesboro, Ark.: Earthworm showing an abnormal bifurcation of the head (83363).
- PELLOUX, Prof. A., Genoa, Italy: 5 specimens of minerals from Italy (84985); specimen of the mineral traversoite and one of cerussite

PELLOUX, Prof. A.—Continued.

from Sardinia (85671); specimen of the mineral simcnellite from Tuscany (87892). Exchange.

PEMBERTON, J. R. (See under California, University of, Museum of Vertebrate Zoology, and Dr. A. Wetmore.)

PENNINGTON, Miss MARY ENGLE, New York City: Shell flower vase with stand of Italian marble (84073, deposit).

PERRARD, Victor, New York City: Portraits, by the donor, of Marshal Ferdinand Foch and Gen. John J. Pershing (85461).

PEREZ, GILBERT S., Lucena, Tayabas, P. I.: 2 spiders, representing types of the species (85088).

PERKINS INSTITUTION FOR THE BLIND, Watertown, Mass.: 8 specimens illustrating printing for the blind (86267); 2 photographs and 8 other prints of machines used in printing for the blind (87715); 9 specimens illustrating methods of printing for the blind (87947).

PERRY, CURTIS A., Sanibel, Fla.: Sponge and 13 mollusks from Florida, (85293, 87113, 87518).

PERSHING, Gen. JOHN J., U. S. Army (retired), Washington D. C.: Military flags, maps and posters, and office desk with accessories, an oak table, oak stationery case and 2 square glass ink wells on an oak base, used during the World War by General Pershing at A. E. F. General headquarters, Chaumont, France (38 specimens) (87940). Loan.

PFLANZENPHYSIOLOGISCHES INSTITUT DER UNIVERSITÄT BERLIN, Berlin-Dahlem, Germany (through Herman Nessel): Portion of type specimen of a plant (86445); 4 photographs of plants (87939). Exchange.

PHILIPPINE ISLANDS, GOVERNMENT OF:

Bureau of Science, Manila: (through R. C. McGrégor): A small collection of miscellaneous insects and a snake (84025);

PHILIPPINE ISLANDS, GOVERNMENT OF—Continued.

Bureau of Science—Continued.

also through Mr. McGrégor, 5 collections of miscellaneous insects from the Philippine Islands (84221, 84828, 85820, 86967, 87452).

PIERCE, Roy G. (See under Agriculture, Department of, Bureau of Plant Industry.)

PING, Prof. C., Nanking, China: 12 specimens of fishes collected at Hainan, China, and 10 spiders collected at Nanking, China (85426); 18 specimens, 8 species of mollusks, and 4 crustaceans from Hainan (85598); 8 fishes from Yen-Ting, Weng Chow, and Chefoo, China (85629).

(See also under Science Society of China.)

PIPER, Dr. C. V., Washington, D. C.: Cultivated fern from British Columbia (85266); plant from Texas (85300); 2 plants from Peru (85408); 8 plants (87842, 87857); 7 plants from British Guiana (87455).

(See also under Agriculture, Department of, Bureau of Plant Industry, Holger Johansen, and Kirke Whited.)

PITTIER, H., Caracas, Venezuela: 3 small collections of miscellaneous insects from Venezuela (84325, 85245, 85867); about 150 specimens of land and fresh-water shells, consisting of 9 species; also 6 specimens of larva cases of caddis fly (84792); 115 plants and 103 mollusks from Venezuela (84860, 87441, 85894); snake from Caracas, and a small collection of insects (87550).

(See also under Dr. Alfredo Jahn, and Sr. José Saer.)

POMEROY, C. S., Riverside, Calif.: Plant from southern California (86751).

POMONA COLLEGE, Claremont, Calif. (through Miss Lois M. Balou): Insect from California (87193); type material of a plant from Mexico (87536). Exchange.

- POOLE, A. J., U. S. National Museum: 2 meadow mice; 16 reptiles and 42 batrachians, collected near Vineland, N. J.; skin and skull of a meadow mouse from the District of Columbia (84802, 86462, 87149).
- PORTLAND CEMENT ASSOCIATION, Washington, D. C.: Framed facsimile of the original patent granted by King George IV of England, October 21, 1824, to Joseph Aspdin on Portland cement (86970).
- POST OFFICE DEPARTMENT: 15 sets of specimen stamps, etc., in triplicate (5491 specimens), received from the International Bureau of the Universal Postal Union, Berne, Switzerland (83354, 83578, 84445, 84674, 84910, 85264, 85356, 85396, 85872, 86275, 86809, 87199, 87320, 87540, 87859); 1 set of postage due stamps of Chile issued 1924 (11 specimens) (84666); 3 specimens of the 25 centimos postage stamp issued by the Government of Venezuela, 1924, in commemoration of the battle of Ayacucho, 1824 (85375); United States postage stamps, in triplicate, issued 1925 (24 specimens) (87930).
(See also under Indiana State Museum.)
- POTTER, H. L., El Paso, Tex.: 11 plants (83528, 83598, 87236, 87438). Exchange.
- POTTS, F. A., Fortuna, Porto Rico; Skin of Hudsonian curlew (83950).
- POTTS, Gen. R. D., U. S. Army, Washington, D. C.: Collection of miscellaneous Philippine and North American Indian ethnological specimens (85317).
- POWELL, A. W. B., Auckland, New Zealand: 7 specimens, 3 species, of mollusks from New Zealand, not heretofore represented in the Museum collections (85641).
- POWERS, Mrs. FRANCES ROOME, Washington, D. C.: Collection of chinaware, lamps, work baskets, and other objects (87695).
- POWERS-WEIGHTMAN-ROSEN-GARTEN CO., Philadelphia, Pa.: 2 specimens of arsenicals used in medicine (85311).
- PRESTON, Miss KATE B., Alexandria, Va.: 1,600 insects, chiefly Lepidoptera (85009).
- PRETORIA, AGRICULTURE DEPARTMENT OF, Division of Botany, Union of South Africa: 100 plants from Africa (86630). Exchange.
- PRO-PHY-LACTIC BRUSH CO., Florence, Mass.: 6 tooth brushes (85097).
- PROROK, COUNT BYRON KHUN DE (See under Archaeological Society of Washington.)
- PSOTA, Dr. FRANK J., Chicago, Ill.: 24 determined exotic beetles (84039).
- PURPUS, Dr. C. A., Huatusco, Vera Cruz, Mexico: 6 plants from Vera Cruz (85795); 2 plants (84672). 237 specimens of lichens collected in Mexico by Dr. J. A. Purpus (86602).
- PURPUS, Dr. J. A., Darmstadt, Germany; 427 plants collected in Mexico by the donor (86512, 86602).
- RAIZOSS, Dr. GEORGE W., Philadelphia, Pa.: 1 lot of 12 specimens of arsenical compounds (83984).
- RAND, Col. IRVING WALLACE, U. S. Army (retired), Portsmouth, N. H.: 50 beetles from Bolivia (85796).
- RANDS, R. D. (See under Agriculture, Department of, Bureau of Plant Industry.)
- RAYMOND, Dr. PERCY E. (See under Smithsonian Institution, National Museum, collected by members of the staff.)
- REBER, Mrs. SAMUEL, New York City: Silver and bronze shield presented to Lieut. Gen. Nelson A. Miles, U. S. Army, by the officers of the Fifth U. S. Infantry (87949). Loan.
(See also under Maj. Sherman Miles, U. S. Army.)

- RECORD, Prof. SAMUEL J., New Haven, Conn. (See under Yale University, School of Forestry.)
- REEVE, Dr. C. S., New York City: 1 lot of chemicals consisting of 55 specimens for the Loeb collection of chemical types (87711).
- REER, EARL D., U. S. National Museum: Trigger-fish, probably from Florida (87934).
- REMFELDT, AAGE, Oslo, Norway: 7 portraits (84983).
- RENER, PAUL, Concordia Mine, Pis Pis District, Nicaragua (through A. J. McConnico, American Consul, Bluefields, Nicaragua, and Department of State): Tree root from Nicaragua completely enveloping a stone (86455).
- REYNE, A. (See under Paramaribo, Dutch Guiana, Agricultural Experiment Station.)
- REYNOLDS, FREDERICK, New York City: 75 mezzotints and aquatints, all the work of the donor for temporary exhibition (85875, loan); 4 mezzotints (86480).
- RICE, Mrs. RICHARD A., Washington, D. C. (through David E. Roberts): Footwarmer of the period of the Civil War (87197).
- RICH, WILLIS H., Washington, D. C.: Snake from near Chain Bridge on the Virginia side (85419).
- RICHARDS, A. G., Albany, Wyo. (through F. L. Hess): 2 specimens of allanite (84774).
- RICHARDSON, Mrs. T. J., Minneapolis, Minn.: Collection of water color paintings of early Alaskan scenes (83513).
- RICHMOND, Dr. CHARLES W., U. S. National Museum: 35 bird skins representing 20 genera and 28 species, new to the Museum collections (85378).
- RICKER, P. L., Washington, D. C.: Plant from Maryland (83548).
(See also under Agriculture, Department of, Bureau of Plant Industry.)
- RICKETTS, Dr. E. F. (See under Pacific Biological Laboratories.)
- RIDER, Dr. W. H., Danbury, Conn.: Grooved stone ax excavated in Danbury, in 1876 (85607).
- RIENHARD, H. J., Amherst, Ohio: 30 specimens of flies, paratypes of 4 species (84952); 38 specimens of flies (87313). Exchange.
- RIGGIN, Dr. I. C., Richmond, Va.: Blind amphipod taken from a water supply at or near Richmond (86499).
- RIKSMUSEETS BOTANISKA AVDELNING, Stockholm, Sweden (through Dr. I. Urban): 222 ferns collected in Cuba by E. Ekman (84152); 285 plants from Spitzbergen and Scandania (86766). Exchange.
- RILEY, J. H., U. S. National Museum: 5 bird skins from North America, and 2 bird skins from Virginia (85605, 86929).
- ROADS, Miss KATIE M., Hillsboro, Ohio: 19 plants from Ohio (83371, 83425, 87549); 5 plants (84333).
- ROBBINS, Mrs. BERTHA M., Washington, D. C.: Mounted specimen of bird, roseate spoonbill, from Florida (84218).
- ROBERTS, DAVID E. (See under Mrs. Richard A. Rice.)
- ROBERTS, O. E., Jr., U. S. National Museum: A hooked rug of present day native handiwork, brought to the United States by a member of Dr. Grenfel's Mission in Labrador (87305). Loan.
- ROBINSON, Dr. I. H., Bridgetown, Barbadoes, British West Indies: 2 photographs of plants and 10 plants (84715, 85271).
- ROCHESTER PARK DEPARTMENT, Rochester, N. Y. (through William L. G. Edson): 9 plants and 4 photographs of plants (83337, 83529, 84075, 84171, 84557, 84711, 85934, 87280), exchange; plant (83446).
- ROCK, JOSEPH F. (See under G. C. Groff and National Geographic Society.)

- RODDY, Dr. H. JUSTIN, Millersville, Pa.: 7 specimens of Lower Cambrian trilobites from near Lancaster, Pa. (87177).
- ROEBLING, Col. WASHINGTON A., Trenton, N. J.: A crystal of columbite from the Etta Mine, Keystone, S. Dak. (84733); crystal of axinite from Riverside, Calif., and 1 of garnet from Ramona, Calif. (85270); 16 specimens of mineral from Franklin Furnace, N. J. (86472, 86613); specimen of the mineral olivenite from Cornwall, England, and 1 of parasite from Greenland (87662); 30 specimens of minerals (87666).
- ROGERS, EDWARD H., Devon, Conn.: Fragmentary Indian skeletal material from Milford, Conn. (85615).
- ROGERS, Archdeacon F. A., Grahamstown, South Africa: 194 plants from South Africa (86301, 86941).
- ROHWER, Miss HESTER M., Port-au-Spain, Trinidad, British West Indies: 150 unidentified miscellaneous insects from Trinidad (87938).
- ROHWER, S. A. (See under Smithsonian Institution, Division of Insects.)
- ROIG, Dr. MARIO S., Havana, Cuba: 7 specimens, 5 species, of crustaceans from Cuba (84939); 50 casts of fossil shells from various localities in Cuba (85112).
- ROJAS, Prof. RUBEN TORRES, Cartago, Costa Rica: 2 frogs from Costa Rica (83450); 9 specimens, 2 species, of isopods from Cartago (84056); 216 plants from Costa Rica (87262).
- ROLLOT, MAURICE A., Bogota, Colombia (formerly Bro. Ariste Joseph): Human skeletal remains from Colombia (83374); 10 plants from Colombia (83416); pottery head found in a tomb in a Chiocha ruin at Guasca, Colombia, 1916 (84178); 58 plants, chiefly from Colombia, also ethnological specimens (85802).
- ROSENBERG, E., Copenhagen, Denmark: 7 species of larvae and other stages of beetles (83515); 21 specimens of beetle (86100). Exchange.
- ROSENDAHL, Prof. C. O. (See under Minnesota, University of, Department of Botany.)
- ROSS, BERNARD R., Fort William, Ontario, Canada: Collection of ethnological specimens from Indians of the Canadian Northwest consisting of woman's quill-decorated costume, soft-tanned buckskin robes, etc. (87699).
- ROST, E. C., Alhambra, Calif: 6 plants (83312, 83635, 86965).
- ROYAL BOTANIC GARDEN, Edinburgh, Scotland: 150 specimens of Chinese plants (85813). Exchange.
- ROYAL ONTARIO MUSEUM OF MINERALOGY, Toronto, Canada: 12 specimens of Canadian minerals (87362). Exchange.
- ROYAL ONTARIO MUSEUM OF PALEONTOLOGY, Toronto, Canada (through Prof. W. A. Parks): 52 specimens, 16 species, of Ordovician fossils comprising bryozoans and brachiopods (86743).
- ROYAL ONTARIO MUSEUM OF ZOOLOGY, Toronto, Canada (through N. K. Bigelow): 21 specimens of Santo Domingo beetles; 21 beetles belonging to the family Cyrambycidae and 14 belonging to the family Buprestidae, all from Santo Domingo (86111, 86971). Exchange.
- ROYAL PHOTOGRAPHIC SOCIETY, THE, London, England: Bromide enlargement showing the Fox Talbot collection of apparatus at the Royal Society (84446).
- RUBBER ASSOCIATION OF AMERICA (INC.), THE, New York City: 72 specimens illustrating the use of rubber in dentistry and the manufacture of base plate and veneer dental rubber (83559); 44 one-half pairs of rubber boots and shoes (83625); 116 specimens of miscellaneous rubber articles and 1 board on which are mounted 36 specimens showing the manufacture of rubber heels (83672); 66 photographs illustrating the production and utilization of rubber (84929); 3 photographs illustrating the alkali proc-

- RUBBER ASSOCIATION OF AMERICA (INC.), THE—Continued.
 ess of rubber reclamation (85040); 33 photographs illustrating crude rubber preparation, rubber compounding, and the manufacture of footwear, insulated wire, hard rubber articles, rubber clothing, and golf balls (85327); 4 photographs illustrating the manufacture of rubber gloves and hot-water bottles (85871); the exhibit materials shown by the association at the Sixth International Rubber Exposition, held in Brussels, Belgium, April 1-16, 1924, and consisting of manufactured rubber articles, specimens illustrating manufacturing processes, statistical charts, painted screens, stands, curtains, and other installation fixtures, a balopticon and 71 lantern slides (86931).
- RUDGE, WILLIAM EDWIN, New York City: 6 specimens illustrating the Aquatone process (87840); 2 examples of letter-press printing on parchment (86264).
- RUDOLF, MAX, Daos Wolfgang, Switzerland: 10 pictorial photographs of Alpine scenery (85916).
- RUNYON, ROBERT, Brownsville, Tex.: 59 plants (84068, 84121, 84967, 87231, 87888); 25 plants from Texas (85836, 86964); 145 plants from Texas and Mexico (87276); 6 photographs of plants (85864, 87309, 87463); 10 plants and 2 photographs of plants (87706).
- RUSBY, Dr. H. H., New York City: 21 plants from South America (84239, 85350, 87250).
- RUSSELL, Dr. FREDERICK F. (See under International Health Board of the Rockefeller Foundation.)
- RUTH, Prof. ALBERT, Polytechnic, Tex.: 32 plants (84862).
- SAER, Sr. José, Barquisimeto, Venezuela (through H. Pittier): 61 plants from Venezuela (84859, 87440).
- ST. ELMO, W. M., Santo Domingo City, Dominican Republic: Plant from the Dominican Republic (83501).
- SAKLATWALLA, Dr. B. D., Bridgeville, Pa.: 15 specimens of chemicals for the Loeb collection of chemical types (87709).
- SALAS, Sr. Don JORGE E. (See under Guatemala, Government of, Direccion General de Agricultura.)
- SALMAN, K. A., San Salvador, El Salvador, Central America: Miscellaneous insects from Central America (85831).
- SALVADOR, GOVERNMENT OF, DIRECCION GENERAL DE AGRICULTURA (through Dr. Salvador Calderon): 115 plants from Salvador (83303, 84904, 87265, 87661, 87933); 35 bird skins from Salvador (83618, 83994).
- SAMPSON, EDWARD, Washington, D. C.: Egyptian, Graeco-Roman, and Japanese antiquities and antique glassware (86612). Loan.
- SANBORN, ELWIN R. (See under Dr. E. Clement.)
- SANDBERG MANUFACTURING CO., Chicago, Ill.: 2 wood blocks for engraving made of a veneer of boxwood on a base of maple (85304); 4 specimens of boxwood as used for wood engravers' blocks (85599).
- SANDERS, A. E., Washington, D. C.: Short-eared owl from the vicinity of Washington, D. C. (85298).
- SANDERSON, J. G., Courtland, Ala.: An Indian skeleton found in an Indian village site near Courtland (84133).
- SARGENT, HOMER E., Pasadena, Calif.: Skin and skull of a bear; also horn core of a fossil bison (85036).
- SCHAEFFER, CHARLES. (See under Brooklyn Museum, The.)
- SCHAUS, WILLIAM. (See under Smithsonian Institution, Division of Insects.)
- SCHLESCH, HANS, Copenhagen, Denmark: 9 fresh-water shells from Greenland (87829).
- SCHMID, EDWARD S., Washington, D. C.: 26 birds (83693, 83964, 85269, 85790, 86818, 86942, 87174); pigeon (bleeding heart) from the Philip-

- SCHMID, EDWARD S.—Continued.
pine Islands (84716); monkey (86485); skin and skeleton of a domestic dog (87146).
- SCHULTZ, Dr. A. H., Baltimore, Md.: 9 bats from Nicaragua (84811).
- SCHWARZ, Dr. E. A. (See under Smithsonian Institution, Division of Insects.)
- SCIDMORE, Miss E. R., Nice, France: Lantern slides of Chinese scenes (85816).
- SCIENCE MUSEUM, THE, London, England: 8 photographs of important clocks and clock movements, as follows: Egyptian shadow clock; Model of Galileo's pendulum; Wells cathedral clock (2 views); Dover Castle clock; John Harrison's clock (2 views), and Vulliamy clock for King George III (86894).
- SCIENCE SOCIETY OF CHINA, THE, Nanking, China (through Prof. C. Ping): 2 specimens of marine shells from Nanchi, China (84231); 15 specimens of shells, 8 species, from Hainan (85106); 10 specimens, 4 species, of mollusks, 4 frogs, and 5 crustaceans (85423).
- SCOTTISH PHOTOGRAPHIC FEDERATION, THE, Trynlaw, Strathaven, Lanarkshire, Scotland (through James Mackenzie, secretary): 90 pictorial photographs, for exhibition during September and October (84248). Loan.
- SELDEN CO., THE, Pittsburgh, Pa. (through J. M. Selden, jr.): Phthalic acid anhydride for the Loeb collection of chemical types (84555).
- SENOUR, Mrs. CARO. (See under Mrs. Caro Achison Smith.)
- SEOANE, Col. C. A. (See under War Department, Signal Corps.)
- SESSIONS, JAMES M., Woodville, Miss.: Fossil tooth of a mastodon (85051).
- SEYMOUR CO., THE, New York City (through Mr. Charles E. O'Hara): 3 half tones on gold paper (86628).
- SHANNON, EARL V. (See under Smithsonian Institution, National Museum, collected by members of the staff.)
- SHANTUNG CHRISTIAN UNIVERSITY, Department of Biology, Tsinan, Shantung, China (through Arthur P. Jacot): 2 insects from China (85571).
- SHAW, E. W., Chevy Chase, Md.: 11 plants from Brazil (85675).
- SHAW, F. R., U. S. Public Health Service, State Board of Health, New Orleans, La. (through S. F. Hildebrand): 2 turtles from Louisiana (85417).
- SHERWIN, Prof. CARL P., Fordham, N. Y.: Collection of new organic chemicals for the Loeb collection of chemical types (85782).
- SHOQUIST, GUST., Tacoma, Wash.: Beach or river boulder reworked by man (84784).
- SHREVE, Dr. FORREST. (See under Carnegie Institution of Washington.)
- SHROPSHIRE, J. B., Ancon, Canal Zone (through James Zetek): 3 plants (87253).
- SHUFELDT, Dr. R. W., U. S. Army (retired), Washington, D. C.: 19 photographs of Chinese pagodas and scenes, and 21 photographs of Australian natives (Everhard Range), photographed by Capt. S. A. White, Adelaide, Australia (83646).
- SHUMAN, Mrs. M. B. C., Washington, D. C.: Mole from Cleveland Park, D. C. (84562).
- SHURTLEFF, ARTHUR A., Boston, Mass.: Dentist's "tooth key" used on the Confederate States ship "Alabama" during the Civil War (86753).
- SIDENER, Dr. T. T., Lima, Ohio (through Dr. John Uri Lloyd): A Loring ophthalmoscope presented to the donor by Dr. John King (83998).
- SIEWERT, H., Winter Park, Fla.: 2 plants from Florida (87200); and 2 specimens and 3 photographs of plants (87503). Exchange.
- SILVANDER, Mlle. EVA, Washington, D. C.: 2 Swedish dolls showing folk costume (85674).
- SIM, ROBERT J. (See under Japanese Beetle Laboratory, Riverton, N. J.)

- SIMONDS & CO., GEORGE A., Washington, D. C.: 10 specimens illustrating the binding of a book (87284).
- SINGLETON, C. P., Melbourne, Fla. (through Smithsonian Institution, Bureau of American Ethnology): Collection of vertebrate remains including a skull and partial skeleton of a mastodon, and teeth and jaws of smaller mammals (86103).
- SITLER, Miss IDA. (See under Hollins College, Virginia.)
- SLATER, Mrs. H. D., El Paso, Tex.: 11 plants from Texas (85104, 85406, 85596, 86266).
- SLOAN, EARL, Charleston, S. C.: Cetacean skull (84710, deposit).
- SMALLWOOD, T. G., Sacramento, Calif.: 20,000 mollusks from Mecca, Calif. (86934).
- SMITH, B. Z., Mountain Home, Idaho: Fresh-water shell from Idaho (86756).
- SMITH, Mrs. CARO ACHISON (through Mrs. Caro Senour, Los Angeles, Calif.): Sword, buckle, pair of epaulets, and pair of shoulder knots owned during the Civil War by Col. Charles B. Achison, U. S. Volunteers (84345).
- SMITH, Mrs. D. BRUCE, El Paso, Tex.: Small collection of fossil bones from the Erupcion Mine, Los Lamentos Mountains, Chihuahua, Mexico (86048).
- SMITH, Dr. ERWIN F., Washington, D. C.: 15 plants from Italy (87457).
- SMITH, Dr. HUGH M., Bangkok, Siam: Collection of natural history material, comprising 2 actinians, 20 shrimps, 1 shovel-nosed shrimp, 3 hermit crabs, 31 crabs, 6 stomatopods, 300 mollusks, 8 frogs, 20 lizards, 1 turtle, 78 snakes, and 15 fishes, all from Siam (83616).
- SMITH, Capt. JOHN DONNELL, Baltimore, Md.: 5 plants from the West Indies (84789).
- SMITH, MICHAEL, Grand Rapids, Mich.: Pair of silver knitting needle holders made in Garnwerd, Holland,
- SMITH, MICHAEL—Continued.
150 years ago, and a meerscham pipe used by General Vinaigre, of the Philippine Islands Insurrecto Army, collected by the donor while a member of Co. H., Fourth U. S. Infantry, at San Francisco de Malabon, Cavite Province, southern Luzon (83409).
- SMITH, RALPH C., U. S. National Museum: 11 wood engravings and 4 reproductions of wood engravings by Timothy Cole (87147).
- SMITHSONIAN INSTITUTION:
Silver token commemorating the celebration of the seventh centenary of the University of Naples, 1924 (83362); an etching "The Warders, Chartress" by Katherine Merrill, which was presented to the associate members of the Brooklyn Society of Etchers (86289). Deposit.
Bureau of American Ethnology:
Small collection of ethnological material purchased by the bureau from Miss Emily S. Cook (83522); collection of archeological specimens and human remains from Weedens Island, St. Petersburg, Fla., secured by Dr. J. Walter Fewkes, chief of the bureau, during the winter of 1923-24 (83949); archeological materials also secured for the bureau by Doctor Fewkes from a mound near St. Petersburg, Fla. (85019); archeological material secured by D. L. Reichard for the bureau at Berryville, Va. (84260); small stone celt and a lot of pottery bowl ornaments from Porto Rico, presented to the bureau by Mrs. Alice de Santiago, Barceloneta, Porto Rico (84444); archeological material secured for the bureau by Gerard Fowke from mounds near Town Creek, Ala.; archeological material collected by Mr. Fowke for the bureau from mounds near Town

SMITHSONIAN INSTITUTION—Con.

Bureau of American Ethnology—Continued.

Creek, Ala., on the site of the Wilson Dam, Muscle Shoals (85018, 85319); skeletal material secured by Mr. Fowke at the Alexander Mound near Courtland, Ala., also 2 pipes, one of steatite and the other of marble collected from the Alexander Mound in Lawrence County, Ala. (85780, 85856); 5 complete skulls and fragmentary remains of about 12 skulls, collected by Mr. Fowke from Hog Island Mound, near Town Creek, Ala.; also 5 skulls collected by E. O. Roberts, Harrah, Wash. (85344); stone bird pipe found at Lebanon, Tenn., and purchased by the bureau (85343); collection of skeletal material which was unearthed 1¼ miles north of Boynton, Fla., and sent to the bureau by E. S. Jackson, of Palm Beach, Fla. (85781); archeological objects secured by J. G. Sander-son, of Courtland, Ala., and purchased by the bureau (85824); archeological material secured for the bureau at Youngs Canyon, about 15 miles southeast of Flagstaff, Ariz., by J. C. Clarke, of Flagstaff (87279).

(See also under C. P. Singleton.)

National Museum, collected by members of the staff: Bartsch, Paul: A collection of 2,700 Cerions from Cuba and the Florida Keys (87951). Bartsch, Paul, and William B. Marshall: 3 pipefishes and about 2,500 marine mollusks, collected at Cape May, N. J. (87937, 87958). Bassler, R. S.: About 1,000 specimens of crinoids and other Mississippian fossils from northern Tennessee (83359). East, C. S.: 30 skeletons of birds from Northampton County, Va. (87887). Foshag, W. F.: Collection of mis-

SMITHSONIAN INSTITUTION—Con.

National Museum, collected by members of the staff—Contd.

cellaneous mineralogical material, also 2 large pegmatites from Maryland and a series of feldspars from Amelia, Va. (84953, 87714). Foshag, W. F., and James Benn: Diabase and weathered products from Chatham, Va., for the preparation of school sets illustrating rock weathering and soil formation (87686). Foshag, W. F., Earl V. Shannon, and James Benn: Limestone and sandstone and their weathered products from Maryland (87924). Marshall, George: 22 birds from North Carolina (85306). Merrill, George P.: 3 barrels of gneiss from Sheepscoot Bay, Me., for the duplicate rock series (84331). (Through the Maine Feldspar Co.); Feldspar and mica from the quarries of the Maine Feldspar Co., Topsham, Me. (84722). Miller, Gerrit S., jr.: Mammals, birds, reptiles, insects, fishes, plants, and a collection of bones, all from Haiti (87443). Pohl, Erwin R.: 500 Ordovician fossils from the vicinity of Albany, N. Y. (83357). Poole, A. J., and C. E. Mirguet: Skeleton of a Baleen whale from Walnut Point, Va. (84857). Resser, C. E.: 500 specimens of Cambrian fossils from Utah, Montana, and Wyoming; also a series of casts of invertebrate fossils, made at the Museum of Comparative Zoology, through the courtesy of Dr. Percy E. Raymond (84744, 85099). Schmitt, Waldo L.: Collection of marine invertebrates, comprising 800 specimens, made at Tortugas, Fla., by the donor, during July and August, 1924 (84129). Shannon, Earl V., James Benn, and Harry Warner: Gabbro and its weathered products from Mount Hope, Md., for the preparation

SMITHSONIAN INSTITUTION—Con.

National Museum, collected by members of the staff—Contd.

of school sets illustrating rock weathering and soil formation (87687). Standley, Paul C.: 500 plants from the region of the Guadalupe Mountains, Texas, and New Mexico, collected in cooperation with the Carlsbad Cavern expedition of the National Geographic Society, Dr. Willis T. Lee, director (84205). Ulrich, E. O.: Collection of Upper Cambrian (Francia) fossils from Wisconsin (84795). Warner, Harry: Granite and weathered products from Rock Creek Park, District of Columbia, for the preparation of school sets illustrating rock weathering and soil formation (87685). Walcott, C. D.: Skin with skull of a deer and 3 skins with skulls of mountain sheep, all from Alberta, Canada; also 2 skins of the western grebe (84814). Watkins, W. M. N.: Trunk sections of wisteria from property at 1101 Massachusetts Avenue, Washington, D. C. (85284).

National Museum, obtained by purchase: 2 bronze copies of the medal issued by the American Numismatic Society commemorating the Paul Revere Sesquicentennial, 1925 (87955); 3 inscribed Babylonian tablets, cuneiform or arrowhead writing, dating from 2350 to 2000 B. C. (85874); 100 specimens of mosses from Arizona (86606); 1,050 specimens of microlepidoptera (84637); 173 plants from Brazil and Costa Rica (83321, 83344); 6 ethnological specimens collected in 1923 among the Makah Indians of Neah Bay, Wash. (86958); 500 Cuban plants (83309); model showing the value of public health activities (87526); skull and

SMITHSONIAN INSTITUTION—Con.

National Museum, obtained by purchase—Continued.

lower jaw of a fossil horse (83388); 25 North American mosses, Fascicle 21 (84206); 25 specimens of mosses, Fascicle 22 (87834); 2 stone archeological specimens (85937); skull of an extinct rodent from a cave in Porto Rico (85021); 490 grams of meteoric stone from Weld County, Colo. (84259); 28 small mammals from Montenegro (85415); 25 lichens, Fascicle 1, Nos. 1-25 (86287); 25 lichens, Fascicle 2, Nos. 26-50 (87527); 155 plants (83345); 57 plants from Ecuador (84704); 176 plants from Venezuela (85603); 320 plants from Venezuela, collected by A. Allart (86486, 86488); collection of Devonian fishes from Chaleur Bay, Quebec, Canada (85011); fossil fish from Campbellton, New Brunswick (86598); block of granite with vein of pegmatite (86716); 83 plants from South Africa (85073); 9 specimens of gums and resins (87948); 66 ferns from Siam and Hainan (83343); 5 skins and 2 skulls of mammals and 1 skull and skin of a reptile (85833); 163 microscopic slides of isopods, Palearctic and Australian (85857); 500 specimens of Ordovician and Silurian fossils, and 25 specimens of Cretaceous echinoderms from North Germany (83707, 87701); 4 specimens of minerals (87862).

National Museum, made in the Museum laboratories: Set of 26 transportation charts, prepared by S. S. Wyer from Museum data and collections (83326); 3 colored casts of a duck-shaped hammer stone from Turks Island, West Indies, the original of which is in the possession of Gerrit S. Miller, jr. (83361);

SMITHSONIAN INSTITUTION—Con.

*National Museum, made in the
Museum laboratories—Contd.*

portrait of Eadweard Muybridge, enlargement made from the original negative by and the property of Frances Benjamin Johnston (83667); cast of a stone chisel (original, the property of the Historical Memorial and Art Department, Des Moines, Iowa, Edgar R. Harlan, curator) (85122); model of human treadmill for raising ore and water from a mine, Sixteenth century (85414); mezzotint plate and 29 prints, made from it, in 9 different states, by R. P. Tolman, according to the early methods of making mezzotints (85812); 4 casts of anthropoid and human skulls (86592); 2 plaster casts of a bannerstone in the possession of Robert G. Messinger, Tatum, Pa. (87140); 2 plaster casts of knife-shaped stone implement, the original of which is the property of Dr. William J. Burd, Belvidere, N. J. (87514); 2 plaster casts each of a bannerstone and pipe, the original of which are in the possession of A. J. Odenwelder, jr., Easton, Pa. (87442); 225 casts of types of fossils from North Greenland, and 200 casts of types from Novaya Zemlya, made by Dr. C. E. Resser through the courtesy of Dr. Lauge Koch and Dr. Olaf Holtedahl (87665); 6 prints from a celluloid plate, engraved in the wood engraving style by John G. Bjorkman (87907); 3 photographs illustrating phases of printing for the blind (87942).

National Museum, Division of Fishes: 3 lots of parasitic worms; 1 lot of pteropods; 1 sipunculid, and 1 lot of parasitic copepods taken from fish stomachs by Frits Johansen in January, 1925 (86046).

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National Museum, Division of Insects, contributed by J. M. Aldrich, A. G. Böving, A. Busck, A. N. Caudell, S. A. Rohwer, William Schaus, and E. A. Schwarz: 100 Lepidoptera and 4,030 miscellaneous insects from Colima, Mexico (85451).

National Museum, Division of Mammals: 65 slides containing specimens of ectoparasites taken by G. F. Ferris from mammals in the National Museum (85842).

National Zoological Park: Brazilian ocelot and a 9 banded armadillo (83442); tree porcupine and a flying phalanger (83622); yellow-tailed oriole, whistling swan, purple gallinule, blue-headed parrot, red-billed toucan, blue goose, and wonga wonga pigeon (83948); 2 birds (musk lorikeet and satin bowerbird) (83965); skin and skeleton of a Rocky Mountain sheep; also skin and skull of a reindeer (84214); skin and skeleton of a Roloway monkey, and skin and skeleton of a tree porcupine (84253); skin and skeleton of a monkey (84692); yellow-haired porcupine (84809); 10 birds (85279); 2 eggs (85353); skin and skull of a yellow-haired porcupine, and skin and skeleton of a blesbok (85594); 7 birds (85787); 6 birds (86237); collared peccary and a hybrid brown bear (86283); Polar bear; head of an eland; skin and skeleton of a Panamã deer, and skin and skeleton of a great-eared fox (86288); skin, skull and leg bones of a Grant's zebra (86303); 2 Polar bear cubs (86448); coypu; skin and skeleton of a black rhinoceros; skin and skeleton of a Gelada baboon (87001); 5 birds (87179); skeleton of a tayra (87267); 3 birds (87847).

(See also under E. J. Jutz).

- SNYDER, C. M., Cassells, Col. (through Frank L. Hess): Specimen of bismuth-silver-gold ore from the Missouri mine, Halls Valley Mining District, Park County, Colorado (86247).
- SOUTH AFRICAN MUSEUM, Cape Town, Union of South Africa: Casts of 3 skulls of South African reptiles (84846). Exchange.
- SOUTH DAKOTA STATE COLLEGE, Brookings, S. Dak. (through E. C. O'Roke): 15 specimens of mollusks (86500).
- SOUTH DAKOTA, UNIVERSITY OF, Vermillion, S. Dak. (through Prof. W. H. Over): 423 plants from South Dakota (84946); lower jaw, foot, and other bones of an extinct turtle from the Pierre shale of South Dakota (84955).
- SOUTHWEST MUSEUM, THE, Los Angeles, Calif.: 8 California butterflies of a species new to the Museum collections (84977).
- SOWERBY, ARTHUR DE C. (See under Robert Sterling Clark.)
- SPARROW, F. K., jr., Ann Arbor, Mich.: Microscopic slide containing a mounted specimen of ancient cypress wood from Mayflower Hotel, Washington, D. C., excavation (83666). Exchange.
- SPATE, W. A., East Prospect, Pa. (through Agriculture, Department of, Bureau of Biological Survey): 2 slugs from East Prospect (85387).
- SPEGAZZINI, Dr. CARLOS, La Plata, Argentina: Plant (85794, exchange); 12 plants (87539):
- SPLITDORF ELECTRICAL CO., Newark, N. J.: Magneto and 5 spark plugs, forming part of the equipment of the Buda gasoline engine exhibit (85024).
- SPOKANE PUBLIC MUSEUM, Spokane, Wash. (through Interior Department, U. S. Geological Survey): Miocene plants from the Latah formation near Spokane, Wash., described by F. H. Knowlton in a forthcoming professional paper of the U. S. Geological Survey (85452).
- SPRADLIN, H. E., Harding, via Dixon, N. Mex. (through Frank L. Hess): Large specimen of manganese-bearing mica from pegmatite dike, Harding, N. Mex. (85491).
- SPRINKEL, J. N., Brightwood, Va.: Salamander (87247):
- SRIGLEY, H. S., Athens, Ohio: Fragments of the lower jaws of two human skeletons, undoubtedly Indians (84730).
- STANDARD OIL CO., New York City (through Interior Department, U. S. Geological Survey): Small collection of fossil fish remains from Coco Beach, French Equatorial Africa (85388).
- STANFORD UNIVERSITY, Stanford University, Calif.: A fossil sea cow and fossil seal from the Lompoc deposits, California (84843, loan); (through Prof. LeRoy Abrams): 804 plants (85456, exchange).
- STATE, DEPARTMENT OF. (See under J. G. Ortega, Paul Rener, Rollin R. Winslow, and Thomas W. Wran).
- STEELE, E. S., Washington, D. C.: 65 plants from the eastern United States (83375).
- STEPHENSON, Dr. L. W., Washington, D. C.: Cypress knee from Pleistocene swamp deposits uncovered by excavation at Connecticut Avenue and De Sales Street, Washington, D. C., in 1922 (85903).
- STEVENS, Miss BELLE A., Seattle, Wash.: Hermit crab collected by the donor at Friday Harbor, Wash. (85584).
- STEVENS, Prof. F. L., Urbana, Ill.: Plants from Peru (86995, 87486). (See also under Illinois, University of).
- STEVENSON, Capt. R. H. R., Bulawayo, South Rhodesia: 86 specimens of determined wasps from Africa, representing 35 species (85837).
- STEWART, ALBERT N., Nanking, China: Plant from China (86579).
- STEWART, M. A., Washington, D. C.: Moss from Maryland (85349).

- STEWART, Rev. R. R., Rawalpindi, India: 162 plants from India (84149, 86277).
- STILLINGS, Mrs. C. E., Rachel, W. Va.: United States flag flown at half-mast in Cleveland, Ohio, while the remains of President Abraham Lincoln lay in state in that city in 1865 (86270).
- STIRLING, M. W., Berkeley, Calif.: Fragmentary pathological human skeleton from a mound on Weedens Island, Fla. (87856).
- STONE, J. M., Cumberland Furnace, Tenn. (through Interior Department, U. S. Geological Survey): Sample of white chlorite from Cumberland Furnace (87668).
- STONE, Mrs. ORMOND, Clifton Station, Va.: Fern from Virginia (87436).
- STONEWALL COTTON MILLS, Stonewall, Miss.: 7 samples of standard cotton fabrics (84879).
- STOTT, Commander A. C., U. S. Navy, Washington, D. C.: A gold watch owned during the early part of the nineteenth century by Capt. Gideon Lathrop, of New York State (86110).
- STOUGAARD, M., Houston, Tex.: 35 lichens from Texas (87475).
- STREETER, DANIEL D., Brooklyn, N. Y. (through Agriculture, Department of, Bureau of Entomology): 4 specimens of parasitic isopods taken from fishes at Haifa, Palestine (85290).
- STRINGHAM, EMERSON, U. S. Patent Office, Washington, D. C.: Grasshopper sparrow from the District of Columbia (87315).
- STRONG, A. M., Los Angeles, Calif.: 33 mollusks from California (84942); 4 specimens, 3 species, of marine shells, including the type of 1 new species (87472).
- STRONG, Mrs. WILLIAM N., Washington, D. C.: Silver war medal and gilt victory medal awarded by the British Government to Lieut. William Strong, Canadian Expeditionary Forces, in recognition of his services during the World War (87903).
- SUKSDORF, W. N., Bingen, Wash.: 3 ferns from Washington State (84037).
- SUTTER, Dr. JOHN J., Lima, Ohio (through Dr. John Uri Lloyd): A spectroscope presented to the donor by Dr. John King (83995).
- SVIHLA, Mrs. RUTH DOWELL, Washington, D. C.: 9 algae from the vicinity of Washington, D. C. (86986, 87268).
- SWALES, B. H., U. S. National Museum: 12 bird skins, representing 8 species, new to the Museum collections (83523); 2 bird skins from Tanganyika Territory, Africa, including a species new to the Museum collections (84009); skin of roller (bird) from Abyssinia, new to the Museum collections (84209); skin of a cotinga from Brazil, representing a genus and species new to the Museum collections (84762); 2 bird skins from Madagascar, representing 2 species new to the Museum collections (84962); mounted specimen of the extinct New Zealand quail, representing a species new to the Museum collections (85361); 4 bird skins from Madagascar and Africa representing a genus and 4 species new to the Museum collections (85853); bird skin from Madagascar representing a species new to the Museum collections (86300); pair of Madagascar ducks (86576); 101 bird skins from Michigan (87145); skin of a pigeon new to the Museum collections (87234); 4 bird skins from Madagascar representing 3 species new to the Museum collections (87669); 2 bird skins from Madagascar, genera new to the Museum collections (87719).
- SWART, Mrs. SALLY BURBANK, Glen Ridge, N. J. (through Dr. William L. Abbott): 4 Javanese oil paintings by Raden Saleh, and a photograph of the artist (86022).
- SWEETMAN, HARVEY L. (See under Iowa State College.)

- TALLANT, D. H., Bradenton, Fla.: Fragmentary teeth of fossil horses and elephant (87126).
- TAYLOR, Dr. F. O. (See under Parke, Davis & Co.)
- TAYLOR, J. D., Bristol, Tenn.: 2 shell beads, a lot of arrowheads, and 2 worked flakes from the John Morrell farm, Carter County, Tenn. (85673).
- TAYLOR, SAM. (See under International Shoe Co., chemical laboratory.)
- TEXAS DEPARTMENT OF AGRICULTURE, Austin, Tex.: 15 beetles from Gillespie County, Tex., representing a species new to the Museum collections (87676).
- TEXAS, UNIVERSITY OF, Austin, Tex. (through Prof. B. C. Tharp): 593 plants (83545); also through Prof. Tharp 174 plants from Texas (83569, 84891); 11 plants from Texas (84245); 34 plants, chiefly Cyperaceae (84126).
- THAANUM, D., Honolulu, Hawaii: 153 specimens, 46 species, of marine shells from Hawaii, Japan, and the western Pacific (84882); (through Dr. W. H. Dall) about 100 specimens, 29 species, of marine shells from Midway and Oahu Islands, Hawaiian group, partly collected by E. S. Kuhns (86804).
- THARP, Prof. B. C. (See under Texas, University of.)
- THAYER, Mrs. H. B., Albany, N. Y.: Chinese scroll of the seventeenth-eighteenth century (85890).
- THOMAS, OLDFIELD, London, England: Skin and skull of a bat (84195).
- THOMPSON, Mrs. BURTON, Bronxville, N. Y., and Mrs. C. HILL, Middlebury, Vt. (through Dr. Charles F. Langworthy, Washington, D. C.): Doll's trunk of the latter part of the nineteenth century (87905).
- THOMPSON, JOHN W. (See under Miss Mary I. Thompson.)
- THOMPSON, Miss MARY I. (through John W. Thompson, Washington, D. C.): China plate owned by President Benjamin Harrison during his administration 1889-1893; also 3 bronze girandoles, a Chinese shoe, a pair of silk bootees, and a set of 14 shell cameos (86261). Bequest.
- THOMSON, GEORGE W. (See under Marine Fish Hatchery and Biological Station, Portobello, Dunedin, New Zealand.)
- THURMAN, Mrs. LIZZIE GILL, Washington, D. C.: Satin-covered box which contained a piece of the wedding cake of Grover Cleveland and Frances Folsom, June 2, 1886 (84945).
- THUROW, F. W., Houston (Clinton), Tex.: 25 plants from Texas (84153, 85237).
- TODD, Dr. JOHN B., Syracuse, N. Y.: Fern from New York (85265).
- TOLMAN, R. P., U. S. National Museum: 3 specimens of boxwood engravers' blocks (85598); pin-vise holding a pure silver wire, used for making silver point drawings (85834).
- TOMLINSON, O. A., Ashford, Wash.: 50 specimens of ice worms collected by Mr. Floyd W. Schmoe, park naturalist, on the Paradise Glacier, at an elevation of 6,100 feet (84185).
- TORRE, Dr. CARLOS DE LA, Habana, Cuba: 135 specimens of shells from Cuba (85672).
- TOWLE, Capt. H. LEDYARD, Brooklyn, N. Y.: Portrait of Captain Eddie Rickenbacker, by the donor, presented in memory of his mother, Mrs. Olivia Ledyard Towle (84212).
- TOWNSEND, KARL H., El Paso, Tex.: 4 plants from New Mexico (86116).
- TRAVERS, Mrs. KATHERINE P. B., Jacksonville, Fla.: A glass mug of the colonial period (87954).
- TREASURY DEPARTMENT:
58 modern European coins (87171); modern gold, silver and bronze coins (29 specimens) (87210).
U. S. Mint (through Robert J. Grant, director): Spanish two-real piece struck at Lima, Peru,

TREASURY DEPARTMENT—Contd.

U. S. Mint—Continued.

- in 1776 (83407); 2 copies each of 3 bronze medals commemorating, respectively, the inauguration of Warren G. Harding as President of the United States, 1921; his death, 1923, and the inauguration of Calvin Coolidge as President, 1923 (84667); United States gold, silver, nickel and bronze coins, issued 1923-24 (24 specimens) (84880); 2 copies each of 2 bronze medals commemorating, respectively, the appointment of F. E. Scobey, Director of the U. S. Mint, 1922, and the appointment of R. J. Grant, Director of the U. S. Mint, 1923 (84902); 4 subsidiary coins struck at the Imperial Mint, Osaka, Japan, 1923-24 (86489).
- TREMOLERAS, JUAN, Montevideo, Uruguay: 25 beetles (84935).
- TREMPER, Dr. R. H., Los Angeles, Calif.: 34 specimens of mollusks from California (85830).
- TRINIDAD, DEPARTMENT OF AGRICULTURE, Port-au-Spain, Trinidad, British West Indies (through R. O. Williams): 2 plants (84907).
- TROITSKY, Dr. N. (See under Leningrad, Russia, Agricultural Scientific Committee, Experimental Station of Bureau of Applied Entomology.)
- TRUITT, R. V., College Park, Md.: Plant from Maryland (83417).
- TUCKER, LAWRENCE. (See under Charles F. McIntosh.)
- TUCKERMAN, ESTATE OF MISS EMILY (through Paul Tuckerman, New York City): 53 specimens of laces, tapestries, etc., lent by Miss Tuckerman and in the Museum at the time of her death (83674).
- TUCUMAN, ARGENTINA, AGRICULTURAL EXPERIMENT STATION (through G. L. Fawcett): A small collection of insects—leaf hoppers (85313).
- TURNER, Dr. M. L., Berwyn, Md.: Stone implements secured in Hot Springs, Ark. (85860).
- TURNER, R. E., Mossel Bay, South Africa: 27 beetles from South Africa (84250).
- TYSON, EDWARD, Washington, D. C.: 400 land and marine mollusks from Hawaii, and a string of beads (86604).
- UHLER, FRANCIS M., Washington, D. C.: 50 starlings (86573).
- UNITED DAUGHTERS OF THE CONFEDERACY (through Mrs. W. H. Estabrook, custodian of crosses of honor, Dayton, Ohio): Bronze cross of honor of the type awarded by the United Daughters of the Confederacy in recognition of services during the World War (86765).
- U. S. PRINTING AND LITHOGRAPH CO., New York City: 7 chromo lithographic reproductions of paintings (86107); 15 aquatone prints (87143).
- UNITED STATES SHIPPING BOARD EMERGENCY FLEET CORPORATION, Washington, D. C.: Model of the 502 feet type of combined passenger and cargo vessel in exhibition case (85879).
- UNIVERSAL ARTIFICIAL LIMB AND SUPPLY CO. (INC.), Washington, D. C.: 4 specimens showing steps in the manufacture of an artificial limb made from English willow (85597).
- UPSON, Prof. FRED. W., Lincoln, Nebr.: 3 specimens of chemicals for the Loeb collection of chemical types (87707).
- URBAN, Dr. I. (See under Riksmuseets, Botaniska Afdelning, Stockholm, Sweden.)
- URE, ROBERT, Glasgow, Scotland: 2 pictorial prints—"Lifting the Nets" (bromoil), and "For the Night Cometh" (bromide) (87132).
- URICH, F. W., Port-of-Spain, Trinidad: 6 adult flies and 8 puparia from Trinidad (85793).

- URITA, C. T., Tsingtao, North China: 6 specimens of crabs and 14 specimens of shrimps, from China, collected by the donor (87243).
- UTAH AGRICULTURAL COLLEGE, Logan, Utah: 5 specimens of flies (85561).
- VAIL, FLOYD, F. R. P. S., New York City: A Prosch camera shutter (83356); 1 view camera made by E. & H. T. Anthony, New York, 1 set of Waterhouse stops, 6 kits, 1 tripod head, and 1 detachable view finder (83673); half-tone of a print by W. A. Cadby, entitled "Path up a Hillside" (84714); 3 photographs by Count Von Gloeden, Taormina, Sicily (84881, loan).
- VANATTA, E. G. (See under Joseph Adams).
- VAN AUKEN, Mrs. LANSING, Water-vliet, N. Y.: Knox automobile, 1900 (83561, loan).
- VANCE, R. B., Allendale, S. C.: Head of a deer (85445).
- VAN DER HORST, Dr. C. J., Amsterdam, Holland: 1 copepod and 7 amphipods from Curaçao, collected by the donor (83784).
- VAN DIJK, A., The Hague, Netherlands. 25 plant bulbs (85450); 14 plants (87282, exchange).
- VAN DOREN, Mrs. LUCY MAURY (through Mrs. Mary Maury Werth, Richmond, Va.): Diamond scarf pin presented by the Archduke Ferdinand Maximilian, of Austria, to Commander Matthew F. Maury, U. S. Navy, in 1857, in recognition of his services to the science of navigation; also the letter of presentation signed by the Archduke (85809).
- VAN DUZEE, E. P. (See California Academy of Sciences.)
- VAN DUZEE, M. C., Buffalo, N. Y.: 9 flies, 4 of which represent paratypes of species; also specimen of fly (84191, 85668, exchange): 4 specimens of flies, including paratypes of 3 species (86244).
- VAN DYKE, E. P., Berkeley, Calif.: 6 beetles represented by paratypes of 5 species (86778).
- VAN HAITSMAN, J. P., Grand Rapids, Mich.: Specimen (paratype) of a new holostomid trematode from the Belted kingfisher (84687).
- VAN NATTA, PAUL, U. S. National Museum: Anatomical specimen (85115).
- VAN ROON, G., Rotterdam, Holland: Collection of beetles (87105, exchange).
- VAN SCHAICK, Rev. JOHN, jr., Boston, Mass. (See under Mrs. Lillian Walker Couillard.)
- VARELA, Madame J., Washington, D. C.: 2 chalcedony geodes, 1 containing water from sands of the river Uruguay, Department of Salto, Republic of Uruguay (85023).
- VAUGHAN, N. J., Colorado, Tex.: Fragmentary bones from Texas (85017).
- VEATCH, CHARLES, Kansas City, Mo.: 2 specimens of shells from Tonkin and Burma, respectively (84793).
- VICTORIA MEMORIAL MUSEUM, Ottawa, Canada (through Dr. M. O. Malte, chief botanist): 95 plants collected by the Canadian Arctic expedition, 1913-1918 (85887, exchange).
- VILES, LAWRENCE M. (See under Buda Co., The.)
- VINSON, A. E., Port-au-Prince, Haiti: 47 specimens of mollusks from soil in Cul de Sac plain near Des Sources, Haiti (86610).
- VOGENITZ, PAUL. (See under R. O. Marsh.)
- VOIGT, E., Dessau, Germany: Cretaceous invertebrates from the island of Rügen, Germany (85892).
- VOLWILER, Dr. ERNEST HENRY, Chicago, Ill.: Collection of 10 specimens of chemicals for the Loeb collection of chemical types (84053).
- VONSEN M., Petaluma, Calif.: 5 specimens of minerals (86511); 2 specimens of the mineral foshagite from Crestmore, Calif. (87853, exchange).
- WALCOTT, Dr. CHARLES D., Smithsonian Institution: Postal card forwarded by the first air mail from

- WALCOTT, Dr. CHARLES D.—Contd.
Germany to the United States on the *ZR-3*, October 12-15, 1924 (84911); 7 negatives and 7 prints of decorations of a Stony Indian tent, Yoho Park, British Columbia, Canada, July, 1924 (85025); 105 miscellaneous engravings, wood engravings and half-tones (85101); autograph signature of P. T. Barnum, written June 14, 1866 (85305); small stone ax found at the old Bennings Race Track, D. C. (85315); 40,000 specimens of invertebrate fossils, collected chiefly during the field season of 1921-1924, inclusive (85439).
- WALCOTT, Mrs. CHARLES D., Washington, D. C.: 15 plants from Canada (84856); 2 pins of coral, 2 of mosaic, and 4 examples of inlay (86776).
- WALCOTT, Miss HELEN B., Washington, D. C.: Native guitar made from the skin of an armadillo, bought in La Paz, Bolivia (86779).
- WALES, GEORGE C., Boston, Mass.: Original soft ground plate in "destroyed" condition for the donor's etching "Stand by to Let Go" (85029).
- WALKER, Dr. BRYANT, Detroit, Mich.: Shell from Brazil (85666).
- WALKER MUSEUM, University of Chicago, Chicago, Ill. (through Dr. Stuart Weller): 24 specimens of Silurian crinoids from Missouri (83709).
- WALL, SAMUEL, Washington, D. C.: Caligraph typewriter (83696, loan).
- WALLACE PENCIL CO., St. Louis, Mo.: 327 specimens representing stages in the manufacture of lead pencils from cedar wood (85273).
- WALLIS, J. B., Winnipeg, Canada: 5 beetles, all paratypes of 1 species (86240).
- WALTER, ELMER N., East Haven, Vt.: Specimens of maple sugar and maple syrup (87176).
- WALTHER, ERIC, San Francisco, Calif.: 11 specimens of flies representing a new species (86997).
- WANN, Dr. F. B., and Dr. W. C. MUENSCHER, Ithaca, N. Y.: 50 specimens of slime-molds from central New York (87215, exchange).
- WAR DEPARTMENT:
- Silver Médaille d'Honneur des Épidémies awarded Capt. Clayton R. Pollan, U. S. Sanitary Corps, by the French Government in 1919 (87528, loan).
- Air Service*: 9 aviation photographs (83670).
- Ordnance, Office of the chief of*: Sectionalized small arms and display board (9 specimens) (83862).
- Public Buildings and Grounds*: Wood specimens (87525).
- Signal Corps*: Barnacle from the Juneau (submarine) cable secured during repair work some 6 or 8 miles from Cape Fenshaw in Frederick Sound, Alaska (83333); (through Lt. Col. C. A. Seoane): 2 sections of submarine cable with clusters of barnacles attached, collected by the U. S. cable ship *Dellwood* in southeastern Alaska (85557).
- WARD, MELBOURNE, New York City: 12 crabs from Australia collected by the donor (86927).
- WARD'S NATURAL SCIENCE ESTABLISHMENT, Rochester, N. Y.: A piece weighing 85 grams of the Russell Gulch, Gilpin County, Col., meteoric iron (84965); 3 fossil turtles from the Cretaceous of New Mexico. (84987). Exchange.
- (See also under British Government, British Museum Natural History.)
- WARNER, HARRY. (See under Smithsonian Institution, National Museum, collected by members of the staff.
- WASHBURNE, CHESTER W., New York City: Collection of Cretaceous and Tertiary invertebrates from the west coast of Africa (95580).

- WASHINGTON STATE MUSEUM, University of Washington, Seattle, Wash. (through F. S. Hall): Cast of a brick-shaped artifact bearing carvings on the sides, ends and top, from the Russian period of the northwest coast area (83656).
- WATERSTON, JAMES. (See under British Government, Imperial Bureau of Entomology.)
- WATKINS, W. M. N., U. S. National Museum: 2 photographs showing the United States flag flying over the fortress of Ehrenbreitstein on the Rhine, Germany, 1919 (84732).
- WEEKS, G. F., Washington, D. C.: Plant from Mexico (83650).
- WEGENER, H. M., Los Angeles, Calif.: 18 plants and 3 photographs of plants (84554, 84906, 85004). Exchange.
- WEIGEL, C. A., Washington, D. C.: Land planarian from a greenhouse in Rochester, N. Y. (83366).
- WEIR, Dr. JAMES R., Washington, D. C.: 37 plants (84246).
- WEISS, Dr. JOHN M., and Dr. C. R. DOWNS, New York City: 3 specimens of chemicals for the Loeb collection of chemical types (83908).
- WELLER, Dr. STUART. (See under Walker Museum, University of Chicago.)
- WELLING, Dr. D. H., Worthington, Ohio (through Dr. John Uri Lloyd): Scarifier, an instrument used for blood letting (86124).
- WENDLER, C., Geneva, Switzerland: 2 rare mineral specimens, new to the Museum collections (85563); 2 specimens, weighing 294 and 64 grams, respectively, of the Olivenza (Spain) meteorite (87076). Exchange.
- WERTH, Mrs. MARY MAURY. (See under Mrs. Lucy Maury Van Doren.)
- WEST COAST LUMBERMEN'S ASSOCIATION (INC.), Seattle, Wash.: Large Douglas Fir timber (85346).
- WETMORE, Dr. A., Washington, D. C.: 6 bird skeletons from Europe (83630, exchange); skeleton of a bird (black rosy finch) (83955); 2 skeletons of birds, both new to the Museum collections (84164); skeleton of a duck from the Hawaiian Islands (84763); egg of a bird laid in captivity (87510).
- (See also under California, University of, Museum of Vertebrate Zoology; Charles L. Fagan, G. H. Goodman, Bishop Museum, and J. R. Pemberton).
- WEYMAN, Miss MOLLIE B., Washington, D. C.: A piece of Norwegian tapestry weaving (87485, loan).
- WHEATON, Mrs. FRANK (Maria B. Wheaton) (through Mrs. Octavia W. Chase, New York City): Presentation and service swords, saddle and accessories, and military insignia, owned by the late Maj. Gen. Frank Wheaton, U. S. Army, 1861-1897 (67 specimens) (84827, bequest).
- WHEELER, DEAN WILLIAM M., Bussey Institution, Forest Hills, Boston, Mass.: 16 insects (rare ant guests) from Panama (84708).
- WHERRY, Dr. EDGAR T., Washington, D. C.: 2 ferns; fern from Oklahoma; sample of the mineral newtonite from Sneed's Creek, Newton County, Ark.; 3 ferns from Pennsylvania (85032, 87513, 87671, 87883).
- (See also under Prof. D. W. Davis, George W. Bassett.)
- WHETZEL, Prof. H. H., Bailey Hall, Ithaca, N. Y.: 4 ferns from Porto Rico (83676).
- WHETZEL, J. C. (See under American Sheet & Tin Plate Co.)
- WHITE, C. T. (See under Botanic Gardens, Brisbane, Australia.)
- WHITE, Dr. EDWIN CHARLES, and Dr. H. A. B. DUNNING, Baltimore, Md.: 2 specimens of chemicals for the Loeb collection of chemical types (84033).
- WHITE, JOHN K., Washington, D. C.: A male scarlet tanager (87511).
- WHITE CAPS MINING CO., Tonopah, Nev.: Large specimen of crystallized stibnite from the White Caps Mine (83597).

- WHITED, KIRK, Redmond, Oreg. (through Prof. C. V. Piper): 238 plants from Alaska (85436).
- WHITNEY, H. M., Honolulu, Hawaii: 2 skins, with trunk skeletons, of the Hawaiian duck (87005).
- WHITTLESEY, Mrs. GERTRUDE S., Washington, D. C.: Specimen of dyed velvet in ombre pastel shades (86781).
- WEIDLEIN, EDWARD R., Pittsburgh, Pa.: 51 specimens of chemicals for the Loeb collection of chemical types (87846).
- WICKHAM, Dr. H. F., Iowa City, Iowa: 85 specimens of Palearctic beetles of the family Anthicidae, representing 50 species and 5 varieties (86097).
- WILD, Capt. ROBERT P., Obussi, Ashanti, Gold Coast, West Africa: Polished stone implements, polished stone chisel, fragment of clay water pipe, and a fragment of a vase, from Obussi, Ashanti, Gold Coast, West Africa (84473, 87548).
- WILLET, G., Ketchikan, Alaska: 8 specimens, 4 species, of marine shells from Alaska (83703); 4 specimens, 2 species, of marine shells from Alaska; also 3 specimens, 1 species, of land shells from Bonaventura Island, Gulf of St. Lawrence (84982); 15 specimens, 1 species, of mollusks from Gravina Point, Gravina Island, Alaska (87882).
- WILLIAMS, Dr. ALPHEUS F., Kimberley, South Africa: A crystal of the new mineral Afwillite from the Dutoitspan mine, Kimberley, South Africa (87932).
- WILLIAMS COLLEGE, Department of Geology, Williamstown, Mass. (through H. F. Cleland): 40 Magdalenian flints (85687, exchange).
- WILLIAMS, R. O. (See under Trinidad, Department of Agriculture.)
- WILLIAMSON, E. B. (See under Dr. F. F. Laidlaw.)
- WILLIAMSON, JESSE H., Bluffton, Ind.: 83 specimens of dragonflies from Mexico (86591).
- WILSON, W. R., Washington, D. C.: Specimen of the hooded merganser (bird) from Virginia (85282).
- WINCHESTER, Miss M., Baltimore, Md., Mrs. J. S. DAVIS-GUILFORD, Baltimore, Md., and Mrs. KATE G. BOWDOIN, Baltimore, Md. (through Mrs. Kate G. Bowdoin): A blue satin brocade dress of the colonial period, a white hand-embroidered skirt of the early part of the nineteenth century, a pair of white satin slippers, an infant's dress, and 3 infant's caps (85553). Loan.
- WINSLOW, ROLLIN R., American Vice Consul in Charge, Soerabaya, Java (through Department of State): A series of 15 specimens illustrating steps in the production of batiks (85359).
- WOMEN'S WORLD COURT COMMITTEE, Washington, D. C. (through Mrs. Laura P. Morgan): Memorial from the women of Wales to the women of the United States of America urging them to unite in an effort to secure world peace; also a chest containing the signatures of nearly 400,000 of the women of Wales (86471).
- WOOD, Dr. CASEY A., London, England: 6 birds, 6 bird skins, and 1 skeleton from the Fiji Islands, collected by Mr. W. J. Belcher (83639, 84918, 85852); 41 bird skins from the Fiji Islands (84663, 85619).
- WOODHOUSE, Dr. S. W., jr., Philadelphia, Pa.: Sword, belt, 2 uniform coats, chapeau, 2 collars, pair of cuffs and pair of epaulettes owned during the early part of the nineteenth century by Capt. Samuel Woodhouse, U. S. Navy (11 specimens) (87670).
- WOODRING, Dr. W. P., Washington, D. C.: 8 specimens, 1 species, of shells from Elk Hill, southwest side of the San Joaquin Valley, west of Buena Vista Lake, Calif. (84999).
- WOODWARD & LOTHEROP, Washington, D. C.: Book entitled "Ecclesiastes or, The Preacher and The Song of Solomon," printed and designed by the Vale Press (87466).
- WOOLMAN, Mrs. MARY SCHENCK, Boston, Mass.: Study collection of textile samples (86082).

- WORCH, Hugo, Washington, D. C.: 4 harpsichords in glass exhibition cases, and 2 harps (84841).
- WORTHY PAPER COMPANY ASSOCIATION, Mittineague, Mass.: 16 specimens of letter-press printing, wood cuts, half-tone and line cuts upon paper manufactured by the donor (85235).
- WRAN, THOMAS W., Campbellton, New Brunswick (through State Department): Specimen of a fossil plant from Campbellton (86079).
- WRIGHT, Mrs. D. E., Winchester, Va.: Chiriqui Indian woven bag colored with vegetable dyes (86991).
- WRIGHT, Mrs. MARCUS J., Washington, D. C.: Uniform coat worn during the Civil War by Brig. Gen. Marcus J. Wright, Confederate States Army (83543).
- WRIGHT, Dr. W. H., Mount Hamilton, Calif.: An enlarged photograph of the Sierra Nevada Range, 135 miles away, taken with an ordinary camera with special plate and color filter (85576).
- WRIGHT, W. H., Washington, D. C.: Pale yellow sapphire weighing 6 carats (86474).
- WULSIN F. R. (See under National Geographic Society.)
- WYND, F. LYLE, Eugene, Oreg.: 11 plants from Oregon (85089).
- WYOMING, UNIVERSITY OF, Department of Botany, Laramie, Wyo.: (through Prof. Edwin B. Payson) 7 plants and a plant from Utah (86473, 86513, 87865). Exchange.
- YALE UNIVERSITY, School of Forestry, New Haven, Conn. (through Prof. Samuel J. Record): 51 specimens of plants (83665); 42 plants from Central America (85784). Exchange.
- YAVAPAI ONYX MINING CORPORATION, Dubuque, Iowa: 4 objects made from onyx, viz, lamp, jewel box, paper weight, and knob for gear shift (86096).
- YOTHER, WILLIAM, Orlando, Fla.: Lizard found in bananas (87451).
- YOUNG BROS. DRUG STORE, Cartersville, Ga.: Beetle (87480).
- ZAPPULLA, FRANK S., Washington, D. C.: United States flag of the period of the Civil War (86460).
- ZEESE-WILKINSON CO. (INC.), Long Island City, N. Y.: Book describing the donor's plant and the photomechanical and color printing processes, illustrated with 24 pages of reproductions in three and four colors, from oil-paintings, water-color drawings, from nature, etc. (83527).
- ZEMSKE MUSEUM, Brno, Moravia, Czechoslovakia: 6 casts of Predmost remains (2 of skulls and 4 of intracranial cavities) (83979, exchange).
- ZENITH-CARBURETOR CO., Detroit, Mich.: Model "U" carburetor forming part of the equipment of the Buda gasoline engine exhibit (85028); 2 carburetors, namely, No. 1, Model U. S. 52, type used on all Liberty airplane motors during the war, on the No. 4, and on the airplanes which flew around the world; No. 2, Model U-5, the standard type of automobile carburetor (85783).
- ZERNY, Dr. H. (See under Naturhistorisches Museum, Vienna, Austria.)
- ZETEK, JAMES. (See under J. B. Shropshire.)
- ZIMMERMAN, Dr. and Mrs. JEREMIAH, Syracuse, N. Y.: Cameo portrait brooch of George Washington (84204).
- ZOOLOGICAL MUSEUM, Copenhagen, Denmark (through Dr. Th. Mortensen): 2 starfishes; 2 specimens (cotypes) of a holothurian from Auckland Islands (83307, 84420). Exchange.
- ZOOLOGISCHES MUSEUM DER UNIVERSITÄT, Berlin, Germany (through Dr. H. Bischoff): 13 specimens of identified wasps of the subfamily Bembecinae (85022, exchange).

LIST OF PUBLICATIONS ISSUED BY THE UNITED STATES NATIONAL MUSEUM DURING THE FISCAL YEAR 1924-25

REPORT

Report on the progress and condition of the United States National Museum for the year ending June 30, 1924.

8vo., pp. i-ix, 1-205, frontispiece.

PROCEEDINGS

Proceedings of the United States National Museum. Volume 63.

8vo., pp. i-xiii, 1-597, arts. 1-21, pls. 1-53, 39 figs.

Proceedings of the United States National Museum. Volume 64.

8vo., pp. i-xiii, 1-653, arts. 1-23, pls. 1-53, 68 figs.

BULLETINS

No. 129. The spider crabs of America. By Mary J. Rathbun.

8vo., pp. 1-xx, 1-613, pls. 1-283, 153 figs.

No. 130. Life histories of North American wild fowl. Order Anseres (Part). By Arthur Cleveland Bent.

8vo., pp. i-x, 1-376, pls. 1-60.

PAPERS PUBLISHED IN SEPARATE FORM

FROM THE BULLETINS

From No. 39, pt. N (fifth edition revised). Directions for preparing specimens of mammals.

By Gerrit S. Miller, jr. 8vo., pp. 1-22, figs. 1-7.

From No. 100. Contributions to the Biology of the Philippine Archipelago and adjacent regions.

Volume 6, Part 1. Marine diatoms of the Philippine Islands. By Albert Mann. 8vo., pp. 1-182, pls. 1-39.

From Volume 20. Contributions from the National Herbarium.

Part 13. Revision of the American species of Rinorea. New plants from Venezuela. Hemibaccharis, a new genus of Baccharidinae. By S. F. Blake. 8vo., pp. i-xi, 491-554, pls. 31-51.

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