

AM  
101  
S6628  
FISH

Division of Fishes,  
U. S. National Museum

REPORT OF THE SECRETARY  
OF THE SMITHSONIAN  
INSTITUTION

AND

FINANCIAL REPORT OF  
THE EXECUTIVE COMMITTEE OF  
THE BOARD OF REGENTS

1941

SMITHSONIAN INSTITUTION  
WASHINGTON, D. C.



REPORT OF THE SECRETARY  
OF THE SMITHSONIAN  
INSTITUTION

AND

FINANCIAL REPORT OF  
THE EXECUTIVE COMMITTEE OF  
THE BOARD OF REGENTS

FOR THE

YEAR ENDED JUNE 30

1941



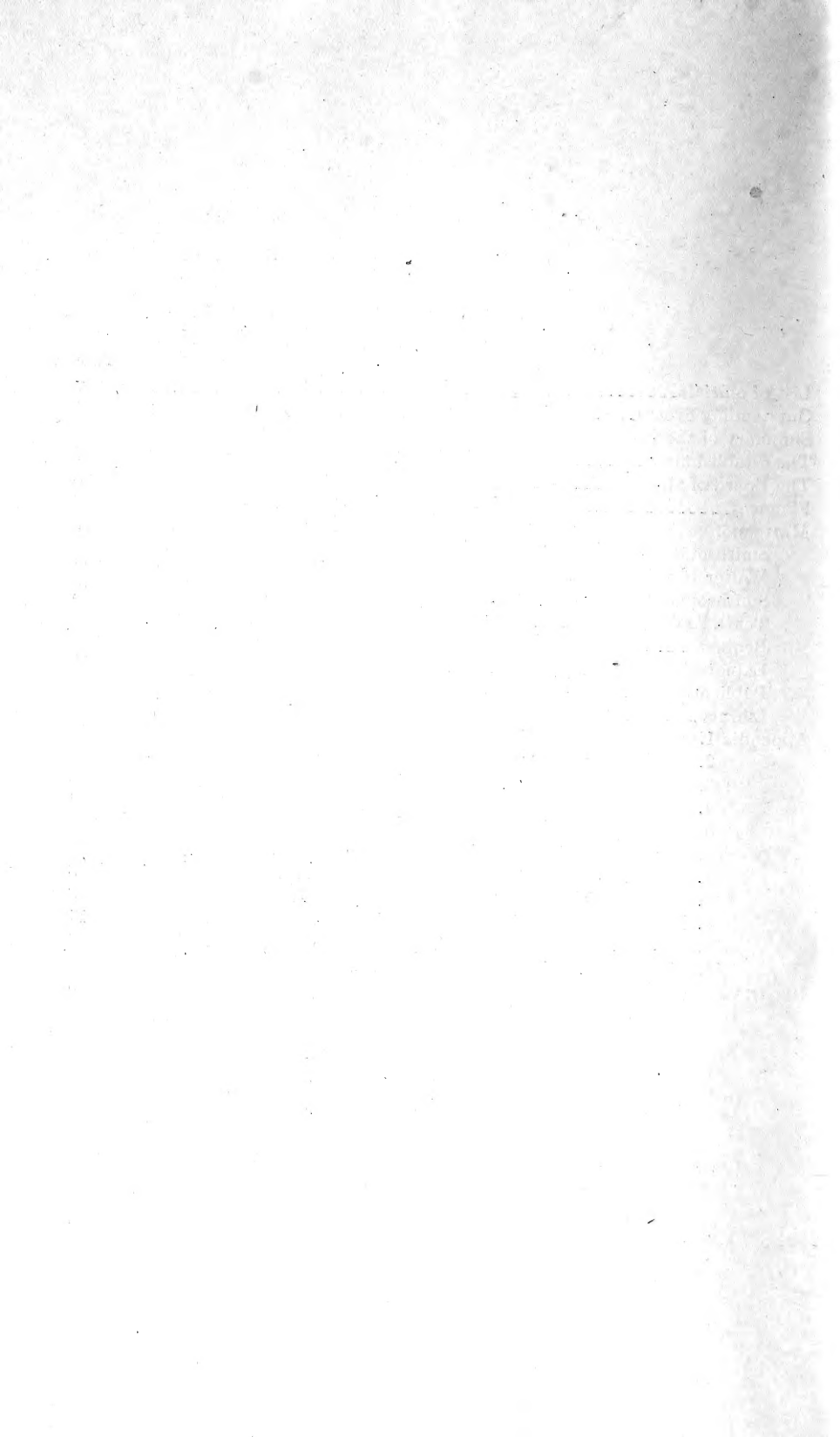
(Publication 3643)

UNITED STATES  
GOVERNMENT PRINTING OFFICE  
WASHINGTON : 1941



## CONTENTS

	Page
List of officials.....	v
Outstanding events.....	1
Summary of the year's activities of the branches of the Institution.....	2
The establishment.....	8
The Board of Regents.....	8
Finances.....	9
Matters of general interest.....	9
Smithsonian radio program.....	9
Walter Rathbone Bacon scholarship.....	11
Smithsonian main hall exhibit.....	12
Tenth Arthur lecture.....	13
Bequests.....	14
Explorations and field work.....	15
Publications.....	17
Library.....	17
Appendix 1. Report on the United States National Museum.....	19
2. Report on the National Gallery of Art.....	34
3. Report on the National Collection of Fine Arts.....	45
4. Report on the Freer Gallery of Art.....	51
5. Report on the Bureau of American Ethnology.....	56
6. Report on the International Exchange Service.....	69
7. Report on the National Zoological Park.....	78
8. Report on the Astrophysical Observatory.....	108
9. Report on the Division of Radiation and Organisms.....	111
10. Report on the library.....	116
11. Report on publications.....	123
Report of the executive committee of the Board of Regents.....	130



# THE SMITHSONIAN INSTITUTION

June 30, 1941

*Presiding officer ex officio.*—FRANKLIN D. ROOSEVELT, President of the United States.

*Chancellor*—CHARLES EVANS HUGHES, Chief Justice of the United States.

*Members of the Institution:*

FRANKLIN D. ROOSEVELT, President of the United States.

HENRY A. WALLACE, Vice President of the United States.

CHARLES EVANS HUGHES, Chief Justice of the United States.

CORDELL HULL, Secretary of State.

HENRY MORGENTHAU, Jr., Secretary of the Treasury.

HENRY L. STIMSON, Secretary of War.

ROBERT H. JACKSON, Attorney General.

FRANK C. WALKER, Postmaster General.

FRANK KNOX, Secretary of the Navy.

HAROLD L. ICKES, Secretary of the Interior.

CLAUDE R. WICKARD, Secretary of Agriculture.

JESSE H. JONES, Secretary of Commerce.

FRANCES PERKINS, Secretary of Labor.

*Regents of the Institution:*

CHARLES EVANS HUGHES, Chief Justice of the United States, Chancellor.

HENRY A. WALLACE, Vice President of the United States.

CHARLES L. McNARY, Member of the Senate.

ALBEN W. BARKLEY, Member of the Senate.

BENNETT CHAMP CLARK, Member of the Senate.

CLARENCE CANNON, Member of the House of Representatives.

WILLIAM P. COLE, Jr., Member of the House of Representatives.

FOSTER STEARNS, Member of the House of Representatives.

FREDERIC A. DELANO, citizen of Washington, D. C.

ROLAND S. MORRIS, citizen of Pennsylvania.

HARVEY N. DAVIS, citizen of New Jersey.

ARTHUR H. COMPTON, citizen of Illinois.

VANNEVAR BUSH, citizen of Washington, D. C.

*Executive committee.*—FREDERIC A. DELANO, VANNEVAR BUSH.

*Secretary*—CHARLES G. ABBOT.

*Assistant Secretary.*—ALEXANDER WETMORE.

*Administrative assistant to the Secretary.*—HARRY W. DORSEY.

*Treasurer.*—NICHOLAS W. DORSEY.

*Chief, editorial division.*—WEBSTER P. TRUE.

*Librarian.*—WILLIAM L. CORBIN.

*Personnel officer.*—HELEN A. OLMSTED.

*Property clerk.*—JAMES H. HILL.

## UNITED STATES NATIONAL MUSEUM

*Keeper ex officio.*—CHARLES G. ABBOT.

*Assistant Secretary (in charge).*—ALEXANDER WETMORE.

*Associate Director.*—JOHN E. GRAF.

## SCIENTIFIC STAFF

## DEPARTMENT OF ANTHROPOLOGY:

Frank M. Setzler, head curator; A. J. Andrews, chief preparator.

*Division of Ethnology:* H. W. Krieger, curator; J. E. Wecker, Jr., assistant curator; Arthur P. Rice, collaborator.

Section of Ceramics: Samuel W. Woodhouse, collaborator.

*Division of Archeology:* Neil M. Judd, curator; Waldo R. Wedel, assistant curator; R. G. Paine, senior scientific aid; J. Townsend Russell, honorary assistant curator of Old World archeology.

*Division of Physical Anthropology:* Aleš Hrdlička, curator; T. Dale Stewart, associate curator.

Collaborators in anthropology: George Grant MacCurdy; W. W. Taylor, Jr.

## DEPARTMENT OF BIOLOGY:

Leonhard Stejneger, head curator; W. L. Brown, chief taxidermist; Aime M. Awl, illustrator.

*Division of Mammals:* Remington Kellogg, curator; H. Harold Shamel, senior scientific aid; A. Brazier Howell, collaborator; Gerrit S. Miller, Jr., associate.

*Division of Birds:* Herbert Friedmann, curator; J. H. Riley, associate curator; H. G. Deignan, assistant curator; Alexander Wetmore, custodian of alcoholic and skeleton collections; Casey A. Wood, collaborator; Arthur C. Bent, collaborator.

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

*Division of Fishes:* Leonard P. Schultz, curator; E. D. Reid, senior scientific aid.

*Division of Insects:* L. O. Howard, honorary curator; Edward A. Chapin, curator; R. E. Blackwelder, assistant curator; William Schaus, honorary assistant curator.

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

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

Section of Diptera: Charles T. Greene, assistant custodian.

Section of Coleoptera: L. L. Buchanan, specialist for Casey collection.

Section of Lepidoptera: J. T. Barnes, collaborator.

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

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

*Division of Marine Invertebrates:* Waldo L. Schmitt, curator; C. R. Shoemaker, assistant curator; James O. Maloney, aid; Mrs. Harriet Richardson Searle, collaborator; Max M. Ellis, collaborator; J. Percy Moore, collaborator; Joseph A. Cushman, collaborator in Foraminifera; Charles Branch Wilson, collaborator in Copepoda.

*Division of Mollusks:* Paul Bartsch, curator; Harald A. Rehder, assistant curator; Joseph P. E. Morrison, senior scientific aid.

Section of Helminthological Collections: Benjamin Schwartz, collaborator.

*Division of Echinoderms:* Austin H. Clark, curator.



## DEPARTMENT OF BIOLOGY—Continued.

*Division of Plants (National Herbarium)*: W. R. Maxon, curator; Ellsworth P. Killip, associate curator; Emery C. Leonard, assistant curator; Conrad V. Morton, assistant curator; Egbert H. Walker, aid; John A. Stevenson, custodian of C. G. Lloyd mycological collection.

Section of Grasses; Agnes Chase, 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: Paul S. Conger, custodian.

Associates in Zoology: C. Hart Merriam, Mary J. Rathbun, Theodore S. Palmer, William B. Marshall, A. G. Böving.

Associate curator in Zoology: Hugh M. Smith.

Associate in Marine Sediments: T. Wayland Vaughan.

Collaborator in Zoology: Robert Sterling Clark.

Collaborators in Biology: A. K. Fisher, David C. Graham.

## DEPARTMENT OF GEOLOGY:

R. S. Bassler, head curator; Jessie G. Beach, aid.

*Division of Physical and Chemical Geology* (systematic and applied): W. F. Foshag, curator; Edward P. Henderson, assistant curator; Bertel O. Reberholt, senior scientific aid.

*Division of Mineralogy and Petrology*: W. F. Foshag, curator; Frank L. Hess, custodian of rare metals and rare earths.

*Division of Stratigraphic Paleontology*: Charles E. Resser, curator; Gustav A. Cooper, assistant curator; Marion F. Willoughby, senior scientific aid.

Section of Invertebrate Paleontology: T. W. Stanton, custodian of Mesozoic collection; Paul Bartsch, curator of Cenozoic collection.

*Division of Vertebrate Paleontology*: Charles W. Gilmore, curator; C. Lewis Gazin, assistant curator; Norman H. Boss, chief preparator.

Associates in Mineralogy: W. T. Schaller, S. H. Perry.

Associate in Paleontology: E. O. Ulrich.

Associate in Petrology: Whitman Cross.

## DEPARTMENT OF ENGINEERING AND INDUSTRIES:

Carl W. Mitman, head curator.

*Division of Engineering*: Frank A. Taylor, curator.

Section of Transportation and Civil Engineering: Frank A. Taylor, in charge.

Section of Aeronautics: Paul E. Garber, assistant curator.

Section of Mechanical Engineering: Frank A. Taylor, in charge.

Section of Electrical Engineering and Communications: Frank A. Taylor, in charge.

Section of Mining and Metallurgical Engineering: Carl W. Mitman, in charge.

Section of Physical Sciences and Measurement: Frank A. Taylor, in charge.

Section of Tools: Frank A. Taylor, in charge.

*Division of Crafts and Industries*: Frederick L. Lewton, curator; Elizabeth W. Rosson, senior scientific aid.

Section of Textiles: Frederick L. Lewton, in charge.

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

Section of Chemical Industries: Wallace E. Duncan, assistant curator.

Section of Agricultural Industries: Frederick L. Lewton, in charge.

## DEPARTMENT OF ENGINEERING AND INDUSTRIES—Continued.

*Division of Medicine and Public Health:* Charles Whitebread, associate curator.

*Division of Graphic Arts:* R. P. Tolman, curator.

Section of Photography: A. J. Olmsted, assistant curator.

DIVISION OF HISTORY: T. T. Belote, curator; Charles Carey, assistant curator; Catherine L. Manning, philatelist.

## ADMINISTRATIVE STAFF

*Chief of correspondence and documents.*—H. S. BRYANT.

*Assistant chief of correspondence and documents.*—L. E. COMMERFORD.

*Superintendent of buildings and labor.*—R. H. TREMBLY.

*Assistant superintendent of buildings and labor.*—CHARLES C. SINCLAIR.

*Editor.*—PAUL H. OEHSER.

*Accountant and auditor.*—N. W. DORSEY.

*Photographer.*—A. J. OLMSTED.

*Property clerk.*—LAWRENCE L. OLIVER.

*Assistant librarian.*—LEILA F. CLARK.

## NATIONAL GALLERY OF ART

*Trustees:*

THE CHIEF JUSTICE OF THE UNITED STATES.

THE SECRETARY OF STATE.

THE SECRETARY OF THE TREASURY.

THE SECRETARY OF THE SMITHSONIAN INSTITUTION.

DAVID K. E. BRUCE.

DUNCAN PHILLIPS.

FERDINAND LAMMOT BELIN.

SAMUEL H. KRESS.

JOSEPH E. WIDENER.

*President.*—DAVID K. E. BRUCE.

*Vice President.*—FERDINAND LAMMOT BELIN.

*Secretary-Treasurer and General Counsel.*—DONALD D. SHEPARD.

*Director.*—DAVID E. FINLEY.

*Assistant Director.*—MACGILL JAMES.

*Administrator.*—H. A. MCBRIDE.

*Chief Curator.*—JOHN WALKER.

## NATIONAL COLLECTION OF FINE ARTS

*Acting Director.*—RUEL P. TOLMAN.

## FREER GALLERY OF ART

*Director.*—JOHN ELLERTON LODGE.

*Assistant Director.*—GRACE DUNHAM GUEST.

*Associate in archeology.*—CARL WHITING BISHOP.

*Associate in research.*—ARCHIBALD G. WENLEY.

*Superintendent.*—W. N. RAWLEY.

## BUREAU OF AMERICAN ETHNOLOGY

*Chief.*—MATTHEW W. STIRLING.

*Senior ethnologists.*—H. B. COLLINS, JR., JOHN P. HARRINGTON, JOHN R. SWANTON.

*Senior archeologist.*—FRANK H. H. ROBERTS, JR.

*Senior anthropologist.*—JULIAN H. STEWARD.

*Associate anthropologist.*—W. N. FENTON.

*Editor.*—M. HELEN PALMER.

*Librarian.*—MIRIAM B. KETCHUM.

*Illustrator.*—EDWIN G. CASSEDY.

## INTERNATIONAL EXCHANGE SERVICE

*Secretary (in charge).*—CHARLES G. ABBOT.

*Chief Clerk.*—COATES W. SHOEMAKER.

## NATIONAL ZOOLOGICAL PARK

*Director.*—WILLIAM M. MANN.

*Assistant Director.*—ERNEST P. WALKER.

## ASTROPHYSICAL OBSERVATORY

*Director.*—CHARLES G. ABBOT.

*Assistant Director.*—LOYAL B. ALDRICH.

*Senior astrophysicist.*—WILLIAM H. HOOVER.

## DIVISION OF RADIATION AND ORGANISMS

*Director.*—CHARLES G. ABBOT.

*Assistant Director.*—EARL S. JOHNSTON.

*Senior physicist.*—EDWARD D. MCALISTER.

*Senior mechanical engineer.*—LELAND B. CLARK.

*Associate plant physiologist.*—FLORENCE M. CHASE.

*Junior biochemist.*—ROBERT L. WEINTRAUB.



# REPORT OF THE SECRETARY OF THE SMITHSONIAN INSTITUTION

C. G. ABBOT

FOR THE YEAR ENDED JUNE 30, 1941

*To the Board of Regents of the Smithsonian Institution.*

GENTLEMEN: I have the honor to submit herewith my report showing the activities and condition of the Smithsonian Institution and the Government bureaus under its administrative charge during the fiscal year ended June 30, 1941. The first 18 pages contain a summary account of the affairs of the Institution, and appendixes 1 to 11 give more detailed reports of the operations of the National Museum, the National Gallery of Art, the National Collection of Fine Arts, the Freer Gallery of Art, the Bureau of American Ethnology, the International Exchanges, the National Zoological Park, the Astrophysical Observatory, the Division of Radiation and Organisms, the Smithsonian library, and of the publications issued under the direction of the Institution. On page 130 is the financial report of the executive committee of the Board of Regents.

## OUTSTANDING EVENTS

Among the numerous bureaus and agencies in Washington, certain ones are listed as defense agencies, and the Smithsonian Institution was included during the year in this list. Its vast collections are of great usefulness in the identification and study of strategic materials relating to national defense, such as rubber, tin, aluminum, mica, optical glass, abrasives, and many others. Its staff includes scientific experts and technicians with outstanding experience in connection with such materials, as well as laboratories and equipment for all sorts of delicate experimental work. The Smithsonian has already been assigned a number of defense problems and stands ready to devote all its resources to such work when called upon.

The National Gallery of Art was completed and opened to the public in March 1941, bringing to fruition the late Andrew W. Mellon's gift to the Nation of his priceless art collection and a magnificent building to house it.

The great hall of the Smithsonian Building was completely re-decorated, and in it was installed a unique exhibit designed to

illustrate concisely for visitors all the activities of the Institution and its branches. Opened in January 1941, after a preview by the Board of Regents, the new exhibit aroused widespread favorable comment.

The Smithsonian radio program, "The World is Yours," on June 14, 1941, put on the air an anniversary broadcast marking the completion of 5 full years of the series. A tabulation of station-manager ratings of the program showed that its popularity throughout the country continued unabated.

Among several bequests to the Institution announced during the year, the largest was that from Mrs. Mary Vaux Walcott, widow of the late Secretary Charles D. Walcott. Her bequest amounted to more than \$400,000.

New members on the Board of Regents were Vice President Henry A. Wallace, and Representative Foster Stearns, of New Hampshire.

The revision of all solar-constant values collected by the Astrophysical Observatory from all Smithsonian observing stations from 1923 to the present proved to be an even more tremendous task than had been anticipated. It was nearing completion, however, at the close of the year, and publication is expected to begin by the first part of 1942.

M. W. Stirling made further archeological discoveries in southern Mexico, working in cooperation with the National Geographic Society. Dr. Frank H. H. Roberts, Jr., conducted his sixth and final archeological expedition to the Lindenmeier site in northern Colorado, his work having added greatly to our knowledge of Folsom man and the whole subject of the early occupation of America.

The work of the International Exchange Service was seriously hampered by world conditions, but the scientific and other publications intended for foreign exchange that cannot now be sent are being stored at the Institution until the end of hostilities.

#### SUMMARY OF THE YEAR'S ACTIVITIES OF THE BRANCHES OF THE INSTITUTION

*National Museum.*—Appropriations for the maintenance and operation of the Museum during the fiscal year amounted to \$818,305. Additional funds are needed annually for guards, curators, and improvements, but in the press of defense needs the Congress has not found it expedient to grant them. Accessions for the year totaled 326,686 individual specimens, bringing the number of catalog entries in all departments of the Museum to nearly 17,500,000. Among the outstanding things received were the following: In anthropology, a collection of Paleolithic, Neolithic, and Bronze Age implements

and ornaments from Java, nearly 1,000 potsherds and shell implements from Indian burial mounds near Belle Glade, Fla., skeletal remains from Peru, and a reconstruction of the newly found remains of the fourth *Pithecanthropus*; in biology, 74 mammals, 472 reptiles and amphibians, and nearly 2,000 fishes from Liberia, all resulting from the Smithsonian-Firestone Expedition to that country, the Nevermann collection of about 33,000 Costa Rican Coleoptera including much type material, and a large collection of marine invertebrates resulting from the participation of Dr. Waldo L. Schmitt in the Fish and Wildlife Service's investigations of the Alaska king crab; in geology, an 1,800-carat aquamarine crystal from Agua Preta, Brazil, the Sardis, Ga., meteorite, weighing 1,760 pounds, the fifth largest ever found in the United States, many thousands of Cambrian, post-Cambrian, and Devonian fossils collected in various parts of the United States by members of the Museum staff, and the greater part of a fossil skeleton of the primitive mammal *Uintatherium*; in engineering and industries, an operating exhibit of the Westinghouse air brake, a fighter plane known as the Curtiss Sparrowhawk, and a 93-dial display clock made by Louis Zimmer, of Lier, Belgium, which tells the time at many places around the world, the tides at various points, and many calendar and astronomical events; in history, busts, costumes, or mementos of famous Americans including Abraham Lincoln, William Jennings Bryan, and Brig. Gen. Caleb Cushing. As usual, many members of the scientific staff took part in field expeditions, financed for the most part by Smithsonian private funds or through cooperative arrangements with other organizations or individuals. Twenty-five publications were issued by the Museum, and 52,170 copies of its publications were distributed. Visitors for the year totaled 2,505,871. Fourteen special exhibits were held under the auspices of various educational, scientific, and other groups. Changes in staff included the retirement of Gerrit S. Miller, Jr., as curator of the division of mammals and the advancement of the assistant curator, Dr. Remington Kellogg, to succeed him, and the appointment of two new assistant curators, Dr. Joseph E. Weckler, Jr., in the division of ethnology, and Dr. Richard E. Blackwelder in the division of insects.

*National Gallery of Art.*—The completed building of the National Gallery of Art was formally accepted by the trustees of the Gallery on December 10, 1940, and on the evening of March 17, 1941, the opening ceremonies were held. Chief Justice Charles Evans Hughes briefly described the purposes of the Gallery, Mr. Paul Mellon, son of the donor of the Gallery, presented the building and the Mellon Collection to the Nation, and Mr. Samuel H. Kress presented the Kress Collection to the Gallery. The President of the United States

then accepted the Gallery on behalf of the people of the Nation. The following day the building was opened to the public, and the attendance from that day to June 30 was 798,156, an average of 7,529 per day. Practically all the initial staff of the Gallery had been employed by March 1, 1941, the number of employees on June 30 being 229. The first catalog of the Gallery and a booklet of general information were ready for distribution at the time of the public opening, as were also a book of illustrations of all the art works in the collection, color reproductions, and postcards. A number of important prints and four paintings were accepted as gifts during the year. Under the educational program of the Gallery, the docent staff has been organized so that there are at least two public gallery tours every day and two auditorium lectures every week. A memorial tablet to the late Andrew W. Mellon, donor of the Gallery, was installed in the lobby, and four marble panels were set aside for the names of important donors to the Gallery. The names at present carved on the panels are those of Mr. Mellon and Samuel H. Kress, and the names of future donors will be added as authorized by the Board of Trustees.

*National Collection of Fine Arts.*—The National Collection received two additions to its endowment funds during the year, namely, \$5,000 from the Alfred Duane Pell Estate of New York, and \$10,000 from the Miss Julia D. Strong Estate, of Washington, D. C. Three paintings were accepted for the National Collection by the Smithsonian Art Commission in December 1940, and several other gifts of etchings, miniatures, and paintings were deposited during the year to be passed upon by the Commission at its next annual meeting. Three miniatures were purchased through the Catherine Walden Myer Fund. The following eight special exhibitions were held: 48 pastels, drawings, and lithographs by Lily E. Smulders; the Sixth Annual Metropolitan State Art Contest, 1940, comprising 289 art works by 158 artists; the work of William Baxter Closson (1848–1926), comprising 94 oils, 40 pastels, 21 water colors, 112 wood engravings, and other material; 111 pastels by 17 artists, exhibited by the National Society of Pastelists; 22 water colors and 21 pastels by Ethel H. Hagen; 42 paintings by Alejandro Pardinias under the patronage of the Cuban Ambassador; 39 caricatures by Antonio Sotomayor under the patronage of the Bolivian Minister; and a memorial exhibition of 17 color prints and 50 black and white prints by Bertha E. Jaques (1863–1941). A new edition of the Catalog of American and European Paintings in the Gellatly Collection was published.

*Freer Gallery of Art.*—Additions to the collections included Chinese bronze, Chinese jade, Arabic manuscripts, Indian and Per-



sian painting, Chinese porcelain, and Chinese and Persian pottery. The work of the curatorial staff was devoted to the study and recording of these new acquisitions and other art objects and manuscripts already in the collection. In addition 693 objects and 180 photographs were brought or sent to the Director for information concerning them, and reports upon all these were made to the owners. Changes in exhibition involved 84 individual objects. Visitors to the Gallery totaled 111,784 for the year. Six illustrated lectures were given in the auditorium, six study groups were held in a study room and ten groups were given docent service in exhibition galleries. A. G. Wenley of the Gallery staff gave a 6 weeks' lecture course in Chinese and Japanese art in the Far Eastern Institute at the 1940 Harvard University Summer School. William R. B. Acker, also of the staff, returned from Holland, having taken his Ph.D. *cum laude* in Chinese at the University of Leyden.

*Bureau of American Ethnology.*—The Chief of the Bureau, M. W. Stirling, continued his archeological excavations in southern Mexico in cooperation with the National Geographic Society. At Cerro de las Mesas 20 carved stone monuments were unearthed, and 2 initial series dates were deciphered. At Izapa, a link between the west coast of Guatemala and the isthmian region of southern Mexico, a large number of stelae were excavated. The collections made were brought to Mexico City, where they were studied by Dr. Philip Drucker, assistant archeologist of the expedition. Dr. J. R. Swanton brought to completion his extensive report on the Indians of the Southeast, comprising 1,500 typewritten pages, which the Bureau plans to publish shortly. Three other ethnological papers by Dr. Swanton were in process of publication. Dr. J. P. Harrington continued his comparative study of the Navaho and Tlingit languages. His work on the Navaho was completed during the year, forming a manuscript of more than 1,200 pages. Dr. F. H. H. Roberts, Jr., brought to completion the sixth and final season of archeological investigations at the Lindenmeier site in northern Colorado, wherein much new and valuable information on the subject of Folsom man and the early occupation of North America has been obtained. Toward the close of the year he went to San Jon, N. Mex., to start excavations at a promising site suggestive of another phase of early man in North America, the so-called Yuma. Dr. J. H. Steward completed his researches on the Carrier Indians of British Columbia and investigated a burial site on an island off the coast of Alaska. He devoted the rest of the year to editorial and organizational work on the proposed Handbook of South American Indians. Dr. H. B. Collins, Jr., continued his study of collections from Eskimo sites in the vicinity of Bering Strait. Dr. W. N. Fenton conducted field

work among the Senecas of Allegany Reservation, N. Y., and carried forward a number of other investigations dealing with Iroquois problems. Miss Frances Densmore, a collaborator of the Bureau, continued her study of Indian music, collecting additional songs, transcribing these and songs previously recorded, and preparing material for publication. The Bureau published its annual report and three bulletins. The library accessioned 378 items and relabeled and reshelved over 5,000 books.

*International Exchange Service.*—The Exchange Service acts as the official United States agency for the interchange of parliamentary, governmental, and scientific publications between this country and the rest of the world. During the past year the Service handled 576,282 packages of such publications, with a total weight of 388,649 pounds. Naturally, the last 2 years have shown a marked falling off in the number of packages passing through the Exchange Service because of war conditions in large parts of the world. The material that cannot now be shipped abroad will be stored at the Institution until the end of hostilities. Transmission of shipments to and from Great Britain and to Latin America has been practically uninterrupted, and some material has been forwarded to Spain and Portugal, although irregularly. Five consignments of exchanges have been lost through war activities.

*National Zoological Park.*—The W. P. A. project which has been of such great assistance to the Park in the past few years was terminated on August 6, 1940, so that few improvements could be undertaken during the year. The four new waterfowl ponds were completed and birds transferred to them at the beginning of the year. The new restaurant constructed by the P. W. A. was completed in the fall of 1940 and was opened to the public in March 1941. Visitors for the year totaled 2,430,300, including 48,050 representing school or other groups from 20 States and the District of Columbia. The Smithsonian-Firestone Expedition to Liberia for the purpose of collecting live animals for the Zoo returned to this country in August 1940. The animals brought back numbered nearly 200, representing 61 species of mammals, birds, and other forms, several of them being new to the history of the collection. The usual large number of gifts was received during the year, and 70 mammals, 49 birds, and 14 reptiles were born or hatched in the Park. The total number of animals in the collection at the close of the year was 2,380, representing 730 different species. The chief need of the Zoo is for three new buildings: one for antelope, deer, wild hogs, and kangaroos; one for monkeys; and the third for carnivores.

*Astrophysical Observatory.*—At Washington the work of the staff was devoted largely to completing for publication the immense table

of daily solar-constant observations at the three field stations at Montezuma, Table Mountain, and Mount St. Katherine from 1923 to 1939. The rest of the text for volume 6 of the Annals of the Observatory was also nearly completed, and the whole is expected to be ready for the printer before January 1942. During preparation of a paper on "An Important Weather Element Hitherto Generally Disregarded," Dr. Abbot noted that the solar variation is several times greater in percentage for blue-violet rays than for total radiation. This led him to consider whether the sun's variation might not be more effectively followed by observations limited to the blue-violet region of the spectrum. He finally devised a method of thus restricting the observations, which was introduced near the close of the year at the three field observing stations. There is great hope that the new method will yield more reliable daily indications of the solar variations. Dr. H. Arctowski continued his meteorological investigations relating to the effects of solar variation on atmospheric barometric pressure and temperature and completed a manuscript incorporating the results of this study which will be published during the coming year. Daily determinations of the solar constant of radiation were made at the three field stations whenever conditions permitted. A new concrete dwelling house for the observers was erected at the Montezuma station.

*Division of Radiation and Organisms.*—The Division continued its program of research on the relation of radiation to various phases of plant growth. In continuing the project dealing with the genesis of chlorophyll and the beginning of photosynthesis, a large amount of information was obtained on the respiration of etiolated barley seedlings. This material is important because of its bearing upon photosynthesis as measured by the gaseous exchange method. It appears that conditions of carbon dioxide storage or depletion develop in the plant tissue depending upon the concentration of this gas surrounding the plants. In subsequent periods, when the respiration is measured there is an increase or decrease in the rate of  $\text{CO}_2$  excretion (i. e., in the apparent rate of respiration) until a state of equilibrium with the new environment is attained. Considerable time was spent in improving the performance of the spectrograph used in measuring carbon dioxide for very short periods, and the new features developed have greatly improved the speed-sensitivity and stability of the apparatus. Further study was made of the spectral effectiveness of radiation for the growth inhibition of the oats mesocotyl, and a comparative study was undertaken of some other species of grasses. A paper resulting from experiments in the ultraviolet irradiation of algae showed that algae exposed four times

to stimulative amounts of certain wave lengths of the ultraviolet exhibited 4 to 4.8 times the growth rate (expressed as number of cells) of the control cultures. The influence of culture conditions on the photosynthetic behavior of the alga *Chlorella pyrenoidosa* was investigated. The growth cycle of this organism was studied in relation to light intensity, carbon dioxide concentration, and the composition of the nutrient solution. A number of papers were presented by members of the staff before meetings of scientific bodies, and six publications resulting from the work of the Division were issued during the year.

#### THE ESTABLISHMENT

The Smithsonian Institution was created by act of Congress in 1846, according to the terms of the will of James Smithson, of England, who in 1826 bequeathed his property to the United States of America "to found at Washington, under the name of the Smithsonian Institution, an establishment for the increase and diffusion of knowledge among men." In receiving the property and accepting the trust, Congress determined that the Federal Government was without authority to administer the trust directly, and, therefore, constituted an "establishment" whose statutory members are "the President, the Vice President, the Chief Justice, and the heads of the executive departments."

#### THE BOARD OF REGENTS

Changes in the personnel of the Board of Regents during the fiscal year included the succession of Vice President Henry A. Wallace to the membership held by former Vice President John N. Garner, effective January 20, 1941, the Vice President being by law a regent ex officio, and the appointment by the Speaker of the House of Representatives on January 22, 1941, of Representative Foster Stearns, of New Hampshire, to succeed Representative Charles L. Gifford, who had resigned his membership as a regent.

The roll of regents at the close of the fiscal year was as follows: Charles Evans Hughes, Chief Justice of the United States, Chancellor; Henry A. Wallace, Vice President of the United States; members from the Senate—Charles L. McNary, Alben W. Barkley, Bennett Champ Clark; members from the House of Representatives—Clarence Cannon, William P. Cole, Jr., Foster Stearns; citizen members—Frederic A. Delano, Washington, D. C.; Roland S. Morris, Pennsylvania; Harvey N. Davis, New Jersey; Arthur H. Compton, Illinois; and Vannevar Bush, Washington, D. C.

*Proceedings.*—The annual meeting of the Board of Regents was held on January 17, 1941. The regents present were Chief Justice

Charles Evans Hughes, Chancellor; Senator Bennett Champ Clark; Representatives Charles L. Gifford and Clarence Cannon; citizen regents Frederic A. Delano, Roland S. Morris, Harvey N. Davis, and Vannevar Bush; and the Secretary, Dr. Charles G. Abbot.

The meeting was held in the Smithsonian main hall, which had recently been newly decorated and equipped with illustrative exhibits giving a comprehensive view of all Smithsonian activities. The new exhibits were viewed with approval by the regents.

The Board received and accepted the Secretary's annual report covering the year's activities of the parent institution and the several Government branches. The Board also received and accepted the report by Mr. Delano, of the executive committee, covering financial statistics of the Institution; and the annual report of the Smithsonian Art Commission.

The Secretary informed the regents of the death of Mrs. Mary Vaux Walcott on August 22, 1940, and of her designation of the Smithsonian Institution as residuary legatee, the bequest, when received, to be made a part of the Charles D. and Mary Vaux Walcott Research Fund set up by the former Secretary. Appropriate resolutions were adopted by the Board.

In his usual special report the Secretary mentioned briefly the more important activities carried on by the Institution and its branches during the year.

#### FINANCES

A statement on finances will be found in the report of the Executive Committee of the Board of Regents, page 130.

#### MATTERS OF GENERAL INTEREST

##### SMITHSONIAN RADIO PROGRAM

The Smithsonian educational radio program, "The World is Yours," celebrated its fifth anniversary on the air on June 14, 1941. On that date a special program was prepared wherein extracts from specially successful previous broadcasts were woven together into a composite story to illustrate the way in which the various sciences are handled in this series. "The World is Yours," a series of weekly half-hour broadcasts in dramatized form on science, invention, history, exploration, and art, is put on the air over a Nation-wide network through the cooperation of the United States Office of Education and the National Broadcasting Co. The program subjects are selected by the Smithsonian editorial division and the scripts are written by a professional script writer, employed by the Institution, from material furnished by Smithsonian experts in the various fields.

The programs are produced in Radio City, New York, as an N. B. C. public service feature and go out over the N. B. C. red network.

That the popularity of the program has continued undiminished is shown by the fact that an official rating service has twice within the past 2 years placed "The World is Yours" at the top of all non-commercial programs on all networks. A recent rating of N. B. C. public service programs by percentage of station program directors selecting them placed "The World is Yours" sixth on the list, but most of the five rated above it were programs devoted to discussion of current events, which are naturally of greatest interest in these disturbed times.

The list of subjects covered by "The World is Yours" during the past fiscal year is as follows:<sup>1</sup>

	1940
Mexico, Land of Silver.....	July 7
John Deere's Steel Plow.....	July 14
Primitive Mariners.....	July 21
Is There Life on Other Planets?.....	July 28
Glaciers.....	Aug. 4
Our Island Universe.....	Aug. 11
From Liberian Jungle to Zoo.....	Aug. 18
Exploring Cliff Dwellings of the West.....	Aug. 25
Story of the Silver Screen.....	Sept. 1
The Fall of a Meteorite.....	Sept. 8
Nature's Migrants.....	Sept. 15
Reaching the Upper Air.....	Sept. 22
The World's Most Important Chemical Reaction.....	Sept. 29
Prospecting for Black Gold.....	Oct. 6
Discovering the Source of the Mississippi.....	Oct. 13
With the Clipper Ships to China.....	Oct. 20
An Indian League of Nations.....	Nov. 3
Independence Hall.....	Nov. 10
New Wonders of Chemistry.....	Nov. 17
The Land Makes History.....	Nov. 30
500 Years of Printing.....	Dec. 7
Pueblo Indians on the Plains.....	Dec. 14
The Story of the Parachute.....	Dec. 21
Forward with Science.....	Dec. 28
	1941
The Dinosaur National Monument and Its Fossils.....	Jan. 4
Behind the Scenes at the Smithsonian.....	Jan. 11
Aircraft Engines.....	Jan. 18
The Electron Microscope.....	Jan. 25
The Army Medal of Honor.....	Feb. 1
The Story of Vitamins.....	Feb. 8
Treaties with the Indians.....	Feb. 15
Disseminating Knowledge Throughout the Earth.....	Feb. 22

<sup>1</sup>No broadcasts were given on October 27 and November 24, 1940, and April 26, 1941, because of important addresses or other commitments by N. B. C. for the usual period of "The World is Yours."

1941

Army and Navy Uniforms.....	Mar. 1
The Nation's New Art Gallery.....	Mar. 8
300 Years of Chemistry.....	Mar. 15
Coins of America.....	Mar. 22
Fifty Centuries of Silk.....	Mar. 29
Champlain in New England.....	Apr. 5
Smithsonian Field Expeditions.....	Apr. 12
Brazil, Land of Gems.....	Apr. 19
Ancient Crete.....	May 3
Birds of the Sea.....	May 10
The Saga of the Norsemen.....	May 17
Oliver Evans—Early American Engineer.....	May 24
Exploring Alaska.....	May 31
Platinum.....	June 7
Five Years of The World Is Yours (anniversary program).....	June 14
Calendars of all Times.....	June 21
How Plants Grow.....	June 28

The Institution was unable, because of lack of funds to employ additional personnel, to resume publication of the supplementary articles, or "listener-aids," which up to June 30, 1940, contributed greatly to the educational value of "The World is Yours" programs. It is hoped that a way will be found to reestablish this part of the project during the coming year.

#### WALTER RATHBONE BACON SCHOLARSHIP

A bequest made to the Institution in 1919 in the will of Mrs. Virginia Purdy Bacon, of New York, provided for the establishment of a traveling scholarship, to be known as the Walter Rathbone Bacon scholarship for the study of the fauna of countries other than the United States of America.

For the past 2 years the Bacon scholarship has been held by Dr. Hobart M. Smith, whose purpose was the accumulation of specimens of reptiles and amphibians from Mexico, on the basis of which a herpetology of Mexico might be compiled and the biotic provinces of the country more accurately defined.

During the year 1940-41, the some 20,500 specimens of reptiles and amphibians obtained during the 2 preceding years were sorted and a portion studied and entered in the permanent collections of the National Museum. The collection requires study that could not be completed within the year, and as a result certain groups must be reserved for study at a later date.

A total of 1,421 specimens of snakes was obtained, representing 170 species and subspecies, of which 23 appear unnamed. These comprise about half the species known from Mexico. Nineteen specimens

of three species of crocodylians, all that are known from Mexico, were obtained. The study of these groups has been completed.

Not all the lizards have been studied yet. Completed genera number 22, comprising 4,547 specimens of 116 species and subspecies. Eleven are unnamed. Six lizard genera remain to be studied.

The amphibians are not completed. A preliminary sorting, however, reveals some 5,173 frogs and toads, of about 110 species; 5,064 specimens of approximately 40 species of salamanders; and 6 specimens of one species of caecilian. Most of these are being studied by Dr. E. H. Taylor.

The turtles have been turned over to Dr. Leonhard Stejneger for study.

While most of the data pertaining to this collection are reserved for a future paper, descriptions of new species and surveys of certain genera have been prepared for preliminary publication. Seven such papers have been issued during the present year.

#### SMITHSONIAN MAIN HALL EXHIBIT

In my last two annual reports I have spoken of the project of installing in the main hall of the Smithsonian Building a new type of exhibit intended to serve as a visual index to all Smithsonian activities. During the 95 years since the founding of the Institution, its activities have so expanded in scope and the buildings it occupies have so increased in number that it has been impossible for visitors to get an adequate idea of what the Smithsonian is and what it does. The project was brought to completion during the year, and the new exhibit was formally opened to the public on Monday, January 20, 1941. The Board of Regents of the Institution had a preview of the exhibit on January 17, when their annual meeting was held in the main hall.

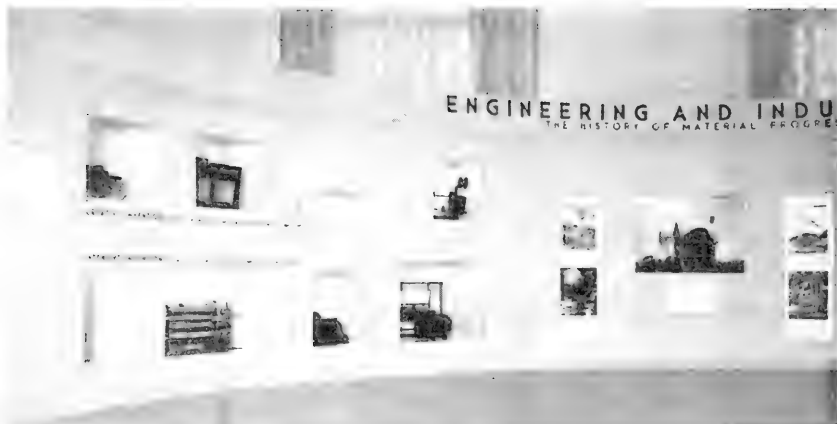
As stated previously, the entire project has been handled by a committee consisting of Messrs. C. W. Mitman, chairman, W. F. Foshag, Herbert Friedmann, F. M. Setzler, and W. P. True, all of the Institution's staff. The great hall of the Smithsonian building, some 150 feet long by 50 feet wide, was first completely redecorated according to the committee's recommendation. Then special backgrounds for the exhibits were designed and constructed to form eight separate alcoves and four quadrants, the central aisle being left clear for free circulation of visitors. The eight alcoves present graphically the work of the Institution in astronomy, geology, biology, radiation and organisms, physical anthropology, cultural anthropology, engineering and industries, and art. The four quadrants, facing the central area of the hall, contain exhibits on the scope of the Institution's work, the National Zoological Park, history, and the organization and branches of the Institution.





NEW "INDEX EXHIBIT" AT THE SMITHSONIAN INSTITUTION.

Upper, part of the astronomy exhibit.  
Center, part of the geology exhibit.  
Lower, part of the biology exhibit.



NEW "INDEX EXHIBIT" AT THE SMITHSONIAN INSTITUTION.

Upper, part of the radiation and organisms exhibit.

Center, part of the cultural anthropology exhibit.

Lower, part of the engineering and industries exhibit.

The plan of each of the eight alcoves is the same (see pls. 1 and 2. The name of the subject treated is stated at the top, followed by a brief definition. Below this, a central theme consisting of a diorama, working model, or other device illustrates strikingly the significance of the particular subject. Flanking this on either side of the alcove are exhibits to show as simply as possible what the Smithsonian Institution does in each field. The number of objects shown is kept small, labels are made as short and simple as possible, and the whole attempt is to make the exhibits interesting and popular and at the same time instructive.

A valuable adjunct of the new exhibit is a separate room opening off the main hall in which are exemplified the Institution's methods of diffusing knowledge. One feature is a complete bound set of all Smithsonian publications from 1846 to the present. The books occupy 138 running feet of shelf space. Placards describe these publications, as well as the Institution's educational radio programs, press releases, International Exchange Service, exhibits, lectures, correspondence, and library. An important feature of this room is an information desk where visitors may obtain accurate information on special phases of the Institution's work or exhibits.

Visitors to this new exhibit for the last 5 months of the fiscal year—from February 1 through June 30, 1941—totaled 191,699. Comparable figures for the preceding year are not available because the building was closed at that time in preparation for the new exhibit, but the total number of visitors for the corresponding months of 1939 was 144,372. The present year therefore shows an increase of 47,327 visitors, or 32 percent, over 1939.

The committee in charge of the project has been kept in existence to supervise maintenance of the exhibits and to incorporate changes from time to time, for the intention is to keep the whole exhibit alive and up to date. Wide and favorable notice has been given the exhibit by journals and newspapers.

#### TENTH ARTHUR LECTURE

The late James Arthur, of New York, in 1931 bequeathed to the Smithsonian Institution a sum of money, part of the income from which should be used for an annual lecture on the sun.

The tenth annual Arthur lecture was given by Brian O'Brien, professor of physiological optics at the University of Rochester, under the title "Biological Effects of Solar Radiation on Higher Animals and Man," in the auditorium of the National Museum on the evening of February 25, 1941. The lecture will be published in a forthcoming Smithsonian Report.

The nine previous Arthur lectures have been as follows :

1. The Composition of the Sun, by Henry Norris Russell, professor of astronomy at Princeton University. January 27, 1932.
2. Gravitation in the Solar System, by Ernest William Brown, professor of mathematics at Yale University. January 25, 1933.
3. How the Sun Warms the Earth, by Charles G. Abbott, Secretary of the Smithsonian Institution. February 26, 1934.
4. The Sun's Place among the Stars, by Walter S. Adams, director of the Mount Wilson Observatory. December 18, 1934.
5. Sun Rays and Plant Life, by Earl S. Johnston, assistant director of the Division of Radiation and Organisms, Smithsonian Institution. February 25, 1936.
6. Discoveries from Eclipse Expeditions, by Samuel Alfred Mitchell, director of the Leander McCormick Observatory, University of Virginia. February 9, 1937.
7. The Sun and the Atmosphere, by Harlan True Stetson, research associate, Massachusetts Institute of Technology. February 24, 1938.
8. Sun Worship, by Herbert J. Spinden, curator of American Indian Art and Primitive Cultures, Brooklyn Museums. February 21, 1939.
9. Solar Prominences in Motion, by Robert R. McMath, director of the McMath-Hulbert Observatory of the University of Michigan. January 16, 1940.

#### BEQUESTS

*Mary Vaux Walcott bequest.*—Mary Vaux Walcott, widow of the late Charles D. Walcott, former Secretary of the Smithsonian Institution, died August 22, 1940. Mrs. Walcott had for many years been deeply interested in the Institution and its work, and during the years 1925 to 1930 her beautiful water-color sketches of North American wild flowers were published in five sumptuous volumes under the auspices of the Institution. During her lifetime Mrs. Walcott manifested her interest by numerous valuable gifts, both in the form of specimens and of money for specific purposes connected with Smithsonian researches. In her will she named the Institution residuary legatee, the relevant portions of that document reading in part as follows :

I give, devise and bequeath all the rest, residue and remainder of my estate \* \* \* to the Smithsonian Institution \* \* \* in memory of my beloved husband, Charles D. Walcott, to be added to and form a part of the Charles D. and Mary Vaux Walcott Research Fund, established by my husband in his lifetime, with the express stipulation, however, that the restriction as to the use of the income of said fund shall not apply to the income from this devise and bequest.

At the annual meeting of the Board of Regents on January 17, 1941, the following resolutions were adopted :

*Resolved,* That the Board of Regents of the Smithsonian Institution learns with profound sorrow of the death on August 22, 1940, of Mrs. Mary Vaux Walcott, widow of its late Secretary.

The noble character of Mrs. Walcott, her great skill and zeal in depicting wild flowers, her personal researches in glacial geology, her deep interest in the paleontologic researches of Dr. Walcott, and her many gifts, over a long period, to the Smithsonian Institution are highly appreciated.

*Resolved*, That this Board learns with profound gratitude of Mrs. Walcott's large bequest to the endowment of the Smithsonian Institution in memory of her late husband.

*Further resolved*, That these resolutions be spread on the minutes of this meeting and that a copy of them be sent to Mrs. Walcott's executors.

The amount of Mrs. Walcott's bequest was slightly over \$400,000. At the close of the fiscal year, the estate had not been settled.

*Julia D. Strong bequest.*—In the final accounting of the will of Julia D. Strong, of Washington, D. C., who died April 12, 1936, the National Collection of Fine Arts of the Smithsonian Institution, as alternate beneficiary, received the sum of \$10,000. No stipulations as to the use of the fund were stated in the will.

*Florence Brevoort Eickemeyer bequest.*—The will of the late Florence Brevoort Eickemeyer, of Yonkers, N. Y., contained the following provision :

I give and bequeath to the Smithsonian Institution \* \* \* the sum of \$10,000 \* \* \* to use or apply the income thereof, or as much thereof as may be necessary, in or about the exhibition, preservation and care of my late husband Rudolf Eickemeyer Jr.'s photographic works and collection, the residue or surplus of such income, if any, to be applied to the uses and purposes of the Section of Photography established or maintained by said Institution. My late husband, Rudolf Eickemeyer, Jr., in and by his last will and testament and codicil thereto, intended to provide a fund for the exhibition and care of his photographic works and collection, bequeathed thereby to said Smithsonian Institution, and his estate being sufficient to provide such fund, I do hereby make the above bequest to carry out my late husband's purpose in that regard.

The money thus bequeathed had not been received at the close of the year.

*Alfred Mussinan bequest.*—The Smithsonian Institution is named as a residuary legatee of the estate of the late Alfred Mussinan, of Sumter County, Fla. His will divides his estate into two equal parts, and upon the death of certain legatees named in the will, the Institution is to receive five-eighths of the principal sum of one-half of the estate, "the income therefrom to be used by said institution for the increase and diffusion of knowledge among men." The amount of Mr. Mussinan's estate was estimated by the executor in May 1941 to be approximately \$30,000, in addition to real estate, stocks, and bonds in Germany which it was impossible to evaluate.

#### EXPLORATIONS AND FIELD WORK

In the furtherance of its investigations in many branches of science, the Smithsonian sent out or cooperated in 19 expeditions, which

worked not only in many States in the United States, but also in a number of foreign lands as well.

Paleontological work was carried on by Dr. Charles E. Resser in investigations of ancient Cambrian rocks; by Dr. C. Lewis Gazin in Utah and Woming, resulting in the discovery of an almost complete fossil skeleton of the primitive mammal known as an uinathere; and by Dr. G. Arthur Cooper in Texas and Tennessee where an abundance of fossil material, much needed in the Museum's study collection, was obtained.

Dr. William M. Mann, Director of the National Zoological Park, and Mrs. Mann went to Liberia on an expedition financed by the Firestone Tire & Rubber Co., and brought back an assortment of live animals for the Zoo, including a 400-pound hippopotamus, and some 3,000 preserved specimens for the Museum. Dr. Alexander Wetmore spent a month in Costa Rica studying the birds of that region. W. L. Brown collected material in the Canadian Rockies for backgrounds for the Rocky Mountain goat and sheep groups exhibited in the Museum. Dr. Hobart M. Smith, holder of the Walter Rathbone Bacon scholarship, assisted by Mrs. Smith, continued his study of the reptiles and amphibians of Mexico. Dr. Waldo L. Schmitt participated in the biological investigations of the king crab of Alaska, initiated by the United States Fish and Wildlife Service. Capt. Robert A. Bartlett conducted another expedition to Greenland, and Mr. and Mrs. Russell Hawkins, Jr., visited the Gulf of California, both to collect marine material. Austin H. Clark carried on his observations of the butterflies of Virginia. Mrs. Agnes Chase made an extensive study of the grasses of Venezuela, bringing back large collections including 11 species previously unknown.

Dr. T. D. Stewart spent several weeks at the historic Indian village site on Potomac Creek in Virginia known as Patawomeke, examining an ossuary that was discovered during the previous field season. Dr. Waldo R. Wedel conducted archeological investigations in central Kansas in an effort to locate Coronado's "Province of Quivira." David I. Bushnell, Jr., made several trips to the vicinity of the Peaks of Otter in search of tangible evidence of early man in Virginia. Dr. Frank H. H. Roberts, Jr., obtained further information on Folsom man, one of the earliest known inhabitants of America, from excavations at the Lindenmeier site in Colorado. Dr. Julian H. Steward visited British Columbia to record culture changes among the Carrier Indians; Dr. John P. Harrington made a comparative study of the northwestern Indians in Alaska and the southwestern Indians in New Mexico; and Dr. William N. Fenton collected data among the Seneca in New York State on Iroquois masks and ritualism.

## PUBLICATIONS

The publications of the Smithsonian Institution constitute its chief means of carrying out one of its primary functions, the "diffusion of knowledge." From its private funds, the Institution issues the Smithsonian Miscellaneous Collections, a series containing all the scientific papers published by the Institution proper; from Government funds are issued the Smithsonian Annual Report (with general appendix reviewing progress in science), the Bulletins and Proceedings of the National Museum, the Contributions from the National Herbarium, the Bulletins of the Bureau of American Ethnology, the Annals of the Astrophysical Observatory, and Catalogs of the National Collection of Fine Arts. The Freer Gallery of Art pamphlets and the series, Oriental Studies, are supported by Freer Gallery funds.

All publications of the Institution are issued through the editorial division, which comprises the central office where publications of the Institution proper are handled, the office of the editor of the National Museum, and that of the editor of the Bureau of American Ethnology. The editorial division also directs the Institution's informational activities and its radio work.

The year's publications totaled 78, of which 48 were issued by the Institution proper, 25 by the National Museum, 3 by the Bureau of American Ethnology, 1 by the National Collection of Fine Arts, and 1 by the Freer Gallery of Art. Information as to titles, authors, and other details concerning these publications will be found in the report of the chief of the editorial division, appendix 11. The total number of publications distributed was 125,837.

Among the outstanding publications of the year may be mentioned a paper by the Secretary entitled "An Important Weather Element Hitherto Generally Disregarded," wherein are summarized evidences of the dependence of our weather on the variations of solar radiation; a revised edition of Assistant Secretary Alexander Wetmore's "A Systematic Classification for the Birds of the World"; another volume in the series of life histories of North American birds by Arthur Cleveland Bent entitled "Life Histories of North American Cuckoos, Goatsuckers, Hummingbirds, and Their Allies"; a paper dealing with the very interesting Chicora (Butler County, Pa.) meteorite, by F. W. Preston, E. P. Henderson, and James R. Randolph; and part 2 of the monograph entitled "Archeological Remains in the Whitewater District, Eastern Arizona," by Frank H. H. Roberts, Jr.

## LIBRARY

The year's accessions to the Smithsonian library totaled 6,839 volumes, pamphlets, and charts, bringing the holdings at the end of

the year to 894,655 items. As usual, many gifts were received, among the largest of which were a collection of 942 scientific books and journals belonging to the late Frederick E. Fowle of the Smithsonian staff and presented by his widow; 622 publications from the Geophysical Laboratory of the Carnegie Institution of Washington; and 612 publications from the American Association for the Advancement of Science. Again during the past year the library's exchange work was carried on with great difficulty because of war conditions abroad. Most of the publications that failed to come were European and Asiatic. Some of these are being held by the issuing agencies for transmission after the wars are over, others have delayed publication, but a few have been discontinued. The library staff cataloged 6,693 volumes, pamphlets, and charts; prepared and filed 40,238 catalog and shelf-list cards; made 22,311 periodical entries; loaned 10,990 publications to members of the Smithsonian staff; and conducted an interlibrary loan service with 45 libraries outside the Smithsonian system. Other activities included work on the union catalog; a large amount of bibliographic assistance to members of the Smithsonian staff and others; and checking of the serial holdings in connection with the forthcoming second edition of the Union List of Serials. The funds allotted to the library permitted it to bind 958 volumes—only one-half of those completed for binding during the year. The most urgent need, therefore, is for more adequate funds for binding in order to prevent loss of parts of volumes that may be very difficult, if not impossible, to replace.

Respectfully submitted.

C. G. ABBOT, *Secretary.*



## APPENDIX 1

### REPORT ON THE UNITED STATES NATIONAL MUSEUM

SIR: I have the honor to submit the following report on the condition and operation of the United States National Museum for the fiscal year ended June 30, 1941.

Funds provided for the maintenance and operation of the National Museum for the year totaled \$818,305, which was \$6,580 more than for the previous year. The amount was reduced \$6,500, however, by reason of a compulsory administrative reserve.

#### COLLECTIONS

Building up of the great collections of the Museum continued, and a total of 1,518 separate accessions, aggregating 326,686 individual specimens, was received during the year. Although this was about 400 fewer separate accessions than last year, the individual specimens increased by 114,000. Distribution of these additions among the five departments was as follows: Anthropology, 4,064; biology, 262,521; geology, 55,818; engineering and industries, 2,688; and history, 1,595. For the most part these acquisitions were gifts from individuals or represented expeditions sponsored by the Smithsonian Institution. All are listed in detail in the full report on the Museum, published as a separate document, but the more important are summarized below. The total number of catalog entries in all departments is now nearly 17½ million.

*Anthropology.*—Important archeological material included a collection of Paleolithic, Neolithic, and Bronze Age implements and ornaments from Java; over 700 stone artifacts from western New York; about 450 specimens from an Indian village site in Page County, Va.; and nearly 1,000 potsherds and shell implements from burial mounds near Belle Glade, Fla. In ethnology, many objects were received representing the cultures of the Navaho; Alaskan Indians and Eskimos; Plains, Pueblo, and Southwestern tribes; the Iroquois; and others. Collections from peoples outside the Americas included specimens from Malayan tribes of the Philippines, from the Grebo of Liberia, and from the natives of Bali. Twenty-nine ceramic specimens, 30 musical instruments, and 47 pieces of period art and textiles were added. In the division of physical anthropology, skeletal remains from Peru and from southeastern Alaska and a

reconstruction of the newly found remains of the fourth *Pithecanthropus* were the principal acquisitions.

*Biology.*—Biological specimens, many of great scientific value, totaled 262,521, a considerable increase over last year, although these came in fewer individual accessions. The most important mammalian accession was a complete skull and both sets of baleen of an adult humpback whale (*Megaptera novae-angliae*) and a fetal whalebone whale skull from the North Pacific. Other mammals received included 74 specimens from Liberia; 102 from South Carolina; 85 cavernicolous bats; other bats from Mexico, the Virgin Islands, and Puerto Rico; 2 fetuses of humpback whales; a baby walrus skeleton; and other specimens from Indo-China, Ecuador, Korea, Costa Rica, Bolivia, and Brazil. Of nearly 100 mammals received from the National Zoological Park, the most important was a gayal (*Bos frontalis*).

Large representations of birds came from Indo-China, Costa Rica, Brazil, Antarctica, Mexico, and Manchukuo. Field work of the Museum in South Carolina yielded 1,205 bird skins for the study collections.

Incorporated in the collections during the year were 4,201 Mexican reptiles received from the Smithsonian Institution as the major part of the collections made by Dr. Hobart M. Smith, under the Walter Rathbone Bacon scholarship, among them being types of many new forms and representatives of species hitherto not contained in the Museum. The second installment of Dr. W. M. Mann's reptilian and amphibian collections in Liberia consisted of 472 specimens, representing several new forms and much valuable comparative material from territory hitherto little known.

Nearly 2,000 Liberian fishes also resulted from the Smithsonian-Firestone Expedition headed by Dr. Mann, in addition to those accessioned last year. Among other ichthyological specimens received were 900 fishes from Texas and the Gulf of Mexico, 420 from Alaska, and 60 sharks from Florida and Texas.

The most important accession in insects was the Nevermann collection of Costa Rican Coleoptera, comprising about 33,000 specimens and including much type material. Other important entomological material came in many miscellaneous lots, the largest being 64,000 insect specimens transferred from the Bureau of Entomology and Plant Quarantine. A collection of nearly 3,000 beetles from Panama was donated by Assistant Curator Richard E. Blackwelder, who collected them several years ago.

About 500 marine invertebrates from the west coast of Greenland came as a result of the Bartlett Greenland Expedition of 1940. Through Curator Waldo L. Schmitt there was accessioned a large

collection of marine invertebrates taken in the course of the Alaska king crab investigations of the Fish and Wildlife Service. From this same Service there was transferred a lot of nemertean worms collected by the *Albatross* and *Fish Hawk*. Outstanding also was a large collection of mollusks, echinoderms, crustaceans, miscellaneous invertebrates, and 182 bottom samples obtained by Russell Hawkins, Jr., on 1939 and 1940 cruises along the west coast of Baja California and in the Gulf of California. Over 3,000 selected molluscan specimens were obtained by purchase through the Frances Lea Chamberlain Fund. A remarkably fine collection of over 3,000 Samoan shells was contributed, as well as 1,000 land and fresh-water shells from Texas. Several interesting lots of echinoderms were added, chiefly from the Antarctic region, from Greenland, and from the Abrolhos Islands, Western Australia.

About 25,000 plants from many sources were added to the collections of the National Herbarium.

*Geology.*—Many choice minerals and gems were acquired through the Canfield, Roebing, and Chamberlain funds of the Smithsonian Institution. The finest mineral specimen is an 1,800-carat aquamarine crystal from Agua Preta, Brazil, showing the rare berylloid form. The extensive Diaz collection of Mexican cassiterites and valuable sets of minerals from Bolivia also are noteworthy. Gems added included a brilliant cut purple enclase of 46 carats from Ceylon, and a greenish-yellow 9-carat enclase from Brazil. Another important acquisition consisted of 620 Brazilian gem stones transferred from the United States Treasury Department. The outstanding addition to the meteorite series was the Sardis, Ga., specimen, an altered iron, weighing 1,760 pounds, the fifth largest single meteorite ever found in the United States. Four meteoritic falls, all American, were represented in specimens presented by Dr. Stuart H. Perry, associate in mineralogy. A valuable series of tin ores resulted from Curator W. F. Foshag's studies for defense purposes of the tin resources of Mexico.

Field work by members of the staff yielded the bulk of the invertebrate fossils accessioned: About 8,000 Cambrian brachiopods and trilobites from the Rocky Mountain region, Missouri, and the Appalachian Valley; 20,000 post-Cambrian specimens from west Tennessee and Texas; and 15,000 Devonian fossils from the various counties in the geologically classic Lower Peninsula of Michigan. Much valuable type material was contained in other miscellaneous accessions, mostly gifts, including Upper Cambrian invertebrates from Texas and southeastern Missouri, Ordovician Bryozoa from Oklahoma, Upper Triassic ammonites from Nevada, and type fossils from the Kaibab formation of the Grand Canyon. Important

lots of Foraminifera came from such widely separated regions as Mexico, Peru, New Zealand, and Arabia. Casts of 256 type specimens of the fossil shell *Turritella*, from the Tertiary rocks of the Pacific coast, comprised an outstanding addition to the Cenozoic collections.

As a result of paleontological field work in central Utah several articulated Upper Cretaceous lizard skeletons (*Polyglyphanodon*) and fragmentary mammalian jaws and teeth from the Paleocene were received, in addition to 149 lots of vertebrate fossils collected from the Bridger Eocene of southwestern Wyoming. Also worthy of special mention among the new vertebrate material are the greater part of the skeleton of the primitive mammal *Uintatherium*, a partial skeleton of a *Palaeosyops*, and a perfect skull and jaws of the dog-like *Thinocyon velox*. Parts of several fossil whales and porpoises, from the Miocene Calvert formation of the Chesapeake Bay country, were acquired.

*Engineering and industries.*—To the section of transportation and civil engineering came an operating exhibit of the Westinghouse air brake, and three fine scale models, the Polish motorship *Pilsudski*, the Rolls Royce automobile *Silver Ghost*, and the diesel-engined trawler *Storm*.

A unique accession in the section of aeronautics, received as a transfer from the Navy Department, was a fighter airplane known as the Curtiss Sparrowhawk, a type developed in 1931-35 as an auxiliary fighter to the dirigibles *Akron* and *Macon*. Several interesting airplane models were received: The original model of a steam-engined bombing helicopter designed in Civil War times and scale models of the Columbia monoplane (1910), the triplane bomber (1918), the U. S. Army pursuit type P-35, the U. S. Army trainer type BT-8, and the amphibian SEV-3N.

In mechanical engineering the outstanding accession was an exceptional operating model made by Howell M. Winslow of a Reynolds-Corliss steam engine of about 1900. The section of electrical engineering and communication received three original Plante storage battery plates and two replicas of the posted plate batteries made by T. A. Willard in 1881; also the tone arm of a modern photoelectric phonograph.

One of the most spectacular acquisitions in recent years is the 93-dial display clock made by Louis Zimmer, of Lier, Belgium, for the Brussels World's Fair in 1935. It is 14 feet high, tells the standard time of many places around the world, the tides in various parts, and a great variety of calendar and astronomical events. The section of woods and wood technology received the first letter file made to handle correspondence unfolded and vertical. An important and generous gift to the division of graphic arts was a collection

of 200 Currier and Ives prints from a donor, who in addition lent 183 others. There came also as a loan the original camera believed to have been used around 1836 by Dr. John W. Draper, the eminent American chemist and physiologist, while a member of the faculty of Hampden-Sydney College, Richmond, Va.

*History.*—Nearly 1,600 objects of historic and antiquarian interest were accessioned, including busts, costumes, or mementos of such outstanding Americans as Abraham Lincoln, Mrs. Andrew Jackson Donelson, Col. Samuel Simpson, William Jennings Bryan, Henry B. F. Macfarland, and Brig. Gen. Caleb Cushing. The numismatic collection was increased by 176 coins and medals, including a series of United States bronze, nickel, and silver coins struck at the Denver, Philadelphia, and San Francisco mints in 1914; and the philatelic collection by 1,310 stamps and other items.

#### EXPLORATIONS AND FIELD WORK

Field exploration by the Museum's experienced staff and its collaborators continues as one of the most important sources for additions of new materials in the broad fields of anthropology, biology, and geology. As in previous years this work was financed in the main through funds provided by the Smithsonian Institution or through interested friends of the Institution. The specimens obtained have filled many gaps in the Museum's series.

*Anthropology.*—During August and September, 1940, Dr. T. Dale Stewart, associate curator of physical anthropology, continued excavations at the historic Indian village site known as Patawomeke on Potomac Creek, in Stafford County, Va., completely exploring the ossuary discovered last year. The work this season yielded a number of facts that verify or supplement the meager historical records pertaining to the burial ceremonies of the Virginia tide-water Indians. Of the approximately 100 skeletons encountered in the ossuary, the majority had become disarticulated, or were disarticulated before burial. A few, however—approximately a dozen adults—were observed to be fully articulated. These were found on the bottom or along the sides of the pit and hence may have been the first bodies received into the grave. Moreover, all these articulated skeletons are possibly males and had their arms extended along their sides as do the bodies shown in John White's picture of a death house, which was drawn during his visit to Roanoke Island in 1585. Also, all these skeletons had their lower legs flexed unnaturally forward, which would have been a practicable way for shortening an extended body resting on its back. There is evidence, on the other hand, that the disarticulated skeletons were exposed

for a considerable period before burial; in several cases mud dauber nests were found in the skull or among the bundled bones. This finding indicates that the period in which these bodies were exposed in an open death house included at least one warm season.

On February 27, 1941, Dr. Stewart went to Peru in connection with the program sponsored by the State Department for cultural cooperation with other American republics. In Lima, through the kindness of Dr. Julio C. Tello, director of the Museum of Anthropology, Magdalena Vieja, he had the privilege of studying two documented series of human skeletal remains, one from Paracas and the other from Malena. These two series are interesting for comparison because that from Paracas is very early, whereas that from Malena is late coastal Inca. The Paracas people, although relatively ancient, were far from being primitive in the cultural sense. Their textiles are famous and among the finest produced anywhere. While in Lima Dr. Stewart visited many of the nearby ruins and ancient Indian sites. From these trips Dr. Stewart brought back a small collection of the more interesting skeletal remains to supplement earlier collections.

During the week of March 30 Dr. Stewart represented the Institution and the National Geographic Society at the Third Assembly of the Pan American Institute of Geography and History meeting in Lima. Following the Assembly he visited the Museo Arqueológico "Rafael Larco Herrera" at Chiclín, where, through the kindness of Sr. Rafael Larco Hoyle, he was able to study a documented series of Mochica and Cupianique skeletons. These remains are from the oldest cultural periods of the northern coast. From Chiclín Dr. Stewart went south to Mollendo, and thence by way of Arequipa to Cuzco. Here, besides visiting some of the famous ruins, he saw the fine collection of mummies and trephined skulls at the University of Cuzco and the Instituto Arqueológico.

Dr. Waldo R. Wedel, assistant curator in archeology, was in the field from June 1 to September 16, 1940, continuing the Institution's archeological survey of Kansas, begun in 1937. The 1940 explorations were carried on at several locations in Rice and Cowley Counties. Preliminary excavations show that the sites investigated mark villages inhabited by semisedentary, partly horticultural Indians who did not live in earth lodges. These people made pottery, wove basketry, had a wide variety of artifacts in stone, bone, horn, and shell, traded with the Pueblos on the Rio Grande for turquoise, pottery, and obsidian, and were in contact with white men. Fragments of glaze-paint pottery represent types made on the Rio Grande between 1525 and 1650, and bits of chain mail suggest a visit from some of the early Spanish explorers. It is tentatively

suggested that these remains, widespread in central and southern Kansas, may be of Wichita origin, and possibly represent some of the Quivira villages seen by Coronado, Humaña, Bonilla, and Oñate.

During the period from December 5 to 12, 1940, and again in May 1941, Dr. Wedel made a brief reconnaissance in the Holston River drainage near Saltville, Va. A number of extremely promising prehistoric village sites and two apparently affiliated burial caves were visited, and a local collection was studied. No excavations were undertaken. The cultural materials indicate some relationships with Middle Mississippi remains in Tennessee and adjacent States, but pending more extended studies their exact position culturally remains uncertain.

Walter W. Taylor, Jr., collaborator in anthropology, inaugurated archeological excavations in the state of Coahuila, Mexico. From January 1941 to the close of the fiscal year, Mr. Taylor surveyed a wide area in the various mountain valleys around Cuatro Ciénegas and excavated several small caves and one large cave. The principal purpose of this program was to determine the relationship between the prehistoric cave inhabitants in this northern section of Mexico and the inhabitants of similar sites in the Pecos River and Big Bend area of southwestern Texas. A superficial relationship seems evident from Mr. Taylor's field reports, but final conclusions must await a careful comparison of material in the Museum.

*Biology.*—During October and November Dr. Alexander Wetmore, Assistant Secretary of the Smithsonian Institution, visited Costa Rica as part of the program sponsored by the State Department for cultural cooperation with the other American republics. He was received with every courtesy as the guest of the Costa Rican Government, and in San José, the capital city, he worked at the National Museum and visited and conferred with officials in various branches as well as with scientists in other services. Following this, accompanied by Dr. Juvenal Valerio Rodríguez, director of the National Museum, and Carlos Aguilar in charge of the zoological collections in the Museum, he crossed by air to Liberia, the principal city of Guanacaste, the northwestern province of Costa Rica. From this base collections of birds were made in the surrounding country. Dr. Valerio returned to San José, while Mr. Aguilar remained for training in zoological field work. Guanacaste is devoted mainly to cattle raising, with small cultivation. Liberia lies on a slightly elevated plain east of the swampy lowlands bordering the Río Tempisque. For more than 2 weeks Dr. Wetmore and Mr. Aguilar were located at a great hacienda on the southern slopes of the Volcán Rincón de la Vieja where there was access to heavy rain forest on the mountain. Collections were obtained for the National Museum in San José as

well as for our Institution. The several hundred birds that have come to Washington as a result of this work add measurably to our series, as our earlier investigations of the birds of Costa Rica did not cover Guanacaste. On his return north at the end of November Dr. Wetmore had opportunity to spend a day in Habana, Cuba, where he was received by representatives of the Cuban Government and conferred with prominent scientists of the country.

From March to May, 1941, Dr. Wetmore visited Colombia in continuation of the program mentioned for closer personal contact and cooperation with scientists in our neighbor republics. In Bogotá he was received at the National University, where he worked particularly in the Instituto de Ciencias Naturales. He also conferred with scientists who had been in attendance at the Eighth American Scientific Congress in Washington the year previous, and visited scientific workers with whom the Smithsonian Institution has been in contact through correspondence for years. Following this, with M. A. Carriker, Jr., as assistant, and accompanied by Dr. F. Carlos Lehmann and his assistant from the Instituto de Ciencias Naturales and by Lt. Alejandro Rubiano as a representative of the Colombian Government, Dr. Wetmore set out from Santa Marta on a prolonged expedition through the Guajira Peninsula. The party traveled by truck to Riohacha stopping en route for work in extensive forest areas near the Río Ariguaní and its tributaries. Here in 8 days' time specimens of 100 distinct species of birds were obtained, an indication of the richness of the fauna. In Riohacha the party obtained another truck and here entered the Guajira proper. The peninsula in the main is an arid, desert country with extensive open savannas and broad stony plains, grown in places with heavy stands of mesquite and cacti that form veritable forests. In the eastern section there are low mountains with trails along their bases passable for heavy trucks except during the period of rains. On the highest range where the trade winds build a cloud cap with consequent more or less regular precipitation in contrast to the desert below, there is an island of tropical rain forest with the species usual to such an environment, here isolated by long distances from other similar areas. Dr. Lehmann and Lieutenant Rubiano completed their work with the party in April while the others continued to the forested region mentioned. On the return the middle of May it was necessary because of disrupted steamer schedules for Dr. Wetmore to cross by schooner from Puerto Estrella, in the Guajira, to the Island of Aruba. Here after a 2-day wait he obtained plane passage to Curaçao, and from there sailed for New York. A stop en route at La Guaira, Venezuela, gave opportunity to visit Caracas, where he was guest of honor at a luncheon given by W. H. Phelps



to a group of Venezuelan scientists, and had opportunity to visit the new Museo Nacional and the Sociedad Venezolana de Ciencias Naturales.

Mr. Carriker, whose expenses for this work in Colombia were carried by the W. L. Abbott fund of the Smithsonian Institution, continued in the field in the Guajira until late in June to finish the investigations. At the end of the fiscal year he was located in the Sierra Negra in the northern section of the Perijá Mountains, a region previously unknown to naturalists.

The collecting expeditions by W. M. Perrygo, scientific aid, to obtain much-needed material for the study of the vertebrate fauna of the Appalachian region, were continued with good results. Accompanied by John S. Webb, of the division of birds, he left for South Carolina on September 14, 1940, working first along the Catawba River and in the wooded regions of the Piedmont region and later collecting in the swamps along the Pee Dee River. The middle of October he continued southward to Allendale to complete work begun in the spring months along the Savannah River. Two weeks were spent in collecting along the Lynches River, a tributary of the Pee Dee, and the final stay centered around McClellanville for work in the salt marshes near the Cape Romaine Wildlife Sanctuary. The expedition returned December 3. This work also was financed through the W. L. Abbott fund of the Smithsonian.

Dr. Waldo L. Schmitt, curator of marine invertebrates, during the latter part of 1940 served as biologist and leader of the field party organized by the United States Fish and Wildlife Service for the purpose of investigating the biology of the king crab in Alaska. He left Seattle on August 28 and on September 12 established headquarters at Canoe Bay, off the northwest corner of Pavlof Bay, where investigations were carried on successfully for 5 weeks. Later on operations were transferred to Alitak at the western end of Kodiak. Work at a final base on the north side of Shelikof Strait, east of Kukak Bay, from November 15 to 20 ended the investigations for the season, which in addition to observations on the distribution and biology of the king crab yielded an extensive collection of marine animals of interest to the Museum.

Clarence R. Shoemaker, assistant curator of marine invertebrates, in company with T. Kenneth Ellis, undertook a 2-weeks' collecting trip for fresh-water amphipods through Virginia and the Carolinas. The expedition returned with much interesting material to the Museum, the particular object being to extend the study series of certain rare species from this region.

The Smithsonian-Firestone Expedition to Liberia under the leadership of Dr. W. M. Mann, Director of the National Zoological Park,

obtained for the Museum a large amount of zoological and botanical material, including many novelties, from a region of the world hitherto poorly represented in our collections. Although started early in 1940, the expedition did not return until August 7, and is therefore properly referred to here, as the specimens brought back were accessioned during the present year. The story of the expedition has been widely published, and a condensed account with illustrations will be found in the volume *Explorations and Field Work of the Smithsonian Institution in 1940*, pp. 13-20.

As in past years, Capt. Robert A. Bartlett in his annual expedition to Greenland in the schooner *Morrissey* brought back valuable additions particularly to the invertebrate collections, made with equipment supplied by the Museum.

Dr. Hobart M. Smith, under the Walter Rathbone Bacon scholarship, finished his field work in Mexico in August 1940, bringing back to the Smithsonian Institution splendid collections that in all comprise more than 20,000 specimens of reptiles and amphibians now deposited in the Museum. During July and August, 1940, he was able to study the collection of the late Dr. Alfredo Dugès, which contains many type specimens of Mexican reptiles and amphibians.

Dr. E. A. Chapin, curator of insects, spent 5 weeks on the island of Jamaica during April and May, 1941. Arriving there on April 22, he was met at customs by C. B. Lewis, curator of natural history of the Jamaica Institute, who during the entire period of work assisted in various ways. Special trips arranged by Mr. Lewis included a day on Goat Island, 1 on Portland Ridge, 2 at Cuna Cuna Pass, and a 4-day stay at Cinchona in the Blue Mountains. Except for 8 days spent in and around Savanna-la-Mar, headquarters was maintained near Kingston and short trips were made out from that point. Because of the poor showing made in certain groups in 1937, it was decided to concentrate on the termite and ant faunas. In addition to various rare beetles, at least 13 species of termites, mostly of the type living in hardwood, were found, and at least 3 of them are additions to the Jamaica list. Other results of the work include the establishment of very pleasant relations with the Jamaica Institute and the Government Entomologist's Office.

The United States Antarctic Service expedition returned from a year's stay in the Antarctic with very valuable material consisting of mammals, birds, and a considerable collection of lower cryptogamic plants. The Museum was represented in this work by Herwil M. Bryant. J. E. Perkins and M. J. Lobell were detailed to the expedition by the Fish and Wildlife Service of the Department of the Interior.

Local field work in nearby Maryland and Virginia by various members of the staff has included investigations of Dr. L. P. Schultz

on fresh-water fishes. Botanists of the staff gathered material for a proposed new Flora of the District of Columbia, the object sought being a thorough knowledge of the Washington-Baltimore region.

*Geology.*—Under a cooperative arrangement with the United States Geological Survey, Dr. W. F. Foshag, curator of mineralogy and petrology, accompanied by Carl Fries, of the Geological Survey staff, made a 3-month survey of the tin resources of Mexico. All the important mining districts of Mexico included within the states of Michoacán, Hidalgo, San Luis Potosí, Queretaro, Aguascalientes, Jalisco, Zacatecas, and Durango were visited and the deposits studied as to their geology, mineralogy, and commercial potentialities. The largest potential deposits are the placer sands derived from granite intrusions in San Luis Potosí. The deposits in the rhyolitic rocks are, in most cases, small and of little importance.

Dr. C. E. Resser, curator of stratigraphic paleontology, spent 3 months in field work, chiefly in the Rocky Mountains, assisted by Charles H. Frey, 3d, of Lancaster, Pa. Dr. Resser left Washington on June 25, making first a brief stop in southwestern Virginia. His next objective was the Cambrian section in the Ozark Mountains, where several days' work enabled him to familiarize himself with these strata. Only indifferent fossils were found, as most of the Cambrian rock does not carry fossils. He continued then to examine Cambrian deposits in Colorado in the Front, Mosquito, and Sawatch Ranges and the Glenwood Springs Canyon. Ten days in the State permitted examination of several sections. Dr. T. S. Lovering, of Ohio State University, who was mapping the region about Gilman, assisted materially in showing the sections there. At the Grand Canyon National Park in Arizona Dr. Resser examined new localities under the guidance of Park Naturalist Edwin McKee during a 3-day trip to Peach Springs and Meriwitica Canyons, 150 miles west of Grand Canyon Village. Some fossils were found and physical measurements made. In the Wasatch Mountains the party checked on the position of certain faunas and on the stratigraphy, which had been questioned. Fine collections were made at critical points. At the Green River Lakes, one of the most beautiful spots in America, Dr. Resser's party found a section 850 to 1,000 feet thick, representing both Middle and Upper Cambrian, carrying a few fossils. Several sections were studied in Montana, notably on Squaw Creek in the Gallatin Range, Newland Creek, Little Birch Creek, and Deep Creek in the Belt Mountains, and several localities near Three Forks, Mont. Particularly fine material was secured at several of these localities. Advantage was taken of the new road constituting the northeastern entrance to the Yellowstone to study the excellent section at Bear-tooth Butte. Here some good collections were made. On the return

journey a new section across the Big Horn Mountains was seen along Shell Creek, and about a week was spent in the Black Hills. During an earlier trip from May 5 to 15 to southwestern Virginia and eastern Tennessee Dr. Resser examined outcrops of the belt west of Clinch Mountain to ascertain the faunal content of the Maryville formation. Fossils were scarce and very difficult to free from the matrix. A visit to Austinville, Va., furnished some excellent fossils, and observations confirmed earlier interpretation of the stratigraphy. The exact stratigraphic position of a new brachiopod related to *Nisusia*—as yet undescribed—was discovered.

In August 1940 Dr. G. Arthur Cooper, assistant curator of stratigraphic paleontology, joined Mrs. J. H. Renfro and daughter in Fort Worth and with the guidance of these expert collectors collected Pennsylvanian fossils in the region around Jacksboro and Graham in north-central Texas. An abundance of fine material for the biological series was obtained. Following 2 weeks in north-central Texas, Dr. Cooper went to the Glass Mountains in west Texas, where he spent another 2 weeks collecting limestone containing silicified specimens. About a ton of blocks was sent back to Washington, where almost half the material has since been etched with acid, yielding very beautiful rare fossils that preserve the delicate spines, and peculiar features of the interior of the animals concerned in a truly remarkable way. Proceeding to west Tennessee he collected Silurian and Lower Devonian fossils along the Tennessee River in localities that soon will be lost through the impounding of water behind the Gilbertsville, Ky., dam. At places the Silurian in this part of Tennessee teems with fossils of many kinds and fine collections were obtained, including new forms as well as many others not previously present in the collections. From there he went east to Murfreesboro, Tenn., where he joined Dr. Josiah Bridge, of the United States Geological Survey. They spent 10 days in the Central Basin of Tennessee collecting the fossils and studying the rocks of the Stones River (Ordovician) group, as problems of correlation never satisfactorily solved exist in this area.

As the vertebrate paleontological field exploration under Dr. C. L. Gazin, assistant curator of vertebrate paleontology, extended into the present year, but brief mention was made of it in last year's report. The expedition, into central Utah and southwestern Wyoming, was a continuation of previous investigations. In the Upper Cretaceous several additional lizard skeletons were collected; and in the Paleocene a considerable number of fragmentary mammal specimens. Interesting new forms contribute information to the known fauna of the Dragon formation. The bulk of the season was spent in the Bridger formation of the Eocene in southwestern

Wyoming, where 149 lots of fossil specimens were obtained. A skeleton of *Uintatherium* complete enough to articulate for exhibition, probably the most complete skeleton of this animal yet discovered, was the outstanding specimen collected. Partial skeletons of *Palaeosyops* are also of high importance.

Short trips to the Miocene along Chesapeake Bay for cetacean remains were made by Dr. Remington Kellogg and other members of the staff. Many specimens from this unique fauna have been added to the collections.

#### MISCELLANEOUS

*Visitors.*—A total of 2,505,871 visitors at the various Museum buildings was recorded during the year, this being virtually the same as for the previous year. The high months this year were August 1940 and April 1941, when 369,942 and 320,594 visitors, respectively, were recorded. The attendance in the four Museum buildings was as follows: Smithsonian Building (main hall closed from July 1 to January 19), 212,464; Arts and Industries Building, 1,302,210; Natural History Building, 803,516; Aircraft Building (closed from March 17 to June 30), 182,112.

*Publications and printing.*—The sum of \$23,000 was available during the fiscal year 1941 for the publication of the annual report, Bulletins, and Proceedings. Twenty-five publications were issued—the annual report, 1 Bulletin, 1 volume of Bulletin 100, 1 separate paper from another volume of Bulletin 100, 1 title page, table of contents, and index of the Contributions from the United States National Herbarium, 19 separate Proceedings papers, and 1 title page, table of contents, and index of a Proceedings volume. Particularly outstanding were the following: "Life Histories of North American Cuckoos, Goatsuckers, Hummingbirds, and Their Allies," by Arthur Cleveland Bent (Bulletin 176); "The Fishes of the Groups Elasmobranchii, Holocephali, Isospondyli, and Ostariophysi Obtained by the United States Bureau of Fisheries Steamer *Albatross* in 1907 to 1910, Chiefly in the Philippine Islands and Adjacent Seas," by Henry W. Fowler (Bulletin 100, volume 13); "Further Studies on the Opalinid Ciliate Infusorians and Their Hosts," by Maynard M. Metcalf; "The Cuban Operculate Land Mollusks of the Family Annulariidae, Exclusive of the Subfamily Chondropominae," by Carlos de la Torre and Paul Bartsch; "A Supposed Jellyfish from the Pre-Cambrian of the Grand Canyon," by R. S. Bassler; "Notes on Birds of the Guatemalan Highlands," by Alexander Wetmore; and "The Chicora (Butler County, Pa.) Meteorite," by F. W. Preston, E. P. Henderson, and James R. Randolph.

Volumes and separates distributed during the year to libraries, institutions, and individuals throughout the world aggregated 52,170 copies.

*Special exhibits.*—Fourteen special exhibits were held during the year under the auspices of various educational, scientific, recreational, and governmental groups. In addition the department of engineering and industries arranged 17 special displays—8 in graphic arts and 9 in photography.

#### CHANGES IN ORGANIZATION AND STAFF

In the department of anthropology, Dr. Joseph E. Weckler, Jr., was appointed assistant curator, division of ethnology, on March 1, 1941.

In the department of biology, on the retirement of Gerrit S. Miller, Jr., curator of the division of mammals, the duties of this office were, on January 1, 1941, assumed by Dr. Remington Kellogg, advanced from the position of assistant curator. To the division of insects Dr. Richard E. Blackwelder was appointed as assistant curator on October 1, 1940; to the section of taxidermy Edgar G. Laybourne was appointed senior scientific aid on March 20, 1941, and to the division of birds, John S. Webb was appointed scientific aid on August 1, 1940.

In the department of engineering and industries, to the division of graphic arts Irwin Lefcourt was appointed scientific aid, on September 3, 1940.

Other changes in appointment on the staff were as follows: Elisabeth P. Hobbs to assistant librarian, on March 16, 1941; Ralph A. Silbaugh, foreman of laborers, on January 16, 1941; David L. Hubbs to acting foreman of laborers, on September 1, 1940; Ernest Desantis to lieutenant of guard, on July 1, 1940; and two principal guards (sergeants), James C. Clarke, on July 1, 1940, and Bascom F. Gordon, on March 16, 1941.

Honorary appointments in connection with the National Museum collections were made by the Smithsonian Institution as follows: On July 1, 1940, Walter W. Taylor, Jr., as collaborator in the department of anthropology; on January 1, 1941, Gerrit S. Miller, Jr., as associate in the department of biology.

The scientific staff lost the services of Miss Margaret W. Moodey, by resignation, on May 31, 1941.

Five employees were furloughed indefinitely for military service, namely: Robert E. Kirk, on October 4, 1940; John J. Queeney, on August 15, 1940; Charles E. Stousland, on November 27, 1940; Charles A. Bono, on May 21, 1941, and George V. Worthington, on August 21, 1940.

During the year 13 persons were retired, as follows: Through age: Gerrit S. Miller, Jr., curator, division of mammals, on December 31, 1940, with 40 years 10 months of service; Gertrude L. Woodin, assistant librarian, on January 31, 1941, with 34 years 11 months of service; Joseph T. Saylor, foreman of laborers, on December 31, 1940, with 30 years 8 months service; David H. Zirkle, guard, on June 30, 1941, with 15 years of service; Hattie L. Henson, charwoman, on March 31, 1941, with 19 years 6 months of service; and Emma D. Whitley, charwoman, on March 31, 1941, with 15 years of service.

Through optional retirement: Anne J. B. DePue, telephone operator, on November 30, 1940, with 40 years 5 months of service; and Donald MacDonald, guard, on September 30, 1940, with 33 years 9 months of service.

Through disability retirement: Trezzvant Anderson, guard, on March 31, 1941; Eugene Smith, guard, on June 18, 1941; Anna M. Bowie, laborer, on March 14, 1941; Charles Davis, laborer, on June 30, 1941, and Lish Myers, laborer, on April 30, 1941.

Through death, the Museum lost during the year two employees from its active roll, Clayton R. Denmark, engineer, on December 22, 1940, and William G. Shields, guard, on May 31, 1941. From its list of honorary workers, the Museum lost by death, on January 12, 1941, Charles W. Stiles, associate in zoology, division of marine invertebrates, since April 17, 1894, and on June 4, 1941, David I. Bushnell, Jr., who served temporarily from May to June 1913 as archeologist and from July 27, 1932, to his death as collaborator in anthropology.

Respectfully submitted.

ALEXANDER WETMORE, *Assistant Secretary.*

DR. C. G. ABBOT,  
*Secretary, Smithsonian Institution.*

## APPENDIX 2

### REPORT ON THE NATIONAL GALLERY OF ART

SIR: I have the honor to submit, on behalf of the Board of Trustees of the National Gallery of Art, the fourth annual report of the Board covering its operations for the fiscal year ended June 30, 1941.

Such report is being made pursuant to the provisions of the act of March 24, 1937 (50 Stat. 51), as amended by the public resolution of April 13, 1939 (Pub. Res. No. 9, 76th Cong.). Under this act Congress created, in the Smithsonian Institution, a bureau to be directed by a board to be known as the "Trustees of the National Gallery of Art," charged with the maintenance and administration of the National Gallery of Art, appropriated to the Smithsonian Institution the area bounded by Seventh Street, Constitution Avenue, Fourth Street, and North Mall Drive (now Madison Drive) Northwest, in the District of Columbia, as a site for a National Gallery of Art, and authorized the Smithsonian Institution to permit The A. W. Mellon Educational and Charitable Trust, a public charitable trust established by the late Hon. Andrew W. Mellon, of Pittsburgh, Pa., to construct thereon a building to be designated the "National Gallery of Art." Further, the act authorizes the Board to accept, for the Smithsonian Institution, and to hold and administer gifts, bequests, and devises of money, securities, or other property for the benefit of the National Gallery of Art; also, under the creating act, the United States is pledged to provide such funds as may be necessary for the upkeep of the National Gallery of Art and the administrative expenses and costs of operation thereof, including the protection and care of the works of art so that the Gallery shall at all times be properly maintained and the works of art exhibited regularly to the general public, free of charge.

#### COMPLETION AND OCCUPATION OF THE GALLERY BUILDING

Formal notice of the completion of the National Gallery of Art project, calling for the construction of the Gallery building and the landscaping of the area appropriated for the site of the National Gallery of Art, in accordance with plans and specifications approved by the Commission of Fine Arts, was given by the Trustees of The A. W. Mellon Educational and Charitable Trust under date of November 30, 1940, to the Trustees of the National Gallery of Art and the Smithsonian Institution, and as provided in the trust indenture



dated June 24, 1937, the legal title to the building was deemed forthwith to be vested in the Smithsonian Institution, of which the National Gallery of Art is a bureau, and the maintenance and administration of the building and site became the exclusive and sole obligation of the Trustees of the National Gallery of Art. A copy of the notice of completion is attached to this report, as exhibit A (not printed).

The Gallery building was turned over to the Trustees of the Gallery on December 1, 1940, and following inspection and upon certification by Eggers and Higgins, successors of John Russell Pope, architect for the Gallery, as to the final completion of the project, the Trustees of the Gallery, at a meeting held December 10, 1940, formally accepted the Gallery project. Copy of the architect's certificate is attached to this report, as exhibit B (not printed). At this meeting the members of the Board expressed great satisfaction with the construction of the Gallery building, as finally completed, and their appreciation of the efforts of the Trustees of The A. W. Mellon Educational and Charitable Trust, the surviving Trustees being Paul Mellon, Donald D. Shepard, and David K. E. Bruce, in the erection of a Gallery building of such monumental character and such outstanding architectural merit.

The Trustees have been apprised that the total cost of the Gallery, including approaches and the landscaping of the site, amounted to \$15,035,597.50.

The small nucleus of the Gallery staff, which was housed in offices furnished by The A. W. Mellon Educational and Charitable Trust, moved into the building on November 27, 1940, and proceeded with the work of installation of furnishings and equipment. By December 1, 1940, the nuclear staff, consisting of curatorial and clerical employees, mechanical, guard, and cleaning force, had been organized sufficiently to take over the administration and maintenance of the Gallery building by the Trustees.

During the first days of January 1941, the works of art in the Mellon Collection were moved into the building, and during January, February, and March the works of art in the Kress Collection were received from New York.

Installation of the works of art in the two collections in the galleries prepared for them was undertaken immediately upon their receipt in the new building, and was completed the first week of March.

#### DEDICATION CEREMONIES AND OPENING OF THE GALLERY TO THE PUBLIC

On the evening of March 17, 1941, 8,822 invited guests attended the opening ceremonies. Included among the invited guests were the members of the Cabinet, Senate, and House of Representatives,

Government officials, the diplomatic corps, artists, art critics, heads of educational institutions, persons generally interested in art, and other distinguished guests.

The ceremonies, a half-hour program, with Chief Justice Charles Evans Hughes as the presiding officer, began at 10 o'clock, with an invocation by the Reverend ZeBarney Thorne Phillips, Chaplain of the Senate. Following a brief talk by the Chief Justice on the object and purposes of the Gallery project, Paul Mellon, son of the late Andrew W. Mellon, the donor of the Gallery, on behalf of his father and the Trustees of the Mellon Trust, presented the Gallery and the Mellon Collection to the Nation. Samuel H. Kress then presented the Kress Collection of Italian paintings to the Gallery. The President of the United States accepted the Gallery and the Mellon and Kress Collections on behalf of the people of the United States. A copy of the President's address, and that of Chief Justice Hughes, are attached to this report, as exhibit C (not printed). The ceremonies closed with the National Anthem, led by the United States Marine Band. During the early part of the evening, there was a preview of the Gallery collections. Orchestras played in the garden courts, decorated with the famous Widener collection of acacias, which had been given to the Nation for the joint use of the Gallery and the United States Botanic Garden, and tropical plants.

On the following day, March 18, 1941, the Gallery was opened to the public and was viewed by large crowds. In accordance with the decision of the Board of Trustees, the Gallery building is open every day in the year, except Christmas and New Year's day. The hours are 10 a. m. to 5 p. m. on week days and 2 p. m. to 5 p. m. on Sundays.

#### ORGANIZATION AND STAFF

The statutory members of the Board are the Chief Justice of the United States, the Secretary of State, the Secretary of the Treasury, and the Secretary of the Smithsonian Institution, ex officio, and five general trustees. The general trustees, serving during the fiscal year ended June 30, 1941, were David K. E. Bruce, Duncan Phillips, Ferdinand Lamot Belin, Joseph E. Widener, and Samuel H. Kress. In May 1941 the general trustees elected Ferdinand Lamot Belin, whose term of office would expire on July 1, 1941, to succeed himself as a general trustee, to serve as such until July 1, 1951. At the meeting of the Board held on June 20, 1941, the resignation of Chief Justice Charles Evans Hughes was accepted by the Trustees with great regret, to take effect July 1, 1941, and in doing so the Board adopted the following resolutions:

Whereas the Honorable Charles Evans Hughes has resigned as Chief Justice of the United States and has consequently tendered his resignation as Chairman

of the Board of Trustees of the National Gallery of Art, effective July 1, 1941;

And whereas the Board of Trustees has learned of his resignation with profound regret;

*Therefore, be it resolved,* That the members of the Board of Trustees record their sense of the loss which the Gallery has sustained in being deprived of the services of Chief Justice Hughes;

*And be it also resolved,* That the Board hereby expresses its grateful appreciation for the devotion with which he has carried out his duties as Chairman, and for the wisdom and unfailing courtesy with which he has guided the affairs of the National Gallery during the critical years of its formative period;

*And be it further resolved,* That the Board wishes to express to him its high regard and best wishes that he may enjoy many years of health and happiness after his long career of distinguished public service to his country.

Pursuant to the provision of the act of March 24, 1937, the newly appointed Chief Justice of the United States, the Honorable Harlan F. Stone, who succeeds Chief Justice Hughes, will serve as an ex officio trustee of the Gallery.

The Board at its annual meeting held February 10, 1941, reelected David K. E. Bruce, President, and Ferdinand Lamot Belin was reelected Vice President of the Board to serve for the ensuing year. The executive officers who continued in office were Donald D. Shepard, Secretary-Treasurer and General Counsel; David E. Finley, Director; Harry A. McBride, Administrator; John Walker, Chief Curator; and Macgill James, Assistant Director. Other officers of the Gallery continuing in office were Charles Seymour, Jr., curator of sculpture; George T. Heckert, assistant to the administrator; and Sterling P. Eagleton, chief engineer and building superintendent. During the year Charles Zinsner was appointed assistant treasurer and the following honorary officers were appointed by the Board: Alexander R. Reed, building consultant; Alfred Geiffert, Jr., consultant landscape architect; and William A. Frederick, consultant horticulturist.

The three standing committees of the Board, provided for in the bylaws, as constituted at the annual meeting of the Board, held February 10, 1941, were:

#### EXECUTIVE COMMITTEE

Chief Justice of the United States, Charles Evans Hughes.  
The Secretary of the Smithsonian Institution, Dr. C. G. Abbot.  
David K. E. Bruce.  
Ferdinand Lamot Belin.  
Duncan Phillips.

#### FINANCE COMMITTEE

The Secretary of the Treasury, Henry Morgenthau, Jr.  
The Secretary of State, Cordell Hull.  
David K. E. Bruce.  
Ferdinand Lamot Belin.  
Samuel H. Kress.

## ACQUISITIONS COMMITTEE

David K. E. Bruce.  
 Duncan Phillips.  
 Joseph E. Widener.  
 Ferdinand Lamot Belin.  
 David E. Finley.

Other standing committees appointed by the Board during the year: A committee to make recommendations as to the acceptance or rejection of gifts of property other than works of art, monies, and securities; a committee on public relations; and a committee on the building.

During the first half of the year all of the civil service positions for the Gallery staff had been classified and by March 1, 1941, practically all of the initial staff of the Gallery, including the curatorial, clerical, custodial, and maintenance personnel had been employed. On June 30, 1941, 229 civil service employees were on the Gallery staff. Among such employees were the chief docent, the librarian, and the registrar.

The cataloging of the works of art was completed so that it was possible to issue the first catalog of the National Gallery by March 17, 1941, the date of the opening.

The guard force was organized to assure not only efficiency in the protection of the works of art and of the building and grounds, but also to assure a high quality of service to the public.

## APPROPRIATIONS

For salaries and expenses, for the upkeep and operation of the National Gallery of Art, the protection and care of the works of art therein, and all administrative expenses incident thereto, as authorized by the act of March 24, 1937 (50 Stat. 51), as amended by the public resolution of April 13, 1939 (Pub. Res. No. 9, 76th Cong.), there was appropriated for the fiscal year ending June 30, 1942, the sum of \$533,300. Of the \$300,000 appropriated by Congress for the period July 1, 1940, to June 30, 1941 (54 Stat. 137), \$298,543.14 was expended or encumbered, in the following detailed amounts, for personal services, printing and binding, and supplies and equipment, leaving an unencumbered appropriation of \$1,456.86. This appropriation was based, of course, upon part-year operation and expenditures were made therefrom as follows:

## EXPENDITURES AND ENCUMBRANCES

Personal services.....	\$171, 786. 18
Printing and binding.....	7, 352. 51
Supplies and equipment.....	119, 404. 45
Total .....	\$298, 543. 14

## ATTENDANCE

The total attendance from March 17 to June 30, the end of the fiscal year, was 798,156, an average of 7,529 persons per day. The greatest number of visitors in any one day was 24,745 on March 23, 1941.

A booklet of general information on the Gallery, containing a check list of paintings and sculpture and floor plans, supplied from Government funds, has been found of great assistance to the visitors to the Gallery. There is no charge for this booklet and a copy is given to visitors who request one.

## PUBLICATIONS FUND

Through the Publications Fund it was possible to have ready for the opening of the Gallery, not only a catalog, but also a complete Book of Illustrations of all the works of art in the collections of the National Gallery; color reproductions; and postcards, both in color and in black and white. These publications are on sale at moderate cost in the Information Rooms.

## ACQUISITIONS

## GIFTS OF PRINTS

On March 13, 1941, the Board of Trustees accepted from Miss Ellen T. Bullard and three anonymous donors a number of important prints; and again on June 20, 1941, the Board accepted a number of additional important prints from one of the anonymous donors who had previously made a gift of prints to the Gallery, all of which are listed in exhibit D (not printed). Also on June 20, 1941, the Board accepted as a gift from Lessing Rosenwald of Jenkintown, Pa., a collection of important engravings, etchings, and woodcuts, which are listed in exhibit D (not printed).

## GIFTS OF PAINTINGS

On February 10, 1941, the Board of Trustees accepted from Mrs. Felix M. Warburg the gift of two valuable paintings:

Triptych attributed to the School of Pietro Lorenzetti  
"The Preaching of Savonarola," by Domenico Morone

as a memorial to her husband, the late Felix M. Warburg. The paintings have been received and will be exhibited with the Permanent Collection.

On June 20, 1941, the Board of Trustees accepted from Duncan Phillips, a trustee of the Gallery, the gift of an important painting

by Honoré Daumier, entitled "Advice to a Young Artist," for exhibition with the Permanent Collection. Also on June 20, 1941, the Board accepted from Mrs. David K. E. Bruce the gift of a portrait of her father, the late Andrew W. Mellon, by Oswald Birley, which has been hung over the mantel in the Founder's Room.

During the year other offers of gifts of works of art were received but were not accepted because, in the opinion of the Board, they were not considered to be desirable acquisitions for the Permanent Collection as contemplated by section 5 of the act of March 24, 1937 (50 Stat. 51).

#### OTHER GIFTS

During the year there were also gifts to the Gallery of furnishings, equipment, materials and supplies, ornamental trees and plants, books and publications, from the Trustees of The A. W. Mellon Educational and Charitable Trust and others.

#### SALE OR EXCHANGE OF WORKS OF ART

During the year no works of art belonging to the Gallery were sold or exchanged.

#### LOANS OF WORKS OF ART TO THE GALLERY

During the year the following works of art were received on loan:

An anonymous loan:

20 Rembrandt prints—listed on the attached exhibit D (not printed).

From Dr. Horace Binney, of Milton, Mass.:

A portrait of his ancestor, the Honorable Horace Binney, by Gilbert Stuart.

From Chester Dale, of New York, the following paintings of the American School:

<i>Artist</i>	<i>Subject</i>
John Smibert.....	Portrait of Oxenbridge Thacher of Milton.
Thomas Sully.....	The Sicard David Children—Julia, Ferdinand, and Stephen.
Jeremiah Theus....	Portrait of a Woman in Red Dress.
John Neagle.....	Portrait of John Rush.
Thomas Sully.....	Portrait of Mrs. William Griffin.
S. F. B. Morse.....	Portrait of Mrs. Henry John Auchmuty.
Do.....	Portrait of a Lady.

From Samuel H. Kress and the Samuel H. Kress Foundation:

43 paintings and 22 pieces of sculpture, listed in exhibit D (not printed).

From The A. W. Mellon Educational and Charitable Trust:

187 paintings, many of which were formerly in the Clarke Collection, for an indefinite period to be held for study, exhibition, or use as may be provided by the acquisitions committee. (See exhibit D, not printed.) The following paint-

ings from the collection have been placed on exhibition as loans:

<i>Artist</i>	<i>Subject</i>
Robert Feke.....	Williamina Moore.
Gilbert Stuart.....	Richard Yates.
Do.....	George Washington
Do.....	George Pollock.
Do.....	Joseph Anthony.
John Wollaston.....	Mary Walton Morris.

From Duncan Phillips, a trustee of the Gallery:

<i>Artist</i>	<i>Subject</i>
Corot.....	The Dairy Farm.
Courbet.....	The Rocks at Ornans.

From John Cooper Wiley:

Russian icon of the thirteenth century, for study and exhibition in the collection if considered desirable.

#### LOAN OF WORKS OF ART BY THE GALLERY

During the year no works of art belonging to the Gallery were placed on loan.

#### RESTORATION AND REPAIRS TO WORKS OF ART

During the year, as authorized by the Board and with the approval of the Director and the Chief Curator, Stephen Pichetto, consultant restorer to the Gallery, has undertaken such work of restoration and repair of paintings and sculpture in the collection as has been found to be necessary.

Prior to the opening of the Gallery to the public, the work was done at Mr. Pichetto's studio in New York, and all works of art have been returned in excellent condition. Since March 17, 1941, such work has been carried on in the restorer's rooms at the Gallery.

#### CURATORIAL DEPARTMENT

The curatorial work during the first part of the year consisted in installing the National Gallery collections and completing the work on the catalog. The catalog was issued at the opening of the Gallery, and contains brief biographies of all the artists, descriptions of the works of art, and notes indicating the date or approximate date of the paintings and sculpture with such factual information as may be of interest to the student. A book of illustrations of the paintings and sculpture in the National Gallery was also issued under the supervision of the curatorial staff.

During the year 619 works of art were submitted to the acquisitions committee with recommendations as to the acceptability for

the collection of the National Gallery; 16 visits were made to private collections by various members of the staff in connection with offers of gift or loan; expert opinion on 61 works of art was given verbally to various members of the public; and 101 letters were written to persons asking for historical data or other information regarding works of art in their possession.

The curatorial staff also supervised the arrangement of temporary exhibitions held by the Gallery and assisted in the work of the Educational Department.

#### EDUCATIONAL PROGRAM

The docent staff has been organized so that there are at least two public gallery tours every day and two auditorium lectures every week. This program of instruction for the public has been found to meet a definite need. During the period from March 18 to June 30, 1941, 11,324 persons came to the Gallery as members of special groups or organizations desiring special guidance by members of the docent staff. Many of these were school and college groups, including both instructors and students, from practically every State in the Union.

Two thousand eight hundred and eighty-two individuals have been conducted through the Gallery by members of the docent staff in special gallery tours, available to the general public. Two thousand four hundred and eighty individuals have attended auditorium lectures on the collection presented twice a week by members of the docent staff, beginning April 8, 1941.

In addition, members of the docent staff have conducted private and group conferences for 288 teachers and other individuals interested in and learning about the Gallery and the collection.

#### LIBRARY

Books and catalogs to the number of 162 were presented to the Gallery; 196 publications were acquired through exchange; and 51 books were purchased.

#### PHOTOGRAPHIC DEPARTMENT

Since February 16, 1941, 6,356 prints have been made by the photographic laboratory. Many were used in connection with the opening of the Gallery on March 17, 1941. Others are on file in the library, where they are for sale and for the use of the Gallery staff. Lantern slides made for use in connection with free public lectures in the Gallery numbered 341.



## EXHIBITIONS

From May 15 to June 5, 1941, an exhibition was held in the central gallery on the ground floor, of 200 American water colors selected by John Marin, Charles Burchfield, Buk Ulreich, and Eliot O'Hara from a National Competition for the Carville, La., Marine Hospital, held by the Section of Fine Arts, Federal Works Agency, Public Buildings Administration. This was the first loan exhibition held at the Gallery and proved a popular one both with the public and with the critics.

## MEMORIAL TABLET

At the annual meeting of the Board, on February 10, 1941, the Board authorized the erection of a memorial tablet to the late Andrew W. Mellon, with an inscription in the wording appearing immediately below, under a bas-relief portrait of Mr. Mellon to be done in marble:

ANDREW WILLIAM MELLON

1855-1937

He gave the Building, with  
his Collection, for the founding  
of this National Gallery of Art.

For the whole earth is the sepulchre of  
famous men; and their story is not graven  
only on stone over their native earth, but  
lives on far away, without visible symbol,  
woven into the stuff of other men's lives.

This tablet was installed, prior to the opening of the Gallery, between the then two free standing pillars in the lobby, facing the Constitution Avenue entrance of the Gallery. The bas-relief portrait was executed by Jo Davidson. The cost of the work was contributed by The A. W. Mellon Educational and Charitable Trust.

## COMMEMORATIVE TABLET ON THE ERECTION OF THE BUILDING

Also prior to the opening of the Gallery, the Board authorized, and there was installed in the building, a bronze tablet recording the history of the erection of the building, with the names of the donor and others who rendered valuable aid toward the completion of the Gallery project.

## MEMORIAL PANELS TO BENEFACTORS OF THE NATIONAL GALLERY OF ART

At the annual meeting of the Board, held February 10, 1941, the Board set aside the four marble panels on the east and west walls

of the Constitution Avenue entrance lobby for the names of important donors to the Gallery, and arranged for the carving at the top of one of the panels the words, "Principal Benefactors of the National Gallery of Art," and beneath, the names "Andrew William Mellon" and "Samuel Henry Kress." The Board further authorized having such names carved in future as may be authorized by it. The carving authorized by the Board was completed before the opening of the Gallery.

#### AUDIT OF PRIVATE FUNDS OF THE GALLERY

An audit has been made of the private funds of the National Gallery of Art for the year ended June 30, 1941, by Price, Waterhouse & Co., a nationally known firm of public accountants, and the certificate of that company on its examination of the accounting records maintained for such funds has been submitted to the Gallery. The financial statement referred to above is attached to this report, as exhibit E (not printed).

Respectfully submitted.

F. L. BELIN, *Vice President.*

Dr. C. G. ABBOT,

*Secretary, Smithsonian Institution.*

## APPENDIX 3

### REPORT ON THE NATIONAL COLLECTION OF FINE ARTS

SIR: I have the honor to submit the following report on the activities of the National Collection of Fine Arts for the fiscal year ended June 30, 1941:

Two bequests were received, namely, \$5,000 from the Cornelia Livingston Pell Estate of New York, and \$10,000 from the Julia D. Strong Estate of Washington, D. C.

Several proffered gifts of etchings, miniatures, and paintings have been deposited here to be passed upon by the Smithsonian Art Commission in December 1941.

Eight special exhibitions were held in the foyer involving the installation of over 900 specimens. Eight special Graphic Arts exhibits were shown in the lobby because of alterations in the Smithsonian Building.

Three paintings were restored for the Comptroller of the Currency, Treasury Department: "Portrait of Charles G. Dawes," by Zorn, "Portrait of Henry W. Cannon," by T. W. Wood, and "Portrait of John Jay Knox," by Eastman Johnson.

Illustrated lectures were delivered by Mr. Tolman, the Acting Director, before the American Association of University Women on January 30, 1941, and before a group of young Italian art lovers at the Ambassador Hotel on February 19, 1941.

#### APPROPRIATIONS

For the administration of the National Collection of Fine Arts by the Smithsonian Institution, including compensation of necessary employees, purchase of books of reference and periodicals, traveling expenses, uniforms for guards, and necessary incidental expenses, \$41,715 was appropriated, of which \$32,006.84 was expended for the care and maintenance of the Freer Gallery of Art, a unit of the National Collection of Fine Arts, and \$1,585 for the salary for 11 months of one clerk in the Smithsonian Institution. The balance of \$8,123.16 was spent for the care and upkeep of the National Collection of Fine Arts, nearly all of this sum being required for the payment of salaries, traveling expenses, books, periodicals, and necessary disbursements for the care of the collection.

## THE SMITHSONIAN ART COMMISSION

The twentieth annual meeting of the Smithsonian Art Commission was held on December 3, 1940. The members met at 10:30 in the Natural History Building, where, as the advisory committee on the acceptance of works of art which had been submitted during the year, they accepted the following:

"Sunny Slopes," by Gardner Symons (1863-1930). Gift of Mrs. Louis Betts, formerly Mrs. Gardner Symons.

"Portrait of George Fuller (1822-1884)," and "Self Portrait," by William Baxter Closson (1848-1926). Gift of Mrs. William Baxter Closson.

"Portrait of Dr. William H. Holmes (1846-1933)," by Nicholas R. Brewer (1857- ). Gift of Mrs. Nicholas Webster, daughter of DeLancey Gill.

After a visit to the National Gallery of Art building, then almost completed, the members assembled in the regents' room in the Smithsonian Building for the further proceedings, the meeting being called to order by the Chairman, Mr. Borie, at 12:30.

The members present were: Charles L. Borie, Jr., chairman; Frank Jewett Mather, Jr., vice chairman; Dr. Charles G. Abbot (ex officio), secretary; and Louis Ayres, Gifford Beal, Gilmore D. Clarke, David E. Finley, James E. Fraser, Frederick P. Keppel, John E. Lodge, Paul Manship, Edward W. Redfield, and Mahonri M. Young. Ruel P. Tolman, curator of the division of graphic arts in the United States National Museum and acting director of the National Collection of Fine Arts, was also present.

The following resolutions on the death of Mr. McClellan were submitted and adopted:

Whereas, the Smithsonian Art Commission has learned of the death on November 30, 1940, of Col. George B. McClellan, a member of this Commission since 1931; therefore be it

*Resolved*, That the Commission desires to record its sincere sorrow at the loss of Mr. McClellan, who as a man and a collector had the respect of the entire Commission. His advice and suggestions were always timely and valuable, and as a friend he will be deeply missed.

*Resolved*, That these resolutions be spread upon the records of the Commission, and that the Secretary of the Commission be requested to convey this action to the family of Mr. McClellan with an expression of our deepest sympathy in their bereavement.

A set of rules for the National Portrait Gallery, prepared by Mr. McClellan, chairman of the executive committee, was submitted. Professor Mather offered an amendment to rule 3 which was accepted. By motion, the Commission adopted the entire set of rules as amended, subject to any later modifications that may be made. They read:

SUGGESTED RULES FOR THE ADMISSION OF PORTRAITS TO THE NATIONAL PORTRAIT GALLERY PREDICATED ON THOSE OF THE BRITISH NATIONAL PORTRAIT GALLERY

1. Admission of a portrait to the Gallery shall be based primarily on the celebrity of its subject rather than on its artistic merit. Such celebrity shall have been acquired from the subject's contribution to the history or development of the United States regardless of his or her opinions, words, or deeds.

2. No portrait of any living person shall be admitted to the Gallery unless such portrait is that of one of a group of persons at least a majority of whom are dead.

3. No portrait of any person dead less than 20 years shall be admitted to the Gallery except by unanimous vote by individual ballot of those present at a meeting of the Commission.

4. No gift or bequest shall be accepted or portrait purchased except by a three-fourths vote of the members present at the meeting of the Commission.

The Commission recommended to the Board of Regents the reelection of John E. Lodge, David E. Finley, Edward W. Redfield, and Paul Manship.

The following officers were reelected for the ensuing year: Charles L. Borie, Jr., chairman; Frank Jewett Mather, Jr., vice chairman, and Dr. Charles G. Abbot, secretary.

The following were elected members of the executive committee for the ensuing year: Herbert Adams, Gilmore D. Clarke, John E. Lodge. Charles L. Borie, Jr., as chairman of the Commission, and Dr. Charles G. Abbot, as secretary of the Commission, are ex-officio members of the executive committee.

The chairman stated that as the competition for the plans for the Smithsonian Gallery of Art had come to an end and no funds had been obtained for further work on the project, there was nothing to report.

Mr. Clarke and the Secretary also addressed the Commission in regard to the activities connected with the recent competition for the plans for the Gallery, but no action was taken, although the members expressed the feeling that the Commission was ready to take active steps whenever funds were available to advance the project.

THE CATHERINE WALDEN MYER FUND

Three miniatures were acquired from the fund established through the bequest of the late Catherine Walden Myer, as follows:

22. "Portrait of a Young Man," by Moses B. Russell; from Miss Alice G. Rogers, Old Lyme, Conn.

23. "Le Chevalier Ed. van Cockerberghe de Dulzele of Belgium," by an unknown artist; from Samuel M. Crockett, Lynn, Mass.

24. "Antoinette Bates," by Thomas Sully; from Mrs. Eva Wilson Chadbourne, Washington, D. C.

## LOANS ACCEPTED

Two oil paintings, "My Mother" and "The Dawn," by E. Hodgson Smart, were lent by the artist.

Three pastels, "The Cliffs Aflame," "Portrait (Patsy)," and "Sunshine and Pine Needles," and seven oil paintings, "Looking Far Out," "The Woodland Way," "The Butterfly Dance," "Joyous Childhood," "The Red Barn," "Peonies," and "Springtime," by William Baxter Closson, were lent by the artist's widow.

## LOANS TO OTHER MUSEUMS AND ORGANIZATIONS

The following five paintings were lent to the Carnegie Institute, Pittsburgh, Pa., for a Survey of American Painting from October 24 through December 15, 1940: "Sunset, Navarro Ridge, California Coast," by Ralph A. Blakelock; "Cliffs of the Upper Colorado River, Wyoming Territory," by Thomas Moran; "Moonlight," by Albert P. Ryder; "Fired On," by Frederic Remington, and "Visit of Nicodemus to Christ," by John La Farge. (Returned January 7, 1941.)

Two paintings, "The Cup of Death," by Elihu Vedder, and "Christ Before Pilate," by Walter Beck, were lent to the Howard University Gallery of Art, Washington, D. C., to be included in an exhibition of Christian Art in connection with the twenty-fourth annual convocation of the School of Religion from November 12 to December 23, 1940. (Returned January 9, 1941.)

One painting, "Sheepyard—Moonlight," by Horatio Walker, was lent to The Art Gallery of Toronto, Canada, for an exhibition of two Canadian painters, Horatio Walker and Tom Thomson. The painting was also shown in the National Gallery of Canada at Ottawa and the Art Association at Montreal. (Returned April 28, 1941.)

## WITHDRAWALS BY OWNERS

Two portraits in pastel, by James Sharples (c.1751–1811), of Gen. James Miles Hughes (1756–1802), original member of the Society of the Cincinnati, and Mrs. James Miles Hughes, his wife, were withdrawn by the owner, Mme. Florian Vurpillot, on November 5, 1940.

Marble bust of Samuel Gompers (1850–1924), by Moses W. Dykaar (1884–1933), was withdrawn by the owner, The American Federation of Labor, to be exhibited at the Department of Labor, on November 15, 1940.

An oil painting, "My Mother," by E. Hodgson Smart, was withdrawn by the owner, Mr. Smart, on November 30, 1940.

A pastel, "Sunshine and Pine Needles," by William Baxter Closson (1848–1926), was withdrawn by the owner, Mrs. William Baxter

Closson, and presented to Mr. and Mrs. H. D. Drake, Washington, D. C., on May 5, 1941.

An oil painting, "The Butterfly Dance," by William Baxter Closson (1848-1926), was withdrawn by the owner, Mrs. William Baxter Closson, and presented to Miss Elizabeth Peet, Washington, D. C., on May 5, 1941.

#### LOANS RETURNED

An oil painting, "Portrait of Mary Hopkinson (wife of Dr. John Morgan)," by Benjamin West, lent to the Masterpieces of Art Exhibition at the New York World's Fair, 1940, was returned September 17, 1940.

A bronze statue of Lincoln, by Augustus Saint Gaudens, lent with the consent of the owners, the estate of Mrs. John Hay, to the New York World's Fair for exhibition in the Illinois Building, was returned November 14, 1940.

#### THE NATIONAL COLLECTION OF FINE ARTS REFERENCE LIBRARY

A total of 180 publications, including 146 acquired by purchase and 5 by transfer, were accessioned during the year.

#### THE HENRY WARD RANGER FUND

The following two paintings, purchased by the council of the National Academy of Design from the fund provided by the Henry Ward Ranger bequest, were recalled for action on the part of the Smithsonian Art Commission, in accordance with the provision in the Ranger bequest. The Smithsonian Art Commission decided not to accept the paintings and they were returned to become the absolute property of the museums to which they were originally assigned.

"The Offering," by Charles W. Hawthorne, N. A. (1872-1930), assigned to the Cleveland Museum of Art, Cleveland, Ohio, June 12, 1931.

"Gleam on Hilltops," by Gardner Symons, N. A. (1863-1930), assigned to the Montclair Art Association, Montclair, N. J., June 2, 1922.

#### SPECIAL EXHIBITIONS

The following exhibitions were held:

*October 8 to 25, 1940.*—Special exhibition of 48 pastels, drawings, and lithographs by Lily E. Smulders.

*November 1 to 24, 1940.*—The Sixth Annual Metropolitan State Art Contest, 1940, under the auspices of the Department of Fine Arts of the District of Columbia Federation of Women's Clubs. There were 289 exhibits consisting of paintings, sculpture, and prints by 158 artists.

*December 1, 1940, to January 1, 1941.*—Special exhibition of the work of William Baxter Closson (1848-1926) consisting of 94 oils,

40 pastels, 21 water colors, 112 wood engravings, intaglio and relief prints by the Closson method with tools and necessary materials, and also medals which had been awarded to him.

*January 8 to 29, 1941.*—Special exhibition by the National Society of Pastelists. There were 111 pastels by 17 artists.

*February 1 to 26, 1941.*—Special exhibition of 22 water colors and 21 pastels by Ethel H. Hagen.

*May 15 to 19, 1941.*—Special exhibition of 42 paintings by Alejandro Pardinás under the patronage of His Excellency the Cuban Ambassador.

*June 2 to 15, 1941.*—Special exhibition of 39 caricatures by Antonio Sotomayor under the patronage of His Excellency the Bolivian Minister.

*June 3 to 30, 1941.*—Special memorial exhibition of 17 color prints and 50 black and white prints by Bertha E. Jaques (1863–1941).

#### PUBLICATIONS

TOLMAN, R. P. Report on the National Collection of Fine Arts for the year ended June 30, 1940. Appendix 3, Report of the Secretary of the Smithsonian Institution for the year ended June 30, 1940, pp. 38–42.

CATALOG of American and European paintings in the Gellatly Collection, 20 pp., 11 pls. 1940.

LODGE, J. E. Report on the Freer Gallery of Art for the year ended June 30, 1940. Appendix 4, Report of the Secretary of the Smithsonian Institution for the year ended June 30, 1940, pp. 43–48.

Respectfully submitted.

R. P. TOLMAN, *Acting Director.*

DR. C. G. ABBOT,

*Secretary, Smithsonian Institution.*



## APPENDIX 4

### REPORT ON THE FREER GALLERY OF ART

SIR: I have the honor to submit the twenty-first annual report on the Freer Gallery of Art for the year ended June 30, 1941.

#### THE COLLECTIONS

Additions to the collections by purchase are as follows:

##### BRONZE

- 40.11. a-b. Chinese, late Shang dynasty, twelfth century B. C. A ceremonial covered vessel of the type *yu*. Outside, fairly even patination in shades of gray-green with flecks of cuprite; inside, cuprite, azurite, and malachite with areas of original metal; little incrustation; cast inscription of one character. 0.361 x 0.269 over all.
- 40.23. Chinese, late Chou dynasty, sixth-third century B. C. A quadruped, its surface almost entirely covered with linear and countersunk naturalistic and decorative designs. Smooth, gray-green patina with scattered incrustations of green and blue. Vent in the belly. 0.115 x 0.182 over all. (Illustrated.)
- 41.1. Chinese, late Chou dynasty, fourth century B. C., or earlier. From Chang-sha. A mirror, patinated in shades of gray with slight incrustations of malachite and rust on the obverse; five long-necked birds in linear relief against a background of curl and feather design on the reverse. Diameter: 0.164. (Illustrated.)
- 41.6. a-b. Chinese, late Chou dynasty, fifth-fourth century B. C. A garment hook. Sheathed with silver, gilded and ornamented with inlaid turquoise and other stones; engraved designs showing the silver on the back; malachite incrustations. Carved wood stand. Length: 0.221.
- 41.8. Chinese, Shang dynasty, fourteenth-twelfth century B. C. A ceremonial vessel of the type *tui* (or *chiu*). Gray-green patination with scattered spots of green inside and out; malachite and azurite incrustations on the bottom. Cast inscription of two characters. 0.140 x 0.211 over all.

##### JADE

- 41.3. Chinese, early Chou dynasty or earlier, twelfth century B. C. A ceremonial blade of mottled gray-green and gray-white nephrite. 0.266 x 0.103 over all.

## JADE AND BRONZE

- 41.4. Chinese, Shang dynasty, twelfth century B. C. A ceremonial implement: the blade of mottled gray-brown and white nephrite mounted in bronze closely inlaid with turquoise; socket for vertical shafting; scattered malachite incrustations. Length: 0.213.
- 41.5. Chinese, Shang dynasty, twelfth century B. C. A ceremonial weapon of the type *ko*: the blade of mottled white nephrite, the tang of bronze ornamented with turquoise inlay; malachite incrustations. 0.418 x 0.223 over all.

## MANUSCRIPTS

- 40.16. Arabic (Persia), thirteenth-fourteenth century. A book bound in tooled brown leather (repaired): *Juz' XVII* of the *Qur'ān*. Text in *thulth* script on 144 paper leaves, three lines to a page, with interlinear Persian translation in *naskhī* script. Illuminated pages, chapter headings and marginal ornaments. 0.277 x 0.178 (single leaf). (Illustrated.)
- 40.19. Arabic (Persia?), fourteenth century. An illuminated frontispiece from an unidentified book. *Naskhī* script in white on a gold ground; floral scrolls in gold on dark blue and light green; gold borders. Paper: 0.393 x 0.290; illumination: 0.276 x 0.214.

## PAINTING

- 40.17. Indian, Mughal-Rājput, seventeenth century. A woman standing. In color and gold on paper. 0.127 x 0.063.
- 40.21. Indian, Rājput (Deccan), early seventeenth century. A woman receiving travelers at the door of a house. In opaque color (somewhat worn) on paper. 0.122 x 0.222.
- 40.12-40.13. Persian, Mongol (Īl-Khān) period, early fourteenth century. Two additional illustrations belonging to our *Shāhnāmāh* ms. 30.1, painted in colors, silver (darkened), black and gold on paper.
- .12. Siyāwush attended by Rustam receiving the homage of Garsīwaz. 0.095 x 0.115.
- .13. Bizhan in bonds before Afrāsiyāb. 0.092 x 0.115.
- 40.14-40.15. Persian, Mongol (Īl-Khān) period, early 14th century. Two illustrations from a *Shāhnāmāh*, painted in colors, gold and black on paper.
- .14. Pirān presents young Khusraw to Afrāsiyāb. 0.044 x 0.083.
- .15. Prisoners of war brought before Shāh Kāwūs. 0.055 x 0.121.
- 40.18. Persian, sixteenth-seventeenth century. A group of dervishes. Line drawing in black, red, and blue inks; lightly tinted. 0.163 x 0.100.
- 40.20. Persian, Timurid, fifteenth century. An illustration on a leaf from a *Shāhnāmāh*: Shāh Kāwūs and Kai Khusraw approach the sacred fire. Painted in colors and gold on paper. 0.095 x 0.160.

## PORCELAIN AND POTTERY

- 41.2. Chinese, K'ang Hsi period, seventeenth-eighteenth century. A porcelain flask, covered with a luminous, pale green glaze. Date mark in blue enamel under the foot. Height, 0.210.



40.22



40.16



**41.1**



**40.23**

- 41.7. Chinese, Sung dynasty. Incense burner. Soft paste pottery covered with a glossy, celadon blue glaze. 0.095 x 0.110 over all.
- 40.22. Persian, Kāshān, early fourteenth century. Bowl, of a soft sandy body; the decoration painted in gold luster on a white ground. 0.083 x 0.200. (Illustrated.)

The work of the curatorial staff has been devoted to the study and recording of the new acquisitions listed above, and to other Arabic, Armenian, Chinese, East Indian, Japanese, Persian, and Syrian art objects and manuscripts either already in the collection or submitted for purchase. Other Chinese, Japanese, Arabic, Persian, European, and American objects were sent or brought to the Director by their owners for information as to identity, provenance, quality, date, or inscriptions. In all, 693 objects and 180 photographs of objects were so submitted, and written or oral reports upon them were made to the institutions or private owners requesting this service. Written translations of 24 inscriptions in oriental languages were made upon request, several bibliographies compiled, articles and reviews written, and several Gallery publications revised.

Eighty-four changes were made in exhibition as follows:

Chinese bronze and jade-----	1
Chinese jade-----	44
Chinese marble-----	1
Chinese painting-----	8
Chinese pottery-----	30

Repairs, etc., to the collection were as follows:

American painting-----	1
Chinese panel painting-----	5
Chinese scroll painting-----	6
Persian pottery-----	2
Maps, blueprints mounted-----	13

#### ATTENDANCE

The Gallery has been open to the public every day from 9 until 4:30 o'clock, with the exception of Mondays, Christmas Day, and New Year's Day.

The total attendance of visitors coming in at the main entrance was 111,656. One hundred and twenty-eight other visitors on Mondays make the grand total 111,784. The total attendance for week days, exclusive of Mondays, was 79,246; Sundays 32,410. The average week-day attendance was 305; the average Sunday attendance, 623. The highest monthly attendance was, as usual, in April, with 14,280 visitors; the lowest in January, with 5,901.

There were 1,369 visitors to the main office during the year. The purposes of their visits were as follows:

For general information.....	186
To see objects in storage.....	370
Far Eastern paintings.....	50
Near Eastern paintings and manuscripts.....	19
East Indian paintings and manuscripts.....	3
American paintings.....	60
Whistler prints.....	7
American pottery.....	5
Oriental pottery, jade, bronzes, and sculpture.....	133
Syrian, Arabic, and Egyptian glass.....	11
Byzantine objects.....	4
<i>Washington Manuscripts</i> .....	78
To read in the library.....	172
To make tracings and sketches from library books.....	6
To see the building and installation.....	3
To obtain permission to photograph or sketch.....	32
To submit objects for examination.....	173
To see members of the staff.....	376
To see the exhibition galleries on Mondays.....	49
To examine or purchase photographs.....	292

#### LECTURES AND DOCENT SERVICE

A 6 weeks' lecture course in Chinese and Japanese art was given by A. G. Wenley in the Far Eastern Institute held at the Harvard University Summer School of 1940 under the auspices of the American Council of Learned Societies.

At the Freer Gallery 6 illustrated lectures were given in the auditorium (total attendance, 98); 6 study groups were held in a study room (total attendance, 80); and 10 groups were given docent service in exhibition galleries (total attendance, 269). The total number of persons receiving instruction at their own request was 447.

#### PERSONNEL

February 13, 1941, William R. B. Acker returned from Holland, having taken his Ph. D. *cum laude* in Chinese at the University of Leyden.

September 3, 1940, Oliver W. Puckett reported for duty as watchman.

June 30, 1941, David H. Zirkle, watchman, who had been at the Gallery for 16 years, was retired with a record of the most faithful and efficient service.

October 10, 1940–June 18, 1941, Grace T. Whitney worked intermittently at the Gallery on the translation of Persian texts.

October 12, 1940, Elizabeth Hill, librarian, was married to Wilson R. Maltby, a physicist in the Naval Ordnance Laboratory at the U. S. Navy Yard.

Respectfully submitted.

J. E. LODGE, *Director.*

DR. C. G. ABBOT,

*Secretary, Smithsonian Institution.*

## APPENDIX 5

### REPORT ON THE BUREAU OF AMERICAN ETHNOLOGY

SIR: I have the honor to submit the following report on the field researches, office work, and other operations of the Bureau of American Ethnology during the fiscal year ended June 30, 1941, conducted in accordance with the act of Congress of April 18, 1940, which provides “\* \* \* for continuing ethnological researches among the American Indians and the natives of Hawaii and the excavation and preservation of archeologic remains. \* \* \*”

#### SYSTEMATIC RESEARCHES

M. W. Stirling, Chief of the Bureau, left Washington on December 29 to continue his archeological excavations in southern Mexico. Intensive excavations were begun at the site of Cerro de las Mesas on the Rio Blanco in the state of Veracruz, this site having been visited the preceding season. In addition, another expedition was made to the site of Izapa in the southwestern part of the state of Chiapas. As in the 2 preceding years, the work was undertaken in cooperation with the National Geographic Society. Dr. Philip Drucker again accompanied Mr. Stirling as assistant archeologist.

At Cerro de las Mesas 20 carved stone monuments were unearthed and photographed, several mounds were cross-sectioned, and a number of stratigraphic trenches dug on various sections of the site. The stratigraphic work proved unusually successful and extends the cultural column for this part of Veracruz to a much later date than did the excavations at Tres Zapotes. Two initial series dates were deciphered at Cerro de las Mesas, one being in the 1st katun, the other in the 4th katun, of baktun 9. Another stone monument at this site was of considerable interest because of its similarity to the famous Tuxtla statuette. Large quantities of jade were found including one cache containing 782 specimens.

At Izapa a large number of stelae, most of them with altars, were excavated and photographed. This site is important because of its location, which makes it an interesting link between the west coast of Guatemala and the isthmian region of southern Mexico.

At the conclusion of the work at Cerro de las Mesas at the end of April, the collections were brought to Mexico City where Dr. Drucker remained to work with them.



During the year Dr. John R. Swanton, ethnologist, employed most of his time in completing an extensive report on the Indians of the Southeast, upon which work had been done during several past years, and which covers about 1,500 typewritten pages. This is now ready for final copy and editing.

The bulletin entitled "Source Material on the Ethnology and History of the Caddo Indians," upon which he was at work last year is now in galley proof. It will cover about 350 printed pages. A brief contribution by Dr. Swanton entitled "The Quipu and Peruvian Civilization" has been accepted for publication in a forthcoming bulletin of anthropological papers and is now in the hands of the printer.

Early in the year the bulletin prepared by Dr. Swanton entitled "Linguistic Material from the Tribes of Southern Texas and North-eastern Mexico," was completed and distributed. It contains all of the fragments of the Coahuiltecan, Karankawan, and Tamaulipecan tongues known to be in existence, and covers 145 pages.

Considerable time has also been devoted by Dr. Swanton to answering letters, including particularly extension of advice regarding the placing of markers along the route pursued by Hernando de Soto and work for the United States Board on Geographical Names.

At the beginning of the fiscal year Dr. John P. Harrington, ethnologist, was engaged in working over Navaho materials and those of the closely related Tlingit language of Alaska. Recent field studies had proved that something like 200 words of Navaho and Tlingit are almost the same despite the 2,000-mile separation of the two languages. Sometimes the same word was found to be applied to two very different organisms; for instance, what is crab apple in the north is cactus in the south (spininess being the trait which these two plants evidently have in common), and jack pine in the north was found to be juniper in the south.

Tlingit was copiously recorded in southeastern Alaska, and the Ugalenz language, related to the Tlingit and to the Navaho, was discovered and studied. The Ugalenz formerly occupied 350 miles of southeastern Alaska coast, from Prince William Sound in the west to Latuya Bay in the east.

The origin of the name Sitka, the old Russian capital of Alaska, was discovered. The name means "On the oceanward side of Baranov Island." Shee is the name of Baranov Island, and Sitka is situated on its oceanward side.

Leaving in August for Gallup, N. Mex., Dr. Harrington worked on many parts of the Navaho Reservation, finding a surprising uniformity in dialect. This uniformity must have arisen from a jumbling together of earlier Navaho dialects when the Navahos were in

captivity in eastern New Mexico in 1867 and 1868. During this captivity, dialects were evidently jostled together, and resettlement by the United States Government further dislocated them.

Field work during the latter part of the summer was done with more than 10 of the leading Navaho interpreters. In a tribe of more than 45,000 population, there are many educated speakers, including university graduates, and with them were explored special features of the language which could not have been obtained from the tongues of poor and uneducated tribes without much greater expenditure of time.

The Navaho language was found to have only 4 vowels and 34 consonants, making it a true consonantal language. The sounds of Navaho were found to be almost identical with those of the other languages of the Southwest, for instance, with those of the neighboring Tewa language. Also many words were found to be the same as in Tewa. Navaho was found to have, for practical purposes, a high and a low tone, and a falling and rising tone only on long vowels and diphthongs. One of the most peculiar developments to be found in any language is the hardening in Navaho of almost any consonant by placing a sound of German *ch* after it if it is voiceless, and of open *g* (*gh*) after it if it is voiced. There are also traces of a hardening of *l* to *n*, and the like.

Returning to Washington late in the fall, Dr. Harrington continued his study of the Navaho, until it now constitutes a finished manuscript of more than 1,200 pages. Throughout the work there has been a constant revelation that Navaho and related languages are not as unlike other American Indian languages as has been thought by early vocabulary makers and classifiers.

At the beginning of the fiscal year, July 1, 1940, Dr. Frank H. H. Roberts, Jr., was engaged in a continuation of excavations at the Lindenmeier site, a former Folsom camping ground, in northern Colorado. From August 1 to 31 he was on leave and during that period, in accord with the Smithsonian Institution's policy of cooperation with other scientific organizations, directed the excavation program of the advanced students at the University of New Mexico's Chaco Canyon Research Station.

From Chaco Canyon, N. Mex., Dr. Roberts went to Boulder City, Nev., to inspect a large cave located in the lower end of the Grand Canyon of the Colorado River at the upper reaches of Lake Mead. The trip to the cave was made by motorboat from Pierce's Ferry in company with officials of the National Park Service's Boulder Dam Recreational Area. Rampart Cave is situated in the south wall of the canyon at the top of a steep talus 600 feet above the present water level. It is of unusual interest because of its extensive deposits of

sloth remains and of the bones from large creatures that preyed on the sloth, and the possibility that it may provide evidence of human contemporaneity with such extinct animal forms in that area. Plans and methods for a program of excavation were discussed and various suggestions were made concerning the advisability of providing an exhibit in situ for visitors to the Boulder Dam Recreational Area.

From Boulder Dam, Dr. Roberts returned to the Lindenmeier site where he continued his investigations until the end of September when the project was brought to a close. During the six seasons of intensive exploration of this Folsom site and the adjacent area much new and valuable information on the subject of early occupation of North America was obtained. From the large series of specimens collected it will be possible to draw comprehensive conclusions relative to the material culture and economic status of the aboriginal peoples inhabiting that portion of the country during the closing days of the last Ice Age, and in general to broaden the knowledge on early stages in New World history.

Dr. Roberts returned to Washington in October. He spent the autumn and winter months working on the material from the Lindenmeier site, preparing the manuscript for his report on the investigations there, in writing short articles for publication in various scientific journals, in identifying numerous archeological specimens sent in from all parts of the country by interested amateurs, and in furnishing information on many phases of New World archeology. Plans and preparations were made for an expedition to the Coclé region in the province of Penonome, Panama, but, because of the last-minute development of an insuperable combination of adverse circumstances, the proposed investigations had to be abandoned.

On May 15, 1941, Dr. Roberts went to Bedford, Va., to initiate excavations at the Mons site near the Peaks of Otter where the late D. I. Bushnell, Jr., had found artifacts suggestive of a much earlier aboriginal occupation of the area than previously had been supposed. Construction work on the Blue Ridge Parkway had destroyed much of the site, but a series of test trenches dug in various undisturbed remnants established the fact that it had once been an Indian camping place, possibly a village site of late protohistoric times. However, there was no evidence of its having been used by older groups comparable to the early hunting peoples of the western plains.

On the completion of the work at the Mons site, Dr. Roberts returned to Washington and on June 11 left for San Jon, N. Mex. Camp was established on the rim of the Staked Plains 10½ miles south of that town and excavations were started at a site where material suggestive of another phase of early man in North America, the so-called Yuma, has been found. The location is in a shallow basin that appears to

have been an old, filled-in lake bed. Heavy erosion in recent years started a series of ravines and gullies and exposed extensive deposits of bones. Stone implements found near some of these outcroppings indicate the possibility that many of the creatures were killed by aboriginal hunters and that an association of man-made objects and bones from extinct species of animals can be established. Bison, camel, and mammoth bones, as well as those from smaller and as yet unidentified mammals, occur in the site. Material in the fill in the old lake bed probably can be correlated with other geologic phenomena of established age. Hence, the determination of contemporaneity between the artifacts, animal remains, and lake deposits would constitute an important addition to the evidence on early occupation in the New World. There is also a possibility that the site may contribute information on the subject of relationships between some of the different older cultural remains. At the close of the fiscal year Dr. Roberts and his party were well started on the problem of the San Jon site.

The beginning of the fiscal year found Dr. Julian H. Steward, anthropologist, in British Columbia completing researches on aboriginal Carrier Indian ethnography and on ecological aspects of recent changes in Carrier socio-economic culture at Fort St. James and neighboring villages. While here a collection was made of more than 100 Carrier specimens of material culture, and of more than 50 ethnobotanical specimens. At this time several pit-lodge sites were examined. From here Dr. Steward proceeded to Alaska, and then by plane from Ketchikan to an island off the coast where he investigated a burial site reported by Commander F. A. Zeusler, of the Coast Guard, and Ranger Lloyd Bransford, of the United States Forest Service. Accompanied by the latter, he procured specimens of several skeletons, fragments of carved burial boxes and other materials, and a mummified body in excellent preservation. The body was dressed in buckskin, wrapped in a cedar mat, and deposited in a cedar box. All specimens were brought back by plane to Ketchikan and shipped to the Smithsonian Institution. From Alaska Dr. Steward went to Berkeley, Calif., to hold consultations on the Handbook of South American Indians, which is being prepared for the Smithsonian Institution. From there he proceeded to Albuquerque and Chaco Canyon, N. Mex., for further consultations and to attend the Coronado Quatrocentennial and the Chaco conference, finally arriving in Washington late in August.

The remainder of the year was devoted mainly to editorial and organizational work on the Handbook of South American Indians, and work on the project was actually initiated, \$6,000 having been made available for this purpose by special appropriation for cooperation with the American republics through the Department of State's Inter-

departmental Committee. The collaboration of 33 contributors, each a specialist in some phase of South American anthropology, was arranged. Work accomplished during the year included completion of manuscripts by Dr. Robert H. Lowie and Dr. Alfred Métraux totaling more than 150,000 words; completion of a new base map drawn from the American Geographical Society's 1:1,000,000 sheets, and of four new maps showing respectively the vegetation, climates, physical features, and topography of South America; compilation of a preliminary bibliography of nearly 2,000 items; substantial progress on many other manuscripts; and integration of the Handbook plan with research activities of many other institutions in different countries. Arrangement was made to engage the services of Dr. Métraux on full-time basis as assistant editor in the fiscal year 1941-42. The services of a secretary were had for the Handbook during three months of 1941.

During the fall Dr. Steward acted as chairman of the Program Committee of the American Anthropological Association, arranging the program for the Christmas meetings in Philadelphia. He also served on the Committee on Latin American Anthropology of the National Research Council and accepted membership on the Scientific Advisory Committee of the Pan American Trade Committee.

The following scientific papers were published: Archeological Reconnaissance of Southern Utah, *Bur. Amer. Ethnol. Bull.* 128, pp. 275-356; Nevada Shoshone, in *Univ. California Culture Element Distributions*; several short papers on the Carrier Indians; a description of the Handbook of South American Indians for the *Boletín Bibliográfico de Antropología Americana*. An article was prepared for *American Antiquity* on The Direct Historic Approach to Archeology.

During the fiscal year Dr. Henry B. Collins, Jr., ethnologist, continued with the study and description of archeological collections from prehistoric and protohistoric Eskimo village sites in the vicinity of Bering Strait. Material was also assembled for a paper on the origin and antiquity of the Eskimo race and culture in relation to the larger question of the original entry of man into America.

At the request of the Peabody Museum of American Archaeology and Ethnology of Harvard University, Dr. Collins made two trips to Cambridge to assist in the identification and selection of materials for the new Eskimo exhibit being planned by Donald Scott director of the Museum, and his assistant, Frederick G. Pleasants.

Dr. Collins also served as collaborator and technical adviser for Erpi Classroom Films, Inc., in connection with production of a motion-picture record of Eskimo life on Nunivak Island, Alaska, to be made by Amos Burg, explorer and photographer. The film, designed for use in the elementary schools, will provide an authentic picture of the daily life and activities of the Nunivagmiut, who have retained more

of their native culture than any other coastal-group Eskimo in Alaska.

During July 1940 Dr. William N. Fenton, associate anthropologist, was engaged in field work among the Senecas of Allegany Reservation, N. Y. While here he delivered the St. Lawrence University series of lectures at the Allegany School of Natural History. The lectures on the Iroquoian Peoples of the Northeast covered prehistoric cultures of the area, the adjustment of the Iroquois to their environment, their society and government, and their religious system. At the Six Nations Reserve on Grand River, Ontario, Canada, August 9 to September 1, the yearly cycle of ceremonies that are currently celebrated at the Onondaga Longhouse were outlined by Simeon Gibson and the principal speeches that constitute the bulk of the annual Midwinter Festival were taken in Onondaga text and translated. This study is an extension of previous investigations of Seneca ceremonies which Dr. Fenton has published, and it adds new material on the nature of village bands and their removals, the function of moieties, the nature of residence after marriage, and the sororate which was practiced, at least by the Lower Cayugas. Further assistance was rendered by Deputy Chief Hardy Gibson with Hewitt's manuscript on the Requickening Address for installing chiefs in the Iroquois League, which Dr. Fenton is editing for publication.

Returning from the field September 15 with 300 photographic negatives, largely of masks studied at museums in New York and Ontario together with a series of their manufacture and use in Iroquois fraternities, much time elapsed assembling pictures and notes and arranging them for study.

A special paper on The Place of the Iroquois in the Prehistory of America was presented before the Anthropological Society of Washington; and Dr. Fenton also served as technical adviser for An Indian League of Nations, which was broadcast October 27 on "The World is Yours" radio program.

Work on two new research projects aimed at clearing up problems previously outlined was begun during the year. While serving as consultant to the Pennsylvania Historical Commission on archeological matters, Dr. Fenton contacted local historians who are collaborating in special phases of a study of Cornplanter's Senecas on the upper Allegheny River; and it is planned to publish their findings together with Quaker Mission Journals from 1798 which describe Indian life and events attending Handsome Lake's revelations. In quest of original sources, Dr. Fenton searched the Records of the Yearly Meeting of Friends of Philadelphia, and visited the libraries of Haverford and Swarthmore Colleges. In this project he has had the active help of M. E. Deardorff of Warren, Pa., and C. E.

Congdon of Salamanca, N. Y., who have located and transcribed other documentary sources.

Iroquois music has long deserved serious study, and with the development of modern electric sound-recording apparatus, record making in the field has become practicable. When the Division of Music in the Library of Congress furnished the necessary blanks and apparatus for Dr. Fenton's trip to the Six Nations Midwinter Festival, January 10 to February 17, 1941, Dr. Fenton undertook the task of making the recordings, first at Ohsweken, Ontario, and later at Quaker Ridge, N. Y. Sixty-two double-face records were made of samples of social and religious dance songs, and complete runs of several shamanistic song cycles and the Adoption Rite of the Tutelo were taken. Informants gave complete texts for all the recordings, and these, as rewritten after returning to Washington, should prove helpful to the transcriber. For this purpose the Recording Laboratory is furnishing a duplicate set. Because musicologists have expressed interest in the recordings, several were selected for a proposed Album of Iroquois Music, which the Library contemplates publishing; and in return for the fine cooperation of the Recording Laboratory and the Division of Music, Dr. Fenton delivered a lecture, *Music in Iroquois Religion and Society*, illustrated with slides and records, as the first of a series by the Archive of American Folk-song. It was repeated for the Society of Pennsylvania Archaeology at its annual meeting.

In addition a series of brief informal excursions were made to Allegany regarding place names and to explore the area that may be flooded by the proposed Allegheny Reservoir, and to Tonawanda to collect song texts of the Medicine Society.

Besides a number of book reviews in scientific and historical journals, Dr. Fenton published two papers in *Bureau of American Ethnology Bulletin* 128—Iroquois Suicide: A Study in the Stability of a Culture Pattern, and Tonawanda Longhouse Ceremonies: Ninety Years After Lewis Henry Morgan—and an article, *Museum and Field Studies of Iroquois Masks and Ritualism*, which appeared in the *Explorations and Field-work of the Smithsonian Institution* in 1940. Dr. Fenton prepared for publication in the *Annual Report of the Smithsonian Institution* for 1940, a paper entitled "Masked Medicine Societies of the Iroquois."

#### SPECIAL RESEARCHES

Miss Frances Densmore, a collaborator of the Bureau, continued her study of Indian music by collecting additional songs, transcribing these and songs previously recorded, and preparing material for publication. In August 1940 a trip was made to Wisconsin Dells, Wis.,

to interview a group of visiting Zuñi Indians. Songs were obtained from Falling Star, an Indian born in Zuñi, who had lived in the pueblo most of his life and taken part in the dances. His father also was a singer and dancer. Falling Star recorded 17 songs, 15 of which were transcribed and submitted to the Bureau. These are chiefly songs of lay-participants in the Rain Dance and the songs connected with grinding corn for household use.

Additional data on the peyote cult among the Winnebago were obtained from a former informant and incorporated in the manuscript on that tribe.

In October Miss Densmore went to Washington for consultation on manuscripts awaiting publication. During the winter she transcribed records of 71 Seminole songs, completing the transcriptions of recordings made in that tribe during the seasons of 1931, 1932, and 1933. It is expected that the book on Seminole music, containing 245 songs, will be completed in the near future.

A paper on A Search for Songs Among the Chitimacha Indians in Louisiana, submitted in 1933, was rewritten, amplified, and prepared for publication. The Chitimacha is the only tribe visited by Miss Densmore in which all the songs have been forgotten. Musical customs were remembered, and several legends were related in which songs were formerly sung.

In May 1941 Miss Densmore read a paper on The Native Art of the Chippewa before the Central States Branch of the American Anthropological Association at the annual meeting held in Minneapolis.

At the close of the fiscal year Miss Densmore was in Nebraska, her special interest being a search for songs that were recorded phonographically by Miss Alice C. Fletcher in the decade prior to 1893 and published in that year by the Peabody Museum of American Archaeology and Ethnology. If Indians can be found who remember these songs, they will be recorded again. A comparison of the two recordings will show the degree of accuracy with which the songs have been transmitted, and will be important to the subject of Indian music.

The entire collection of recordings of Indian songs submitted to the Bureau by Miss Densmore has been transferred to the National Archives for permanent preservation. These recordings were made and submitted during the period from 1907 to 1940, all having been cataloged and transcribed in musical notation. Many hundreds of other recordings have been made, studied, and retained by Miss Densmore but not transcribed. Recordings submitted after 1940



have been cataloged in sequence with the former collection. Thirty-five tribes are represented in the collection of 2,237 recordings, in addition to a group of songs recorded in British Columbia in which the tribes are not designated.

#### EDITORIAL WORK AND PUBLICATIONS

The editorial work of the Bureau has continued during the year under the immediate direction of the editor, M. Helen Palmer. There were issued three bulletins, as follows:

Bulletin 126. Archeological remains in the Whitewater District, eastern Arizona. Part II. Artifacts and burials, by Frank H. H. Roberts, Jr. With appendix, Skeletal remains from the Whitewater District, eastern Arizona, by T. D. Stewart. xi+170 pp., 57 pls., 44 figs.

Bulletin 127. Linguistic material from the tribes of southern Texas and northeastern Mexico, by John R. Swanton. v+145 pp.

Bulletin 128. Anthropological papers, numbers 13-18. xii+368 pp., 52 pls., 77 figs.:

- No. 13 The mining of gems and ornamental stones by American Indians, by Sydney H. Ball.
- No. 14. Iroquois suicide: A study in the stability of a culture pattern, by William N. Fenton.
- No. 15. Tonawanda Longhouse ceremonies: Ninety years after Lewis Henry Morgan, by William N. Fenton.
- No. 16. The Quichua-speaking Indians of the Province of Imbabura (Ecuador) and their anthropometric relations with the living populations of the Andean area, by John Gillin.
- No. 17. Art processes in birchbark of the River Desert Algonquin, a circum-boreal trait, by Frank G. Speck.
- No. 18. Archeological reconnaissance of southern Utah, by Julian H. Steward.

The following bulletins were in press at the close of the fiscal year:

Bulletin 129. An archeological survey of Pickwick Basin in the adjacent portions of the States of Alabama, Mississippi, and Tennessee, by William S. Webb and David L. De Jarnette. With additions by Walter P. Jones, J. P. E. Morrison, Marshall T. Newman and Charles E. Snow, and William G. Haag.

Bulletin 130. Archeological investigations at Buena Vista Lake, Kern County, California, by Waldo L. Wedel. With appendix, Skeletal remains from Buena Vista sites, California, by T. Dale Stewart.

Bulletin 131. Peachtree Mound and village site, Cherokee County, North Carolina, by Frank M. Setzler and Jesse D. Jennings. With appendix, Skeletal remains from the Peachtree Site, North Carolina, by T. Dale Stewart.

Bulletin 132. Source material on the history and ethnology of the Caddo Indians, by John R. Swanton.

Bulletin 133. Anthropological papers, numbers 19-26:

- No. 19. A search for songs among the Chitimacha Indians in Louisiana, by Frances Densmore.
- No. 20. Archeological survey on the northern Northwest Coast, by Philip Drucker.

- No. 21. Some notes on a few sites in Beaufort County, South Carolina, by Regina Flannery.
- No. 22. An analysis and interpretation of the ceramic remains from two sites near Beaufort, South Carolina, by James B. Griffin.
- No. 23. The eastern Cherokees, by William Harlen Gilbert, Jr.
- No. 24. Aconite poison whaling in Asia and America: An Aleutian transfer to the New World, by Robert F. Heizer.
- No. 25. The Carrier Indians of the Buckley River: Their social and religious life, by Diamond Jenness.
- No. 26. The Quipu and Peruvian civilization, by John R. Swanton.

Bulletin 134. Native tribes of eastern Bolivia and western Matto Grosso, by Alfred Métraux.

Publications distributed totaled 11,882.

#### LIBRARY

There has been no change in the library staff during the fiscal year. Accessions during the fiscal year totaled 378.

The library staff has relabeled and reshelved 5,137 books. The sections of general ethnology and non-American material, and linguistics have now been entirely reclassified and reshelved. Library of Congress printed cards, so far as they are available, have been ordered for practically all of this material, when not already in the catalog. Part of the work of typing these cards and filing in the catalog has been completed and will be finished in a month or two.

The sorting of foreign periodicals and society transactions has been completed and all material not in the library field has been put aside for appropriate disposal. A temporary shelf list has been made for this material and it is hoped that this section will be reclassified and reshelved by the first of the year. The checking lists for the second edition of the Union List of Serials were marked with our holdings and returned.

The sorting of the pamphlet collection has been completed and more than half have been classified and shelved. Library of Congress cards where available have been ordered. In the future the library will have no separate pamphlet collection. All pamphlets that are kept will be classified and shelved with the books. Work has also been done on Congressional documents and some of this material is now classified and reshelved. Government documents from the War and Interior departments, publications of the Cherokee and Choctaw nations, and of various special boards and commissions have been sorted and classified and all Library of Congress cards available ordered.

## ILLUSTRATIONS

Following is a summary of work accomplished during the fiscal year by Edwin G. Cassedy, illustrator:

Line drawings.....	602
Stipple drawings.....	3
Wash drawings.....	4
Maps.....	22
Graphs.....	6
Plates assembled.....	95
Photographs retouched.....	14
Lettering jobs.....	114
Mural paintings.....	2
Negatives retouched.....	5
Total.....	867

The month of December 1940 and the first half of January 1941 were devoted to work on the new Index Exhibit in the Smithsonian main hall.

## COLLECTIONS

Collections transferred by the Bureau of American Ethnology to the Department of Anthropology, United States National Museum, during the fiscal year were as follows:

*Accession  
No.*

124559. Portions of a child's skull and skeleton collected near Kissimmee, Fla., and sent in by L. R. Farmer.
- 157,350. Skeletal and cultural remains from burial sites on Pennock Island and Dall Island, southeastern Alaska, collected during the summer of 1940 by Dr. Julian H. Steward. (36 specimens.)
- 157,796. Collection of 94 ethnological specimens from the Carrier Indians, obtained by Dr. Julian H. Steward in the region of Fort St. James, British Columbia, in 1940.
- 157,965. Collection of ethnological objects purchased among the Iroquois Indians during the past summer by Dr. William N. Fenton. (3 specimens.)
- 158,151. Collection of carved wooden masks and musical instruments collected by the late J. N. B. Hewitt among the Iroquois Indians of the Six Nations Reserve, Grand River, Ontario, Canada. (27 specimens.)
- 158,498. Two unfinished wooden masks made by Tom Harris, an Onondaga Indian of the Six Nations Reserve, Grand River, Ontario, Canada, and collected in August 1940 by Dr. William N. Fenton.
- 160,243. Archeological specimens from a sand burial mound on Lemon Bay, near Englewood, Sarasota Co., Fla. (25 specimens.)
- 160,244. Archeological specimens from various mounds in the vicinity of Parrish, on Little Manatee River, Manatee Co., Fla. (61 specimens.)
- 160,249. Archeological and skeletal material from a refuse and burial mound 1½ miles west of Belle Glade, in Palm Beach Co., Fla. (988 archeological specimens. The skeletal material in this accession has not been counted this year, but the figures will be included in some future annual report.)

## MISCELLANEOUS

During the course of the year information was furnished by members of the Bureau staff in reply to numerous inquiries concerning the North American Indians, both past and present, and the Mexican peoples of the prehistoric and early historic periods. Various specimens sent to the Bureau were identified and data on them furnished for their owners.

*Personnel.*—Mrs. Frances S. Nichols, editorial assistant, retired on August 31, 1940; Miss Anna M. Link served as editorial assistant from September 1, 1940, to April 30, 1941, when she resigned to accept a position in the library of the United States National Museum; Miss Nancy A. Link was appointed on June 1, 1941, to fill this vacancy. Miss Florence G. Schwindler was appointed on January 6, 1941, as stenographer in connection with the preparation of the Handbook of South American Indians; she resigned on April 21, 1941, to accept a position in the War Department.

Respectfully submitted.

M. W. STIRLING, *Chief.*

DR. C. G. ABBOT,

*Secretary, Smithsonian Institution.*

## APPENDIX 6

### REPORT ON THE INTERNATIONAL EXCHANGE SERVICE

SIR: I have the honor to submit the following report on the activities of the International Exchange Service during the fiscal year ended June 30, 1941:

The appropriation allowed by Congress was \$44,880, the same amount as for the previous year. There was also received by transfer from the Department of State \$500 from an appropriation made by Congress to that Department for cooperation with the American republics. This amount was allotted to the Exchange Service for mailing packages of publications to the Argentine Republic and Brazil, so that they would reach their destinations without the delay which occurs when shipments are made through exchange bureaus. To all other South and Central American countries, with one exception, exchanges are transmitted by mail under governmental frank. From repayments there was collected \$3,036.53, making the total available resources \$48,416.53.

The number of packages received for transmission during the year was 576,282, a decrease of 63,062. The weight was 388,649 pounds, a decrease of 138,896 pounds.

The following table gives the number and weight of packages sent and received through the service:

	Packages		Weight	
	Sent abroad	Received from abroad	Sent abroad	Received from abroad
			<i>Pounds</i>	<i>Pounds</i>
United States parliamentary documents sent abroad.....	349,021		136,717	
Publications received in return for parliamentary documents.....		1,354		4,549
United States departmental documents sent abroad.....	103,552		99,731	
Publications received in return for departmental documents.....		3,044		6,093
Miscellaneous scientific and literary publications sent abroad.....	92,196		116,897	
Miscellaneous scientific and literary publications received from abroad for distribution in the United States.....		27,115		24,662
Total.....	544,769	31,513	353,345	35,304
Grand total.....	576,282		388,649	

The packages referred to in the above table as sent abroad were forwarded partly in boxes by freight to exchange bureaus for dis-

tribution and partly by mail directly to their destinations. The number of boxes shipped was 965, a decrease from the preceding year of 929. Of these boxes, 419 were for depositories of full sets of United States governmental documents and the contents of the remainder were for depositories of partial sets and for distribution to various establishments and individuals. The number of mail packages was 117,700.

As stated last year, when a decrease in the work of the office was reported, the falling off in the amount of material handled is due to the interruption of the interchange of publications between the United States and many countries owing to the foreign wars. Shipments to nearly all the European countries, as well as to China and places bordering on the Mediterranean, have been suspended temporarily. Through special efforts, however, it has been possible during the latter part of the year to forward large consignments to Sweden and Switzerland. Transmissions were made to Finland and the Soviet Republic almost to the end of the fiscal year, but when those countries became involved in the European war, further shipments to them were suspended. One large consignment was forwarded to Spain during the year and several others were sent to Portugal. Owing to the conditions abroad, however, the Institution cannot follow any regular schedule in the sending of boxes to those two countries. With the exception of one or two short suspensions, there has been no interruption to the transmission of shipments to and from Great Britain, although, owing to the shortage of cargo space, it has not been possible to dispatch consignments as promptly as before the war.

The British Museum and the London School of Economics and Political Science, both depositories of United States governmental documents, have requested that no further consignments be forwarded to them until the close of the war, because of the possibility of destruction of the material through the bombings of London. The Edinburgh Public Library and the St. Andrews University also have asked that publications for them be stored until the cessation of hostilities. No other requests for the withholding of transmissions have been made by British establishments.

The very large number of packages for shipment abroad that are being held here awaiting the cessation of the war has overtaxed the space in the Exchange rooms to such an extent that it has been necessary to construct a storage shed in the grounds in the rear of the Smithsonian Building for storing the books. The structure is made of corrugated iron and is substantially built. When the emergency is over, the shed will be used for the storage of empty packing boxes.

Since the outbreak of the European war in September 1939, so far as reported to the Institution, five consignments of exchanges have been lost, the details of which are given below:

Five boxes forwarded to Denmark in December 1939 were destroyed on the dock in Bergen by fire caused by airplane bombardment.

Five boxes sent to France in April 1940 were destroyed by fire at the Havre railroad station.

Eleven boxes forwarded to England in November 1940 were lost at sea.

Thirteen boxes sent to Germany in August 1939 were lost at Havre after the consignment was disembarked.

One box, while in the warehouse of the Smithsonian agents in London awaiting shipment to the Institution, was destroyed in January 1941 by fire caused by airplane bombardment.

#### FOREIGN DEPOSITORIES OF GOVERNMENTAL DOCUMENTS

On account of conditions in Europe due to the war, several depositories have been removed from the list of those receiving full and partial sets of United States governmental documents. This has resulted in reducing the number of those publications now received from a total of 104 to 92—55 full and 37 partial sets.

The depository of the partial set in Haiti has been changed from the Department of Foreign Affairs to the National Library. The Honduran Ministry of Foreign Affairs has been added to the partial-set list.

A complete list of the depositories is given below:

#### DEPOSITORIES OF FULL SETS

**ARGENTINA:** Dirección de Investigaciones, Archivo y Propaganda, Ministerio de Relaciones Exteriores y Culto, Buenos Aires.

**AUSTRALIA:** Commonwealth Parliament and National Library, Canberra.

**NEW SOUTH WALES:** Public Library of New South Wales, Sydney.

**QUEENSLAND:** Parliamentary Library, Brisbane.

**SOUTH AUSTRALIA:** Parliamentary Library, Adelaide.

**TASMANIA:** Parliamentary Library, Hobart.

**VICTORIA:** Public Library of Victoria, Melbourne.

**WESTERN AUSTRALIA:** Public Library of Western Australia, Perth.

**BELGIUM:** Bibliothèque Royale, Bruxelles.

**BRAZIL:** Instituto Nacional do Livro, Rio de Janeiro.

**CANADA:** Library of Parliament, Ottawa.

**MANITOBA:** Provincial Library, Winnipeg.

**ONTARIO:** Legislative Library, Toronto.

**QUEBEC:** Library of the Legislature of the Province of Quebec.

**CHILE:** Biblioteca Nacional, Santiago.

**CHINA:** Bureau of International Exchange, Ministry of Education, Chungking.

**COLOMBIA:** Biblioteca Nacional, Bogotá.

**COSTA RICA:** Oficina de Depósito y Canje Internacional de Publicaciones, San José.

**CUBA:** Ministerio de Estado, Dirección de Relaciones Culturales, Habana.

**CZECHOSLOVAKIA:** Bibliothèque de l'Assemblée Nationale, Prague.

- DENMARK: Kongelige Danske Videnskabernes Selskab, Copenhagen.
- EGYPT: Bureau des Publications, Ministère des Finances, Cairo.
- ESTONIA: Riigiraamatukogu (State Library), Tallinn.
- FINLAND: Parliamentary Library, Helsinki.
- FRANCE: Bibliothèque Nationale, Paris.
- GERMANY: Reichstauschstelle im Reichsministerium für Wissenschaft, Erziehung und Volksbildung, Berlin, N. W. 7.
- PRUSSIA: Preussische Staatsbibliothek, Berlin, N. W. 7.
- GREAT BRITAIN:
- ENGLAND: British Museum, London.
- LONDON: London School of Economics and Political Science. (Depository of the London County Council.)
- HUNGARY: Library, Hungarian House of Delegates, Budapest.
- INDIA: Imperial Library, Calcutta.
- IRELAND: National Library of Ireland, Dublin.
- ITALY: Ministero dell'Educazione Nazionale, Rome.
- JAPAN: Imperial Library of Japan, Tokyo.
- LATVIA: Bibliothèque d'État, Riga.
- LEAGUE OF NATIONS: Library of the League of Nations, Geneva, Switzerland.
- MEXICO: Dirección General de Información, Mexico, D. F.
- NETHERLANDS: Royal Library, The Hague.
- NEW ZEALAND: General Assembly Library, Wellington.
- NORTHERN IRELAND: H. M. Stationery Office, Belfast.
- NORWAY: Universitets-Bibliothek, Oslo. (Depository of the Government of Norway.)
- PERU: Sección de Propaganda y Publicaciones, Ministerio de Relaciones Exteriores, Lima.
- POLAND: Bibliothèque Nationale, Warsaw.
- PORTUGAL: Bibliotheca Nacional, Lisbon.
- RUMANIA: Academia Română, Bucharest.
- SPAIN: Cambio Internacional de Publicaciones, Avenida de Calvo Sotelo 20, Madrid.
- SWEDEN: Kungliga Biblioteket, Stockholm.
- SWITZERLAND: Bibliothèque Centrale Fédérale, Berne.
- TURKEY: Department of Printing and Engraving, Ministry of Education, Istanbul.
- UNION OF SOUTH AFRICA: State Library, Pretoria, Transvaal.
- UNION OF SOVIET SOCIALIST REPUBLICS: All-Union Lenin Library, Moscow 115.
- UKRAINE: Ukrainian Society for Cultural Relations with Foreign Countries, Kiev.
- URUGUAY: Oficina de Canje Internacional de Publicaciones, Montevideo.
- VENEZUELA: Biblioteca Nacional, Caracas.
- YUGOSLAVIA: Ministère de l'Education, Belgrade.

## DEPOSITORIES OF PARTIAL SETS

- AFGHANISTAN: Ministry of Foreign Affairs, Publications Department, Kabul.
- BOLIVIA: Biblioteca del H. Congreso Nacional, La Paz.
- BRAZIL:
- MINAS GERAES: Directoria Geral de Estatistica em Minas, Bello Horizonte.
- RIO DE JANEIRO: Bibliotheca da Assembleia Legislativa do Estado, Nitheroy.
- BRITISH GUIANA: Government Secretary's Office, Georgetown, Demerara.



## CANADA:

ALBERTA: Provincial Library, Edmonton.

BRITISH COLUMBIA: Provincial Library, Victoria.

NEW BRUNSWICK: Legislative Library, Fredericton.

NOVA SCOTIA: Provincial Secretary of Nova Scotia, Halifax.

PRINCE EDWARD ISLAND: Legislative and Public Library, Charlottetown.

SASKATCHEWAN: Legislative Library, Regina.

CEYLON: Chief Secretary's Office (Record Department of the Library), Colombo.

CHINA: National Library of Peiping.

DOMINICAN REPUBLIC: Biblioteca del Senado, Ciudad Trujillo.

ECUADOR: Biblioteca Nacional, Quito.

GUATEMALA: Biblioteca Nacional, Guatemala.

HAITI: Bibliothèque Nationale. Port-au-Prince.

## HONDURAS:

Biblioteca y Archivo Nacionales, Tegucigalpa.

Ministerio de Relaciones Exteriores, Tegucigalpa.

ICELAND: National Library, Reykjavik.

## INDIA:

BENGAL: Secretary, Bengal Legislative Council Department, Council House, Calcutta.

BIHAR AND ORISSA: Revenue Department, Patna.

BOMBAY: Undersecretary to the Government of Bombay, General Department, Bombay.

BURMA: Secretary to the Government of Burma, Education Department, Rangoon.

PUNJAB: Chief Secretary to the Government of the Punjab, Lahore.

UNITED PROVINCES OF AGRA AND OUDH: University of Allahabad, Allahabad.

JAMAICA: Colonial Secretary, Kingston.

LIBERIA: Department of State, Monrovia.

MALTA: Minister for the Treasury, Valletta.

NEWFOUNDLAND: Department of Home Affairs, St. John's.

NICARAGUA: Ministerio de Relaciones Exteriores, Managua.

PANAMA: Secretaría de Relaciones Exteriores, Panama.

PARAGUAY: Secretario de la Presidencia de la República, Asunción.

SALVADOR: Ministerio de Relaciones Exteriores, San Salvador.

STRAITS SETTLEMENTS: Colonial Secretary, Singapore.

THAILAND: Department of Foreign Affairs, Bangkok.

VATICAN CITY: Biblioteca Apostolica Vaticana, Vatican City, Italy.

## INTERPARLIAMENTARY EXCHANGE OF THE OFFICIAL JOURNAL

On account of conditions arising from the war, the sending of the Congressional Record and the Federal Register has been discontinued to certain countries. Haiti has been added to the list as a recipient. The number of copies of the Record and the Register now sent abroad is 78, having been reduced from 104. A list of the present depositories is given below:

## DEPOSITORIES OF CONGRESSIONAL RECORD

## ARGENTINA:

Biblioteca del Congreso Nacional, Buenos Aires.

Cámara de Diputados, Oficina de Información Parlamentaria, Buenos Aires.

Boletín Oficial de la República Argentina, Ministerio de Justicia e Instrucción Pública, Buenos Aires.

**AUSTRALIA :**

Library of the Commonwealth Parliament, Canberra.

NEW SOUTH WALES: Library of Parliament of New South Wales, Sydney.

QUEENSLAND: Chief Secretary's Office, Brisbane.

WESTERN AUSTRALIA: Library of Parliament of Western Australia, Perth.

**BRAZIL :**

Bibliotheca do Congresso Nacional, Rio de Janeiro.

AMAZONAS: Archivo, Bibliotheca e Imprensa Publica, Manáos.

BAHIA: Governador do Estado da Bahia, São Salvador.

ESPIRITO SANTO: Presidencia do Estado do Espirito Santo, Victoria.

RIO GRANDE DO SUL: "A Federação," Porto Alegre.

SERGIPE: Bibliotheca Publica do Estado de Sergipe, Aracajú.

SÃO PAULO: Diario Oficial do Estado de São Paulo, São Paulo.

BRITISH HONDURAS: Colonial Secretary, Belize.

**CANADA :**

Library of Parliament, Ottawa.

Clerk of the Senate, Houses of Parliament, Ottawa.

CUBA: Biblioteca del Capitolio, Habana.

**EGYPT :**

Chambre des Députés, Cairo.

Sénat, Cairo.

GIBRALTAR: Gibraltar Garrison Library Committee, Gibraltar.

GREAT BRITAIN: Library of the Foreign Office, London.

GUATEMALA: Biblioteca de la Asamblea Legislativa, Guatemala.

HAITI: Bibliothéque Nationale, Port-au-Prince.

HONDURAS: Biblioteca del Congreso Nacional, Tegucigalpa.

HUNGARY: A Magyar országgyűlés könyvtará, Budapest.

INDIA: Legislative Department, Simla.

INDOCHINA: Gouverneur Général de l'Indochine, Hanoi.

IRAN: Library of the Iranian Parliament, Téhéran.

IRAQ: Chamber of Deputies, Baghdad.

IRISH FREE STATE: Dail Eireann, Dublin.

LEAGUE OF NATIONS: Library of the League of Nations, Geneva, Switzerland.

LEBANON: Ministère des Finances de la République Libanaise, Service du Matériel, Beirut.

LIBERIA: Department of State, Monrovia.

MEXICO: Dirección General de Información, Mexico, D. F.

AGUASCALIENTES: Gobernador del Estado de Aguascalientes, Aguascalientes.

CAMPECHE: Gobernador del Estado de Campeche, Campeche.

CHIAPAS: Gobernador del Estado de Chiapas, Tuxtla Gutierrez.

CHIHUAHUA: Gobernador del Estado de Chihuahua, Chihuahua.

COAHUILA: Periódico Oficial del Estado de Coahuila, Palacio de Gobierno, Saltillo.

COLIMA: Gobernador del Estado de Colima, Colima.

DURANGO: Gobernador Constitucional del Estado de Durango, Durango.

GUANAJUATO: Secretaría General de Gobierno del Estado, Guanajuato.

GUERRERO: Gobernador del Estado de Guerrero, Chilpancingo.

JALISCO: Biblioteca del Estado, Guadalajara.

LOWER CALIFORNIA: Gobernador del Distrito Norte, Mexicali.

MÉXICO: Gaceta del Gobierno, Toluca.

MICHOACÁN: Secretaría General de Gobierno del Estado de Michoacán, Morelia.

MORELOS: Palacio de Gobierno, Cuernavaca.

## MEXICO—Continued.

NAYARIT: Gobernador de Nayarit, Tepic.

NUEVO LEÓN: Biblioteca del Estado, Monterrey.

OAXACA: Periódico Oficial, Palacio de Gobierno, Oaxaca.

PUEBLA: Secretaría General de Gobierno, Puebla.

QUERÉTARO: Secretaría General de Gobierno, Sección de Archivo, Querétaro.

SAN LUIS POTOSÍ: Congreso del Estado, San Luis Potosí.

SINALOA: Gobernador del Estado de Sinaloa, Culiacán.

SONORA: Gobernador del Estado de Sonora, Hermosillo.

TABASCO: Secretaría General de Gobierno, Sección 3a, Ramo de Prensa, Villahermosa.

TAMAULIPAS: Secretaría General de Gobierno, Victoria.

TLAXCALA: Secretaría de Gobierno del Estado, Tlaxcala.

VERACRUZ: Gobernador del Estado de Veracruz, Departamento de Gobernación y Justicia, Jalapa.

YUCATÁN: Gobernador del Estado de Yucatán, Mérida, Yucatán.

NETHERLANDS INDIES: Volksraad von Nederlandsch-Indië, Batavia, Java.

NEW ZEALAND: General Assembly Library, Wellington.

PERU: Cámara de Diputados, Lima.

## RUMANIA:

Bibliothèque de la Chambre des Députés, Bucharest.

Ministère des Affaires Étrangères, Bucharest.

SWITZERLAND: Bibliothèque de l'Assemblée Fédérale Suisse, Berne.

BERN: Staatskanzlei des Kantons Bern.

ST. GALLEN: Staatskanzlei des Kantons St. Gallen.

SCHAFFHAUSEN: Staatskanzlei des Kantons Schaffhausen.

ZÜRICH: Staatskanzlei des Kantons Zürich.

TURKEY: Turkish Grand National Assembly, Ankara.

## UNION OF SOUTH AFRICA:

Library of Parliament, Cape Town, Cape of Good Hope.

State Library, Pretoria, Transvaal.

URUGUAY: Diario Oficial, Calle Florida 1178, Montevideo.

VENEZUELA: Biblioteca del Congreso, Caracas.

VATICAN CITY: Biblioteca Apostolica Vaticana, Vatican City, Italy.

## FOREIGN EXCHANGE AGENCIES

The bureaus or agencies to which consignments are forwarded in boxes by freight are given below. To all countries not appearing in the list, packages are sent directly to their destinations by mail.

## LIST OF AGENCIES

ALGERIA, via France.

ANGOLA, via Portugal.

AUSTRIA, via Germany.

AZORES, via Portugal.

BELGIUM: Service Belge des Échanges Internationaux, Bibliothèque Royale de Belgique, Bruxelles.

CANARY ISLANDS, via Spain.

CHINA: Bureau of International Exchange, Ministry of Education, Chungking.

CZECHOSLOVAKIA: Service des Échanges Internationaux, Bibliothèque de l'Assemblée Nationale, Prague 1-79.

DENMARK: Service Danois des Échanges Internationaux, Kongelige Danske Videnskabernes Selskab, Copenhagen V.

- EGYPT: Government Press, Publications Office, Bulaq, Cairo.
- FINLAND: Delegation of the Scientific Societies of Finland, Kasärngatan 24, Helsinki.
- FRANCE: Service Français des Échanges Internationaux, 110 Rue de Grenelle, Paris.
- GERMANY: Amerika-Institut, Universitätstrasse 8, Berlin, N. W. 7.
- GREAT BRITAIN AND IRELAND: Wheldon & Wesley, 721 North Circular Road, Willesden, London, NW. 2.
- HUNGARY: Hungarian Libraries Board, Ferenciektere 5, Budapest, IV.
- INDIA: Superintendent of Government Printing and Stationery, Bombay.
- ITALY: Ufficio degli Scambi Internazionali, Ministero dell'Educazione Nazionale, Rome.
- JAPAN: International Exchange Service, Imperial Library of Japan, Uyeno Park, Tokyo.
- LATVIA: Service des Échanges Internationaux, Bibliothèque d'Etat de Lettonie, Riga.
- LUXEMBOURG, via Belgium.
- MADAGASCAR, via France.
- MADEIRA, via Portugal.
- MOZAMBIQUE, via Portugal.
- NETHERLANDS: International Exchange Bureau of the Netherlands, Royal Library, The Hague.
- NEW SOUTH WALES: Public Library of New South Wales, Sydney.
- NEW ZEALAND: General Assembly Library, Wellington.
- NORWAY: Service Norvégien des Échanges Internationaux, Bibliothèque de l'Université Royale, Oslo.
- PALESTINE: Jewish National and University Library, Jerusalem.
- POLAND: Service Polonais des Échanges Internationaux, Bibliothèque Nationale, Warsaw.
- PORTUGAL: Secção de Trocas Internacionaes, Bibliotheca Nacional, Lisbon.
- QUEENSLAND: Bureau of Exchanges of International Publications, Chief Secretary's Office, Brisbane.
- RUMANIA: Ministère de la Propagande Nationale, Service des Échanges Internationaux, Bucharest.
- SOUTH AUSTRALIA: South Australian Government Exchanges Bureau, Government Printing and Stationery Office, Adelaide.
- SPAIN: Junta de Intercambio y Adquisición de Libros y Revistas para Bibliotecas Públicas, Ministerio de Educación Nacional, Avenida Calvo Sotelo, 20, Madrid.
- SWEDEN: Kungliga Biblioteket, Stockholm.
- SWITZERLAND: Service Suisse des Échanges Internationaux, Bibliothèque Centrale Fédérale, Berne.
- TASMANIA: Secretary to the Premier, Hobart.
- TURKEY: Ministry of Education, Department of Printing and Engraving, Istanbul.
- UNION OF SOUTH AFRICA: Government Printing and Stationery Office, Capetown, Cape of Good Hope.
- UNION OF SOVIET SOCIALIST REPUBLICS: International Book Exchange Department, Society for Cultural Relations with Foreign Countries, Moscow, 56.
- VICTORIA: Public Library of Victoria, Melbourne.
- WESTERN AUSTRALIA: Public Library of Western Australia, Perth.
- YUGOSLAVIA: Section des Échanges Internationaux, Ministère des Affaires Étrangères, Belgrade.

After the expiration of the year's extension granted Frank E. Gass, he was retired from the Government service February 28, 1941. However, having been appointed correspondence clerk on the Smithsonian private roll, effective March 1, he is continuing to carry on his work in the Exchange office.

Respectfully submitted.

C. W. SHOEMAKER, *Chief Clerk.*

Dr. C. G. ABBOT,

*Secretary, Smithsonian Institution.*

## APPENDIX 7

### REPORT ON THE NATIONAL ZOOLOGICAL PARK

SIR: I have the honor to submit the following report on the operations of the National Zoological Park for the fiscal year ended June 30, 1941:

The regular appropriation made by Congress was \$239,910, all of which was expended with the exception of \$2,440 which represents savings from lapses in the filling of vacant positions.

#### PERSONNEL

An important personnel change was the appointment on June 2, 1941, of Carter H. Anthony, D. V. M., as veterinarian. He came to the Zoo from the University of Arkansas, where he was engaged in animal disease research work. This is the first time in the history of the Zoo that a full-time position of this character has been filled. It is expected that this will result in a more careful dietary supervision, as well as much better medical and surgical attendance on the animals. Also closer cooperation can be given the various Government departments, as well as outsiders, in any experiments and studies in which the facilities of the Zoo are used.

A much larger turnover in the force than in prior years has been occasioned by men accepting positions in work connected with the National Defense program. Included in this was the recall to active service of William J. Grant, senior operating engineer, a member of the Naval Reserve.

#### IMPROVEMENTS

The closing of the W. P. A. project at the Zoo on August 6, 1940, prevented improvements that had been contemplated for the year. The regular force is hardly sufficient to maintain routine repairs, and therefore few improvements were begun.

The series of four waterfowl ponds was completed, and birds transferred there on July 29, 1940. This now makes one of the most attractive outdoor exhibits in the Zoo. It is especially so when viewed from the terrace of the new restaurant.

The reptile pit on the south side of the reptile house was completed by adding a small waterfall at one corner.



1. DINING ROOM, NEW RESTAURANT, NATIONAL ZOOLOGICAL PARK.



2. BIRDS IN THE REFRIGERATED CAGE, NATIONAL ZOOLOGICAL PARK.

The five birds are those received from Antarctic Service Expedition, 1941. The three large penguins, right foreground, are emperors; the one to the left is a gentoo penguin; rear center, a kelp gull.





The old waterfowl pond near the creek was filled in with earth and crushed rock, though no grading was done. Some planting was done in that area. It is planned to utilize this space for parking of cars and also to make part of it available for picnicking.

Work was begun on remodeling the west side of the antelope building, and at the close of the year it was about two-thirds completed. A cage is being constructed to house the pair of reticulated giraffe. This will give them a cage with a higher ceiling as well as a larger outdoor enclosure.

The restaurant constructed by the P. W. A. under an allotment of \$90,000 was completed in the fall of 1940. It is of the Virginia tavern type of stone construction. The main dining room is beautifully decorated with murals of carved lacquered linoleum, executed and mounted by Domenico Mortellito. This, with the outside terraces overlooking the new waterfowl ponds, has proved to be a popular luncheon and dining place for the public. The new concessionaire, L. G. Leech, opened the restaurant for business on March 29, 1941.

The area about the new restaurant was landscaped with evergreens and other trees and shrubs. An azalea garden of about 300 plants was laid out on the hillside west of the restaurant. This will greatly add to the beauty of the surroundings, especially when the plants are in bloom. In addition, about 200 wild azaleas, more than 100 dogwoods, and about 40 redbuds, as well as other trees and shrubs, were planted about the grounds.

It is with pleasure that we take this opportunity to thank C. A. Logan, of the Beltsville Agriculture Center, for the more than 350 trees and shrubs that were obtained from their C. C. C. nursery. These included shade trees, flowering plants and shrubs, fruit- and nut-bearing types, and others suitable for ornamental purposes.

#### NEEDS OF THE ZOO

Proper buildings continue to be the chief need of the Zoo. Structures most urgently needed which would complete its development are a new building to house antelope, deer, wild hogs, and kangaroos; one for monkeys; and one for carnivores to replace the present building, which is no longer suitable for the exhibition of these animals.

Since the closing of the W. P. A. project, and with the increase of exhibition areas, the existing personnel is inadequate to maintain the grounds in a presentable condition. It is therefore important that the maintenance personnel be increased by at least 10 men.

## VISITORS FOR THE YEAR

A record of the attendance for the year shows an increase of a little more than 300,000 visitors over the figures for last year. This is due in part to the increase in population in the city.

July.....	221,700	February.....	95,800
August.....	216,300	March.....	171,700
September.....	315,500	April.....	265,000
October.....	166,200	May.....	277,800
November.....	169,900	June.....	280,100
December.....	134,700		
January.....	115,600	Total.....	2,430,300

The attendance of organizations, mainly classes of students, of which there is definite record, was 48,050, from 876 different schools or groups in 20 States and the District of Columbia. This is the largest number of such groups ever recorded. A complete listing by States follows:

State	Number of persons	Number of parties	State	Number of persons	Number of parties
Connecticut.....	413	7	New Jersey.....	2,365	33
Delaware.....	526	12	New York.....	964	23
District of Columbia.....	8,115	142	North Carolina.....	1,457	39
Georgia.....	516	15	Ohio.....	1,256	33
Illinois.....	38	1	Pennsylvania.....	10,304	201
Indiana.....	31	1	South Carolina.....	1,474	38
Kentucky.....	128	4	Tennessee.....	135	4
Maine.....	100	2	Virginia.....	7,563	139
Maryland.....	9,708	130	West Virginia.....	2,309	38
Massachusetts.....	152	3			
Michigan.....	375	9			
New Hampshire.....	121	2	Total.....	48,050	876

About 3 o'clock every afternoon, a census is made of the cars parked on the Zoo grounds. During the year 56,185 were so listed, representing every State in the Union, as well as Alaska, Canada, Canal Zone, Cuba, Hawaii, Mexico, and the Philippine Islands.

Since the total number is merely a record of those actually parked at one time, it is not of value as showing a total attendance, but is of importance as indicating the percentage of attendance by States, Territories, and countries. The record for the year on this basis shows the District of Columbia automobiles comprised 38 percent; Maryland, slightly more than 24 percent; Virginia, 16 percent; Pennsylvania, 4 percent; and the remaining cars were from other States, Territories, and countries.

This is the first year that the cars were counted on Sundays and holidays. In previous years, the record showed that a little more than 50 percent of the cars were from outside the District. This year it is 62 percent, which substantiates our estimate of previous years that adding Sundays and holidays to the count would show at least 60 percent from outside the District.

## ACCESSIONS

## FIELD WORK

## SMITHSONIAN-FIRESTONE EXPEDITION

A partial account of this expedition was given in the 1940 annual report of the Director of the National Zoological Park.

Through funds donated to the Smithsonian Institution by the Firestone Tire & Rubber Co., of Akron, Ohio, a party was sent to Liberia, West Africa, for the purpose of collecting specimens for the National Zoological Park. The party consisted of the Director, Mrs. Mann, Ralph Norris, and Roy J. Jennier. They sailed on the American-West African Line on February 17, 1940, for Monrovia.

A preliminary shipment of animals collected was made from Liberia to Boston in the care of Roy J. Jennier, who arrived at that port on May 17, 1940. A list of these animals can be found in the 1940 annual report. The remaining members of the expedition arrived in Norfolk, Va., on August 6, 1940, with 100 specimens, several of which were species new to the history of the collection. We again wish to express our sincerest appreciation to the members of the Firestone staff, both in Liberia and here, for the aid and hospitality given the expedition.

A list of the live animals which arrived in Norfolk on August 6 follows:

## SMITHSONIAN-FIRESTONE EXPEDITION

<i>Scientific name</i>	<i>Common name</i>	<i>Number</i>
<i>Civettictis civetta</i> .....	African civet.....	2
<i>Genetta poensis</i> .....	Dark genet.....	2
<i>Nandinia binotata</i> .....	African palm civet.....	1
<i>Galerella melanura</i> .....	Dwarf civet.....	1
<i>Perodicticus potto</i> .....	Potto.....	1
<i>Cercocebus torquatus lunulatus</i> .....	White-crowned mangabey.....	1
<i>Cercocebus sp.</i> .....	Mangabey.....	6
<i>Mandrillus sp.</i> .....	Mandrill.....	1
<i>Papio papio</i> .....	Baboon.....	1
<i>Euxerus erythropus lacustris</i> .....	African ground squirrel.....	2
<i>Mellivora capensis</i> .....	Ratel.....	1
<i>Cricetomys gambianus liberiae</i> .....	Liberian giant pouched rat.....	2
<i>Choeropsis liberiensis</i> .....	Pigmy hippopotamus.....	2
<i>Atherura africana</i> .....	West African brush-tailed porcupine.....	1
<i>Hyemoschus aquaticus</i> .....	Chevrotain.....	4
<i>Cephalophus niger</i> .....	Black duiker.....	3
<i>Cephalophus nigrifrons</i> .....	Black-fronted duiker.....	3

## SMITHSONIAN-FIRESTONE EXPEDITION—continued

<i>Scientific name</i>	<i>Common name</i>	<i>Number</i>
<i>Crossarchus obscurus</i> .....	Marsh civet.....	1
<i>Psittacus erithacus</i> .....	African gray parrot.....	2
<i>Agapornis pullaria</i> .....	Red-faced lovebird.....	19
<i>Ceratogymna elata</i> .....	Yellow-casqued hornbill.....	1
<i>Stephanoaetus coronatus</i> .....	Crowned hawk-eagle.....	2
<i>Gypohierax angolensis</i> .....	Fish-eating vulture.....	1
<i>Kaupifalco monogrammicus</i> .....	Northern lizard-buzzard.....	1
<i>Accipiter tachiro macroscelides</i> .....	West African goshawk.....	1
<i>Bitis nasicornis</i> .....	Rhinoceros viper.....	3
<i>Bitis gabonica</i> .....	Gaboon viper.....	2
<i>Naja</i> sp.....	Cobra.....	2
<i>Python sebae</i> .....	West African python.....	2
<i>Varanus niloticus</i> .....	Nile monitor.....	4
<i>Hyperolius</i> sp.....	West African tree frog.....	11
<i>Rana occipitalis</i> .....	West African bullfrog.....	4
<i>Osteolaemus tetraspis</i> .....	Broad-nosed crocodile.....	1
<i>Crocodylus cataphractus</i> .....	Narrow-nosed crocodile.....	1
<i>Kinixys erosa</i> .....	West African back-hinged tortoise.....	7
<i>Pelusios derbianus</i> .....	Turtle.....	1

A summary of the specimens received from the expedition, including those in both shipments, follows:

<i>Class</i>	<i>Species</i>	<i>Individuals</i>
Mammals.....	25	48
Birds.....	15	42
Reptiles.....	20	76
Amphibians.....	2	15
Mollusks.....	1	14
Total.....	61	195

## GIFTS

Pleasant contacts made by two previous expeditions have resulted in the receipt as gifts of a number of desirable specimens.

From the Firestone Plantation in Liberia, through George Seybold, manager, and Dr. Fuszek, Director General of Public Health of Liberia, the Zoo received a pigmy hippo, a western chimpanzee, a leopard, 2 rhinoceros vipers, a green mamba, a crowned hawk-eagle, and a porcupine. These resulted from associations made during the Smithsonian-Firestone expedition of 1940.

Through contacts made by Malcolm Davis, Zoo staff member of the Antarctic expedition of 1940, an interesting lot of birds was received, including 3 emperor penguins, 4 Gentoo penguins, 2 kelp gulls, and a giant fulmar. These birds were collected through the cooperation of Richard Black, Dr. Paul Siple, Jack Perkins, Roger Hawthorne, and others of the expedition, and brought to the States by Herwil Bryant, Jr., whose painstaking care on the trip saved

all the specimens. Other outstanding gifts include a pair of black bear cubs from Newbold Noyes, Washington, D. C., an ocelot each from Maj. C. V. Haynes, Langley Field, Va., and N. M. Rhodes, U. S. Naval Academy, Annapolis, Md., and a trio of tahr goats from the New York Zoological Park. E. A. McIlhenny, of Avery Island, La., has continued his generosity by sending a number of waterfowl, greatly adding to the exhibition value of the new waterfowl ponds. A complete list of donors and their gifts follows.

## DONORS AND THEIR GIFTS

- Mrs. Robert Adams, Washington, D. C., 2 opossums.  
 Mrs. Reed Alexander, Washington, D. C., Virginia rail.  
 Richard Archbold, American Museum of Natural History, New York, 2 ring-tails or cacomistles.  
 S. D. Ashford, Washington, D. C., opossum.  
 Mrs. J. K. Atherton, Hyattsville, Md., double yellow-head parrot.  
 Judith Atkinson, Washington, D. C., white rabbit.  
 Vernon Bailey, Washington, D. C., 5 antelope squirrels, 2 eastern chipmunks, mountain wood rat.  
 Robert Ball, Washington, D. C., Pekin duck.  
 Herbert Barber, National Museum, Washington, D. C., mink.  
 Dr. T. Barbour, Museum of Comparative Zoology, Cambridge, Mass., 3 Florida king snakes, 2 chicken snakes, garter snake, glass snake or legless lizard, horn snake.  
 Mrs. Bemar, Bradbury, Md., 5 opossums.  
 J. B. Berry, Washington, D. C., red fox.  
 Howard Blanchard, Arlington, Va., 5 horned lizards.  
 Mrs. Blumenberg, Washington, D. C., common pigeon.  
 Warren Bowman, Washington, D. C., milk snake.  
 Miss Wilma Bradford, Washington, D. C., 2 cottontail rabbits.  
 David S. Brown, Washington, D. C., Florida diamond-backed rattlesnake.  
 Mrs. R. Brown, Washington, D. C., robin.  
 J. Brylawski, Washington, D. C., great horned owl.  
 Mrs. J. S. Burdette, Kensington, Md., double yellow-head parrot.  
 W. W. Campbell, Riverdale, Md., barred owl.  
 Patricia Chambers, Washington, D. C., white rabbit.  
 Mrs. Cipriano, Washington, D. C., angora rabbit.  
 Charles Clark, District Training School, Laurel, Md., 2 red-tailed hawks.  
 Mrs. M. O. Clarke, Chevy Chase, Md., red-tailed hawk.  
 Mrs. H. Clements, Washington, D. C., white-eyed parrot.  
 Elias Cohen, Washington, D. C. (through J. N. Hamlet), copperhead snake.  
 H. James Cole, Bethesda, Md., 4 green tree frogs, hog-nosed snake, 2 garter snakes, 6 common tree frogs.  
 Martin S. Cooper, Arlington, Va., ring-necked pheasant.  
 Mrs. B. J. Costello, Arlington, Va., 2 alligators.  
 R. E. Crouch, Washington, D. C., opossum.  
 Mrs. E. C. Davis, Washington, D. C., 20 guinea pigs, rabbit.  
 Harry Day, Hyattsville, Md., king snake, 11 painted turtles, 9 spotted turtles, snapping turtle, 2 musk turtles.  
 W. M. DeNeane, Washington, D. C., common iguana.  
 Benjamin C. Dooley, National Zoological Park, red-breasted merganser.

- Charles East, National Museum, Washington, D. C., pilot snake, fox snake.  
 Robert Ellis, Washington, D. C., king rail.  
 Mrs. M. J. Fadgen, Baltimore, Md., troupial.  
 Dr. Ferguson, Washington, D. C., eastern cardinal.  
 Albert A. Fields, Washington, D. C., rough-scaled green snake.  
 Firestone Plantation, Harbel, Liberia, pigmy hippopotamus, western chimpanzee, leopard, 2 rhinoceros vipers, green mamba.  
 Firestone Tire & Rubber Co., Akron, Ohio, East African porcupine, crowned hawk-eagle.  
 Fish and Wildlife Service, Department of the Interior, Beltsville, Md., 12 Canada geese.  
 Fish and Wildlife Service, Department of the Interior, Washington, D. C., 8 black ducks.  
 Fish and Wildlife Service, Mattamuskeet Refuge, New Holland, N. C., pintail duck.  
 Fish and Wildlife Service, Sacramento National Wild Life Refuge, Sacramento, Calif., 10 cackling geese.  
 Fish and Wildlife Service, Seney Northwest Refuge, Germfask, Mich., 2 blue-winged teal.  
 Fish and Wildlife Service, Department of the Interior, Wichita Mountains, Wildlife Refuge, Cache, Okla., American elk.  
 Fish and Wildlife Service, through H. A. Bailey, Pungo, Va., 3 whistling swans.  
 Fish and Wildlife Service, through John N. Hamlet, Washington, D. C., Florida diamond-back rattlesnake, pigmy rattlesnake, chicken snake, pine snake, coachwhip snake, 2 pilot snakes, 2 eastern porcupines.  
 Fish and Wildlife Service, through John M. Hopkins, Waycross, Ga., bald eagle.  
 Fish and Wildlife Service through William Hopkins, McBee, S. C., for Carolina Sandhills Refuge, wood duck.  
 Fish and Wildlife Service, through George Mushbach, National Bison Range, Moise, Mont., bald eagle.  
 Fish and Wildlife Service, through Sam A. Walker, Manteo, S. C., 2 blue-winged teal, 6 American coots.  
 Ralph Fisher, Hyattsville, Md., opossum.  
 W. M. Fitch, Washington, D. C., alligator.  
 Wiley Ford, Washington, D. C., 3 guinea pigs.  
 L. V. Friedlei, Washington, D. C., Pekin duck.  
 Mrs. J. Friedman, Washington, D. C., screech owl.  
 William Gee, Washington, D. C., barred owl.  
 J. Gott, Washington, D. C., least bittern.  
 Norman Gramam, Suitland, Md., great blue heron.  
 W. B. Greenwood, Washington, D. C., 2 western rattlesnakes.  
 Martha Hall, Glen Dale Sanatorium, Glen Dale, Md., Pekin duck.  
 John N. Hamlet, Washington, D. C., tayra.  
 Major C. V. Haynes, Langley Field, Va., ocelot.  
 Helen H. Haynes, Washington, D. C., Pekin thrush.  
 A. M. Hazel, Washington, D. C., barrel owl.  
 Dr. A. Henry, Washington, D. C., weasel.  
 Mrs. F. W. Hill, Washington, D. C., blue jay.  
 G. A. Holland, Texas, 4 Texas rattlesnakes.  
 Miss Hopkins, Washington, D. C., mourning dove.  
 Miss G. E. Hudson, Washington, D. C., painted turtle.  
 N. Hynson, Washington, D. C., Pekin duck.  
 Mr. Jacobsen, Arlington, Va., 3 peafowl.

- Mr. and Mrs. C. M. James, Landover, Md., horned owl, 2 valley quail, bobwhite.  
G. H. Jelinek, Washington, D. C., Pekin duck.  
Mr. and Mrs. Joseph M. Joel, Washington, D. C., ferret.  
A. L. Johns, Washington, D. C., painted turtle.  
Sgt. D. Jones, Police Department, Rockville, Md., black widow spider.  
John Paul Jones, Washington, D. C., opossum.  
Dr. Howard A. Kelly, Baltimore, Md., 2 marmosets.  
William Kennedy, Washington, D. C., sparrow hawk.  
C. S. Kimball, Washington, D. C., Virginia rail.  
Mrs. H. Kingsland, "Blackstable," Aiken, S. C., 2 barred owls.  
Mrs. Krast, Washington, D. C., alligator.  
Mrs. H. W. Lambert, Washington, D. C., 2 painted turtles.  
Brady D. Large, Washington, D. C., ring-necked pheasant.  
George Leonard, Washington, D. C., alligator.  
O. M. Locke, New Braunfels, Tex., 52 horned lizards.  
Mr. Lovell, Washington, D. C., large brown bat.  
Mrs. A. N. Lukaes, Washington, D. C., skunk.  
Ernest Lupton, Washington, D. C., black-crowned night heron.  
Mrs. J. A. Lyon, Washington, D. C., 2 Arkansas goldfinch, painted bunting.  
Mrs. J. A. Mandley, Washington, D. C., white-throated capuchin.  
Mrs. L. O. Manley, Chevy Chase, Md., ferret.  
J. P. Marshall, Alexandria, Va., great blue heron.  
Mrs. J. J. Marvel, Takoma Park, Md., Cuban parrot.  
Edward Matteossion, Bethesda, Md., weasel.  
Sgt. J. McAuliffe, Bethesda, Md., barred owl.  
B. McClellen, Washington, D. C., barred owl.  
Henry J. McDermott, Takoma Park, Md., 2 canaries.  
R. A. McGee, Washington, D. C., opossum.  
E. A. McIlhenny, Avery Island, La., 15 pintails, 3 green-winged teal, 4 canvasback  
ducks, 7 lesser scaup, 5 coots, 24 blue-winged teal, 3 Florida gallinule, 6 blue  
geese, 2 lesser snow geese, 3 hybrid ducks (greenhead and black mallard),  
ring-necked duck.  
Evan McLaughlin, Washington, D. C., ring-necked snake.  
Dr. H. R. Mills, Tampa, Fla., bald eagle.  
Vernon Mills, Fallon, Nev., 7 soft-haired ground squirrels.  
Mrs. R. T. Minahan, Baltimore, Md., common marmoset.  
Miss V. Moore, Washington, D. C., great white heron.  
G. Myers, Stanford University, Palo Alto, Calif., 33 California newts.  
National Institute of Health, through Dr. J. Oliphant, 2 golden hamsters.  
J. A. Nettle, Washington, D. C., screech owl.  
New York Zoological Park, 3 tahr goats.  
Newbold Noyes, Evening Star, Washington, D. C., 2 black bears.  
James O'Hagen, Washington, D. C., woodchuck or ground hog.  
Mrs. H. A. Ourand, Takoma Park, Md., red-shouldered hawk.  
Logan Owens, Jr., Washington, D. C., coot.  
Miss Nancy Peltz, Washington, D. C., Pekin duck.  
Dr. Elmo Peters, Washington, D. C., alligator.  
Capt. S. Picking, Coco Sola, Canal Zone, Panama, 2 Galapagos tortoises.  
John A. Plugge, Chevy Chase, Md., snapping turtle.  
Mrs. Virginia Poore, Mount Rainier, Md., white-throated capuchin.  
Mrs. Edward Portner, Washington, D. C., 4 skunks.  
Mrs. Pratt, Washington, D. C., turtle.  
Miss G. V. Rainey, Takoma Park, Md., alligator.

- Mildred Reed, Washington, D. C., water snake.  
 Mrs. James Reeks, Washington, D. C., 4 snapping turtles.  
 Mrs. Rehbein, Washington, D. C., weasel.  
 N. M. Rhodes, Dispensary Bldg., U. S. Naval Academy, Annapolis, Md., ocelot.  
 Dr. Waldo Schmitt, National Museum, Washington, D. C., 2 James Island snakes, South Seymour Island snake.  
 Mrs. Scott, Washington, D. C., alligator.  
 Mrs. Lizzie Shelby, Washington, D. C., 4 pine snakes.  
 Mrs. Sherry, Washington, D. C., 2 common rabbits.  
 Robert Shore, Washington, D. C., red fox.  
 Mr. and Mrs. Phillip Shorts, Lander, Wyo., Philippine monkey.  
 Robert Shosteck, Washington, D. C., fence lizard, snapping turtle.  
 C. L. Sibley, Wallingford, Conn., 3 bantam chickens.  
 Orville S. Simpson, Washington, D. C., tovi paroquet.  
 B. Sisson, Washington, D. C., 2 Pekin ducks.  
 Mrs. R. Sizemore, Mount Rainier, Md., 2 Muscovy ducks.  
 Donald Skinker and William Wohlfarth, Washington, D. C., 3 garter snakes.  
 Joy Eloise Smith, Washington, D. C., 2 Pekin ducks.  
 R. Smith, Washington, D. C., Pekin duck.  
 Smithsonian-Firestone Expedition to Liberia—see field work.  
 Soldiers' Home, Washington, D. C., red-shouldered hawk.  
 W. H. Sterling, West Falls Church, Va., black widow spider.  
 Louis Stone, Washington, D. C., mole snake.  
 Rex Sullivan, Hudson, N. C., smooth green snake.  
 Miss L. C. Tait, Washington, D. C., zebra finch.  
 Clifton Taylor, Hyattsville, Md., snapping turtle, king or chain snake.  
 Robert Thulman, Chevy Chase, Md., white king pigeon.  
 Patricia and Terry Townsend, Washington, D. C., Pekin duck.  
 Miss J. Tendrik, Washington, D. C., Pekin duck.  
 Tropical Fruit Shop, Washington, D. C., opossum.  
 Dr. W. G. Trow, Warrenton, Va., barred owl.  
 U. S. Antarctic Service, Washington, D. C., 3 emperor penguins, 4 Gentoow penguins, 2 kelp gulls, giant fulmar.  
 J. W. Urban, Arlington, Va., society finch, zebra finch.  
 Albert Valeer, Washington, D. C., 3 common rabbits.  
 Guillermo Valenzuela, Matagalpa, Nicaragua, Nicaraguan titi monkey.  
 Ernest P. Walker, National Zoological Park, Washington, D. C., 5 ornate turtles, bull snake.  
 Washington National Airport, Dispensary Building, ring-billed gull.  
 Mrs. Way, Washington, D. C., 3 alligators.  
 Mrs. Lena White, Harpers Ferry, W. Va., double yellow-head parrot.  
 Karl Weissman, Kew Gardens, Long Island, N. Y., brown capuchin.  
 Mrs. Martin Welch, Seat Pleasant, Md., opossum.  
 Jess Williams, Washington, D. C., barred owl.  
 Lanier Williams, Washington, D. C., water snake, milk snake.  
 Shirley Ann Williams, Washington, D. C., sparrow hawk.  
 Miss Katherine A. Zehrfeld, Washington, D. C., alligator.

#### BIRTHS

There were 70 mammals born, 49 birds hatched, and 14 reptiles born or hatched during the year.



## MAMMALS

Scientific name	Common name	Number
<i>Ammotragus lervia</i> .....	Aoudad.....	3
<i>Aotus trivirgatus</i> .....	Douroucouli or owl monkey.....	2
<i>Axis axis</i> .....	Axis deer.....	2
<i>Bison bison</i> .....	American bison.....	3
<i>Bos indicus</i> .....	Zebu.....	1
<i>Canis dingo</i> .....	Dingo.....	3
<i>Canis lupus nubilus</i> .....	Plains wolf.....	4
<i>Canis rufus</i> .....	Texas red wolf.....	9
<i>Cervus elaphus</i> .....	European red deer.....	1
<i>Choeropsis liberiensis</i> .....	Pigmy hippopotamus.....	1
<i>Cricetus cricetus</i> subsp.....	Golden hamster.....	9
<i>Dama dama</i> .....	Fallow deer.....	4
<i>Dendrolagus inustus</i> .....	Tree kangaroo.....	1
<i>Dolichotis magellanica</i> .....	Patagonian cavy.....	3
<i>Felis onca</i> .....	Jaguar.....	2
<i>Lama pacos</i> .....	Alpaca.....	1
<i>Leontocebus rosalia</i> .....	Lion-headed or golden marmoset.....	2
<i>Macaca mulatta</i> .....	Rhesus monkey.....	1
<i>Macaca nemestrina</i> .....	Pig-tailed macaque.....	1
<i>Myocastor coypu</i> .....	Coypu or nutria.....	3
<i>Oncifelis geoffroyi</i> .....	Geoffroy's cat.....	1
<i>Petaurus breviceps</i> .....	Lesser flying phalanger.....	6
<i>Procyon lotor</i> .....	Black raccoon.....	5
<i>Vulpes fulva</i> .....	Red fox.....	2

## BIRDS

<i>Branta canadensis</i> .....	Canada goose.....	16
<i>Guara alba</i> × <i>G. rubra</i> .....	Hybrid ibis.....	1
<i>Limnocorax flavirostra</i> .....	African black rail.....	4
<i>Nycticorax nycticorax naevius</i> .....	Black-crowned night heron.....	16
<i>Pavo cristatus</i> .....	Blue peafowl.....	12

## REPTILES

<i>Crotalus adamanteus</i> .....	Florida diamond-backed rattle-snake.....	14
----------------------------------	--	----

## EXCHANGES

There were not a great number of specimens received during the year through the medium of exchange. Ennio Arrigutti, Buenos Aires, Argentina, continued his shipments of desirable South American animals. The New York Zoological Park sent a purple-crested plantain eater. A pair of green Japanese pheasants was received from the Miami Rare Bird Farm, Miami, Fla. Several shipments of reptiles have again been received from C. W. Kern, Tujunga, Calif.

## PURCHASES

The more important specimens acquired by purchase were a harpy eagle and a pair of South American bush dogs, three naked-throated

bell birds, a pair of raccoon dogs, a pair of Chinese badgers and a pair of Peruvian viscachas. Also purchased during the year were a pair each of vicunas and llamas. This completed our exhibit of all the American representatives of the camel family.

## REMOVALS

## DEATHS

A most serious loss during the year was the number of birds, mostly parrots, which died as the result of an epidemic of psittacosis in the bird house. A number of birds suspected of having the disease were put to death. The entire building was closed, on advice of the Department of Health, District of Columbia, for about 3 months. The parrot room is still closed to the public. It is believed that the situation is now well on the way to being cleared. Other losses included several chevrotain, and an East African leopard, the last of the lot received in 1926 from the Smithsonian-Chrysler expedition. A brown hyena which had been in the collection since 1928 died during the year. As in the past, all specimens of scientific value that died during the year were sent to the National Museum.

## SPECIES NEW TO THE HISTORY OF THE COLLECTION

## MAMMALS

<i>Scientific name</i>	<i>Common name</i>
<i>Cephalophus niger</i> .....	Black duiker.
<i>Cephalophus nigrifrons</i> .....	Black-fronted duiker.
<i>Euxerus erythropus lacustris</i> .....	African ground squirrel.
<i>Galerella melanura</i> .....	Dwarf civet.
<i>Genetta poensis</i> .....	Dark genet.
<i>Lagidium viscaccia</i> .....	Peruvian viscacha.
<i>Meles meles leptorhynchus</i> .....	Chinese badger.
<i>Nandinia binotata</i> .....	African palm civet.

## BIRDS

<i>Buteo poecilochrous</i> .....	Red-backed buzzard.
<i>Gallirex porphyreolophus</i> .....	Purple-crested plantain eater.
<i>Gypohierax angolensis</i> .....	Fish-eating vulture.
<i>Larus dominicanus</i> .....	Kelp gull.
<i>Macronectes giganteus</i> .....	Giant fulmar.
<i>Pygoscelis papua</i> .....	Gentoo penguin.

## REPTILES

<i>Kinixys erosa</i> .....	West African back-hinged tortoise.
----------------------------	------------------------------------

## Statement of accessions

How acquired	Mammals	Birds	Reptiles	Amphibians	Fishes	Arachnids	Total
Presented.....	80	207	165	10	10	3	475
Born or hatched.....	70	49	14				133
Received in exchange.....	16	40	39	34			129
Purchased.....	13	57	16	2	50		138
On deposit.....	18	34					52
Received from Smithsonian-Firestone Expedition to Liberia.....	41	31	23	15			110
Received from Antarctic Expedition.....		10					10
Totals.....	238	428	257	61	60	3	1,047

## Summary

Animals on hand July 1, 1940.....	2,550
Accessions during the year.....	1,047
Total animals in collection during year.....	3,597
Removal from collection by death, exchange, and return of animals on deposit.....	1,217
In collection June 30, 1941.....	2,380

## Status of collection

Class	Species	Individuals	Class	Species	Individuals
Mammals.....	221	701	Insects.....	1	26
Birds.....	327	980	Mollusks.....	1	5
Reptiles.....	124	439	Crustaceans.....	1	3
Amphibians.....	23	79	Total.....	730	2,380
Fishes.....	30	144			
Arachnids.....	2	3			

A list of the animals in the collection follows:

## ANIMALS IN THE NATIONAL ZOOLOGICAL PARK, JUNE 30, 1941

## MAMMALS

## MARSUPIALIA

## Didelphidae:

*Didelphis virginiana*..... Opossum..... 4

## Dasyuridae:

*Sarcophilus ursinus*..... Tasmanian devil..... 1

## Phalangeridae:

*Petaurus breviceps*..... Lesser flying phalanger..... 9

*Trichosurus vulpecula*..... Vulpine opossum..... 1

## Macropodidae:

*Dendrolagus inustus*..... Tree kangaroo..... 3

*Dendrolagus inustus finschi*..... Finsches tree kangaroo..... 3

*Dendrolagus ursinus* × *D. inustus*..... Hybrid tree kangaroo..... 1

## Phascolomyidae:

*Vombatula ursina*..... Flinders Island wombat..... 2

## CHIROPTERA

## Vespertilionidae:

<i>Eptesicus fuscus</i> .....	Large brown bat.....	1
-------------------------------	----------------------	---

## CARNIVORA

## Felidae:

<i>Acinonyx jubatus</i> .....	Cheeta.....	2
<i>Felis chaus</i> .....	Jungle cat.....	1
<i>Felis concolor puma</i> .....	Patagonian puma.....	1
<i>Felis leo</i> .....	Lion.....	5
<i>Felis onca</i> .....	{Jaguar.....	4
	{Black jaguar.....	2
<i>Felis pardalis</i> .....	Ocelot.....	3
<i>Felis pardus</i> .....	{Indian leopard.....	5
	{Black Indian leopard.....	2
<i>Felis tigrina</i> .....	Margay.....	1
<i>Felis tigris</i> .....	Bengal tiger.....	2
<i>Felis tigris longipilis</i> .....	Siberian tiger.....	1
<i>Felis tigris sondaicus</i> .....	Sumatran tiger.....	4
<i>Lynx baileyi</i> .....	Bailey's lynx.....	1
<i>Lynx rufus</i> .....	Bay lynx.....	3
<i>Lynx uinta</i> .....	Bobcat.....	1
<i>Neofelis nebulosa</i> .....	Clouded leopard.....	1
<i>Oncifelis geoffroyi</i> .....	Geoffroy's cat.....	4
<i>Profelis temmincki</i> .....	Golden cat.....	3

## Viverridae:

<i>Arctictis binturong</i> .....	Binturong.....	1
<i>Civettictis civetta</i> .....	Civet.....	2
<i>Galerella melanura</i> .....	Dwarf civet.....	1
<i>Moschothera megalaspila</i> .....	Burmese civet.....	1
<i>Nandinia binotata</i> .....	African palm civet.....	1
<i>Paradoxurus hermaphroditus</i> .....	Small-toothed palm civet.....	1

## Hyenidae:

<i>Crocuta crocuta germinans</i> .....	East African spotted hyena.....	1
--	---------------------------------	---

## Canidae:

<i>Canis latrans</i> .....	Coyote.....	7
<i>Canis latrans</i> × <i>domestica</i> .....	Coyote and dog hybrid.....	2
<i>Canis lupus lycaon</i> .....	Timber wolf.....	2
<i>Canis lupus nubilus</i> .....	Wolf.....	4
<i>Canis rufus</i> .....	Texas red wolf.....	7
<i>Chrysocyon jubata</i> .....	Maned wolf.....	1
<i>Cuon javanicus sumatrensis</i> .....	Sumatran wild dog.....	1
<i>Dusicyon</i> sp.....	South American fox.....	1
<i>Dusicyon</i> sp.....	South American fox.....	5
<i>Urocyon cinereoargenteus</i> .....	Gray fox.....	6
<i>Vulpes fulva</i> .....	Red fox.....	12

## Procyonidae:

<i>Nasua narica</i> .....	Coatimundi.....	4
<i>Potos flavus</i> .....	Kinkajou.....	5
	Raccoon.....	7
<i>Procyon lotor</i> .....	Raccoon (albino).....	1
	Black raccoon.....	8

## Bassariscidae:

<i>Bassariscus astutus</i> .....	Ring-tail or cacomistle.....	3
----------------------------------	------------------------------	---

## Mustelidae:

<i>Arctonyx collaris</i> .....	Hog badger.....	1
<i>Atilax pluto</i> .....	Water civet.....	1
<i>Charronia flavigula henricii</i> .....	Asiatic marten.....	1
<i>Galictis barbara-barbara</i> .....	White tayra.....	2
<i>Galictis</i> sp.....	Brown tayra.....	1
<i>Grison allamandi</i> .....	Huron.....	1
<i>Grisonella huronax</i> .....	Grison.....	2
<i>Gulo luscus</i> .....	Wolverine.....	1
<i>Lutra canadensis vaga</i> .....	Florida otter.....	1
<i>Meles meles</i> .....	European badger.....	2
<i>Mellivora capensis</i> .....	Ratel.....	1
<i>Mephitis nigra</i> .....	Skunk.....	16
<i>Micraonyx leptonyx</i> .....	Small-clawed otter.....	1
<i>Mustela eversmanni</i> .....	Ferret.....	1
<i>Mustela noveboracensis</i> .....	Weasel.....	2
<i>Mustela vison vison</i> .....	Mink.....	1

## Ursidae:

<i>Euarctos americanus</i> .....	American black bear.....	4
<i>Euarctos emmonsii</i> .....	Glacier bear.....	1
<i>Helarctos malayanus</i> .....	Malay or sun bear.....	1
<i>Thalarctos maritimus</i> .....	Polar bear.....	2
<i>Thalarctos maritimus</i> × <i>Ursus middendorffi</i> .....	Hybrid bear.....	5
<i>Ursus arctos</i> .....	European brown bear.....	1
<i>Ursus gyas</i> .....	Alaska Peninsula bear.....	4
<i>Ursus middendorffi</i> .....	Kodiak brown bear.....	3
<i>Ursus sitkensis</i> .....	Sitka brown bear.....	3
<i>Ursus thibetanus</i> .....	Himalayan bear.....	3

## PINNIPEDIA

## Otariidae:

<i>Zalophus californianus</i> .....	California sea lion.....	1
-------------------------------------	--------------------------	---

## Phocidae:

<i>Phoca richardii</i> .....	Pacific harbor seal.....	3
------------------------------	--------------------------	---

## PRIMATES

## Lemuridae:

<i>Nycticebus coucang</i> .....	Slow loris.....	4
<i>Perodicticus potto</i> .....	Potto.....	1

## Callitrichidae:

<i>Callithrix jacchus</i> .....	Common marmoset.....	1
<i>Leontocebus rosalia</i> .....	Lion-headed or golden marmoset.....	2
<i>Mico argentata</i> .....	Black-tailed marmoset.....	1
<i>Oedipomidas oedipus</i> .....	Pinche tamarin.....	1

## Saimiridae:

<i>Saimiri</i> sp.....	Nicaraguan titi monkey.....	2
------------------------	-----------------------------	---

## Cebidae:

<i>Aotus trivirgatus</i> .....	Douroucouli or owl monkey.....	8
<i>Cebus apella</i> .....	Brown capuchin.....	7
<i>Cebus capucinus</i> .....	White-throated capuchin.....	1
<i>Cebus fatuellus</i> .....	Weeping capuchin.....	3
<i>Cebus</i> sp.....	Gray capuchin.....	1
<i>Pithecia monacha</i> .....	Saki monkey.....	1

## Cercopithecidae :

<i>Cercocebus fuliginosus</i> .....	Sooty mangabey.....	19
<i>Cercopithecus aethiops aethiops</i> .....	Grivet monkey.....	1
<i>Cercopithecus aethiops sabaeus</i> .....	Green guenon.....	7
<i>Cercopithecus diana</i> .....	Diana monkey.....	1
<i>Cercopithecus neglectus</i> .....	De Brazza's guenon.....	1
<i>Cercopithecus petaurista</i> .....	Lesser white-nosed guenon.....	1
<i>Cercopithecus roloway</i> .....	Roloway monkey.....	1
<i>Erythrocebus patas</i> .....	Patas monkey.....	2
<i>Macaca fuscata</i> .....	Japanese monkey.....	2
<i>Macaca lasiotis</i> .....	Chinese macaque.....	2
<i>Macaca mordax</i> .....	Javan monkey.....	9
<i>Macaca mulatta</i> .....	Rhesus monkey.....	4
<i>Macaca nemestrina</i> .....	Pig-tailed macaque.....	6
<i>Macaca silenus</i> .....	Wanderoo monkey.....	1
<i>Macaca sinica</i> .....	Toque or bonnet monkey.....	3
<i>Magus maurus</i> .....	Moor monkey.....	5
<i>Mandrillus leucophaeus</i> .....	Drill.....	1
<i>Mandrillus sphinx</i> .....	Mandrill.....	3
<i>Papio comatus</i> .....	Chacma.....	1
<i>Papio papio</i> .....	West African baboon.....	1
<i>Papio sp.</i> .....	West African baboon.....	1
<i>Presbytis senex nestor</i> .....	Western purple-faced monkey.....	2

## Hylobatidae :

<i>Hylobates agilis</i> .....	Sumatran gibbon.....	1
<i>Hylobates lar pileatus</i> .....	Black-capped gibbon.....	1
<i>Symphalangus syndactylus</i> .....	Siamang gibbon.....	1

## Pongidae :

<i>Pan satyrus</i> .....	Chimpanzee.....	4
<i>Pan satyrus verus</i> .....	Western chimpanzee.....	1
<i>Pongo abelii</i> .....	Sumatran orangutan.....	2
<i>Pongo pygmaeus</i> .....	Bornean orangutan.....	1

## RODENTIA

## Sciuridae :

<i>Ammospermophilus leucurus</i> .....	Antelope squirrel.....	4
<i>Citellus mollis</i> .....	Soft-haired ground squirrel.....	4
<i>Cynomys ludovicianus</i> .....	Prairie dog.....	16
<i>Glaucomys volans</i> .....	Flying squirrel.....	1
<i>Marmota monax</i> .....	Woodchuck or ground hog.....	3
<i>Sciurus finlaysoni</i> .....	Lesser white squirrel.....	2
<i>Sciurus niger</i> .....	Southern fox squirrel.....	3
<i>Tamias striatus</i> .....	Eastern chipmunk.....	3
<i>Tamiasciurus hudsonicus</i> .....	Red squirrel.....	1

## Heteromyidae :

<i>Dipodomys deserti</i> .....	Desert kangaroo rat.....	1
<i>Dipodomys merriami</i> .....	Merriam kangaroo rat.....	1

## Jaculidae :

<i>Jaculus jaculus</i> .....	Egyptian jerboa.....	1
------------------------------	----------------------	---

## Castoridae :

<i>Castor canadensis</i> .....	Beaver.....	1
--------------------------------	-------------	---

## Cricetidae:

<i>Cricetus cricetus</i> subsp.....	Golden hamsters.....	23
<i>Cricetomys gambianus</i> .....	Gambia pouched rat.....	6
<i>Neotoma floridana attwateri</i> .....	Round-tailed wood rat.....	1
<i>Ondatra zibethica</i> .....	Black muskrat.....	1
<i>Peromyscus californicus</i> .....	Long-tailed mouse.....	1
<i>Peromyscus leucopus</i> .....	White-footed mouse.....	6
<i>Peromyscus leucopus noveboracensis</i> .....	Northern white-footed mouse.....	2
<i>Peromyscus maniculatus</i> .....	White-footed mouse.....	2
<i>Peromyscus maniculatus osgoodi</i> .....	Black-eared deer mouse.....	1
<i>Peromyscus polionotus polionotus</i> .....	Old-field mouse.....	1

## Muridae:

<i>Rattus norvegicus</i> (albino).....	White rat.....	2
--	----------------	---

## Hystricidae:

<i>Acanthion brachyurum</i> .....	Malay porcupine.....	5
<i>Atherurus africana</i> .....	West African brush-tailed porcupine.....	3
<i>Hystrix galeata</i> .....	East African porcupine.....	2
<i>Thecurus sumatrae</i> .....	Brush-tailed porcupine.....	1

## Erethizontidae:

<i>Coendou prehensilis</i> .....	Prehensile-tailed porcupine.....	2
<i>Erithizon dorsatum</i> .....	Eastern porcupine.....	1
<i>Erithizon epixanthum</i> .....	Western porcupine.....	1

## Myocastoridae:

<i>Myocastor coypu</i> .....	Nutria.....	19
------------------------------	-------------	----

## Capromyidae:

<i>Capromys pilorides</i> .....	Hutia.....	1
---------------------------------	------------	---

## Cuniculidae:

<i>Cuniculus paca virgatus</i> .....	Central American paca.....	1
--------------------------------------	----------------------------	---

## Dasyproctidae:

<i>Dasyprocta croconota prymnolopha</i> .....	Agouti.....	2
---	-------------	---

## Chinchillidae:

<i>Lagidium viscaccia</i> .....	Peruvian viscacha.....	2
---------------------------------	------------------------	---

## Caviidae:

<i>Cavia porcellus</i> .....	Domestic guinea pig.....	25
<i>Cavia porcellus</i> .....	Domestic guinea pig (angora breed).....	3
<i>Dolichotis magellanica</i> .....	Patagonian cavy.....	5
<i>Pediolagus salinicola</i> .....	Dwarf cavy.....	1

## LAGOMORPHA

## Leporidae:

<i>Oryctolagus cuniculus</i> .....	Domestic rabbit.....	7
------------------------------------	----------------------	---

## ARTIODACTYLA

## Bovidae:

<i>Ammotragus lervia</i> .....	Aoudad.....	19
<i>Anoa depressicornis</i> .....	Anoa.....	2
<i>Bibos gaurus</i> .....	Gaur.....	3
<i>Bison bison</i> .....	{ American bison.....	19
	{ Albino bison.....	1
<i>Bos indicus</i> .....	Zebu.....	4
<i>Bubalus bubalis</i> .....	Indian buffalo.....	1

## Bovidae—Continued.

<i>Cephalophus niger</i> .....	Duiker.....	2
<i>Cephalophus nigrifrons</i> .....	Black-fronted duiker.....	3
<i>Connochaetes gnu</i> .....	White-tailed gnu.....	2
<i>Hemitragus jemlahicus</i> .....	Tahr.....	4
<i>Oryx beisa annectens</i> .....	Ibean beisa oryx.....	2
<i>Ovis europaeus</i> .....	Mouflon.....	2
<i>Poephagus grunniens</i> .....	Yak.....	6
<i>Pseudois nahura</i> .....	Bharal or blue sheep.....	5
<i>Synceros caffer</i> .....	African buffalo.....	2
<i>Taurotragus oryx</i> .....	Eland.....	3

## Cervidae:

<i>Axis axis</i> .....	Axis deer.....	9
<i>Cervus canadensis</i> .....	Wapiti.....	3
<i>Cervus duvaucelii</i> .....	Barasingha deer.....	2
<i>Cervus elaphus</i> .....	European red deer.....	14
<i>Dama dama</i> .....	{ Brown fallow deer.....	11
	{ White fallow deer.....	14
<i>Muntiacus muntjak</i> .....	Rib-faced or barking deer.....	1
<i>Muntiacus sinensis</i> .....	Chinese rib-faced deer.....	1
<i>Odocoileus costaricensis</i> .....	Costa Rican deer.....	1
<i>Odocoileus virginianus</i> .....	Virginia deer.....	3
<i>Sika nippon</i> .....	Japanese deer.....	2

## Tragulidae:

<i>Tragulus javanicus</i> .....	Javan mouse deer.....	1
---------------------------------	-----------------------	---

## Giraffidae:

<i>Giraffa camelopardalis</i> .....	Nubian giraffe.....	4
<i>Giraffa reticulata</i> .....	Reticulated giraffe.....	2

## Camelidae:

<i>Camelus bactrianus</i> .....	Bactrian camel.....	3
<i>Lama glama</i> .....	Llama.....	2
<i>Lama huanacus</i> .....	Guanaco.....	2
<i>Lama pacos</i> .....	Alpaca.....	2
<i>Vicugna vicugna</i> .....	Vicuna.....	2

## Tayassuidae:

<i>Pecari angulatus</i> .....	Collared peccary.....	3
<i>Tayassu pecari</i> .....	White-lipped peccary.....	1

## Suidae:

<i>Babirussa cfurus</i> .....	Babirussa.....	3
<i>Phacochoerus aethiopicus massaicus</i> .....	East African wart hog.....	1
<i>Sus scrofa</i> .....	European wild boar.....	1

## Hippopotamidae:

<i>Choeropsis liberiensis</i> .....	Pigmy hippopotamus.....	5
<i>Hippopotamus amphibius</i> .....	Hippopotamus.....	2

## PERISSODACTYLA

## Equidae:

<i>Equus grevyi</i> .....	Grevy's zebra.....	1
<i>Equus grevyi-asinus</i> .....	Zebra-ass hybrid.....	1
<i>Equus grevyi-caballus</i> .....	Zebra-horse hybrid.....	1
<i>Equus kiang</i> .....	Asiatic wild ass or kiang.....	2
<i>Equus przewalskii</i> .....	Mongolian wild horse.....	3
<i>Equus quagga chapmani</i> .....	Chapman's zebra.....	7
<i>Equus zebra</i> .....	Mountain zebra.....	1



## Tapiridae:

<i>Acrocodia indica</i> .....	Asiatic tapir.....	2
<i>Tapirella bairdii</i> .....	Central American tapir.....	1
<i>Tapirus terrestris</i> .....	South American tapir.....	2

## Rhinocerotidae:

<i>Diceros bicornis</i> .....	Black rhinoceros.....	1
<i>Rhinoceros unicornis</i> .....	Great Indian one-horned rhinoceros..	1

## PROBOSCIDEA

## Elephantidae:

<i>Elephas sumatranus</i> .....	Sumatran elephant.....	1
<i>Loxodonta africana oxyotis</i> .....	African elephant.....	1

## EDENTATA

## Choloepodidae:

<i>Choloepus didactylus</i> .....	Two-toed sloth.....	1
-----------------------------------	---------------------	---

## Dasypodidae:

<i>Chaetophractus villosus</i> .....	Hairy armadillo.....	1
<i>Dasypus novemcinctus</i> .....	Nine-banded armadillo.....	1

## BIRDS

## STRUTHIONIFORMES

## Struthionidae:

<i>Struthio camelus</i> .....	South African ostrich.....	1
-------------------------------	----------------------------	---

## RHEIFORMES

## Rheidae:

<i>Rhea americana</i> .....	{ Common rhea or nandu.....	3
	{ White rhea.....	3

## CASUARIIFORMES

## Casuariidae:

<i>Casuarus bennetti</i> .....	Bennett's cassowary.....	1
<i>Casuarus</i> sp.....	—— cassowary.....	1
<i>Casuarus unappendiculatus</i> .....	Single-wattled cassowary.....	3

## Dromiceidae:

<i>Dromiceius novaehollandiae</i> .....	Common emu.....	2
---	-----------------	---

## SPHENISCIFORMES

## Spheniscidae:

<i>Aptenodytes forsteri</i> .....	Emperor penguin.....	3
<i>Pygoscelis papua</i> .....	Gentoo penguin.....	3
<i>Spheniscus demersus</i> .....	Jackass penguin.....	4

## TINAMIFORMES

## Tinamidae:

<i>Calopezus elegans</i> .....	Crested tinamou.....	2
<i>Nothura maculosa</i> .....	Spotted tinamou.....	1

## PELECANIFORMES

## Pelecanidae:

<i>Pelecanus californicus</i> .....	California brown pelican.....	2
<i>Pelecanus conspicillatus</i> .....	Australian pelican.....	5
<i>Pelecanus erythrorhynchos</i> .....	American white pelican.....	5

## Pelecanidae—Continued.

<i>Pelecanus erythrorhynchos</i> × <i>P. occidentalis</i> .....	American white and brown pelican (hybrid).....	1
<i>Pelecanus occidentalis</i> .....	Brown pelican.....	2
<i>Pelecanus onocrotalus</i> .....	European pelican.....	2
<i>Pelecanus roseus</i> .....	Rose-colored pelican.....	2
Sulidae:		
<i>Morus bassanus</i> .....	Gannet.....	1
Phalacrocoracidae:		
<i>Phalacrocorax auritus albociliatus</i> .....	Farallon cormorant.....	1
<i>Phalacrocorax auritus floridanus</i> .....	Florida cormorant.....	1
Anhingidae:		
<i>Anhinga anhinga</i> .....	Anhinga.....	1
Fregatidae:		
<i>Fregata ariel</i> .....	Lesser frigate bird.....	2

## CICONIIFORMES

Ardeidae:		
<i>Ardea herodias</i> .....	Great blue heron.....	1
<i>Ardea occidentalis</i> .....	Great white heron.....	1
<i>Notophox novaehollandiae</i> .....	White-faced heron.....	1
<i>Nycticorax nycticorax naevius</i> .....	Black-crowned night heron.....	20
Cochleariidae:		
<i>Cochlearius cochlearius</i> .....	Boatbill heron.....	3
Ciconiidae:		
<i>Dissoura episcopus</i> .....	Woolly-necked stork.....	1
<i>Ephippiorhynchus senegalensis</i> .....	Saddle-billed stork.....	1
<i>Ibis cinereus</i> .....	Malay stork.....	2
<i>Leptoptilus crumeniferus</i> .....	Marabou.....	1
<i>Leptoptilus dubius</i> .....	Indian adjutant.....	1
<i>Leptoptilus javanicus</i> .....	Lesser adjutant.....	2
<i>Mycteria americana</i> .....	Wood ibis.....	1
Threskiornithidae:		
<i>Ajaia ajaja</i> .....	Roseate spoonbill.....	1
<i>Guara alba</i> .....	White ibis.....	2
<i>Guara alba</i> × <i>G. rubra</i> .....	Hybrid ibis (scarlet and white).....	1
<i>Guara rubra</i> .....	Scarlet ibis.....	2
<i>Threskiornis aethiopica</i> .....	Sacred ibis.....	2
<i>Threskiornis melanocephala</i> .....	Black-headed ibis.....	4
<i>Threskiornis spinicollis</i> .....	Straw-necked ibis.....	2
Phoenicopteridae:		
<i>Phoenicopus chilensis</i> .....	Chilean flamingo.....	2

## PROCELLARIIFORMES

Procellariidae:		
<i>Macronectes giganteus</i> .....	Giant fulmar.....	1

## ANSERIFORMES

Anhimidae:		
<i>Chauna cristata</i> .....	Crested screamer.....	9
Anatidae:		
<i>Aix sponsa</i> .....	Wood duck.....	9

## Anatidae—Continued.

<i>Alopochen aegyptiacus</i> .....	Egyptian goose.....	1
<i>Anas brasiliensis</i> .....	Brazilian teal.....	2
<i>Anas domestica</i> .....	Pekin duck.....	27
<i>Anas platyrhynchos</i> .....	Mallard duck.....	28
<i>Anas rubripes</i> .....	Black or dusty mallard.....	1
<i>Anser albifrons</i> .....	American white-fronted goose.....	3
<i>Anser cinereus domestica</i> .....	Toulouse goose.....	1
<i>Anserinas semipalmata</i> .....	Australian pied goose.....	2
<i>Branta bernicla</i> .....	Brant.....	1
<i>Branta canadensis</i> .....	Canada goose.....	20
<i>Branta canadensis minima</i> .....	Cackling goose.....	10
<i>Branta canadensis occidentalis</i> .....	White-cheeked goose.....	15
<i>Cairina moschata</i> .....	Muscovy duck.....	8
<i>Casarca variegata</i> .....	Paradise duck.....	1
<i>Cereopsis novaehollandiae</i> .....	Cereopsis or Cape Barren goose.....	1
<i>Chen atlantica</i> .....	Snow goose.....	7
<i>Chen caerulescens</i> .....	Blue goose.....	8
<i>Chenopsis atrata</i> .....	Black swan.....	4
<i>Chloephaga leucoptera</i> .....	Magellan goose.....	1
<i>Chloephaga poliocephala</i> .....	Ashy-headed upland goose.....	2
<i>Coscoroba coscoroba</i> .....	Coscoroba.....	2
<i>Cygnopsis cygnoides</i> .....	Chinese goose.....	3
<i>Cygnus columbianus</i> .....	Whistling swan.....	5
<i>Cygnus melancoriphus</i> .....	Black-necked swan.....	2
<i>Cygnus olor</i> .....	Mute swan.....	2
<i>Dafila acuta</i> .....	Pintail.....	8
<i>Dafila spinicauda</i> .....	Chilean pintail.....	1
<i>Dendrocygna arborea</i> .....	Black-billed tree duck.....	3
<i>Dendrocygna autumnalis</i> .....	Black-bellied tree duck.....	2
<i>Dendrocygna viduata</i> .....	White-faced tree duck.....	4
<i>Mareca americana</i> .....	Baldpate.....	1
<i>Marila affinis</i> .....	Lesser scaup.....	2
<i>Marila collaris</i> .....	Ring-necked duck.....	1
<i>Nettion carolinense</i> .....	Green-winged teal.....	1
<i>Nyroca</i> sp.....	Hybrid duck.....	1
<i>Nyroca valisineria</i> .....	Canvasback duck.....	2
<i>Plectropterus gambensis</i> .....	Spur-winged goose.....	2
<i>Querquedula discors</i> .....	Blue-winged teal.....	13

## FALCONIFORMES

## Cathartidae:

<i>Aegyptius monachus</i> .....	Cinereous vulture.....	1
<i>Cathartes aura</i> .....	Turkey vulture.....	3
<i>Cathartes aura</i> × <i>Coragyps atratus</i> .....	Black vulture and turkey vulture hybrid.....	1
<i>Coragyps atratus</i> .....	Black vulture.....	1
<i>Gymnogyps californianus</i> .....	California condor.....	2
<i>Gypohierax angolensis</i> .....	Fish-eating vulture.....	1
<i>Gyps rueppelli</i> .....	Ruppell's vulture.....	1
<i>Kaupifalco monogrammicus</i> .....	Northern lizard-buzzard.....	1
<i>Sarcoramphus papa</i> .....	King vulture.....	1
<i>Torgos tracheliotus</i> .....	African eared vulture.....	1
<i>Vultur gryphus</i> .....	South American condor.....	3

<b>Sagittariidae:</b>		
<i>Sagittarius serpentarius</i> .....	Secretary bird.....	2
<b>Accipitridae:</b>		
<i>Accipiter tachiro macroscelides</i> .....	West African goshawk.....	1
<i>Buteo borealis</i> .....	Red-tailed hawk.....	8
<i>Buteo lineatus</i> .....	Red-shouldered hawk.....	2
<i>Buteo melanoleucus</i> .....	South American buzzard eagle.....	2
<i>Buteo poecilochrous</i> .....	Red-backed buzzard.....	3
<i>Buteo swainsoni</i> .....	Swainson's hawk.....	1
<i>Haliaeetus leucocephalus</i> .....	Bald eagle.....	12
<i>Haliaeetus indus</i> .....	Brahminy kite.....	3
<i>Harpia harpya</i> .....	Harpy eagle.....	2
<i>Hypomorphnus urubitinga</i> .....	Brazilian eagle.....	1
<i>Milvago chimango</i> .....	Chimango.....	3
<i>Milvus migrans parasitus</i> .....	Yellow-billed kite.....	3
<i>Pandion haliaetus carolinensis</i> .....	Osprey or fish hawk.....	1
<i>Parabuteo unicinctus</i> .....	One-banded hawk.....	1
<i>Stephanoaetus coronatus</i> .....	Crowned hawk-eagle.....	3
<i>Uroaetus audax</i> .....	Wedge-tailed eagle.....	1
<b>Falconidae:</b>		
<i>Cerchneis sparverius</i> .....	Sparrow hawk.....	1
<i>Cerchneis sparverius cinnamominus</i> .....	Chilean sparrow hawk.....	2
<i>Daptrius americanus</i> .....	Carancho.....	3
<i>Polyborus cheriway</i> .....	Audubon's caracara.....	2
<i>Polyborus plancus</i> .....	South American caracara.....	1

## GALLIFORMES

<b>Cracidae:</b>		
<i>Crax fasciolata</i> .....	Crested curassow.....	3
<i>Crax rubra</i> .....	Panama curassow.....	1
<i>Crax sclateri</i> .....	Sclater's curassow.....	2
<i>Mitu mitu</i> .....	Razor-billed curassow.....	3
<i>Penelope</i> sp.....	Guan.....	2
<b>Phasianidae:</b>		
<i>Alectoris graeca</i> .....	Chukar partridge.....	1
<i>Argusianus argus</i> .....	Argus pheasant.....	2
<i>Chrysolophus amherstiae</i> .....	Lady Amherst's pheasant.....	1
<i>Chrysolophus pictus</i> .....	Golden pheasant.....	7
<i>Colinus virginianus</i> .....	Bobwhite.....	1
<i>Coturnix coturnix</i> .....	Migratory quail.....	5
<i>Excalfactoria chinensis</i> .....	Blue-breasted button quail.....	4
<i>Gallus gallus</i> .....	Jungle fowl.....	2
<i>Gallus lafayetti</i> .....	Ceylonese jungle fowl.....	1
<i>Gallus</i> sp.....	Bantam fowl.....	2
<i>Gallus</i> sp.....	Araucanian fowl.....	4
<i>Gallus</i> sp. × <i>Numida galeata</i> .....	Chicken and guinea fowl hybrid.....	2
<i>Gennaeus lineatus</i> .....	Lineated pheasant.....	1
<i>Gennaeus nycthemerus</i> .....	Silver pheasant.....	2
<i>Hierophasis swinhoii</i> .....	Swinhoe's pheasant.....	1
<i>Lophophorus impeyanus</i> .....	Himalayan impeyan pheasant.....	1
<i>Lophortyx californica vallicola</i> .....	Valley quail.....	2
<i>Lophura rubra</i> .....	Malayan fire-back pheasant.....	1
<i>Pavo cristatus</i> .....	Peafowl.....	13

## Phasianidae—Continued.

<i>Pavo muticus</i> -----	Green peafowl-----	1
<i>Phasianus torquatus</i> -----	{ Ring-necked pheasant-----	1
	{ White ring-necked pheasant-----	2
<i>Phasianus torquatus formosanus</i> -----	Formosan ring-necked pheasant-----	1
<i>Phasianus torquatus</i> (var.)-----	Melanistic mutant ring-necked pheasant-----	3
<i>Phasianus versicolor</i> -----	Green Japanese pheasant-----	4
<i>Polyplectron napoleonis</i> -----	Palawan peacock pheasant-----	1
<i>Symaticus reevesi</i> -----	Reeves' pheasant-----	1

## Numididae:

<i>Acryllium vulturinum</i> -----	Vulturine guinea fowl-----	1
<i>Numida</i> sp-----	Guinea fowl-----	4

## GRUIFORMES

## Gruidae:

<i>Anthropoides paradisea</i> -----	Paradise crane-----	2
<i>Anthropoides virgo</i> -----	Demoiselle crane-----	7
<i>Balearica pavonina</i> -----	West African crowned crane-----	3
<i>Balearica regulorum gibbericeps</i> -----	East African crowned crane-----	1
<i>Fulica americana</i> -----	American coot-----	10
<i>Grus canadensis canadensis</i> -----	Little brown crane-----	1
<i>Grus leucauchen</i> -----	White-naped crane-----	1
<i>Grus leucogeranus</i> -----	Siberian crane-----	2

## Rallidae:

<i>Gallinula chloropus cachinnans</i> -----	Florida gallinule-----	4
<i>Gallinula chloropus orientalis</i> -----	Sumatran gallinule-----	2
<i>Limnocorax flavirostra</i> -----	African black rail-----	10
<i>Porphyrio poliocephalus</i> -----	Gray-headed porphyrio-----	2

## Eurypygidae:

<i>Eurypyga helias</i> -----	Sun bittern-----	1
------------------------------	------------------	---

## Cariamidae:

<i>Cariama cristata</i> -----	Cariama or seriama-----	2
-------------------------------	-------------------------	---

## CHARADRIIFORMES

## Haematopodidae:

<i>Haematopus ostralegus</i> -----	European oyster catcher-----	2
------------------------------------	------------------------------	---

## Charadriidae:

<i>Belonopterus chilensis</i> -----	Chilean lapwing-----	2
-------------------------------------	----------------------	---

## Scolopacidae:

<i>Philomachus pugnax</i> -----	Ruff-----	1
---------------------------------	-----------	---

## Laridae:

<i>Larus argentatus</i> -----	Herring gull-----	1
<i>Larus delawarensis</i> -----	Ring-billed gull-----	1
<i>Larus dominicanus</i> -----	Kelp gull-----	2
<i>Larus glaucescens</i> -----	Glaucous-winged gull-----	1
<i>Larus novaehollandiae</i> -----	Silver gull-----	16

## COLUMBIFORMES

## Columbidae:

<i>Columbia guinea</i> -----	Triangular-spotted pigeon-----	1
<i>Columba livia</i> (domestic)-----	Archangel pigeon-----	1
<i>Columba livia</i> (domestic)-----	Fan-tailed pigeon-----	1
<i>Columba maculosa</i> -----	Spot-winged pigeon-----	1

## Columbidae—Continued.

<i>Columba palumbus</i> .....	Wood pigeon.....	1
<i>Ducula aenea</i> .....	Green imperial pigeon.....	1
<i>Goura cristata</i> .....	Sclater's crowned pigeon.....	1
<i>Goura victoria</i> .....	Victoria crowned pigeon.....	1
<i>Lamprotreron jambu</i> .....	Pink-headed fruit pigeon.....	1
<i>Leptotila rufaxilla</i> .....	Scaled pigeon.....	1
<i>Muscadivores paulina</i> .....	Celebian imperial pigeon.....	1
<i>Streptopelia chinensis</i> .....	Asiatic collared dove.....	3
<i>Streptopelia chinensis ceylonensis</i> .....	Lace-necked or ash dove.....	6
<i>Streptopelia semitorquata</i> .....	African red-eyed dove.....	1
<i>Turtur risorius</i> .....	Turtledove.....	7
<i>Tympanistria tympanistria fraseri</i> .....	Tambourine pigeon.....	2
<i>Zenaida auriculata</i> .....	South American mourning dove.....	11
<i>Zenaidura macroura</i> .....	Mourning dove.....	3

## PSITTACIFORMES

## Psittacidae:

<i>Agapornis pullaria</i> .....	Red-faced lovebird.....	12
<i>Ara ararauna</i> .....	Yellow and blue macaw.....	3
<i>Ara chloroptera</i> .....	Red and blue macaw.....	1
<i>Ara macao</i> .....	Red, blue, and yellow macaw.....	2
<i>Ara manilata</i> .....	Illiger's macaw.....	1
<i>Ara militaria</i> .....	Mexican green macaw.....	1
<i>Ara severa</i> .....	Severe macaw.....	1
<i>Aratinga euops</i> .....	Cuban conure.....	1
<i>Calyptorhynchus magnificus</i> .....	Banksian cockatoo.....	1
<i>Coracopsis nigra</i> .....	Lesser vasa parrot.....	1
<i>Cyanopsittacus spixi</i> .....	Spix's macaw.....	2
<i>Domicella flavopalliata</i> .....	Red lory.....	3
<i>Eclectus pectoralis</i> .....	Eclectus parrot.....	2
<i>Eolophus roseicapillus</i> .....	Roseate cockatoo.....	2
<i>Eupsittula canicularis</i> .....	Petz paroquet.....	1
<i>Kakatoe alba</i> .....	White cockatoo.....	2
<i>Kakatoe galerita</i> .....	Large sulphur-crested cockatoo.....	3
<i>Kakatoe leadbeateri</i> .....	Leadbeater's cockatoo.....	1
<i>Kakatoe moluccensis</i> .....	Great red-crested cockatoo.....	1
<i>Kakatoe sulphurea</i> .....	Lesser sulphur-crested cockatoo.....	5
<i>Kakatoe tenuirostris</i> .....	Slender-billed cockatoo.....	1
<i>Lorius domicella</i> .....	Rajah lory.....	2
<i>Lorius garrulus</i> .....	Lory.....	2
<i>Melopsittacus undulatus</i> .....	Grass parakeet.....	6
<i>Microglossus aterrimus</i> .....	Great black cockatoo.....	1
<i>Myopsitta monachus</i> .....	Quaker paroquet.....	1
<i>Nandayus nanday</i> .....	Nanday paroquet.....	1
<i>Nestor notabilis</i> .....	Kea.....	2
<i>Nymphicus hollandicus</i> .....	Cockatiel.....	1
<i>Pionites xanthomera</i> .....	Amazonian caique.....	2
<i>Psittacula eupatria</i> .....	Red-shouldered paroquet.....	4
<i>Psittacula krameri</i> .....	Kramer's paroquet.....	4
<i>Psittacula longicauda</i> .....	Long-tailed paroquet.....	2
<i>Psittacus erithacus</i> .....	African gray parrot.....	2
<i>Tanygnathus muelleri</i> .....	Mueller parrot.....	1
<i>Trichoglossus cyanogrammus</i> .....	Green-naped lory.....	1

## CUCULIFORMES

## Cuculidae:

<i>Centropus sinensis</i> .....	Sumatran coucal.....	1
<i>Eudynamis scolopaceus</i> .....	Koel.....	1
<i>Gallirex porphyreolophus</i> .....	Purple-crested plantain eater.....	1

## STRIGIFORMES

## Tytonidae:

<i>Tyto alba pratincola</i> .....	American barn owl.....	2
-----------------------------------	------------------------	---

## Strigidae:

<i>Bubo virginianus</i> .....	Great horned owl.....	11
<i>Ketupa ketupu</i> .....	Malay fish owl.....	1
<i>Otus asio</i> .....	Screech owl.....	2
<i>Strix varia varia</i> .....	Barred owl.....	6

## CAPRIMULGIFORMES

## Podargidae:

<i>Podargus strigoides</i> .....	Tawny frogmouth.....	1
----------------------------------	----------------------	---

## CORACIFORMES

## Alcedinidae:

<i>Dacelo gigas</i> .....	Kooka burra.....	2
<i>Halcyon pyrrhopygius</i> .....	Red-backed kingfisher.....	1
<i>Halcyon sanctus</i> .....	Sacred kingfisher.....	3

## Momotidae:

<i>Momotus lessoni</i> .....	Motmot.....	1
------------------------------	-------------	---

## Bucerotidae:

<i>Buceros rhinoceros</i> .....	Rhinoceros hornbill.....	1
<i>Bucorvus abyssinicus</i> .....	Abyssinian ground hornbill.....	2
<i>Ceratogymna elata</i> .....	Yellow-casqued hornbill.....	1
<i>Dichoceros bicornis</i> .....	Concave casque hornbill.....	1

## PICIFORMES

## Ramphastidae:

<i>Ramphastos carinatus</i> .....	Sulphur-breasted toucan.....	3
<i>Ramphastos piscivorus</i> .....	Toco toucan.....	3

## PASSERIFORMES

## Cotingidae:

<i>Procnias nudicollis</i> .....	Naked-throated bell bird.....	1
<i>Rupicola rupicola</i> .....	Cock of the rock.....	1

## Corvidae:

<i>Calocitta formosa</i> .....	Mexican magpie jay.....	1
<i>Cissa chinensis</i> .....	Chinese cissa.....	2
<i>Corvus albus</i> .....	White-breasted crow.....	2
<i>Corvus brachyrhynchos</i> .....	American crow.....	2
<i>Corvus cornix</i> .....	Hooded crow.....	2
<i>Corvus coronoides</i> .....	Australian crow.....	1
<i>Corvus cryptoleucus</i> .....	White-necked raven.....	4
<i>Corvus insolens</i> .....	Indian crow.....	3
<i>Cyanocitta cristata</i> .....	Blue jay.....	2
<i>Cyanocorax chrysops</i> .....	Urraca jay.....	2
<i>Cyanocorax cyanopogon</i> .....	White-naped jay.....	1
<i>Cyanocorax mystacalis</i> .....	Moustached jay.....	1

## Corvidae—Continued.

<i>Gymnorhina hypoleuca</i> .....	White-backed piping crow.....	3
<i>Pica nuttallii</i> .....	Yellow-billed magpie.....	1
<i>Pica pica hudsonia</i> .....	American magpie.....	1
<i>Urocissa occipitalis</i> .....	Red-billed blue magpie.....	1

## Paradisaeidae:

<i>Ailuroedus crassirostris</i> .....	Australian catbird.....	1
<i>Epmachus fastuosus</i> .....	Sickle-billed bird of paradise.....	1
<i>Ptilonorhynchus violaceus</i> .....	Satin bowerbird.....	1
<i>Seleucides niger</i> .....	12-wired bird of paradise.....	1
<i>Uranornis rubra</i> .....	Red bird of paradise.....	1

## Pycnonotidae:

<i>Otocompsa jocosus</i> .....	Red-eared bulbul.....	1
<i>Pycnonotus analis</i> .....	Yellow-vented bulbul.....	2
<i>Pycnonotus bidentatus</i> .....	Orange-spotted bulbul.....	2
<i>Rubigula dispar</i> .....	Red-throated bulbul.....	1
<i>Trachycomus zeylonicus</i> .....	Yellow-crowned bulbul.....	1

## Turdidae:

<i>Mesia argentauris</i> .....	Silver-eared mesia.....	1
<i>Mimocichla rubripes</i> .....	Western red-legged thrush.....	3
<i>Turdus grayi</i> .....	Bonaparte's thrush.....	1
<i>Turdus rufoventris</i> .....	Argentine robin.....	3

## Laniidae:

<i>Lanius dorsalis</i> .....	Teita fiscal shrike.....	1
------------------------------	--------------------------	---

## Sturnidae:

<i>Cosmopsaris regius</i> .....	Splendid starling.....	2
<i>Creatophora cinerea</i> .....	Wattled starling.....	1
<i>Galeopsar salvadorii</i> .....	Crested starling.....	1
<i>Gracula religiosa</i> .....	Southern hill mynah.....	1
<i>Molothrus bonariensis</i> .....	Shiny cowbird.....	1
<i>Trupialis defilippi</i> .....	Military starling.....	11

## Ploceidae:

<i>Coliuspasser ardens</i> .....	Red-necked whydah.....	1
<i>Diatropura procne</i> .....	Giant whydah.....	4
<i>Munia maja</i> .....	White-headed munia.....	12
<i>Munia molucca</i> .....	Black-throated munia.....	11
<i>Munia oryzivora</i> .....	Java sparrow.....	25
	White Java sparrow.....	1
<i>Munia punctulatus</i> .....	Rice bird or nutmeg finch.....	5
<i>Ploceus baya</i> .....	Baya weaver.....	5
<i>Ploceus intermedius</i> .....	Black-cheeked weaver.....	2
<i>Ploceus rubiginosus</i> .....	Chestnut-breasted weaver.....	2
<i>Poephila acuticauda</i> .....	Long-tailed finch.....	1
<i>Quelea sanguinirostris intermedia</i> .....	Southern masked weaver finch.....	8
<i>Steganura paradisea</i> .....	Paradise whydah.....	6
<i>Taeniopygia castanotis</i> .....	Zebra finch.....	2

## Icteridae:

<i>Agelaius assimilis</i> .....	Cuban red-winged blackbird.....	3
<i>Gymnomystax mexicanus</i> .....	Giant oriole.....	2
<i>Icterus icterus</i> .....	Troupial.....	4
<i>Notiopsar curaeus</i> .....	Chilean blackbird.....	8
<i>Xanthocephalus xanthocephalus</i> .....	Yellow-headed blackbird.....	3



## Fringillidae:

<i>Amandava amandava</i> .....	Strawberry finch.....	27
<i>Coryphospingus cucullatus</i> .....	Red-crested finch.....	2
<i>Cyanocompsa argentina</i> .....	Argentine blue grosbeak.....	2
<i>Diuca diuca</i> .....	Diuca finch.....	2
<i>Lophospingus pusillus</i> .....	Black-crested finch.....	4
<i>Melopyrrha nigra</i> .....	Cuban bullfinch.....	1
<i>Paroaria cucullata</i> .....	Brazilian cardinal.....	5
<i>Passerina ciris</i> .....	Painted bunting.....	1
<i>Pheucticus tibialis</i> .....	Yellow grosbeak.....	1
<i>Phrygilus fruticeti</i> .....	Mourning finch.....	16
<i>Phrygilus gayi</i> .....	Gay's gray-headed finch.....	7
<i>Serinus canarius</i> .....	Canary.....	1
<i>Sicalis flaveola</i> .....	Mysto finch.....	1
<i>Sicalis minor</i> .....	Lesser yellow finch.....	6
<i>Spinus psaltria</i> .....	Arkansas goldfinch.....	1
<i>Spinus uropygialis</i> .....	Chilean siskin.....	3
<i>Sporophila aurita</i> .....	Hick's seed-eater.....	2
<i>Sporophila gutturalis</i> .....	Yellow-bellied seed-eater.....	2
<i>Tiaris olivacea</i> .....	Mexican grassquit.....	1
<i>Uroloncha leucogastroides</i> .....	Society finch.....	1
<i>Volatinia jacarini</i> .....	Blue-black grassquit.....	1
<i>Zonotrichia capensis</i> .....	Chingolo.....	3

## REPTILES

## Crocodylidae:

## LORICATA

<i>Alligator mississippiensis</i> .....	Alligator.....	38
<i>Alligator sinensis</i> .....	Chinese alligator.....	3
<i>Caiman latirostris</i> .....	Broad-snouted caiman.....	1
<i>Caiman sclerops</i> .....	Spectacled caiman.....	3
<i>Crocodylus acutus</i> .....	American crocodile.....	1
<i>Crocodylus cataphractus</i> .....	Narrow-nosed crocodile.....	1
<i>Crocodylus niloticus</i> .....	African crocodile.....	1
<i>Crocodylus palustris</i> .....	"Toad" crocodile.....	2
<i>Crocodylus porosus</i> .....	Salt-water crocodile.....	1
<i>Osteolaemus tetraspis</i> .....	Broad-nosed crocodile.....	2

## Agamidae:

## SQUAMATA

<i>Physignathus lesueurii</i> .....	Lesueur's water dragon.....	1
-------------------------------------	-----------------------------	---

## Gekkonidae:

<i>Gecko gecko</i> .....	Gecko.....	4
--------------------------	------------	---

## Iguanidae:

<i>Anolis carolinensis</i> .....	False chameleon.....	25
<i>Anolis equestris</i> .....	Giant anolis.....	1
<i>Iguana iguana</i> .....	Iguana.....	1
<i>Phrynosoma cornutum</i> .....	Horned lizard.....	25
<i>Sauromatus obesus</i> .....	Chuckwalla.....	2
<i>Sceloporus undulatus</i> .....	Fence lizard.....	1

## Anguidae:

<i>Ophisaurus apus</i> .....	European glass snake.....	1
<i>Ophisaurus ventralis</i> .....	Glass snake.....	3

## Helodermatidae:

<i>Heloderma horridum</i> .....	Mexican beaded lizard.....	2
<i>Heloderma suspectum</i> .....	Gila monster.....	6

## Teiidae:

<i>Tupinambis nigropunctatus</i> .....	Tegu lizard.....	3
<i>Tupinambis rufescens</i> .....	Red tegu lizard.....	2
<i>Tupinambis teguixin</i> .....	Yellow tegu lizard.....	3

## Scincidae:

<i>Egernia cunninghami</i> .....	Cunningham's skink.....	3
<i>Tiliqua nigrolutea</i> .....	Mottled lizard.....	2
<i>Tiliqua scincoides</i> .....	Blue-tongued lizard.....	2

## Varanidae:

<i>Varanus komodoensis</i> .....	Komodo dragon.....	1
<i>Varanus niloticus</i> .....	African monitor.....	7
<i>Varanus salvator</i> .....	Sumatran monitor.....	10

## OPHIDIA

## Boidae:

<i>Boa cookii</i> .....	Cook's tree boa.....	1
<i>Constrictor constrictor</i> .....	Boa constrictor.....	2
<i>Epicrates cenchris</i> .....	Rainbow boa.....	7
<i>Epicrates crassus</i> .....	Salamanta.....	1
<i>Epicrates striatus</i> .....	Haitian boa.....	2
<i>Python molurus</i> .....	Indian rock python.....	3
<i>Python regius</i> .....	Ball python.....	1
<i>Python reticulatus</i> .....	Regal python.....	2
<i>Python sebae</i> .....	African rock python.....	2
<i>Tropidophis melanurus</i> .....	Cuban boa.....	1

## Colubridae:

<i>Aerochordus javanicus</i> .....	Elephant-trunk snake.....	1
<i>Coluber constrictor</i> .....	Black snake.....	2
<i>Cyclagras gigas</i> .....	Cobra-de-Paraguay.....	6
<i>Diadophis punctatus</i> .....	Ring-necked snake.....	1
<i>Dromicus dorsalis</i> .....	James Island snake.....	1
<i>Dromicus</i> sp.....	South Seymour Island snake.....	1
<i>Drymarchon corais couperi</i> .....	Indigo snake.....	5
<i>Elaphe guttata</i> .....	{ Corn snake.....	3
	{ Night snake.....	1
<i>Elaphe obsoleta</i> .....	{ Pilot snake.....	6
	{ White pilot snake.....	1
<i>Elphe quadrivittata</i> .....	Chicken snake.....	3
<i>Heterodon contortrix</i> .....	Hog-nosed snake.....	1
<i>Lampropeltis getulus floridana</i> .....	Florida king snake.....	2
<i>Lampropeltis getulus getulus</i> .....	King or chain snake.....	1
<i>Lampropeltis triangulum</i> .....	Milk snake.....	1
<i>Leimadophis poecilogyrus</i> .....	South American green snake.....	1
<i>Liophis miliaris</i> .....	South American brown snake.....	1
<i>Liopeltis vernalis</i> .....	Smooth green snake.....	1
<i>Natrix cyclopion</i> .....	Water snake.....	2
<i>Natrix</i> sp.....	Water snake.....	3
<i>Pituophis catenifer</i> .....	Western bull snake.....	1
<i>Thamnophis ordinoides</i> .....	California garter snake.....	1
<i>Thamnophis sirtalis concinnus</i> .....	Pacific garter snake.....	1
<i>Thamnophis sirtalis sirtalis</i> .....	Garter snake.....	15

## Elapidae:

<i>Naja hannah</i> .....	King cobra.....	1
<i>Naja tripudians sumatrana</i> .....	Sumatran black-hooded cobra.....	1
<i>Naja</i> sp.....	African black cobra.....	2

## Crotalidae:

<i>Agkistrodon mokasen</i> .....	Copperhead snake.....	2
<i>Agkistrodon piscivorus</i> .....	Water moccasin.....	1
<i>Crotalus adamanteus</i> .....	Florida diamond-backed rattle- snake.....	4
<i>Crotalus cerastes</i> .....	Sidewinder rattlesnake.....	7
<i>Crotalus cinereous</i> .....	Texas rattlesnake.....	6
<i>Crotalus horridus</i> .....	Banded rattlesnake.....	2
<i>Sistrurus miliarius</i> .....	Pigmy rattlesnake.....	1

## Viperidae:

<i>Bitis gabonica</i> .....	Gaboon viper.....	2
<i>Bitis nasicornis</i> .....	Rhinoceros viper.....	1

## TESTUDINATA

## Chelydidae:

<i>Batrachemys nasuta</i> .....	South American side-necked turtle.....	3
<i>Chelodina longicollis</i> .....	Australian snake-necked turtle.....	2
<i>Chelys fimbriata</i> .....	Matamata turtle.....	1
<i>Hydrapsis</i> sp.....	South American snake-necked turtle.....	4
<i>Hydromedusa tectifera</i> .....	South American snake-necked turtle.....	16

## Platysternidae:

<i>Platemys platycephala</i> .....	Flat-headed turtle.....	1
<i>Platysternum megacephalum</i> .....	Large-headed Chinese turtle.....	1

## Pelomedusidae:

<i>Pelomedusa galeata</i> .....	Common African water tortoise.....	2
<i>Podocnemis expansa</i> .....	South American river tortoise.....	1

## Kinosternidae:

<i>Kinosternon</i> sp.....	Central American musk turtle.....	1
<i>Kinosternon subrubrum</i> .....	Musk turtle.....	2

## Chelydridae:

<i>Chelydra serpentina</i> .....	Snapping turtle.....	8
<i>Macrochelys temminckii</i> .....	Alligator snapping turtle.....	1

## Testudinidae:

<i>Chrysemys picta</i> .....	Painted turtle.....	13
<i>Clemmys guttata</i> .....	Spotted turtle.....	6
<i>Clemmys insculpta</i> .....	Wood tortoise.....	3
<i>Clemmys mühlenbergii</i> .....	Muhlenberg's tortoise.....	1
<i>Cyclemys amboinensis</i> .....	Kura kura box turtle.....	6
<i>Deirochelys reticularia</i> .....	Chicken tortoise.....	1
<i>Emys blandingii</i> .....	Blanding's turtle.....	1
<i>Gopherus polyphemus</i> .....	Gopher turtle.....	1
<i>Graptemys geographica</i> .....	Geographic turtle.....	1
<i>Kinixys erosa</i> .....	West African back-hinged tortoise.....	4
<i>Malaclemmys centrata</i> .....	Diamond-back terrapin.....	9
<i>Pseudemys concinna</i> .....	Cooter.....	4
<i>Pseudemys decussata</i> .....	Haitian terrapin.....	1
<i>Pseudemys d'orbigny</i> .....	D'Orbigny's turtle.....	3
<i>Pseudemys elegans</i> .....	Cumberland terrapin.....	8
<i>Pseudemys floridana</i> .....	Florida terrapin.....	2
<i>Pseudemys malonei</i> .....	Fresh-water turtle.....	2
<i>Pseudemys ornata</i> .....	Ornate turtle.....	2
<i>Pseudemys rubriventris</i> .....	Red-bellied turtle.....	1
<i>Pseudemys rugosus</i> .....	Cuban terrapin.....	1
<i>Terrapene carolina</i> .....	Box tortoise.....	15

## Testudinidae—Continued.

<i>Terrapene ornata</i> .....	Ornate box turtle.....	5
<i>Testudo chilensis</i> .....	.....	9
<i>Testudo denticulata</i> .....	.....	2
<i>Testudo elegans</i> .....	Star tortoise.....	2
<i>Testudo emys</i> .....	Sumatran land tortoise.....	1
<i>Testudo ehippium</i> .....	Duncan Island tortoise.....	3
<i>Testudo hoodensis</i> .....	Hood Island tortoise.....	3
<i>Testudo tornieri</i> .....	Soft-shelled land tortoise.....	4
<i>Testudo vicina</i> .....	Albemarle Island tortoise.....	3

## Trionychidae:

<i>Amyda ferox</i> .....	Soft-shelled turtle.....	6
<i>Amyda triunguis</i> .....	West African soft-shelled turtle.....	2
<i>Trionyx cartilagineus</i> .....	Asiatic soft-shelled turtle.....	1

## AMPHIBIA

## CAUDATA

## Salamandridae:

<i>Triturus pyrrhogaster</i> .....	Red-bellied Japanese newt.....	1
<i>Triturus torosus</i> .....	California newt.....	12
<i>Triturus viridescens</i> .....	Common newt.....	2
<i>Triturus vulgaris</i> .....	Salamander.....	2

## Ambystomidae:

<i>Ambystoma maculatum</i> .....	Spotted salamander.....	2
<i>Megalobatrachus japonicus</i> .....	Giant salamander.....	1

## Amphiumidae:

<i>Amphiuma means</i> .....	Blind eel or Congo snake.....	2
<i>Amphiuma tridactylum</i> .....	Blind eel or Congo snake.....	1

## SALIENTIA

## Discoglossidae:

<i>Bombina bombina</i> .....	Fire-bellied toad.....	6
------------------------------	------------------------	---

## Dendrobatidae:

<i>Atelopus</i> sp.....	Spotted atelopus.....	1
<i>Dendrobates auratus</i> .....	Arrow-poison frog.....	3

## Bufonidae:

<i>Bufo americanus</i> .....	Common American toad.....	1
<i>Bufo empusus</i> .....	Sapo de concha.....	12
<i>Bufo marinus</i> .....	Marine toad.....	10
<i>Bufo peltoccephalus</i> .....	Cuban giant toad.....	5

## Ceratophryidae:

<i>Ceratophrys ornata</i> .....	Horned frog.....	2
<i>Ceratophrys varius</i> .....	Horned frog.....	6

## Hylidae:

<i>Hyla caerulea</i> .....	Australian tree frog.....	1
<i>Hyla versicolor</i> .....	Common tree frog.....	1

## Pipidae:

<i>Pipa americana</i> .....	Surinam toad.....	1
-----------------------------	-------------------	---

## Ranidae:

<i>Rana catesbiana</i> .....	American bullfrog.....	3
<i>Rana clamitans</i> .....	Green frog.....	3
<i>Rana occipitalis</i> .....	West African bullfrog.....	1

## FISHES

<i>Astronotus ocellatus</i> .....		3
<i>Botia macracanthus</i> .....	Clown loach.....	2
<i>Carnegiella strigata</i> .....	Striped hatchet fish.....	4
<i>Corydoras melanistius</i> .....	Armored catfish.....	5
<i>Epalzeorhynchus talopectus</i> .....	Black shark.....	4
<i>Hemigrammus unilineatus</i> .....		1
<i>Hyphessobrycon innesi</i> .....	Neon tetra fish.....	16
<i>Kryptopterus bicirrhus</i> .....	Glass catfish.....	4
<i>Lebistes reticulatus</i> .....	Guppy.....	25
<i>Lepidosiren paradoxa</i> .....	South American lungfish.....	3
<i>Leporinus fasciata</i> .....	Leopard fish.....	1
<i>Monocirrhus polyacanthus</i> .....	Leaf fish.....	1
<i>Nannostomus anomalus</i> .....		4
<i>Nannostomus marginatus</i> .....		2
<i>Nannostomus trilineatus</i> .....		2
<i>Nannostomus</i> sp.....		2
<i>Pantodon buchholzi</i> .....	Butterfly fish.....	2
<i>Platyocercus maculatus</i> .....	Goldplaties.....	10
<i>Plecostomus</i> sp.....	Window cleaner.....	4
<i>Pristella riddlei</i> .....		3
<i>Pterophyllum scalare</i> .....	Angel fish.....	4
<i>Puntius laterstrigga</i> .....		1
<i>Puntius partipentazona</i> .....	Red-finned barb.....	3
<i>Rasbora heteromorpha</i> .....	Rasbora.....	8
<i>Serrasalmus ternetzi</i> .....	Piranha or cannibal fish.....	1
<i>Tanichthys albonubes</i> .....	White Cloud Mountain fish.....	20
<i>Tilapia</i> sp.....	Mouth-breeding fish.....	3
<i>Trichogaster leerii</i> .....	3-spot gourami.....	3
<i>Xiphophorus helleri</i> .....	Sword-tail.....	1
.....	Black knife fish.....	2

## ARACHNIDS

<i>Eurypelma</i> sp.....	Tarantula.....	2
<i>Latrodectus mactans</i> .....	Black widow spider.....	1

## INSECTS

<i>Blaber</i> sp.....	Giant cockroach.....	26
-----------------------	----------------------	----

## MOLLUSKS

<i>Achatina variegata</i> .....	Giant land snail.....	5
---------------------------------	-----------------------	---

## CRUSTACEANS

<i>Coenobita clypeatus</i> .....	Land hermit crab.....	3
----------------------------------	-----------------------	---

Respectfully submitted.

W. M. MANN, *Director.*

Dr. C. G. ABBOT,  
*Secretary, Smithsonian Institution.*

## APPENDIX 8

### REPORT ON THE ASTROPHYSICAL OBSERVATORY

SIR: I have the honor to submit the following report on the activities of the Astrophysical Observatory for the fiscal year ended June 30, 1941:

#### WORK AT WASHINGTON

Messrs. Aldrich and Hoover, with assistance of computers Mrs. A. M. Bond, Miss L. Simpson, and Miss N. M. McCandlish, prepared in manuscript the immense table of daily solar-constant observations from 1923 to 1939. The table contains all individual observations in detail for the three stations, Montezuma, Table Mountain, and Mount St. Katherine. A single day sometimes involves in itself alone a subtable of 10 lines, 10 columns wide. Every solar-constant determination was scrutinized in detail from the original records before entry into the great table, and in very many instances recomputed to check discordant results. Mean values giving the most probable result of each day at each station were computed, and all were plotted on an extended scale. This plot made up a roll about 15 inches wide and 200 feet long.

In this form every day's values were scrutinized by C. G. Abbot, and discordances noted. As one result of his work in preparation of a paper entitled "An Important Weather Element Hitherto Generally Disregarded,"<sup>1</sup> Dr. Abbot had been strongly impressed by the fact that the solar variation is several times greater in percentage for blue-violet rays than for total radiation. This led him to investigate whether on discordant days the shorter wave length parts of the energy spectrum of the sun, as computed for outside our atmosphere, were also discordant. It proved that in many cases they were not, showing that errors had been made in other than the spectral parts of the determinations. Hence, the entire great table was gone through, and for all discordant days the blue-violet extra-atmospheric spectrum was reduced to comparable units by bringing all days to equality in the infrared region, where solar variation is nearly nil. Nearly a hundred pages of newly computed manuscript tables were required to set forth this information.

With this new information available, Dr. Abbot in many cases marked "improved preferred" daily values on the great chart for one

---

<sup>1</sup> Smithsonian Misc. Coll., vol. 101, No. 1, 1941.

or more of the stations, as dictated by the blue-violet spectrum. He then took the general mean for each day, not only of the untreated results, taking into account only the grades assigned by Messrs. Aldrich and Hoover for the separate stations, but also an "improved preferred" mean for perhaps one-fourth of all the days. These new means were the results preferred after considering the blue-violet spectrum. Both of these daily means were entered in the great table, so that when it is published, readers may use either the preferred general mean or the "improved preferred" general mean, as they please.

As the great table was thus being finished in manuscript, it was being typewritten by Miss M. A. Neill in preparation for the printer. By the end of the fiscal year it was almost finished for publication. In the meantime the rest of the manuscript for volume 6 of the Annals had been finished as far as possible by Dr. Abbot and typed by Miss Neill. But some changes and additions will be made after the inspection of the great table is completed. There appears every reason to hope that the entire manuscript of volume 6, including the great table and its subsidiaries, tables of 10-day and monthly means, will be in the printer's hands before New Year's Day.

The study of the great table led Dr. Abbot to reconsider whether the sun's variation might not be more effectively followed by observations limited to the blue-violet region of spectrum. He was at length able to devise a method which appears promising, and which has been introduced just at the end of the fiscal year at all three field stations. In brief, the method contemplates inserting in front of the spectrophotometer slit a glass filter which restricts the radiation to the desired blue-violet region. An exactly similar glass filter is inserted before the aperture of the pyrhelimeter. Knowing from the usual solar-constant work of the day the atmospheric transmission coefficients for blue-violet rays, it is possible to compute the extra-atmospheric energy spectrum of the restricted blue-violet spectrum given by the screened spectrophotometer. A comparison of the blue-violet energy spectra at the station and as computed for outside the atmosphere gives a factor to multiply the screened pyrhelimeter reading to what it would be outside the atmosphere.

In this way we restrict the observations to the most variable part of the observed solar spectrum, and avoid those spectral regions where ozone, water vapor, and extreme short and long wave lengths introduce great errors. We greatly hope that this new method will yield more reliable daily indications of the solar variation.

The necessary instrumental changes for introducing the new method were done by A. Kramer. He has also prepared special apparatus for solar distillation of sea water after Dr. Abbot's design, and many other required small jobs for the Observatory.

Dr. H. Arctowski continued his meteorological investigations relating to the effects of solar variation on atmospheric barometric pressure and temperature. His studies led to researches on the upper air. By courtesy of the Chief of the United States Weather Bureau a long series of daily nocturnal radio-meteorograph records were procured. Dr. Arctowski did very extensive computations and graphical representations with these data. At the end of about 18 months of strenuous investigation he prepared a paper illustrated by many plots and much tabular matter which will be found of source value hereafter. This paper will soon issue under a Roebling grant. Dr. Arctowski finds the important influence of solar variation on weather plainly obvious, but the manner of its operation extremely complex. He regards this first paper as merely introductory, and sees a great field for future investigation.

#### FIELD STATIONS

As far as possible daily determinations of the solar constant of radiation were made at three field stations, Montezuma, Chile, Table Mountain, Calif., and Tyrone, N. Mex. A commodious reinforced concrete dwelling house was erected at Montezuma under H. B. Freeman's direction.

#### PERSONNEL

L. A. Fillmen, for many years instrument maker in the Division of Radiation and Organisms under private support at the Smithsonian Institution, was transferred to the Astrophysical Observatory Government roll.

#### SUMMARY

The immense task of preparing the solar-constant work of the past 20 years for final publication was practically finished. A new method of following solar variation was devised and installed at all field stations. An extensive research on the effects of solar variation by Dr. H. Arctowski approached publication. Dr. Abbot published a paper entitled "An Important Weather Element Hitherto Generally Disregarded," in which many proofs of solar variation were assembled, and the effects of it on weather were shown, together with preliminary attempts at 3- to 5-year weather forecasts and verifications. These ambitious forecasts, while not as successful as was hoped, are promising.

Respectfully submitted.

C. G. ABBOT, *Director.*

THE SECRETARY,  
*Smithsonian Institution.*



## APPENDIX 9

### REPORT ON THE DIVISION OF RADIATION AND ORGANISMS

SIR: I have the honor to submit the following report on the activities of the Division of Radiation and Organisms during the year ended June 30, 1941:

The operations of the Division have been financially supported by funds of the Smithsonian Institution and in part by a grant from the Research Corporation of New York.

For several months during the past year actual work in the laboratories was suspended during the construction of a new sewer system and the preparation and actual work of electrical rewiring throughout the building. Also three of the laboratories and the machine shop were repainted.

Considerable time has been given by members of the division in the planning and construction of an exhibit now on display as part of the "Index Exhibit" in the Main Hall of the Smithsonian Building. A detailed description of this exhibit appears in the July 1941 number of the Scientific Monthly.

#### INFLUENCE OF RADIATION ON RESPIRATION

Following the preliminary experiments and improvement in technique as reported last year on the project dealing with the genesis of chlorophyll and the beginning of photosynthesis, many data have been obtained on the respiration of etiolated barley seedlings. This information is highly desirable because of its bearing upon photosynthesis as measured by the gaseous exchange method. Furthermore, a comprehensive review of the literature on respiration as affected by radiation is being completed and will soon be made available.

The rate of respiration (carbon dioxide evolution) of etiolated barley seedlings (i. e., seedlings grown in complete darkness and devoid of chlorophyll) increases following illumination, whether measured in dark or in light. Under favorable conditions this rise amounts to as much as 20 percent of the previous dark rate and is maintained for at least 7 hours after the light exposure.

The maximal effect of illumination for a 30-minute period occurs at a fairly low intensity (60 foot-candles or less). The magnitude of the effect produced by 60 foot-candles of light increases with the time of illumination up to an exposure period of about 20 minutes and remains constant with longer light periods. These results are graphically illustrated in figure 1.

In many of these studies it was observed that the rate of respiration was not as constant as one would desire during the periods prior to irradiation. It was thought that perhaps the metabolic reactions of the seedlings were affected in transferring them from the germination conditions to those of the respiration chamber. A

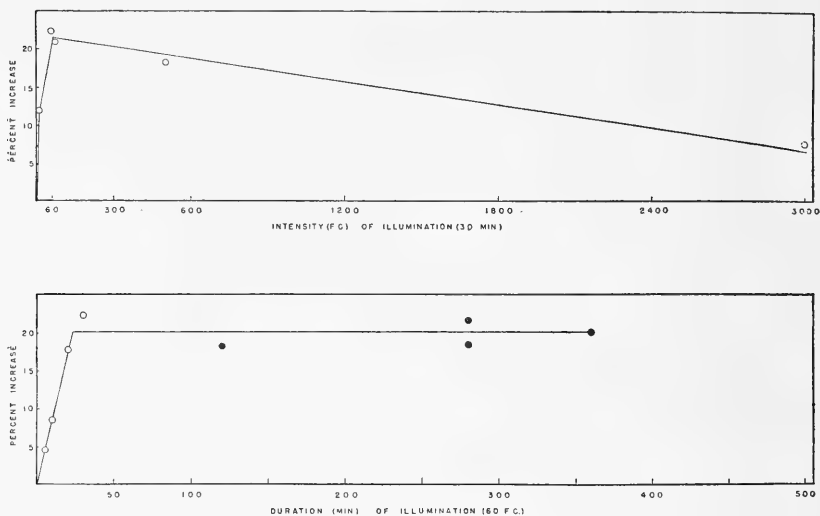


FIGURE 1.—Effect of illumination on respiration of etiolated barley seedlings. Percentage increase in rate of respiration is plotted against intensity of illumination in upper graph and against duration of exposure in lower graph.

number of changes were made in the germination conditions and in the preliminary treatment of the experimental plants in the respiration chamber. After many experiments of this nature it appears that the rate of respiration either increases or decreases continuously for a period of time following exposures of the seedlings to low or high carbon dioxide concentrations respectively. For example, figure 2 shows the relative rates of respiration for successive half-hour periods following a conditioning period of 5 percent carbon dioxide.

From data of this type it would appear that conditions of carbon dioxide storage or depletion develop in the plant tissue depending upon the concentration of this gas surrounding the plants. In subsequent periods, when the respiration is measured there is an increase or decrease in the rate of  $\text{CO}_2$  excretion (i. e., in the apparent

rate of respiration) until a state of equilibrium with the new environment is attained. If this phenomenon is of widespread occurrence in green plants as well, it must be of considerable importance also in experiments in which rates of photosynthesis are measured.

Considerable time has been spent during the late winter and spring in improving the performance of the spectrograph used in measuring carbon dioxide for very short periods. A 15-cc. volume absorp-

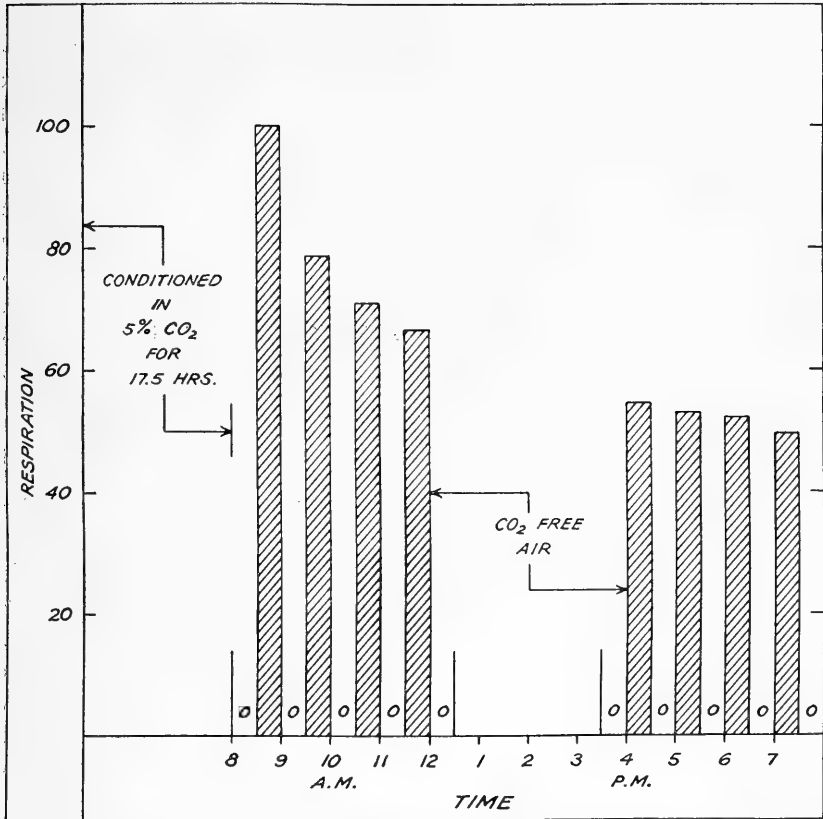


FIGURE 2.—Effect of previous CO<sub>2</sub> environmental conditions on succeeding rates of respiration of etiolated barley seedlings.

tion cell providing a 15-cm. optical path was made in the shop and installed on the instrument. The spectrograph case was lagged with 4 inches of rock wool and the whole room thermostated to maintain a temperature of 30° C. These features have improved the speed-sensitivity and stability of the set-up very materially. The assembly has been used recently in measuring the solubility of CO<sub>2</sub> in water at very low concentrations where a marked departure from Henry's Law was discovered. Further experiments on this are in progress and will be published soon along with a detailed description of the spectrographic method of CO<sub>2</sub> measurement.

## INFLUENCE OF LIGHT IN EARLY GROWTH OF GRASS SEEDLINGS

Further study of the spectral effectiveness of radiation for the growth inhibition of the oats mesocotyl has indicated that the maximum response occurs at 6600 Å. It is highly suggestive that both chlorophyll *a* and a pigment as yet unidentified which has been found in dark-grown oats seedlings exhibit an absorption band at this position.

A comparative study has been undertaken of some other species of grasses that have been reported in the literature as having mesocotyls insensitive to light. All of those so far investigated have been found to be suppressed by light although the intensities required are much greater than in the case of *Avena*.

Since the growth of the oats mesocotyl is decreased, even in darkness, by higher temperatures it is of interest to compare the effects of temperature and of radiation. The high temperature inhibition appears to differ fundamentally from the light inhibition inasmuch as the growth of other organs of the seedling, notably the roots, is also greatly suppressed in the former case. Some preliminary experiments have indicated that in certain varieties of rice, on the other hand, mesocotyl growth is greater at higher temperatures.

## INFLUENCE OF CULTURAL CONDITIONS ON THE GROWTH OF ALGAE

The influence of culture conditions on the photosynthetic behavior of the alga *Chlorella pyrenoidosa* has been subjected to further investigation. The growth cycle of this organism has been studied in relation to light intensity, carbon dioxide concentration, and the composition of the nutrient solution. This work is far from complete but has suggested certain changes in the composition of the nutrient solution and in the design of the apparatus. Equipment is being constructed for the continuous culture of algae in order to obtain completely reproducible quantities of biological material for irradiation experiments.

Experiments were also conducted to ascertain suitable light conditions and culture media for optimum growth of the alga *Haematococcus pluvialis* in preparation for research on the comparative effects of short wave lengths of the ultraviolet on the green pigment, chlorophyll, and the red pigment, haematochrome, in algae.

As a result of inquiries regarding the use of algae in industry and because of its importance to producers of kelp, Irish moss, agar, and alginic acid in the defense program, a paper is being prepared containing the latest statistics and information about the economic uses of algae.

## PERSONNEL

No changes have occurred in the status of the Division's personnel during the past year. Dr. Jack E. Myers has continued his work with algae and on photosynthesis under his National Research Fellowship grant.

## PAPERS PRESENTED AT MEETINGS

Photosynthesis and fluorescence. Presented by E. D. McAlister at the Marine Biological Station, Pacific Grove, Calif., and at Stanford University, Palo Alto, Calif., in August 1940.

Quantum efficiency of photosynthesis from fluorescence measurements. Presented by E. D. McAlister before the Physics Colloquium, George Washington University, Washington, D. C., on October 23, 1940.

Fluorescence and photosynthesis. Presented by E. D. McAlister before the Philosophical Society of Washington, D. C., on October 26, 1940.

The efficiency of photosynthesis in relation to fluorescence. Presented by E. D. McAlister before the Botanical Society of America, Philadelphia, Pa., December 30, 1940.

Inhibition of first internode of *Avena sativa* by radiation. Presented by Robert L. Weintraub before the American Society of Plant Physiologists, Philadelphia, Pa., December 30, 1940.

Influence of light on the respiration of etiolated barley seedlings. Presented by Earl S. Johnston and Robert L. Weintraub before the American Society of Plant Physiologists, Philadelphia, Pa., December 30, 1940.

Culture conditions for *Chlorella* in relation to its photosynthetic behavior. Presented by Jack Myers before the American Society of Plant Physiologists, Philadelphia, Pa., December 30, 1940.

Photosynthesis in past ages. Presented by E. D. McAlister before the Paleontological Society of Washington in April 1941.

## PUBLICATIONS

CHASE, FLORENCE MEIER. Increased stimulation of the Alga *Stichococcus bacillaris* by successive exposures to short wave lengths of the ultraviolet. Smithsonian Misc. Coll., vol. 99, No. 17, pp. 1-16, 1941.

MCALISTER, E. D., and MYERS, JACK. The time course of photosynthesis and fluorescence observed simultaneously. Smithsonian Misc. Coll., vol. 99, No. 6, pp. 1-37, 1940.

MCALISTER, E. D., and MYERS, JACK. Time course of photosynthesis and fluorescence. Science, vol. 92, No. 2385, pp. 241-243, 1940.

MCALISTER, E. D., MATHESON, G. L., and SWEENEY, W. J. A large recording spectrophotograph for the infrared to  $15\mu$ . Rev. Scientific Instr., vol. 12, No. 6, pp. 314-319, 1941.

MEIER, FLORENCE E. Plankton in the water supply. Ann. Rep. Smithsonian Inst. for 1939, pp. 393-412, 1940.

WEINTRAUB, ROBERT L. Plant-tissue cultures. Ann. Rep. Smithsonian Inst. for 1940, pp. 357-368, 1941.

Respectfully submitted.

EARL S. JOHNSTON, *Assistant Director.*

Dr. C. G. ABBOT,

*Secretary, Smithsonian Institution.*

## APPENDIX 10

### REPORT ON THE LIBRARY

SIR: I have the honor to submit the following report on the activities of the Smithsonian library for the fiscal year ended June 30, 1941:

#### THE LIBRARY

The library, or library system, of the Smithsonian is made up of 10 major and 35 minor units. The former consist of the main library of the Institution, which since 1866 has been in the Library of Congress and is known as the Smithsonian Deposit; the libraries of the United States National Museum, Bureau of American Ethnology, Astrophysical Observatory, Freer Gallery of Art, National Collection of Fine Arts, National Zoological Park, Division of Radiation and Organisms; the Langley Aeronautical Library—deposited in 1930 in the Division of Aeronautics at the Library of Congress—and the Smithsonian office library. The minor units are the sectional libraries of the National Museum. Although the collections in these 45 libraries are on many subjects, they have to do chiefly with the matters of special moment to the Institution and its branches, namely, the natural and physical sciences and technology and the fine arts. They are particularly strong in their files of standard monographs and serials and of the reports, proceedings, and transactions of the learned institutions and societies of the world.

Cooperating with the Smithsonian library system, but independent of it, is the library of the National Gallery of Art, which, during the year just closed took its first steps, under a competent staff, to meet the reference needs of the Gallery personnel and of others outside. The libraries of the Institution welcome the opportunity to further, in every way possible, the interests of this new friendly neighbor.

#### PERSONNEL

The year brought an unusually large number of changes in the staff. Among these were the following: The retirement, on account of age, of Miss Gertrude L. Woodin, after long and valuable service as assistant librarian; the promotion of Miss Elisabeth P. Hobbs,

junior librarian, to succeed her, and the transfer of Miss Anna Moore Link from the editorial office in the Bureau of American Ethnology to the vacancy thus created; the advancement of Miss Nancy Alice Link to the position of editorial assistant in the Bureau; the resignation of Mrs. Dorothy E. Goodrich, under library assistant, and the selection of Miss Elizabeth Gordon Moseley as her successor. The position of minor library assistant was reclassified to that of junior clerk-typist and filled by the appointment of Miss Elizabeth Harriet Link. Charles McDowell served part of the year as assistant messenger. The temporary employees were Mrs. Georgeanna H. Morrill, library assistant, Mrs. Elizabeth C. Bendure, assistant clerk-stenographer, Miss Anna May Light, junior clerk-stenographer, Mrs. Marie Boborykine, special library assistant, and Arthur W. Gambrell, assistant messenger.

#### EXCHANGE OF PUBLICATIONS

The exchange work of the library was again carried on with the greatest difficulty, owing to abnormal world conditions. The packages received through the International Exchange Service were only 515—fewer by 814 even than those of the year before, when there had been a similar decrease from the normal number; the packages that came by mail were 17,038, or 3,283 fewer than came the previous year. Most of the publications that failed to come were, of course, European and Asiatic. Fortunately, some of these are being held by the issuing agencies, to be sent to the library as soon as the wars are over; others have merely delayed publication; but a few have been discontinued. Altogether the influence of the disturbed conditions that prevailed was far from favorable to the increase and diffusion of knowledge by means of the exchange of learned publications.

There were received, however, a number of rather large sendings, notably from the Clube Zoologico do Brasil, São Paulo; Bataviaasch Genootschap van Kunsten en Wetenschappen, Batavia; Royal Swedish Academy of Letters, Stockholm; Royal Society of Edinburgh, Edinburgh; Royal Society of Tasmania, Hobart; and Wellington Acclimatisation Society, Wellington.

Dissertations came from only 4 universities, 2 of which are in a neutral European country—Basel and Zürich; and 2 in the United States—Johns Hopkins and Pennsylvania. These totaled 452—quite a contrast to the 5,190 received in 1939 from 34 foreign institutions and 3 American. Of the 452 dissertations 261 were assigned to the Smithsonian Deposit, and the rest, being on medical subjects, were turned over, as usual, to the library of the Surgeon General.

Most of the 2,316 letters written by the staff pertained to the exchange interests of the library. They naturally showed a decrease from 1940, as did the new exchanges arranged for. There were 284 of the latter, however, nearly all of which were on behalf of the Smithsonian Deposit and the libraries of the National Museum, National Collection of Fine Arts, and Astrophysical Observatory. Although the number of want cards handled—795—was smaller by 87 than the year before, the publications obtained, both by special correspondence and by search among the recently organized and listed duplicates in the west stacks of the Institution, were 8,824, or 1,278 more than in 1940. The result of this successful effort was that a great many gaps—some of long standing—were filled in several of the Smithsonian libraries. In addition to these publications, which were assigned to the regular sets, others to the number of 6,112 were selected from the duplicate material and put in reserve for use in the future. Among these were many foreign items—not a few of them rare—closely related to the work of the Institution and its branches. Thus again did the surplus collection in the west stacks prove of no little value to the library system. And it bids fair to prove so for years to come, as this rich store of material is made increasingly available through listing and through checking against the needs of the various libraries.

From time to time, too, during the year files of serials, long and short, not wanted by the libraries were exchanged for publications that otherwise would have had to be purchased. This plan of exchanging duplicates for other publications essential to the Institution was adopted by the library some years ago and has met with much success. It has added to the collections many valuable items and has placed a considerable number in other research institutions where, instead of standing useless on the Smithsonian shelves, they have contributed their part toward the advancement of knowledge. The year just closed brought to the library, under this special exchange plan, a goodly number of important monographs and serials that could not be obtained by regular exchange. Among them were such works as *Drawings in the Fogg Museum of Art*, vols. I–III, by Agnes Mongan and Paul J. Sachs; *The Material Basis of Evolution*, by Richard Goldschmidt; *The Ferns and Fern Allies of Wisconsin*, by R. M. Tryon, Jr., N. C. Fassett, D. W. Dunlop, and M. E. Diemer; and *Nomenclator Zoologicus*, in 4 volumes, edited by Sheffield A. Neave.

In connection with both its regular and its special exchange activities, the library continued its effort, in cooperation with the offices of publications, to replenish the depleted stock of Smithsonian publications by encouraging the return of material from



libraries throughout the country in which it was not needed. It also continued to act as a clearing-house, thus sending out again much of this material to institutions that were waiting for it. The libraries of more than 25 museums, colleges, and universities eagerly shared in this give and take effort, which was to the advantage of all participants, but chiefly of the Smithsonian library, for by this means it was able not only to make many of the publications of the Institution more widely available to readers and investigators, but to increase in no small measure the supply of such publications—some of which had long been out of print—that could be used for future exchanges.

#### GIFTS

Many gifts came to the library during the year. Among these were 622 publications from the Geophysical Laboratory of the Carnegie Institution of Washington; 612 from the American Association for the Advancement of Science; 72 from the American Association of Museums; 66 from the Public Library of the District of Columbia; 42 from the National Institute of Health; and 94 from the recently discontinued Bureau of the International Catalogue of Scientific Literature. Among them, too, were a large number of publications from the Honorable Usher L. Burdick, Member of Congress from North Dakota, from the late Mrs. Charles D. Walcott—always a generous friend of the library—and from the Secretary and Assistant Secretary and other members of the Smithsonian staff. The largest gift, however, came from Mrs. Frederick E. Fowle—that of 942 scientific books and journals which had belonged to her husband, the late research assistant of the Astrophysical Observatory.

Other gifts were *Hiroshige*, by Yoné Noguchi, from the Japanese Embassy; *The Herbarist*, Nos. 1-7 (1935-1941), from Mrs. Foster Stearns; *Chinese Jade Carvings of the Sixteenth to the Nineteenth Century in the Collection of Mrs. Georg Vetlesen*—an illustrated descriptive record compiled by Stanley Charles Nott, volume III, from Mrs. Georg Vetlesen; *A Catalogue of Rare Chinese Jade Carvings* (2 copies), compiled by Stanley Charles Nott, from the compiler; *Two Early Portraits of George Washington Painted by Charles Willson Peale*, by John Hill Morgan, from the Princeton University Press; *Bird Reserves*, by E. C. Arnold, from the author; *Moss Flora of North America North of Mexico*, volume II, part 4, by Dr. A. J. Grout, from the author; *The Young Mill-Wrights & Miller's Guide* (1807), by Oliver Evans, from Edna E. Switzer; *Charles Goodyear—Connecticut Yankee and Rubber Pioneer—A Biography*, by P. W. Barker, from Godfrey L. Cabot, Inc.; *The Shorter*

Scientific Papers of Lee Barker Walton, with an Introduction by Herbert Osborn, edited by George P. Faust, from the editor; Genus *Labordia*, Hawaiian Euphorbiaceae, Labiatae and Compositae, by Dr. Earl Edward Sherff, from the author; Seventh Report of the Chester County Cabinet of Natural Science (1834), from Dr. Robert B. Gordon; Barbed Fencing, by Charles G. Washburn—a type-written copy of an original in the possession of the donor, Reginald Washburn, who had the copy made especially for the Smithsonian Institution; Atlanta City Directory, 1940, from the Carnegie Library, Atlanta; Men and Volts, by John Winthrop Hammond, from the General Electric Company; The Cranial Bowl, by Dr. William G. Sutherland, from the author; Military Medals and Insignia of the United States, by J. McDowell Morgan, from the author; The Stapelieae, in 3 volumes, by Alain White and Boyd L. Sloane, from Alain White; The Old Bay Line, by Alexander Crosby Brown, from the Mariners' Museum, Newport News; By Their Works, by H. Phelps Clawson, from the Buffalo Museum of Science; and Flora of Indiana, by Charles C. Deam, from the Indiana Department of Conservation.

## SOME STATISTICS

The accessions to the libraries were as follows:

Library	Volumes	Pamphlets and charts	Total	Approximate holdings June 30, 1941
Astrophysical Observatory.....	173	138	311	10, 156
Bureau of American Ethnology.....	378	378	378	1 33, 140
Freer Gallery of Art.....	398	66	464	16, 225
Langley Aeronautical.....	32	20	52	3, 550
National Collection of Fine Arts.....	240	157	397	7, 689
National Museum.....	1, 979	942	2, 921	219, 760
National Zoological Park.....	36	34	70	3, 916
Radiation and Organisms.....	67	2	69	596
Smithsonian Deposit, Library of Congress.....	1, 350	758	2, 108	568, 662
Smithsonian office.....	65	4	69	30, 961
Total.....	4, 718	2, 121	6, 839	894, 655

<sup>1</sup> From this total have been omitted a large collection of pamphlets hitherto included in the holdings reported for the library of the Bureau of American Ethnology, and quite a number of other publications recently removed from the library as not being closely related to the work of the Bureau.

The staff cataloged 6,693 volumes, pamphlets, and charts; prepared and filed 40,238 catalog and shelf-list cards; made 22,311 periodical entries; loaned 10,990 publications to the members of the Institution and its bureaus; and conducted an interlibrary loan service with 45 libraries outside the Smithsonian system. They rendered more reference and bibliographical assistance than ever before, in response to requests in person, by telephone, and by mail, from the staff of the Smithsonian, other Government employees, visitors,

and correspondents far and near—requests often involving hours of search not only at the Institution but at the Library of Congress and elsewhere. They kept the index of Smithsonian publications up to date, and made considerable progress with the index of Smithsonian explorations begun the previous year, and some with that of exchange relations. Their work on the union catalog may be summarized as follows:

Volumes cataloged.....	2, 472
Pamphlets and charts cataloged.....	1, 947
New serial entries made.....	178
Typed cards added to catalog and shelf list.....	3, 880
Library of Congress cards added to catalog and shelf list.....	13, 662

#### OTHER ACTIVITIES

As has already been suggested, one of the main activities of the staff, apart from their routine duties, was that of making lists of the longer runs of surplus items in the west stacks and checking them against the needs of the Smithsonian libraries. Another task was that of bringing nearly to completion the checking of the serial holdings of several of the libraries, to be included in the forthcoming second edition of the Union List of Serials. When this work is finished, it will have involved the examination of the records of more than 7,000 sets of serial publications, not including, of course, the thousands in the Smithsonian Deposit and the Langley Aeronautical Library, which, as they are housed in the Library of Congress, are reported by that Library. Still another task was selecting consignments of duplicates for exchange, especially with such universities as Brown, Columbia, Harvard, Pennsylvania, Princeton, and Yale. And another was preparing the exhibition set of Smithsonian publications—by completing it and having many of its volumes bound—for transfer to the shelves provided for it as an outstanding part of the exhibit of Smithsonian interests in the “Diffusion of Knowledge” room at the Institution. And, finally, among other tasks were the following: Sending a large number of foreign documents, which had come to light in course of checking the surplus material, to the Library of Congress; sorting 2,500 or more reprints by subject and assigning them to the appropriate sectional libraries of the National Museum; carrying forward the inventorying of the technological library, with revision of its catalog and shelf list, and the rearranging of the office library; and continuing, with excellent results, the work of reorganizing the library of the Bureau of American Ethnology.

#### BINDING

Again, lack of funds seriously limited the libraries in meeting their binding needs. This was true in respect both to the thousands of

older serial volumes still standing unbound on the shelves and to hundreds of new ones added the last fiscal year. As it was, the library of the National Museum sent to the bindery 800 volumes; that of the Astrophysical Observatory, 50; of the National Collection of Fine Arts, 59; of the Freer Gallery of Art, 38; and of the National Zoological Park, 11—a total of 958, only about one-half the number of volumes completed during the year by these libraries.

#### NEEDS

First among the needs, then, is adequate funds for binding, to the end that the publications—some of them almost priceless now, in the light of the destruction that is taking place abroad—may be safeguarded for the permanent use of the Institution.

Another need, which has become acute, is that of more shelf room for the collections, especially those of the National Museum library. Unless this can soon be provided, it may be necessary to resort to the unfortunate measure of placing some of the less-used files in dead storage.

And, finally, five new positions should be established, for the following: An assistant librarian, to take charge of the acquisition department; a junior librarian and a library assistant to strengthen the under-staffed preparation department, especially the catalog division; a junior typist, to relieve the catalogers of much clerical routine; a messenger, to serve primarily the libraries of the Institution proper.

Respectfully submitted.

WILLIAM L. CORBIN, *Librarian.*

DR. C. G. ABBOT,

*Secretary, Smithsonian Institution.*

## APPENDIX 11

### REPORT ON PUBLICATIONS

SIR: I have the honor to submit the following report on the publications of the Smithsonian Institution and the Government branches under its administrative charge during the year ended June 30, 1941:

The Institution published during the year 16 papers in the Smithsonian Miscellaneous Collections series, and title page and table of contents of volume 98; 1 annual report and pamphlet copies of 27 articles in the report appendix; and 3 special publications.

The United States National Museum issued 1 annual report; 19 Proceedings papers, and title page, table of contents, and index of volume 86; 1 Bulletin, and 1 volume and 1 part of a volume of Bulletin 100; and title page, table of contents, and index of volume 26 of Contributions from the United States National Herbarium.

The National Collection of Fine Arts issued 1 catalog, and the Freer Gallery of Art, 1 pamphlet.

The Bureau of American Ethnology issued 1 annual report and 3 bulletins.

Of the publications there were distributed 125,837 copies,<sup>1</sup> which included 66 volumes and separates of the Smithsonian Contributions to Knowledge, 32,031 volumes and separates of the Smithsonian Miscellaneous Collections, 24,022 volumes and separates of the Smithsonian annual reports, 5,243 Smithsonian special publications, 52,170 volumes and separates of the National Museum publications, 11,882 publications of the Bureau of American Ethnology, 9 publications of the National Collection of Fine Arts, 3 publications of the Freer Gallery of Art, 16 reports on the Harriman Alaska Expedition, 12 Annals of the Astrophysical Observatory, and 383 reports of the American Historical Association.

#### SMITHSONIAN MISCELLANEOUS COLLECTIONS

There were issued title page and table of contents of volume 98, and 15 papers of volume 99 and 1 paper of volume 101, making 16 papers in all, as follows:

##### VOLUME 98

Title page and table of contents. (Publ. 3590.)

---

<sup>1</sup> This does not include the Brief Guide to the Smithsonian Institution, the catalog of the National Collection of Fine Arts, or the pamphlet of the Freer Gallery of Art.

## VOLUME 99

No. 6. The time course of photosynthesis and fluorescence observed simultaneously, by E. D. McAlister and Jack Myers. 37 pp., 16 figs. (Publ. 3591.) August 28, 1940.

No. 7. A systematic classification for the birds of the world, by Alexander Wetmore. 11 pp. (Publ. 3592.) October 10, 1940.

No. 9. Recent Foraminifera from Old Providence Island collected on the Presidential Cruise of 1938, by Joseph A. Cushman. 14 pp., 2 pls. (Publ. 3594.) January 24, 1941.

No. 10. Coelenterates collected on the Presidential Cruise of 1938, by Elisabeth Deichmann. 17 pp., 1 pl., 4 figs. (Publ. 3595.) January 27, 1941.

No. 11. A new cephalopod mollusk from the Presidential Cruise of 1938, by Helen C. Stuart. 6 pp., 2 figs. (Publ. 3596.) February 4, 1941.

No. 12. Acarina collected on the Presidential Cruise of 1938, by G. W. Wharton. 8 pp., 4 figs. (Publ. 3597.) January 29, 1941.

No. 13. Euphausiacea and Mysidacea collected on the Presidential Cruise of 1938, by W. M. Tattersall. 7 pp., 2 figs. (Publ. 3598.) January 31, 1941.

No. 14. The male genitalia of Hymenoptera, by R. E. Snodgrass. 86 pp., 33 pls., 6 figs. (Publ. 3599.) January 14, 1941.

No. 15. Evidence of early Indian occupancy near the Peaks of Otter, Bedford County, Virginia, by David I. Bushnell, Jr. 14 pp., 5 pls., 4 figs. (Publ. 3601.) December 23, 1940.

No. 16. New fossil lizards from the Upper Cretaceous of Utah, by Charles W. Gilmore. 3 pp., 2 figs. (Publ. 3602.) December 9, 1940.

No. 17. Increased stimulation of the alga *Stichococcus bacillaris* by successive exposures to short wave lengths of the ultraviolet, by Florence Meier Chase. 16 pp., 2 pls., 3 figs. (Publ. 3603.) January 10, 1941.

No. 18. Two new races of passerine birds from Thailand, by H. G. Deignan. 4 pp. (Publ. 3605.) December 11, 1940.

No. 19. Notes on Mexican snakes of the genus *Geophis*, by Hobart M. Smith. 6 pp. (Publ. 3629.) February 19, 1941.

No. 20. Further notes on Mexican snakes of the genus *Salvadora*, by Hobart M. Smith. 12 pp., 7 figs. (Publ. 3630.) February 21, 1941.

No. 21. A new shipworm from Panama, by Paul Bartsch. 2 pp., 1 pl. (Publ. 3632.) March 31, 1941.

## VOLUME 101

No. 1. An important weather element hitherto generally disregarded, by C. G. Abbot. 34 pp., 11 figs. (Publ. 3637.) May 27, 1941.

## SMITHSONIAN ANNUAL REPORTS

*Report for 1939.*—The complete volume of the Annual Report of the Board of Regents for 1939 was received from the Public Printer in October 1940.

Annual Report of the Board of Regents of the Smithsonian Institution showing the operations, expenditures, and condition of the Institution for the year ended June 30, 1939. xiii+567 pp., 139 pls., 53 figs. (Publ. 3555.)

The appendix contained the following papers:

- Is there life in other worlds? by H. Spencer Jones, F. R. S.  
 Use of solar energy for heating water, by F. A. Brooks.  
 The fringe of the sun: nebulium and coronium, by C. G. James.  
 Our knowledge of atomic nuclei, by G. P. Harnwell, Ph. D.  
 Spectroscopy in industry, by George R. Harrison, Ph. D.  
 Physical science in the crime-detection laboratory, by J. Edgar Hoover.  
 Physical interpretation of the weather, by Edgar W. Woolard.  
 Hurricanes into New England: meteorology of the storm of September 21, 1938, by Charles F. Brooks.  
 Humanity in geological perspective, by Herbert L. Hawkins, D. Sc., F. R. S., F. G. S.  
 Geologic exhibits in the National Zoological Park, by R. S. Bassler.  
 The structure of the earth as revealed by seismology, by Ernest A. Hodgson.  
 Our petroleum supply, by Hugh D. Miser.  
 Biologic balance on the farm, by W. L. McAtee.  
 On the frontier of British Guiana and Brazil, by Capt. H. Carington Smith, R. E.  
 The sea bird as an individual: results of ringing experiments, by R. M. Lockley.  
 Birds and the wind, by Neil T. McMillan.  
 Bookworms, by E. A. Back.  
 The problem of conserving rare native plants, by M. L. Fernald, D. C. L., D. Sc.  
 Plankton in the water supply, by Florence E. Meier.  
 Trichinosis in swine and its relationship to public health, by Benjamin Schwartz.  
 Closing the gap at Tepe Gawra, by E. A. Speiser.  
 Sun worship, by Herbert J. Spinden.  
 The use of soapstone by the Indians of the eastern United States, by David I. Bushnell, Jr.  
 The modern growth of the totem pole on the northwest coast, by Marius Barbeau.  
 Historic American highways, by Albert C. Rose.  
 Modern trends in air transport, by W. F. Durand.  
 The story of the Time Capsule, by G. Edward Pendray.

*Report for 1940.*—The report of the Secretary, which included the financial report of the executive committee of the Board of Regents, and which will form part of the annual report of the Board of Regents to Congress, was issued in January 1941.

Report of the Secretary of the Smithsonian Institution and financial report of the executive committee of the Board of Regents for the year ended June 30, 1940. ix+115 pp., 4 pls.

The report volume, containing the general appendix, was in press at the close of the year.

#### SPECIAL PUBLICATIONS

Brief guide to the Smithsonian Institution (fourth edition). 80 pp., 74 figs. (Publ. BL.) July 1, 1940.

The Smithsonian Institution, by C. G. Abbot. 25 pp., 13 pls., (Publ. 3604.) January 18, 1941.

Explorations and field work of the Smithsonian Institution in 1940. 100 pp., 100 halftone figs. (Publ. 3631.) April 3, 1941.

PUBLICATIONS OF THE UNITED STATES NATIONAL MUSEUM

The editorial work of the National Museum has continued during the year under the immediate direction of the editor, Paul H. Oehser. There were issued 1 annual report; title page, table of contents, and index of volume 86 of the Proceedings, and 19 separate Proceedings papers from volumes 87, 88, 89, and 90; 1 Bulletin, and 1 volume and 1 part of a volume of Bulletin 100; and title page, table of contents, and index of volume 26 of Contributions from the United States National Herbarium, as follows:

MUSEUM REPORT

Report on the progress and condition of the United States National Museum for the year ended June 30, 1940. iii+118 pp. January 1941.

PROCEEDINGS: VOLUME 86

Title page, table of contents, and index. Pp. i-ix, 593-626. July 22, 1940.

VOLUME 87

No. 3077. Further studies on the opalinid ciliate infusorians and their hosts, by Maynard M. Metcalf. Pp. 465-634, figs. 21-157. October 29, 1940.

VOLUME 88

No. 3090. Seven new species and one new genus of hydroids, mostly from the Atlantic Ocean, by C. McLean Fraser. Pp. 575-580, pls. 32, 33. September 13, 1940.

VOLUME 89

No. 3093. Two new anuran amphibians from Mexico, by Edward H. Taylor. Pp. 43-47, pls. 1-3. August 13, 1940.

No. 3094. The West American *Haliotis*, by Paul Bartsch. Pp. 49-58, pls. 6-8. August 15, 1940.

No. 3095. Revision of the scarabaeid beetles of the phyllophagan subgenus *Listrochelus* of the United States, with discussion of related subgenera, by Lawrence W. Saylor. Pp. 59-130, figs. 1-13. November 15, 1940.

No. 3096. The Cuban operculate land mollusks of the family Annulariidae, exclusive of the subfamily Chondropominae, by Carlos de la Torre and Paul Bartsch. Pp. 131-385, i-x, pls. 9-57. April 2, 1941.

No. 3097. Seven new crayfishes of the genus *Cambarus* from Florida, with notes on other species, by Horton H. Hobbs, Jr. Pp. 387-423, figs. 14-22. November 23, 1940.

No. 3098. Echinoderms from Greenland collected by Capt. Robert A. Bartlett, by Austin H. Clark. Pp. 425-433, pls. 58, 59. February 27, 1941.

No. 3099. A revision of the keyhole urchins (*Mellita*), by Hubert Lyman Clark. Pp. 435-444, pls. 60-62. December 12, 1940.

No. 3100. *Eurhoptodes*, a remarkable new genus of Philippine cryptorhynchine weevils, by Elwood C. Zimmerman. Pp. 445-448, fig. 23. November 1, 1940.

No. 3101. The polyclad flatworms of the Atlantic coast of the United States and Canada, by Libbie H. Hyman. Pp. 449-495, figs. 24-31. February 27, 1941.



No. 3102. New species of heterocerous moths in the United States National Museum, by William Schaus. Pp. 497-511. March 6, 1941.

No. 3103. *Dinotocrinus*, a new fossil inadunate crinoid genus, by Edwin Kirk. Pp. 513-517, pl. 63. February 28, 1941.

No. 3104. A supposed jellyfish from the pre-Cambrian of the Grand Canyon, by R. S. Bassler. Pp. 519-522, pl. 64. February 27, 1941.

No. 3105. Notes on birds of the Guatemalan highlands, by Alexander Wetmore. Pp. 523-581. March 26, 1941.

## VOLUME 90

No. 3106. New fishes of the family Callionymidae, mostly Philippine, obtained by the United States Bureau of Fisheries Steamer *Albatross*, by Henry W. Fowler. Pp. 1-31, figs. 1-16. April 8, 1941.

No. 3108. Synopsis of the tachinid flies of the genus *Tachionmyia*, with descriptions of new species, by Ray T. Webber. Pp. 287-304, fig. 17. June 30, 1941.

No. 3111. The Chicora (Butler County, Pa.) meteorite, by F. W. Preston, E. P. Henderson, and James R. Randolph. Pp. 387-416, pls. 54-59, fig. 19. June 17, 1941.

No. 3114. A new genus of sea stars (*Plazaster*) from Japan, with a note of the genus *Parasterina*, by Walter K. Fisher. Pp. 447-456, pls. 66-70. June 18, 1941.

## BULLETINS

No. 100, volume 13. The fishes of the groups Elasmobranchii, Holocephali, Isospondyli, and Ostariophysi obtained by the United States Bureau of Fisheries Steamer *Albatross* in 1907 to 1910, chiefly in the Philippine Islands and adjacent seas, by Henry W. Fowler. x + 879 pp., 30 figs. March 10, 1941.

No. 100, volume 14, part 1. Report on the Echinoidea collected by the United States Fisheries Steamer *Albatross* during the Philippine Expedition, 1907-1910. Part 2: The Echinothuridae, Saleniidae, Arbaciidae, Aspidodiadematidae, Micropygidae, Diadematidae, Pedinidae, Temnopleuridae, Toxopneustidae, and Echinometridae, by Theodor Mortensen. Pp. i-iv, 1-52, pl. 1, figs. 1-3. July 25, 1940.

No. 176. Life histories of North American cuckoos, goatsuckers, hummingbirds, and their allies, by Arthur Cleveland Bent. viii + 506 pp., 73 pls. July 20, 1940.

## CONTRIBUTIONS FROM THE U. S. NATIONAL HERBARIUM: VOLUME 26

Title page, table of contents, and index. Pp. i-xii, 531-554. March 6, 1941.

## PUBLICATIONS OF THE NATIONAL COLLECTION OF FINE ARTS

Catalog of American and European paintings in the Gellatly Collection, compiled by R. P. Tolman. 20 pp., 11 pls. 1940.

## PUBLICATIONS OF THE FREER GALLERY OF ART

The Freer Gallery of Art of the Smithsonian Institution. 8 pp., 1 pl., 2 figs. 1940.

## PUBLICATIONS OF THE BUREAU OF AMERICAN ETHNOLOGY

The editorial work of the Bureau has continued under the immediate direction of the editor, M. Helen Palmer. During the year the following Bulletins were issued:

Bulletin 126. Archeological remains in the Whitewater District, eastern Arizona. Part II. Artifacts and burials, by Frank H. H. Roberts, Jr. With appendix, Skeletal remains from the Whitewater District, eastern Arizona, by T. D. Stewart. xi+170 pp., 57 pls., 44 figs.

Bulletin 127. Linguistic material from the tribes of southern Texas and north-eastern Mexico, by John R. Swanton. v+145 pp.

Bulletin 128. Anthropological Papers, Nos. 13-18. No. 13, The mining of gems and ornamental stones by American Indians, by Sydney H. Ball. No. 14, Iroquois suicide: A study in the stability of a culture pattern, by William N. Fenton. No. 15, Tonawanda Longhouse ceremonies: Ninety years after Lewis Henry Morgan, by William N. Fenton. No. 16, The Quichua-speaking Indians of the Province of Imbabura (Ecuador) and their anthropometric relations with the living populations of the Andean area, by John Gillin. No. 17, Art processes in birchbark of the River Desert Algonquin, a circumboreal trait, by Frank G. Speck. No. 18, Archeological reconnaissance of southern Utah, by Julian H. Steward. xii+368 pp., 52 pls., 77 figs.

## REPORT OF THE AMERICAN HISTORICAL ASSOCIATION

The annual reports of the American Historical Association are transmitted by the Association to the Secretary of the Smithsonian Institution and are communicated by him to Congress, as provided by the act of incorporation of the Association.

During the year there was issued the Annual Report for 1936, volume 2 (Writings on American History). At the close of the year the following were in press: Report for 1936, volume 3 ("Instructions of the British foreign secretaries to their envoys in the United States, 1791-1812"); Report for 1937, volume 2 (Writings on American History, 1937-1938); Report for 1939, volume 1 (Proceedings); Report for 1940.

REPORT OF THE NATIONAL SOCIETY, DAUGHTERS OF THE AMERICAN  
REVOLUTION

The manuscript of the Forty-third Annual Report of the National Society, Daughters of the American Revolution, was transmitted to Congress, in accordance with law, December 9, 1940.

## ALLOTMENTS FOR PRINTING

The congressional allotments for the printing of the Smithsonian Annual Reports to Congress and the various publications of the Government bureaus under the administration of the Institution were

virtually used up at the close of the year. The appropriation for the coming year ending June 30, 1942, totals \$88,500, allotted as follows:

Smithsonian Institution-----	\$16,000
National Museum-----	43,000
Bureau of American Ethnology-----	17,480
National Collection of Fine Arts-----	500
International Exchanges-----	200
National Zoological Park-----	200
Astrophysical Observatory-----	500
American Historical Association-----	10,620
	<hr/>
Total-----	88,500

Respectfully submitted.

W. P. TRUE, *Chief, Editorial Division.*

Dr. C. G. ABBOT,

*Secretary, Smithsonian Institution.*

# REPORT OF THE EXECUTIVE COMMITTEE OF THE BOARD OF REGENTS OF THE SMITHSONIAN INSTITUTION

FOR THE YEAR ENDED JUNE 30, 1941

*To the Board of Regents of the Smithsonian Institution:*

Your executive committee respectfully submits the following report in relation to the funds of the Smithsonian Institution, together with a statement of the appropriations by Congress for the Government bureaus in the administrative charge of the Institution.

## SMITHSONIAN ENDOWMENT FUND

The original bequest of James Smithson was £104,960 8s. 6d.—\$508,318.46. Refunds of money expended in prosecution of the claim, freights, insurance, etc., together with payment into the fund of the sum of £5,015, which had been withheld during the lifetime of Madame de la Batut, brought the fund to the amount of \$550,000.

Since the original bequest the Institution has received gifts from various sources chiefly in the years prior to 1893, the income from which may be used for the general work of the Institution. To these gifts has been added capital from savings on income, gain from sale of securities, etc., and they now stand on the books of the Institution as follows:

Avery, Robert S. and Lydia T., bequest fund.....	\$51, 445. 64
Endowment fund, from gifts, income, etc.....	258, 328. 92
Habel, Dr. S., bequest fund.....	500. 00
Hachenberg, George P. and Caroline, bequest fund.....	4, 044. 06
Hamilton, James, bequest fund.....	2, 905. 94
Henry, Caroline, bequest fund.....	1, 216. 20
Hodgkins, Thomas G., fund.....	146, 392. 62
Parent fund.....	728, 867. 62
Rhees, William Jones, bequest fund.....	1, 065. 72
Sanford, George H., memorial fund.....	1, 995. 18
Witherspoon, Thomas A., memorial fund.....	129, 774. 35
Special fund.....	1, 400. 00

Total endowment for general work of the Institution..... 1, 327, 936. 25

The Institution holds also a number of endowment gifts, the income of each being restricted to specific use. These are invested and stand on the books of the Institution as follows:

Abbott, William L., fund, bequest to the Institution.....	\$103, 969. 99
Arthur, James, fund, income for investigations and study of the sun and lecture on the sun.....	40, 217. 77
Bacon, Virginia Purdy, fund, for a traveling scholarship to investigate fauna of countries other than the United States....	50, 381. 96

Baird, Lucy H., fund, for creating a memorial to Secretary Baird.....	\$16,296.07
Barstow, Frederic D., fund, for purchase of animals for the Zoological Park.....	764.93
Canfield Collection fund, for increase and care of the Canfield collection of minerals.....	38,461.71
Casey, Thomas L., fund, for maintenance of the Casey collection and promotion of researches relating to Coleoptera.....	9,223.59
Chamberlain, Francis Lea, fund, for increase and promotion of Isaac Lea collection of gems and mollusks.....	28,318.52
Hillyer, Virgil, fund, for increase and care of Virgil Hillyer collection of lighting objects.....	6,609.11
Hitchcock, Dr. Albert S., Library fund, for care of Hitchcock Agrostological Library.....	1,375.68
Hodgkins fund, specific, for increase and diffusion of more exact knowledge in regard to nature and properties of atmospheric air.....	100,000.00
Hughes, Bruce, fund, to found Hughes alcove.....	18,248.71
Myer, Catherine Walden, fund, for purchase of first-class works of art for the use of, and benefit of, the National Gallery of Art.....	19,062.41
Pell, Cornelia Livingston, fund, for maintenance of Alfred Duane Pell collection.....	2,427.09
Poore, Lucy T. and George W., fund, for general use of the Institution when principal amounts to the sum of \$250,000....	81,367.65
Reid, Addison T., fund, for founding chair in biology in memory of Asher Tunis.....	30,134.19
Roebbling fund, for care, improvement, and increase of Roebbling collection of minerals.....	121,359.54
Rollins, Miriam and William, fund, for investigations in physics and chemistry.....	99,963.23
Smithsonian employees retirement fund.....	11,651.48
Springer, Frank, fund, for care, etc., of Springer collection and library.....	18,033.47
Walcott, Charles D. and Mary Vaux, research fund, for development of geological and paleontological studies and publishing results thereof.....	11,635.83
Younger, Helen Walcott, fund, held in trust.....	50,112.50
Zerbee, Frances Brincklé, fund, for endowment of aquaria.....	765.33
Special research fund, gift, in the form of real estate.....	20,946.00
<hr/>	
Total endowment for specific purposes other than Freer endowment.....	881,326.76

The above funds amount to a total of \$2,209,263.01, and are carried in the following investment accounts of the Institution:

U. S. Treasury deposit account, drawing 6 percent interest.....	\$1,000,000.00
Consolidated investment fund (income in table below).....	1,093,301.51
Miscellaneous special funds.....	115,961.50
<hr/>	
	2,209,263.01

## CONSOLIDATED FUND

*Statement of principal and income for the last 10 years*

Fiscal year	Capital	Income	Percent- age	Fiscal year	Capital	Income	Percent- age
1932.....	\$712, 156. 86	\$26, 142. 21	3. 67	1937.....	\$738, 858. 54	\$33, 819. 43	4. 57
1933.....	764, 077. 67	28, 185. 11	3. 68	1938.....	867, 528. 50	34, 679. 64	4. 00
1934.....	754, 570. 84	26, 650. 32	3. 66	1939.....	902, 801. 27	30, 710. 53	3. 40
1935.....	706, 765. 68	26, 808. 86	3. 79	1940.....	1, 081, 249. 25	38, 673. 29	3. 47
1936.....	723, 795. 46	26, 836. 61	3. 71	1941.....	1, 093, 301. 51	41, 167. 38	3. 76

## FREER GALLERY OF ART FUND

Early in 1906, by deed of gift, Charles L. Freer, of Detroit, gave to the Institution his collection of Chinese and other Oriental objects of art, as well as paintings, etchings, and other works of art by Whistler, Thayer, Dewing, and other artists. Later he also gave funds for the construction of a building to house the collection, and finally in his will, probated November 6, 1919, he provided stock and securities to the estimated value of \$1,958,591.42 as an endowment fund for the operation of the gallery. From the above date to the present time these funds have been increased by stock dividends, savings of income, etc., to a total of \$6,030,586.91. In view of the importance and special nature of the gift and the requirements of the testator in respect to it, all Freer funds are kept separate from the other funds of the Institution, and the accounting in respect to them is stated separately.

The invested funds of the Freer bequest are classified as follows:

Court and grounds fund.....	\$675, 573. 37
Court and grounds maintenance fund.....	169, 656. 83
Curator fund.....	687, 507. 68
Residuary legacy.....	4, 497, 849. 03
<b>Total.....</b>	<b>6, 030, 586. 91</b>

## SUMMARY

Invested endowment for general purposes.....	\$1, 327, 936. 25
Invested endowment for specific purposes other than Freer endowment.....	881, 326. 76
<b>Total invested endowment other than Freer endowment...</b>	<b>2, 209, 263. 01</b>
<b>Freer invested endowment for specific purposes.....</b>	<b>6, 030, 586. 91</b>
<b>Total invested endowment for all purposes.....</b>	<b>8, 239, 849. 92</b>

## CLASSIFICATION OF INVESTMENTS

Deposited in the U. S. Treasury at 6 percent per annum, as authorized in the United States Revised Statutes, sec. 5591..... \$1, 000, 000. 00

Investments other than Freer endowment (cost or market value at date acquired) :

Bonds (30 different groups).....	\$467,455.26	
Stocks (41 different groups).....	663,791.62	
Real estate and first-mortgage notes.....	71,249.00	
Uninvested capital.....	6,767.13	
		<u>\$1,209,263.01</u>

Total investments other than Freer endowment..... 2,209,263.01

Investments of Freer endowment (cost or market value at date acquired) :

Bonds (48 different groups).....	\$2,433,088.10	
Stocks (57 different groups).....	3,584,772.34	
Real estate first-mortgage notes.....	9,000.00	
Uninvested capital.....	3,726.47	
		<u>6,030,586.91</u>

Total investments..... 8,239,849.92

#### CASH BALANCES, RECEIPTS, AND DISBURSEMENTS DURING THE FISCAL YEAR <sup>1</sup>

Cash balance on hand June 30, 1940..... \$391,308.66

#### Receipts:

Cash income from various sources for general work of the Institution.....	\$90,769.51	
Cash gifts and contributions expendable for special scientific objects (not to be invested)...	43,063.26	
Cash gifts for special scientific work (to be invested).....	20,713.17	
Cash income from endowments for specific use other than Freer endowment and from miscellaneous sources (including refund of temporary advances).....	59,800.43	
Cash received as royalties from Smithsonian Scientific Series.....	23,404.41	
Cash capital from sale, call of securities, etc. (to be reinvested).....	157,121.07	
		<u>394,871.85</u>
Total receipts other than Freer endowment.....		394,871.85
Cash income from Freer endowment.....	233,079.22	
Cash capital from sale, call of securities, etc. (to be reinvested).....	1,059,332.29	
		<u>1,292,411.51</u>
Total receipts from Freer endowment.....		1,292,411.51
Total.....		<u>2,078,592.02</u>

<sup>1</sup>This statement does not include Government appropriations under the administrative charge of the Institution.

## Disbursements:

From funds for general work of the Institution:		
Buildings—care, repairs, and alterations	\$2,852.33	
Furniture and fixtures	182.43	
General administration <sup>2</sup>	34,184.52	
Library	2,129.85	
Publications (comprising preparation, printing, and distribution)	20,378.94	
Researches and explorations	23,720.74	
		\$83,448.81
From funds for specific use, other than Freer Endowment:		
Investments made from gifts, from gain from sale, etc., of securities and from savings on income	26,774.50	
Other expenditures, consisting largely of research work, travel, increase, and care of special collections, etc., from income of endowment funds, and from cash gifts for specific use (including temporary advances)	90,339.94	
Reinvestment of cash capital from sale, call of securities, etc.	154,138.09	
Cost of handling securities, fee of investment counsel, and accrued interest on bonds purchased	2,090.48	
		273,343.01
From Freer Endowment:		
Operating expenses of the gallery, salaries, field expenses, etc.	43,399.19	
Purchase of art objects	96,719.64	
Investments made from gain from sale, etc., of securities	15,976.19	
Reinvestment of cash capital from sale, call of securities, etc.	1,047,577.09	
Cost of handling securities, fee of investment counsel, and accrued interest on bonds purchased	20,986.95	
		1,224,659.06
Cash balance June 30, 1941		497,141.14
		2,078,592.02

<sup>2</sup> This includes salary of the Secretary and certain others.

Included in the foregoing are expenditures for researches in pure science, publications, explorations, care, increase, and study of collections, etc., as follows:

## Expenditures from general funds of the Institution:

Publications	\$20,378.94	
Researches and explorations	23,720.74	
		44,099.68



## Expenditures from funds devoted to specific purposes:

Researches and explorations.....	\$60, 879. 90	
Care, increase, and study of special collections....	4, 836. 80	
Publications' .....	5, 470. 90	
		\$71, 187. 60
<hr/>		
Total.....		115, 287. 28

The practice of depositing on time in local trust companies and banks such revenues as may be spared temporarily has been continued during the past year, and interest on these deposits has amounted to \$715.42.

The Institution gratefully acknowledges gifts or bequests from the following:

Mrs. W. W. Daly, for Smithsonian endowment fund.

Friends of Dr. Albert S. Hitchcock, for the Hitchcock Agrostological Library.

Cornelia L. Pell, for the Pell Collection.

Research Corporation, further contributions for research in radiation.

John A. Roebling, further contributions for research in radiation.

H. Nelson Slater, for investigations in connection with early cotton machinery.

Julia D. Strong, for National Collection of Fine Arts.

Walter W. Taylor, for archaeological investigations.

Mrs. Mary Vaux Walcott, for purchase of certain specimens.

All payments are made by check, signed by the Secretary of the Institution on the Treasurer of the United States, and all revenues are deposited to the credit of the same account. In many instances deposits are placed in bank for convenience of collection and later are withdrawn in round amounts and deposited in the Treasury.

The foregoing report relates only to the private funds of the Institution.

The following annual appropriations were made by Congress for the Government bureaus under the administrative charge of the Smithsonian Institution for the fiscal year 1941:

General expenses.....	\$386, 260. 00
(This combines under one heading the appropriations heretofore made for Salaries and Expenses, International Exchanges, American Ethnology, Astrophysical Observatory, and National Collection of Fine Arts of the Smithsonian Institution and for Maintenance and Operation of the United States National Museum.)	
Preservation of collections.....	627, 470. 00
Printing and binding.....	73, 000. 00
National Zoological Park.....	239, 910. 00
Cooperation with the American Republics (transfer to the Smithsonian Institution).....	28, 500. 00
<hr/>	
Total.....	1, 355,140. 00

The report of the audit of the Smithsonian private funds is printed below:

SEPTEMBER 8, 1941.

EXECUTIVE COMMITTEE, BOARD OF REGENTS,

*Smithsonian Institution, Washington, D. C.*

SIRS: Pursuant to agreement we have audited the accounts of the Smithsonian Institution for the fiscal year ended June 30, 1941, and certify the balance of cash on hand, including Petty Cash Fund, June 30, 1941, to be \$499,041.14.

We have verified the record of receipts and disbursements maintained by the Institution and the agreement of the book balances with the bank balances.

We have examined all the securities in the custody of the Institution and in the custody of the banks and found them to agree with the book records.

We have compared the stated income of such securities with the receipts of record and found them in agreement therewith.

We have examined all vouchers covering disbursements for account of the Institution during the fiscal year ended June 30, 1941, together with the authority therefor, and have compared them with the Institution's record of expenditures and found them to agree.

We have examined and verified the accounts of the Institution with each trust fund.

We found the books of account and records well and accurately kept and the securities conveniently filed and securely cared for.

All information requested by your auditors was promptly and courteously furnished.

We certify the Balance Sheet, in our opinion, correctly presents the financial condition of the Institution as at June 30, 1941.

Respectfully submitted,

WILLIAM L. YAEGER,  
*Certified Public Accountant.*

Respectfully submitted.

FREDERIC A. DELANO,  
VANNEVAR BUSH,  
*Executive Committee.*









SMITHSONIAN INSTITUTION LIBRARIES



3 9088 01296 8533

