AM
101
S6628
CRLSSI

Smithsonian Institution

Report of the Secretary and the Financial Report of the Executive Committee of the Board of Regents

1953

SMITHSONIAN
JAN 21 1954
LIBRARY

Smithsonian Institution

Report of the Secretary and the Financial Report of the Executive Committee of the Board of Regents

For the year ended June 30

1953

Smithsonian Publication 4141

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1953

CONTENTS

	Page
List of officials	v
General statement	1
The Establishment	5
The Board of Regents	5
Induction of new Secretary	6
Finances	6
Appropriations	7
Visitors	7
Twentieth annual James Arthur lecture on the sun	8
James Smithson's tomb	9
Termination of the Institute of Social Anthropology	9
Renovation of National Collection of Fine Arts	10
Summary of the year's activities of the branches of the Institution	10
Library	13
Publications	13
Appendix 1. Report on the United States National Museum	14
2. Report on the National Gallery of Art	25
3. Report on the National Collection of Fine Arts	38
4. Report on the Freer Gallery of Art	48
5. Report on the Bureau of American Ethnology	60
6. Report on the International Exchange Service	93
7. Report on the National Zoological Park	102
8. Report on the Astrophysical Observatory	121
9. Report on the National Air Museum	126
10. Report on the Canal Zone Biological Area	141
11. Report on the library	148
12. Report on publications	152
Report of the executive committee of the Board of Regents	159

THE SMITHSONIAN INSTITUTION

June 30, 1953

Presiding Officer ex officio.—DWIGHT D. EISENHOWER, President of the United States.

Chancellor.—FRED M. VINSON, Chief Justice of the United States.

Members of the Institution:

DWIGHT D. EISENHOWER, President of the United States.
RICHARD M. NIXON, Vice President of the United States.
FRED M. VINSON, Chief Justice of the United States.
JOHN FOSTER DULLES, Secretary of State.
GEORGE M. HUMPHREY, Secretary of the Treasury.
CHARLES E. WILSON, Secretary of Defense.
HERBERT BROWNELL, JR., Attorney General.
ARTHUR E. SUMMERFIELD, Postmaster General.
DOUGLAS MCKAY, Secretary of the Interior.
EZRA TAFT BENSON, Secretary of Agriculture.
SINCLAIR WEEKS, Secretary of Commerce.
MARTIN P. DURKIN, Secretary of Labor.
OVETA CULP HOBBY, Secretary of Health, Education, and Welfare.

Regents of the Institution:

FRED M. VINSON, Chief Justice of the United States, Chancellor.
RICHARD M. NIXON, Vice President of the United States.
ROBERT A. TAFT, Member of the Senate.
CLINTON P. ANDERSON, Member of the Senate.
LEVERETT SALTONSTALL, Member of the Senate.
CLARENCE CANNON, Member of the House of Representatives.
JOHN M. VORYS, Member of the House of Representatives.
LEROY JOHNSON, Member of the House of Representatives.
ARTHUR H. COMPTON, citizen of Missouri.
VANNEVAR BUSH, citizen of Washington, D. C.
ROBERT V. FLEMING, citizen of Washington, D. C.
JEROME C. HUNSAKER, citizen of Massachusetts.

Executive Committee.—ROBERT V. FLEMING, *chairman*, VANNEVAR BUSH, CLARENCE CANNON.

Secretary.—LEONARD CARMICHAEL.

Assistant Secretaries.—JOHN E. GRAF, J. L. KEDDY.

Administrative assistant to the Secretary.—MRS. LOUISE M. PEARSON.

Treasurer.—J. D. HOWARD.

Chief, editorial division.—PAUL H. OEHSER.

Librarian.—MRS. LEILA F. CLARK.

Chief, accounting division.—THOMAS F. CLARK.

Superintendent of buildings and labor.—L. L. OLIVER.

Assistant Superintendent of buildings and labor.—CHARLES C. SINCLAIR.

Chief, personnel division.—JACK B. NEWMAN.

Chief, publications division.—L. E. COMMERFORD.

Chief, supply division.—ANTHONY W. WILDING.

Photographer.—F. B. KESTNER.

UNITED STATES NATIONAL MUSEUM

Director.—A. Remington Kellogg.
Chief, office of correspondence and records.—Helena M. Weiss.
Editor.—John S. Lea.

SCIENTIFIC STAFF

Department of Anthropology:

Frank M. Setzler, head curator; A. J. Andrews, J. E. Anglim, exhibits preparators; W. W. Taylor, Jr., collaborator in anthropology.

Division of Archeology: Waldo R. Wedel, curator; Clifford Evans, Jr., associate curator.

Division of Ethnology: H. W. Krieger, curator; J. C. Ewers, C. M. Watkins, associate curators; R. A. Elder, Jr., assistant curator.

Division of Physical Anthropology: T. Dale Stewart, curator; M. T. Newman, associate curator.

Associate in Anthropology: Neil M. Judd.

Department of Zoology:

Waldo L. Schmitt, head curator; W. L. Brown, chief exhibits preparator; C. H. Aschemeier, W. M. Perrygo, E. G. Laybourne, C. S. East, J. D. Biggs, exhibits preparators; Mrs. Aime M. Awl, scientific illustrator.

Division of Mammals: D. H. Johnson, H. W. Setzer, associate curators; Charles O. Handley, Jr., assistant curator; A. Brazier Howell, collaborator; Gerrit S. Miller, Jr., associate.

Division of Birds: Herbert Friedmann, curator; H. G. Deignan, associate curator; Samuel A. Arny, museum aide; Alexander Wetmore, research associate and custodian of alcoholic and skeleton collections; Arthur C. Bent, collaborator.

Division of Reptiles and Amphibians: Doris M. Cochran, associate curator.

Division of Fishes: Leonard P. Schultz, curator; E. A. Lachner, associate curator; W. T. Leapley, Robert H. Kanazawa, museum aides.

Division of Insects: Edward A. Chapin, curator; R. E. Blackwelder, W. D. Field, O. L. Cartwright, Grace E. Glance, associate curators; Sophy Parfin, assistant curator; W. L. Jellison and M. A. Carriker, collaborators.

Section of Hymenoptera: W. M. Mann, Robert A. Cushman, assistant custodians.

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

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

Division of Marine Invertebrates: F. A. Chace, Jr., curator; Frederick M. Bayer, associate curator; Mrs. L. W. Peterson, museum aide; Mrs. Harriet Richardson Searle, Max M. Ellis, J. Percy Moore, collaborators; Mrs. Mildred S. Wilson, collaborator in copepod Crustacea.

Division of Mollusks: Harald A. Rehder, curator; Joseph P. E. Morrison, R. Tucker Abbott, associate curators; W. J. Byas, museum aide; Paul Bartsch, associate.

Section of Helminthological Collections: Benjamin Schwartz, collaborator.

Associates in Zoology: T. S. Palmer, W. B. Marshall, A. G. Böving, C. R. Shoemaker, W. K. Fisher, Austin H. Clark.

Collaborator in Zoology: R. S. Clark.

Collaborator in Biology: D. C. Graham.

DEPARTMENT OF BOTANY (NATIONAL HERBARIUM):

Jason R. Swallen, head curator.

Division of Phanerogams: A. C. Smith, curator; E. C. Leonard, E. H. Walker, Lyman B. Smith, associate curators; Velva E. Rudd, assistant curator; E. P. Killip, research associate.

Division of Ferns: C. V. Morton, curator.

Division of Grasses: Ernest R. Sohns, associate curator; Mrs. Agnes Chase, F. A. McClure, research associates.

Division of Cryptogams: C. V. Morton, acting curator; Paul S. Conger, associate curator; John A. Stevenson, custodian of C. G. Lloyd mycological collections and honorary curator of Fungi; David G. Fairchild, custodian of Lower Fungi.

DEPARTMENT OF GEOLOGY:

W. F. Foshag, head curator; J. H. Benn and Jessie G. Beach, museum aides.

Division of Mineralogy and Petrology: W. F. Foshag, acting curator; E. P. Henderson, G. S. Switzer, associate curators; F. E. Holden, museum technician; Frank L. Hess, custodian of rare metals and rare earths.

Division of Invertebrate Paleontology and Paleobotany: Gustav A. Cooper, curator; A. R. Loeblich, Jr., David Nicol, Arthur L. Bowsher, associate curators; W. T. Allen, museum aide; J. Brookes Knight, research associate in paleontology.

Section of Invertebrate Paleontology: T. W. Stanton, custodian of Mesozoic collection; J. B. Reeside, Jr., custodian of Mesozoic collection; Preston Cloud, research associate.

Section of Paleobotany: Roland W. Brown, research associate.

Division of Vertebrate Paleontology: C. L. Gazin, curator; D. H. Dunkle, associate curator; F. L. Pearce, A. C. Murray, exhibits preparators.

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

Associate in Paleontology: R. S. Bassler.

DEPARTMENT OF ENGINEERING AND INDUSTRIES:

Frank A. Taylor, head curator.

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

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

Section of Marine Transporation: Frank A. Taylor, in charge.

Section of Electricity: K. M. Perry, associate curator.

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

Section of Land Transportation: S. H. Oliver, associate curator.

Division of Crafts and Industries: W. N. Watkins, curator; Edward C. Kendall, associate curator; E. A. Avery, William E. Bridges, and Walter T. Marinetti, museum aides; F. L. Lewton, research associate.

Section of Textiles: Grace L. Rogers, assistant curator.

Section of Wood Technology: W. N. Watkins, in charge.

Section of Manufactures: W. N. Watkins, in charge.

Section of Agricultural Industries: W. N. Watkins, in charge.

Division of Medicine and Public Health: George B. Griffenhagen, associate curator; Alvin E. Goins, museum aide.

Division of Graphic Arts: Jacob Kainen, curator; J. Harry Phillips, Jr., museum aide.

Section of Photography: A. J. Wedderburn, Jr., associate curator.

DEPARTMENT OF HISTORY:

Mendel L. Peterson, acting head curator.

Divisions of Military History and Naval History: M. L. Peterson, associate curator; J. R. Sirlouis, assistant curator; Craddock R. Goins, Jr., assistant curator.

Division of Civil History: Margaret W. Brown, associate curator; Robert Leroy Morris, museum aide.

Division of Numismatics: S. M. Mosher, associate curator.

Division of Philately: Franklin R. Bruns, Jr., associate curator.

NATIONAL GALLERY OF ART

Trustees:

FRED M. VINSON, Chief Justice of the United States, *Chairman.*
JOHN FOSTER DULLES, Secretary of State.
GEORGE M. HUMPHREY, Secretary of the Treasury.
LEONARD CARMICHAEL, Secretary of the Smithsonian Institution.
SAMUEL H. KRESS.
FERDINAND LAMMOT BELIN.
DUNCAN PHILLIPS.
CHESTER DALE.
PAUL MELLON.

President.—SAMUEL H. KRESS.
Vice President.—FERDINAND LAMMOT BELIN.
Secretary-Treasurer.—HUNTINGTON CAIRNS.
Director.—DAVID E. FINLEY.
Administrator.—HARRY A. MCBRIDE.
General Counsel.—HUNTINGTON CAIRNS.
Chief Curator.—JOHN WALKER.
Assistant Director.—MACGILL JAMES.

NATIONAL COLLECTION OF FINE ARTS

Director.—THOMAS M. BEGGS.
Curator of ceramics.—P. V. GARDNER.
Chief, Smithsonian Traveling Exhibition Service.—Mrs. JOHN A. POPE.
Exhibits preparator.—ROWLAND LYON.

FREER GALLERY OF ART

Director.—A. G. WENLEY.
Assistant Director.—JOHN A. POPE.
Assistant to the Director.—BURNS A. STUBBS.
Associate in Near Eastern art.—RICHARD ETTINGHAUSEN.
Associate in technical research.—RUTHERFORD J. GETTENS.
Assistant in research.—HAROLD P. STERN.
Research associate.—GRACE DUNHAM GUEST.
Honorary research associate.—MAX LOEHR.

BUREAU OF AMERICAN ETHNOLOGY

Director.—Matthew W. Stirling.
Associate Director.—Frank H. H. Roberts, Jr.
Anthropologists.—H. B. Collins, Jr., Philip Drucker.
Ethnologist.—John P. Harrington.
Collaborators.—Frances Densmore, Ralph S. Solecki, John R. Swanton, A. J. Waring, Jr.
Scientific illustrator.—E. G. Schumacher.
River Basin Surveys.—Frank H. H. Roberts, Jr., *Director.*

INTERNATIONAL EXCHANGE SERVICE

Chief.—D. G. Williams.

NATIONAL ZOOLOGICAL PARK

Director.—William M. Mann.
Assistant Director.—Ernest P. Walker.
Head Animal Keeper.—Frank O. Lowe.

ASTROPHYSICAL OBSERVATORY

Director.—Loyal B. Aldrich.
Division of Astrophysical Research:
Chief.—William H. Hoover.
Instrument makers.—Andrew Kramer, D. G. Talbert, J. H. Harrison.
Research associate.—Charles G. Abbot.
Division of Radiation and Organisms:
Chief.—R. B. Withrow.
Plant Physiologists.—William H. Klein, Leonard Price, V. B. Elstad, Mrs. Alice P. Withrow.

NATIONAL AIR MUSEUM

Advisory Board:
Leonard Carmichael, *Chairman.*
Lt. Gen. Laurence C. Craigie, *U. S. Air Force.*
Rear Adm. T. S. Combs, *U. S. Navy.*
Grover Loening.
William B. Stout.
Head curator.—Paul E. Garber.
Associate curator.—R. C. Strobell.
Manager, National Air Museum Facility.—W. M. Male.
Museum aides.—Stanley Potter, Wintrop S. Shaw.

CANAL ZONE BIOLOGICAL AREA

Resident Manager.—James Zetek.

Report of the Secretary of the Smithsonian Institution

LEONARD CARMICHAEL

For the Year Ended June 30, 1953

To the Board of Regents of the Smithsonian Institution:

GENTLEMEN: I have the honor to submit a report showing the activities and condition of the Smithsonian Institution and its branches for the fiscal year which ended on June 30, 1953.

GENERAL STATEMENT

My duties as the seventh Secretary of the Smithsonian Institution were assumed on January 2, 1953. Thus, during approximately half the year covered by the present report the Institution was under the able direction of its eminent former Secretary, Dr. Alexander Wetmore. Detailed statements covering the work of the several bureaus and divisions of the Smithsonian during the full year are presented elsewhere in this report.

I should like first to express my deep appreciation to the Honorable Fred M. Vinson, Chancellor of the Smithsonian Institution, to the chairman of our executive committee, and individually to our regents, all of whom have most unselfishly performed many services essential to the effective operation and progress of the Institution during the year covered by this report. I wish also to thank Dr. Wetmore for the great assistance he has given me as his successor, and the entire Smithsonian staff for the cooperation they have extended to me as the new occupant of the office of Secretary.

The Smithsonian has many pressing needs and unsolved problems, but it is fortunate in possessing a staff that is in an outstanding degree professionally qualified and is superlatively loyal to the best interests of the Institution. Many former employees, some long retired, return regularly to carry on research and follow the progress of the Institution with keen interest. In a striking way present and past staff members correctly feel that they truly belong to the old and distinguished Smithsonian family. In this respect and in many others I find the Institution similar to a great university.

The Smithsonian is unique because it is the Nation's principal research center in a number of basic scientific and cultural fields. Because of its unequaled natural-science collections, which contain a vast number of "type specimens," it is a continuing repository of standards

NOV 1 9 1954

for much work in biology and geology. In its collections of history and technology, of aviation, and of the fine arts the Smithsonian has special distinctions and responsibilities in maintaining a proper and complete record of our national achievements and of preserving in trust for the Nation valuable gifts from its citizens. Its expeditions and researches in anthropology in our own and other American countries have brought to light much of the past that was hidden and have preserved much that would otherwise have been lost. Its researches in solar radiation continue to be a principal source of special information in a field of growing practical importance. Its library of more than a million and a half titles is one of the world's great repositories of published scientific information and by far the greatest in the Western Hemisphere. Through its extensive publication program, its international exchange service for scientific literature, its museum exhibits and traveling exhibitions, and in the answering of thousands of individual inquiries yearly the Smithsonian is surely a world center not only for the increase of knowledge but for the proper diffusion of exact information.

In some ways, this means that the Smithsonian may be thought of as a living encyclopedia that is always being kept up to date. Research workers connected with industrial development as well as scientific investigators all over the country continually call upon our expanding collections and records for the identification and description of plants, animals, minerals, and unknown or puzzling objects of human workmanship, especially works of art, and for information pertaining to our other fields of scholarly interest.

In these first months of my service as Secretary it has become clear to me that the Smithsonian has, through its more than a century of service, won a special place in the hearts and minds of American citizens from the Atlantic to the Pacific. Taking all our buildings together, more than 8,200,000 visitors entered our various halls last year. It is reported at the USO information desk in Washington's Union Station that 9 out of 10 members of the Armed Forces inquire for the Smithsonian Institution. A Gallup poll of last summer, attempting to sample the opinion of the estimated 35 million adult Americans who have visited Washington at least once, indicated that except for the Capitol and the White House, the Smithsonian Institution is regarded as "the most interesting thing for a visitor to see in Washington." Car and bus loads of individuals from the Pacific Coast States and from every other part of the Nation come day after day to the Smithsonian. These visitors are of all ages. Many of them are impressionable high-school seniors on what may well be their one trip to Washington. It is thus borne in upon everyone connected with the Smithsonian Institution that our exhibits must be prepared in such a way that they will most effectively tell these eager and

earnest visitors the story of America's national history and of the rise of the industrial and scientific greatness of America. These future leaders of our Nation cannot help being wiser in all that they do concerning our country if they see in our halls examples of the ingenious productions of the great inventors and leaders of the past. The very fact that other countries of the world in recent years have voiced their pride in their eminent inventors indicates something of the importance of emphasizing America's great inventive contributions of human society in building our own Nation's morale.

This year certain facts were presented to the Congress concerning the fundamental needs of the Smithsonian Institution. Without exception, the press comments on these statements from all parts of the country agreed that the Smithsonian has a significant place in our Nation's life and that its work should be adequately supported.

The history of the Smithsonian makes clear how the present financial situation of the Institution has arisen. Almost all our endowments were given for various specific purposes. Therefore, little of the income from the invested funds of the Institution is available for alteration or growth from year to year. In this connection, it is a pleasure to report that a few small funds from bequests have come to the Smithsonian during the current year. Those who are connected with the administration of the Smithsonian are delighted at any time to discuss with prospective donors the means by which their gifts can support the general work of the Institution.

The bureaus of the Smithsonian which are financed in varying degrees by congressional appropriations have developed through the years in an uneven way. In general, it may be said of the continuing activities of the Institution that instead of expanding in the last 20 years, which have seen so much growth in many activities of the Federal Government, the Smithsonian has financially remained static or even in some respects has retrogressed. A comparison of the situation in 1934 and in the present year is illuminating. In the period since 1934 the national collections in charge of the Smithsonian have increased 130 percent. The number of visitors to our 5 exhibition buildings on the Mall have increased by more than 150 percent and our correspondence in answering scientific and other questions has grown several times that amount.

In spite of this growth in work load, the total number of man-hours per week available at the Smithsonian has actually decreased during the past 20 years. In cash, the appropriations for functions other than personnel is $11,000 less than it was in 1933. This means that in purchasing power the Smithsonian has had its funds cut more than in half during this period.

The Honorable Charles R. Jonas, Member of Congress from North Carolina, in a published news report to his constituents this year com-

paring our national expenditures for military affairs with those at the Smithsonian, said in part, "So there are two of our outstanding national collections—the study at the Smithsonian of man's constructive progress, and the study at Aberdeen of man's destructive progress. In both cases we can marvel at and feel proud of American ingenuity and energy . . . But at Aberdeen, there is mixed with our pride a certain sadness and shame that American thought and wealth must of necessity be spent on a collection of terrible weapons to use against other men. Billions for war, pennies for cultural life . . . what a tragic arrangement of accounts."

The Smithsonian is not an "inflated agency," but rather one that in recent decades has not been permitted to perform for the citizens of this country its many basic functions as well as it would have been able to do if it had been given more financial support. During this time, however, the loyal but numerically declining staff of the Institution has carried on approximately 150 percent more work than was required of their more numerous predecessors.

All who are interested in the welfare of the Smithsonian must, therefore, it seems, be prepared to explain its unique and fundamental place in American life to all responsible individuals, both inside and outside our Government, who can assist in its development. I am happy to report that appropriations made to the Smithsonian for the fiscal year 1954 will allow the Institution to take some first steps in the long-overdue rehabilitation of its exhibitions and in the needed renovations of certain of its buildings. Funds to continue modernization and renovation will be most urgently needed in the succeeding years. In the near future plans must also be made for new buildings to relieve the now almost intolerable overcrowding of our present structures.

In its basic charter the Smithsonian was established, as Smithson its wise donor directed, to provide for "the increase and diffusion of knowledge among men." The importance of these functions in the welfare of a nation becomes more clear with each passing year. Can anyone doubt that the sensible and constructive growth of our free institutions is based upon a clear knowledge by most of our citizens of the factors that have made our past achievements and activities possible? Our American conception of social progress is based on a realization that advancement is founded on a willingness to take advantage of improvements in the existing way of doing things. We do not intend to have here the destructive and self-defeating chaos produced by revolutionary upheavals. We must thus insure as wide a dissemination as possible of a knowledge of the past achievements of our Nation and of its natural resources.

It is symbolic of the mission of the Smithsonian that what has been called "the No. 1 Museum Item of America," the great flag Fran-

cis Scott Key watched as he wrote the "Star-Spangled Banner," is proudly displayed in our halls. In this dangerous time of the world's history, when free institutions continue to be challenged by totalitarian ideologies, a true knowledge on the part of our citizens of the story of our country's rise to preeminence is important. This amazing national growth is illustrated in many Smithsonian exhibits. Thus the honored old Smithsonian Institution provides today one of the means by which a forward-looking American can pass on to new generations a true understanding of our free heritage as a society that stands for liberty under law.

THE ESTABLISHMENT

The Smithsonian Institution was created by act of Congress in 1846, in accordance with 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

The Institution suffered a great loss during the year in the death of two of its most valued regents. Eugene E. Cox, member from the House of Representatives, died on December 24, 1952, and to fill the vacancy created the Speaker of the House appointed Representative Leroy Johnson, of California, to serve until the fourth Wednesday in December in the second year succeeding his appointment. The death of Harvey N. Davis, which occurred on December 3, 1952, created a vacancy in the class of citizen regents, but this had not been filled at the end of the year.

When the opposite political party becomes the majority party, it is required that one of the members of the Board resign. Senator Walter F. George, therefore, submitted his resignation to the Vice President since he was the most recent Democrat to be appointed to the Board of Regents. This vacancy was filled by the appointment of Senator Robert A. Taft, of Ohio, on March 9, 1953.

On January 20, 1953, Vice President Richard Nixon became an ex officio member of the Board to succeed the Honorable Alben W. Barkley.

The roll of regents at the close of the present fiscal year was as follows: Chief Justice of the United States Fred M. Vinson, Chancellor; Vice President Richard Nixon; members from the Senate: Clinton P. Anderson, Leverett Saltonstall, Robert A. Taft; members from the House of Representatives: Clarence Cannon, Leroy Johnson, John M. Vorys; citizen members: Vannevar Bush, Arthur H. Compton, Robert V. Fleming, and Jerome C. Hunsaker.

On the evening of January 15, 1953, preceding the annual meeting, an informal dinner meeting of the Board was held in the main hall of the Smithsonian Institution, with the Chancellor, Chief Justice Vinson, presiding. This followed a custom established in 1949 at the suggestion of Chancellor Vinson, who believed that an evening meeting each year would help the regents by further acquainting them with the scientific and scholarly work of the Institution. Several research workers representing different departments of the Institution were present and gave brief firsthand accounts of their recent studies to the Board members.

The regular annual meeting of the Board was held on January 16 in the Regents Room. The Secretary gave his annual report covering the activities of the Institution and its bureaus. The financial report of the executive committee was presented for the fiscal year ended June 30, and this was accepted by the Board. The usual resolution was passed authorizing expenditures of the income of the Institution for the fiscal year ending June 30, 1954.

INDUCTION OF NEW SECRETARY

Dr. Leonard Carmichael, psychologist and former president of Tufts College, who had been elected seventh Secretary of the Smithsonian Institution by the Board of Regents at its meeting on April 9, 1952, took office on January 2, 1953. Special induction ceremonies were held in the Regents Room, with the Honorable Harold M. Stephens, chief judge of the United States Court of Appeals, administering the oath of office. Dr. Carmichael succeeded Dr. Alexander Wetmore, biologist, who retired after serving 28 years with the Institution, since 1945 as Secretary. Dr. Wetmore, as research associate, is continuing his scientific work with the Smithsonian.

FINANCES

A statement on finances, dealing particularly with Smithsonian private funds, will be found in the report of the executive committee of the Board of Regents, page 159.

Ceremonies at the Smithsonian Institution, June 24, 1953, when a British Union Jack was presented to be displayed at the tomb of James Smithson, whose bequest 124 years ago founded the Institution "for the increase and diffusion of knowledge among men." Left to right: Dr. Leonard Carmichael, Secretary of the Smithsonian Institution; Sir John Cockcroft, chairman of Britain's Defense Research Policy Committee; and Sir Roger Makins, British Ambassador to the United States.

APPROPRIATIONS

Funds appropriated to the Institution for the fiscal year ended June 30, 1953, total $2,419,500, obligated as follows:

Management	$57,289
United States National Museum	765,514
Bureau of American Ethnology	59,454
Astrophysical Observatory	119,840
National Collection of Fine Arts	43,619
National Air Museum	145,242
Canal Zone Biological Area	7,000
International Exchange Service	65,664
Maintenance and operation of buildings	864,945
Other general services	290,528
Unobligated	405
Total	2,419,500

In addition $1,428,050 (of which $13,825.80 was unobligated) was appropriated to the National Gallery of Art, and $615,000 was provided in the District of Columbia appropriation act for the operation of the National Zoological Park.

Besides these direct appropriations, the Institution received funds by transfer or grant from other Federal agencies, as follows:

From the Institute of Inter-American Affairs, $24,287.37 for the operation of the Institute of Social Anthropology through December 31, 1953.

From the National Park Service, Department of the Interior, $122,700 for archeological projects in connection with the River Basin Surveys.

From the National Science Foundation, $6,000 to supplement Smithsonian funds for the transportation of exchange publications through the International Exchange Service.

VISITORS

Visitors to the Smithsonian group of buildings during the year 1952–53 again topped all previous records, totaling 3,429,429, or 3,392 more than the previous year. April 1953 was the month of largest attendance, with 535,832; August 1952 was second, with 475,102. Largest attendance for one day was 44,533 for May 9, 1953. Table 1 gives a summary of the attendance records for the five buildings. These figures, when added to the 3,231,450 estimated visitors at the National Zoological Park and 1,647,470 at the National Gallery of Art, make a total number of visitors at the Smithsonian Institution of 8,308,349.

275494—53——2

TABLE 1.—*Visitors to certain Smithsonian buildings during the year ended June 30, 1953*

Year and month	Smithsonian Building	Arts and Industries Building	Natural History Building	Aircraft Building	Freer Building	Total
1952						
July	73,580	196,035	83,429	29,122	7,968	390,134
August	84,587	245,475	100,092	35,097	9,851	475,102
September	45,340	107,327	53,678	17,755	6,283	230,383
October	37,107	90,921	60,933	14,494	5,127	208,582
November	30,512	66,385	45,746	12,482	3,858	158,983
December	19,479	42,224	33,076	8,472	2,623	105,874
1953						
January	25,555	59,076	46,302	11,990	3,182	146,105
February	29,885	74,429	43,350	12,386	3,495	163,545
March	35,812	89,224	53,442	13,557	4,595	196,630
April	92,510	289,714	113,078	31,568	8,962	535,832
May	80,047	222,349	111,340	25,756	8,247	447,739
June	68,855	183,454	86,309	24,785	7,117	370,520
Total	623,269	1,666,613	830,775	237,446	71,308	3,429,429

A special record was kept of groups of school children visiting the Smithsonian. The count showed that 207,420 school children came in 5,041 groups, or about 40 to a group. These are enumerated by month in table 2.

TABLE 2.—*Groups of school children visiting the Smithsonian, 1952–53*

	Groups	Children
1952:		
July	91	2,188
August	94	2,337
September	76	2,066
October	210	6,292
November	276	7,947
December	77	1,723
1953:		
January	178	4,127
February	225	5,658
March	426	14,179
April	1,393	76,193
May	1,414	61,471
June	581	23,239
Total	5,041	207,420

TWENTIETH ANNUAL JAMES ARTHUR LECTURE ON THE SUN

In 1931 the Institution received a bequest from James Arthur, of New York, a part of the income from which was to be used for an annual lecture on some aspect of the study of the sun. The twentieth Arthur lecture was delivered in the auditorium of the Natural History Building on the evening of May 21, 1953, by Dr. C. E. Kenneth Mees,

director of the research laboratories of the Eastman Kodak Co., Rochester, N. Y. The subject of Dr. Mees's address was "Recent Advances in Astronomical Photography." This lecture will be published in full in the general appendix of the Annual Report of the Board of Regents of the Smithsonian Institution for 1953.

JAMES SMITHSON'S TOMB

Ceremonies were held on the afternoon of June 24, 1953, in connection with the rededication of the tomb of James Smithson, founder of the Smithsonian Institution, which is located in a small chapel near the north entrance of the Smithsonian Building. Speakers for the occasion, which marked the 124th anniversary of Smithson's death in Genoa, Italy, were Sir Roger Makins, British Ambassador to the United States; Sir John Cockcroft, Chairman of the Defense Research Policy Committee of Great Britain; and Dr. Leonard Carmichael, Secretary of the Smithsonian Institution. The Ambassador and Sir John, on behalf of the British people, presented a Union Jack to be displayed with the Stars and Stripes beside the tomb as a "symbol of international understanding."

The next day following the ceremonies William W. Johnson, of the Treasurer's Office, was presented with a certificate of award for his original suggestion that Smithson's crypt be redecorated.

TERMINATION OF THE INSTITUTE OF SOCIAL ANTHROPOLOGY

At the end of the calendar year 1952, the activities of the Institute of Social Anthropology came to an end with the termination of grants from the Institute of Inter-American Affairs, Department of State, under which the Institute had operated. This agency was created in 1943 as an autonomous unit of the Bureau of American Ethnology to carry out cooperative training in anthropological teaching and research with the other American republics as a part of the wartime program of the Interdepartmental Committee for Cooperation with the American Republics. Its first director and founder was Dr. Julian H. Steward, who was succeeded in 1946 by Dr. George M. Foster. Summaries of the work of the Institute have been included each year within the report of the director of the Bureau of American Ethnology. One of the lasting monuments of the agency is the 16 monographs in the Smithsonian series entitled "Publications of the Institute of Social Anthropology," the final number of which appeared in 1953. Several anthropologists remaining on the Institute of Social Anthropology staff on December 31, 1952, were transferred to the Institute of Inter-American Affairs.

RENOVATION OF NATIONAL COLLECTION OF FINE ARTS

A complete rearrangement of the paintings and art objects in the National Collection of Fine Arts was completed in May under the supervision of its director, Thomas M. Beggs. The collection, housed in the Natural History Building, consists of several major bequests to the Nation through the Smithsonian. Terms of the bequests sometimes require that the collections be preserved as entities, although they often consist of paintings quite miscellaneous, both in subject matter and style. Compliance with these terms sometimes has been difficult, especially with the limited space available for exhibition of constantly increasing material. This problem has been solved by the rearrangement in which paintings from the different collections representing various nationalities are grouped in adjacent alcoves without breaking up the integrity of any collection.

Nucleus of the rearrangement is the Harriet Lane Johnston collection, bequeathed to the Nation by the niece of President James Buchanan and First Lady of the White House during his administration. It was this bequest, quite typical of the Civil War period taste in art and containing such relics as the Bible used by President Buchanan at his inauguration, that started the original National Gallery of Art. This collection is maintained in its entirety in the new arrangement. This is also true of the Ralph Cross Johnson, John Gellatly, and Alfred Duane Pell collections. Other large collections are represented by only a few examples. These include the William T. Evans collection, the Henry Ward Ranger bequest, and the A. R. and M. H. Eddy donation.

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

National Museum.—The collections of the National Museum increased by more than 1,607,000 specimens during the year, a million more than the previous year, bringing the total catalog entries to 34,764,250. Some of the year's outstanding accessions included: In anthropology, more than 300 chipped-stone artifacts from Dauphin County, Pa.; 2,000 potsherds from Transjordan and Palestine; and a fine collection of ceramic ware representing New England folk pottery; in zoology, more than 1,000 mammals from South West Africa, about 2,400 bird skins and skeletons from Colombia, 14,000 fishes from Bermuda and the Caribbean, 14,000 ladybird beetles, and 3,200 identified polychaete worms; in botany, 45,000 plant specimens from Ecuador and Colombia; in geology, an array of minerals, gems, and meteorites, 500,000 Arctic Foraminifera, and several excellent fossil vertebrate remains; in engineering and industries, about 500 radio and electronic devices and a collection of lithographic materials and equip-

ment; and in history, a fine lot of laces, linens, and jewelry from Mrs. Woodrow Wilson, a dress of Mrs. Harry S. Truman for the First Ladies collection of gowns, and 93 pistols for the modern firearms series.

Members of the staff conducted fieldwork in Panama, British Guiana, South West Africa, Thailand, Tahiti, Mexico, Fiji Islands, and many parts of the United States. The Museum issued 18 publications.

National Gallery of Art.—The Gallery had 1,647,470 visitors during the year, an 8-percent increase over 1951–52. In all, 1,408 accessions were received, by gift, loan, or deposit. Works of art accepted included paintings by A. V. Tack, Manet, Berthe Morisot, Sir William Orpen, Leonid, John Kensett, Cranach, Van Dyck, P. Gertner, A. Benson, and B. Bruyn; a bust of Whistler by Sir Joseph Boehm; and several groups of prints and drawings. Nine special exhibitions were held. Traveling exhibitions of prints from the Rosenwald Collection were circulated to 17 galleries and museums in this country and 1 in Canada. Exhibitions from the "Index of American Design" were given 58 bookings in 21 States and the District of Columbia and also in Germany, Austria, Italy, Greece, Turkey, and Palestine. Over 43,000 persons attended the Gallery's special tours and the "Picture of the Week" talks, and 14,000 attended the 39 auditorium lectures on Sunday afternoons. The Sunday evening concerts in the west garden court were continued.

National Collection of Fine Arts.—The Smithsonian Art Commission met on December 2, 1952, and accepted for the National Collection 3 oil paintings, 1 sculpture, 5 pieces of modern glass, and 4 ceramic pieces. An addition of $5,000 was made to the Barney fund. The Gallery held 13 special exhibitions during the year. The Smithsonian Traveling Exhibition Service circulated 32 exhibitions, 20 in the United States and Canada and 12 abroad.

Freer Gallery of Art.—Purchases for the collections of the Freer Gallery included Chinese painting, bronzes, metalwork, jade, lacquer, and pottery; Persian paintings, pottery, and manuscripts; Indian paintings; and Japanese pottery. More than 71,000 persons visited the Gallery. In May the Gallery adopted a new plan of keeping open to the public on Tuesday evenings, with occasional lectures.

Bureau of American Ethnology.—The anthropologists of the Bureau staff continued their researches, Dr. Stirling on mid-American archeology, Dr. Collins on the Eskimo and Arctic anthropology, Dr. Harrington on Indian linguistics and the California Indians, and Dr. Drucker on the ethnology of Mexico and the northwest coast of North America. Dr. Roberts continued as Director of the River Basin Surveys, and Dr. Foster as Director of the Institute of Social Anthropology (to the time of its termination on December 31).

International Exchange Service.—As the official United States agency for the interchange of governmental, scientific, and literary publications between this country and other nations of the world, the International Exchange Service during the year handled 1,021,938 packages of such publications, weighing 855,102 pounds. This was 20,324 packages and 29,475 pounds more than the previous year. Consignments were made to all countries except China, North Korea, and Rumania. Toward the end of the year, a grant of $6,000 was received from the National Science Foundation to supplement funds for the transportation of exchange publications that otherwise would have been delayed.

National Zoological Park.—The Zoo received 810 accessions during the year, comprising 1,797 individual animals, and 1,731 were removed by death, exchange, et cetera. The net count of animals at the end of the year was 2,741. Noteworthy among the accessions were 2 Barbary apes, a Formosan civet never before exhibited in the Zoo, 3 East Indian monitor lizards, a young flat-tailed otter from Brazil, also the first of its kind to be exhibited here, and 2 of the rare Allen's monkeys. In all, 247 creatures were born or hatched at the Zoo during the year—95 mammals, 119 birds, and 33 reptiles. Visitors totaled approximately 3,231,000.

Astrophysical Observatory.—The manuscript of volume 7 of the Annals of the Astrophysical Observatory was completed and sent to the printer late in the year. Mr. Hoover completed a thorough study of the silver-disk pyrheliometer. Two of these instruments were built in the APO shops for other institutions. Solar-radiation studies were continued at the Observatory's two field stations—at Montezuma, Chile, and Table Mountain, Calif. Research carried on by the Division of Radiation and Organisms concerned mainly physiological and biochemical processes by which light regulates plant growth and the mechanisms of the action of the auxin-type growth hormones, and several scientific papers were published.

National Air Museum.—Providing adequate storage facilities for the space-consuming material awaiting a National Air Museum building continues to be a serious problem. Twenty loads of material were brought from Park Ridge, Ill., to the new storage facility provided at Suitland, Md. The Museum staff has helped in the celebration of the Fiftieth Anniversary of Powered Flight, participated in many special aeronautical events and exhibits, and inspected material for possible accession, besides taking care of the collections. The Museum received 32 accessions (totaling 112 specimens) from 28 sources. Full-sized aircraft received included a Douglas DC–3 transport plane that had traveled 8½ million air miles, the *Excalibur III* in which a series of historic flights were made, the original *Hiller-copter*, and a German Messerschmitt Me 163 rocket interceptor. At the end of the year

manuscript of a new edition of the Handbook of the Aeronautical Collections was nearly completed.

Canal Zone Biological Area.—New diesel generators installed at the station now insure an adequate supply of electric current. A number of other necessary improvements were made. During the year 700 visitors came to the islands, a hundred more than the previous year; 57 of these were scientists who used the facilities of the island to further their various researches, chiefly in biology and photography.

LIBRARY

Accessions to the Smithsonian library totaled more than 68,414 publications during the year, these coming from more than 100 foreign countries. One of the most notable gifts of the year was a large and valuable collection of books and periodicals on philately presented by Eugene N. Costales, of New York. At the close of the year the holdings of the Smithsonian library and all its branches aggregated 941,328 volumes including 584,295 in the Smithsonian Deposit at the Library of Congress but exclusive of incomplete volumes of serials and separates and reprints from serials.

PUBLICATIONS

Eighty-one publications were issued under the Smithsonian imprint during the year. (See Appendix 12 for complete list.) Outstanding among these were: "Primitive Fossil Gastropods and Their Bearing on Gastropod Classification," by J. Brookes Knight; "Structure and Function of the Genitalia in Some American Agelenid Spiders," by Robert L. Gering; "Dresses of the First Ladies of the White House," by Margaret W. Brown; "The Generic Names of the Beetle Family Staphylinidae," by Richard E. Blackwelder; "Life Histories of North American Wood Warblers," by A. C. Bent; "Catalog of the Cycle Collection of the Division of Engineering, U. S. National Museum," by Smith Hempstone Oliver; "The Indian Tribes of North America," by John R. Swanton; "La Venta, Tabasco: A Study of Olmec Ceramics and Art," by Philip Drucker; and "Prehistoric Settlement Patterns in the Virú Valley, Peru," by Gordon R. Willey. In all, 177,675 copies of Smithsonian publications were distributed during the year. The galley proof of the ninth edition of the Smithsonian Physical Tables was being read by the compiler, Dr. W. E. Forsythe, at the end of the year.

APPENDIX 1

Report on the United States National Museum

SIR: I have the honor to submit the following report on the condition and operations of the United States National Museum for the fiscal year ended June 30, 1953:

COLLECTIONS

Specimens incorporated into the national collections totaled 1,607,911 (more than twice the number received last year) and were distributed among the six departments as follows: Anthropology, 10,540; zoology, 211,677; botany, 82,984; geology, 1,275,140; engineering and industries, 2,008; and history, 25,562. The unusual increase is attributable chiefly to the accessioning of a large number of small fossils, including 750,000 Permian invertebrates and 500,000 Arctic Foraminifera. Most of the other accessions were acquired as gifts from individuals or as transfers from Government departments and agencies. The Annual Report of the Museum, published as a separate document, contains a detailed list of the year's acquisitions, of which the more important are summarized below. Catalog entries in all departments now total 34,764,250.

Anthropology.—A collection of 315 chipped-stone artifacts, including fluted projectile points and other man-made objects that suggest a Paleo-Indian culture, from the Shoop site, Dauphin County, Pa., is of particular interest. The Carnegie Institution of Washington, in continuation of their generous cooperation, donated a collection of potsherds representing type objects from excavated sites in the Maya area.

Through an exchange with the Denver Art Museum, the division of ethnology acquired two ceremonial bundles that were formerly used by northern Blackfoot Indians in the rites for tobacco planting. A rare and valuable Chinese Lamaist robe, of dark blue silk and embellished with over-all couching of braided silk and embroidery in metallic gilt, was presented by Maj. Lee Hagood who had acquired it in Shanghai in 1918. Objects recovered from historical sites of villages, trading posts, and factories in Virginia, Maryland, Delaware, New York, and Massachusetts and other New England States were received from various donors. Of outstanding interest and usefulness to the collector and student of early American ceramics are 189 pieces of redware, stoneware, and other types of New England folk pottery presented by Mrs. Lura Woodside Watkins. These pottery fragments excavated from sites of New England potteries in existence between

1687 and 1880 were assembled by Mrs. Watkins as a study collection for use and illustration in her "New England Potters and Their Wares." Another important addition, presented by Mrs. Florence Bushee of Newbury, comprises 320 fragments and whole specimens of glass and ceramics excavated by the late Charles H. Danforth at the site of the Boston and Sandwich Glass Co. factory at Sandwich, Mass.

A cast of the Hotu II skull excavated in Iran in 1951 was donated by the Wenner-Gren Foundation for Anthropological Research and the American Institute of Human Paleontology.

Zoology.—More than 1,000 mammals collected by Charles O. Handley, Jr., in the Kalahari Desert region of South West Africa, while serving as a member of the Peabody-Harvard expedition under the leadership of L. K. Marshall, were added to the collection. Nearly 500 small mammals were received from various units and members of the military services stationed in Korea and Japan. As transfers the Museum received 47 mammals of Madagascar from Lt. Vernon J. Tipton, United States Army Medical Service Graduate School; and a series of rodents from the Marshall, Gilbert, Phoenix, and Tahiti Islands from investigators working under the auspices of the United States Geological Survey and the Pacific Science Board of the National Research Council. Dr. Henry W. Setzer, while giving instruction on the preparation of specimens for purposes of documentation to members of a U. S. Army medical unit, obtained 156 mammals in Panama.

On the termination of fieldwork in Colombia by M. A. Carriker, Jr., whose collecting has been financed for several years by the income from the W. L. Abbott bequest, 2,174 skins and 225 skeletons of birds were forwarded to the Museum. The Abbott bequest also provided funds for the purchase of 349 skins of birds from Northern Rhodesia. Dr. Harry M. Smith presented 386 skins of birds taken in northern Burma. As transfers the Museum received 58 Alaskan bird skins from the Public Health Service's Arctic Health Research Center at Anchorage and 49 skins and 20 skeletons of birds from the Office of Naval Research taken in the vicinity of Point Barrow, Alaska.

Collecting on various islands in the Pacific Ocean, chiefly in the Marshall and Gilbert Islands and the Tuamotus, under the auspices of the Pacific Science Board by Joe T. Marshall, Edwin T. Moul, and J. P. E. Morrison, and of the United States Geological Survey by F. R. Fosberg, resulted in the transfer of 365 lizards to the Museum.

More than 14,000 specimens of fishes obtained by Dr. William Beebe in Bermuda and the Caribbean area were presented by the New York Zoological Society. Other important accessions recorded were some 1,500 fishes from the *Blue Dolphin* North Atlantic expeditions under the leadership of Comdr. David C. Nutt; 528 fishes from the Gulf of Mexico and the coast of Washington transferred by the United

States Fish and Wildlife Service; 67 paratypes of Mexican fishes from Dr. José Alvarez; and 582 fishes from the Red Sea collected by Dr. Eugenie Clark. As exchanges there were received 144 fishes, including 32 holotypes and paratypes, from the University of Hawaii, and 161 specimens, representing 100 species of Indian fishes, from the Zoological Survey of India.

The Korschefsky collection of ladybird beetles, comprising over 14,000 specimens and containing 1,445 named species representing 206 genera, was acquired by purchase by the Smithsonian Institution, thus increasing the usefulness of the reference series for this family of beetles. As a result of the gift of 539 termites, comprising 96 species hitherto unrepresented in the collections, of which 65 were represented by type material, by Dr. Alfred Emerson, University of Chicago, the national collections now contain representatives of more than 1,000 of the 1,800 known species.

Over 3,200 identified polychaete worms were presented by Dr. Marian H. Pettibone, of the University of New Hampshire. As transfers from the Pacific Science Board, the Division of Marine Invertebrates received 3,412 forms of marine life found on Raroia Atoll in the Tuamotus; 3,980 invertebrates collected on the northern Marshall and Gilbert Islands from the United States Geological Survey; and more than 10,000 identified peneid shrimps and some 500 miscellaneous crustaceans and other marine invertebrates of the Gulf of Mexico from the Fish and Wildlife Service. About 800 holotypes and paratypes were added to the marine-invertebrate collections by the donors who described the new species.

Mollusks from atolls in the northern Marshall Islands, Onotoa Atoll in the Gilbert Islands, Raroia in the Tuamotus, and localities in the Fiji, Cook, and Society Islands were transferred by the Pacific Science Board and the United States Geological Survey. Approximately 2,000 land, fresh-water, and marine mollusks from Stewart Island, New Zealand, were presented by Miss Olive Allan. A representation of almost all known races and colonies of the colorful tree snails (*Liguus*) of Florida, totaling 1,680 specimens, was received from Ralph H. Humes. Dr. George R. LaRue, University of Michigan, one of the leading American parasitologists, presented 1,200 lots of tapeworms and digenetic trematodes. Nearly 100 echinoderms from Onotoa Atoll collected by Dr. P. E. Cloud, Jr., and 707 from the Marshall Islands collected by F. S. MacNeil were transferred by the United States Geological Survey.

Botany.—An important addition to the South American collections resulted from the transfer to the National Herbarium from the herbarium of the National Arboretum, United States Department of Agriculture, of 45,000 botanical specimens collected in Ecuador and Colombia by the staffs of the Cinchona missions. The Division of

Plant Introduction and Exploration, United States Department of Agriculture, transferred 704 specimens from Turkey and South Africa and 963 specimens from southern Brazil. Australian plants collected by L. R. Specht while participating in the National Geographic Society–Smithsonian Institution–Commonwealth of Australia expedition to Arnhem Land were presented by the Australian Government.

Gifts included 283 plants of the table mountains of Venezuela from the New York Botanical Garden; 1,693 Virginia plants from H. A. Allard; 498 specimens, mostly from the Amazon region, from the Instituto Agronomico do Norte, Belém, Pará, Brazil; and 446 Colombian plants from the Instituto de Ciencias Naturales, Bogotá.

As exchanges, several large collections were received, of which reference may be made to 2,070 specimens, mostly from Cuba, from the Naturhistoriska Riksmuseet, Stockholm; 1,312 specimens from the Komarov Botanical Institute, Academy of Sciences, U. S. S. R.; and 579 specimens from the Belgian Congo from the Jardin Botanique de l'État, Brussels.

E. P. Killip collected 2,281 plants for the Museum on Big Pine Key, Fla., and the Isle of Pines, Cuba. Fieldwork by Dr. Ernest R. Sohns in Guanajuato, Mexico, added 875 specimens to the herbarium.

Geology.—Noteworthy gifts received include an exhibition group of datolite crystals from Joseph S. Rapalus; uranium minerals from Utah from George Dix; and a large polished slab of rhodocrosite of rich rose color obtained in Argentina from Ellis Clarke Soper.

A fine crystal of gadolinite from Norway, an aquamarine (beryl) crystal from Russia, a large specimen of vanadinite from Mexico, several groups of unusual cyrtolite crystals from Colorado, and a milarite crystal from Switzerland were added to the Roebling Collection.

Included among the additions to the Canfield Collection were a large and unusual cruciform twin crystal of quartz from Mexico, a group of quartz crystals from Madagascar, an emerald crystal from Austria, an opal from Australia, and a large green tourmaline crystal from Brazil. The Chamberlain bequest provided funds for the purchase of a 28.8-carat green apatite from Burma and a 17.3-carat pink scapolite cat's-eye from Ceylon. A very unusual golden beryl cat's-eye from Madagascar, weighing 43 carats, was acquired for the gem collection by exchange. Dr. Stuart H. Perry continued his interest in the meteorite collection by donating a sample of the unique Soroti, Uganda, meteorite; other meteorites, mostly from the United States, were acquired by gift or purchase.

As gifts, the Museum received Permian gastropods from the Florida Mountains, N. Mex., Miocene mollusks from Bogachiel River, Wash., Cretaceous and Tertiary Foraminifera from Egypt, Cretaceous invertebrates from Texas, Permian invertebrates from Sicily, Devonian

fossils from Iowa, Tertiary invertebrates from Trinidad, and Foraminifera from the Gulf of Mexico.

Through funds provided by the Springer bequest, the Museum acquired 11 type specimens of Carboniferous and Ordovician crinoids and 45 metatypes of other Ordovician crinoids from Oklahoma. The Museum purchased under the Walcott bequest Mesozoic invertebrates from the Austrian Alps and Tertiary and Mesozoic brachiopods from Sicily. Fieldwork financed by the same bequest resulted in the collection in Mexico of 900 rock samples containing Foraminifera by Dr. A. R. Loeblich, Jr., and Dr. David H. Dunkle, and 10,000 invertebrates by Dr. G. A. Cooper, Arthur L. Bowsher, and William T. Allen in New Mexico, Texas, and Missouri.

Six transfers were received from the United States Geological Survey, among which were specimens sorted out from the deep-sea cores obtained in the North Atlantic. Another transfer, received from the Office of Naval Research, contains the type specimens of fossil woods from the Cretaceous of Alaska described by Dr. C. A. Arnold, of the University of Michigan.

One of the largest accessions, 500,000 Arctic Foraminifera, includes materials obtained during cruises of the U. S. S. *Albatross* vessels under the command of Capt. R. A. Bartlett and Comdr. David C. Nutt, and specimens obtained by Dr. A. R. Loeblich, Jr., under a grant from the Office of Naval Research.

New and interesting specimens have been acquired by exchange, including many genera and species of Foraminifera not hitherto represented in the collections, 158 invertebrates from the Triassic of England and the Tertiary of Germany, 355 Austrian Triassic brachiopods from the Naturhistorisches Museum, and 69 Paleozoic and Cenozoic brachiopods from Japan from the National University, Yokohama.

Transfers from the Smithsonian River Basin Surveys include, among others, a nearly complete skeleton of the fossil reptile *Champsosaurus* from the Paleocene of North Dakota, a plesiosaur skeleton from the Upper Cretaceous of Wyoming, and some 70 specimens of mammals from Oligocene and Miocene strata of the Canyon Ferry Reservoir area in Montana, all collected by Dr. T. E. White. An important assemblage of Paleocene mammalian jaws and teeth from the Bison basin in central Wyoming as well as several small collections of mammals from Eocene beds of the Powder River and Wind River basins in Wyoming and from the Eocene and Oligocene in Montana were transferred by the United States Geological Survey. Lower and Middle Cretaceous fishes were collected in Mexico by Dr. David H. Dunkle under the income of the Walcott bequest. An excellent collection of cetacean and other mammalian remains from the Miocene of the Chesapeake Bay region made by the late Dr. R. Lee Collins was presented to the Museum by his wife.

Engineering and industries.—Nearly 500 electronic and radio devices collected and preserved by the late L. C. F. Horle, radio pioneer and engineer, were presented by Mrs. Susan Horle. Of equal interest is a small planing machine reputed to have been used to plane bamboo for the filaments of early Edison lamps, presented by Dr. Vannevar Bush. Allen Pope presented a gasoline engine made about 1898 by his father, Harry Pope, to power an experimental automobile. An apparatus for taking core samples of the ocean bottom, perfected by Dr. Charles S. Piggot and received from the Carnegie Institution of Washington, has considerable historical significance inasmuch as the subsequent development of this instrument has vastly extended knowledge of the ocean floor.

From Dr. Selman A. Waksman the Museum received the original shaking machine and innoculating needle used by him in the experiments that resulted in the discovery of the antibiotic streptomycin.

Another outstanding accession was the gift by the Lithographers National Association, Inc., of 142 lithographs, plates, and other technical materials which will be used in preparing a display of the history and techniques of offset lithography. José Ortiz Echagüe, a distinguished Spanish pictorial photographer, presented 15 of his carbon fresson process prints. Six prints by the English pictorialist, the late Alexander Keighley, were received from his estate.

A scale model of the Fourdrinier papermaking machine was presented by the Hammermill Paper Co., and one of a modern cotton ginning mill constructed at the United States Cotton Laboratory, Stoneville, Miss., was transferred from the United States Department of Agriculture. A pictorial quilt of Fort Dearborn, made about 1815, was received from Mrs. John H. Snyder.

As exchanges, the Museum acquired 20 specimens of woods of Thailand from the Royal Forest Department, Bangkok. Study sets of the woods of New Zealand, Sarawak, and Iriomote Islands were also added to the collection.

History.—Of particular interest among the accessions was the gift by Mrs. Woodrow Wilson of the laces, embroidered linens, and a large gold, diamond, and lalique glass brooch presented to her when she accompanied President Wilson to Europe in 1919. The collection of dresses of the First Ladies of the White House was augmented by the dress given by Mrs. Harry S. Truman to represent the administration of President Truman, 1945–1953. A black crepe dress worn by Queen Victoria of the United Kingdom about 1880 was given to the costume collection by Mrs. Langley Moore, of the London Museum of Costume.

The Department of Justice transferred 93 pistols needed to complete the series of modern firearms in the division of military history.

Further additions to the Straub collection of gold and silver coins were made by Paul A. Straub.

The Post Office Department transferred to the division of philately 3,198 recently issued stamps which had been distributed by the Universal Postal Union. Gifts of stamps also were received from the Governments of Monaco, Philippines, Netherlands, Nicaragua, Czechoslovakia, Poland, Australia, and Norway, and from the United Nations Postal Administration. Outstanding additions to the philatelic collection were as follows: 12 volumes of stamps of Convention States of India from an anonymous donor; carrier stamps and rare foreign stamps from Philip H. Ward, Jr.; Nesbitt dies and postal fiscal stamps of Austria-Hungary from B. H. Homan; and United States precancels and Bureau print precancel errors from John R. Boker, Jr.

EXPLORATION AND FIELDWORK

At the invitation of Princeton University, Dr. Waldo R. Wedel, curator of archeology, participated from July until September 1952 as the representative of the Smithsonian Institution in the interpretation of the archeological aspects of a site near Cody, Wyo., occupied nearly 7,000 years ago by aboriginal hunters of buffalo. Ninety-five archeological sites located in the Upper Essequibo, the Rupununi savannas, and the coastal area of the northwest district of British Guiana were surveyed and excavated in the interval between October 1952 and April 1953 by Dr. Clifford Evans, associate curator of archeology, under a Fulbright research grant, funds provided by the Smithsonian Institution, and grants from other sources to the coinvestigator, Dr. Betty J. Meggers. At the request of a field party of the United States Geological Survey working in the Monument Valley–Comb Ridge area of northeastern Arizona, Dr. Walter W. Taylor, collaborator in anthropology, visited 41 sites, from 17 of which sherd collections were assembled for subsequent study. At the close of the fiscal year John C. Ewers, associate curator of ethnology, was conducting field investigations of Assiniboin Indian arts and crafts on Fort Peck and Fort Belknap Reservations, Montana.

During the last half of the year 1952, Charles O. Handley, Jr., assistant curator of mammals, observed and collected mammals in the Kalahari Desert region of northeastern South West Africa while assigned to the Peabody-Harvard ethnological expedition. Following arrival at Walvis Bay on July 1, 1953, the party, under the direction of L. K. Marshall, proceeded to Windhoek which served as a base for the 6-months investigation of the primitive Bushmen residing in the desert south of Okavongo River. Maun in Bechuanaland was the easternmost locality visited. In June 1953 Mr. Handley also made a short field trip to the Dismal Swamp of Virginia to obtain additional data for inclusion in a memoir on that swamp sponsored by the Virginia Academy of Sciences. At the request of the Army Medical

Services, Dr. Henry W. Setzer, associate curator of mammals, was given a detail in January and February 1953 to proceed to the Canal Zone of Panama to give instruction to members of the 25th Preventive Medicine Survey Detachment on the collection and preparation of study specimens of mammals involved in the parasitological and epidemiological investigations of tropical diseases, and on the completion of this assignment he devoted a few days to the study of the fauna of Barro Colorado Island.

During May and June, Dr. Alexander Wetmore, research associate, assisted by W. M. Perrygo of the National Museum, carried on field studies on the distribution of bird life in Panama in continuation of a program begun several years ago. The work this year covered an area in the southern part of the Province of Veraguas, extending from the National Highway that crosses western Panama down through the great tracts of swampy forest that lie back of the southern coast. The series of specimens obtained give valuable comparative material from an area that previously had been poorly represented in the National Museum collections. Field observations were highly interesting, since the middle of May marked the beginning of the rains, whereas most of the earlier studies had been made during the dry season of the year. Many of the resident birds exhibit marked difference in habit between the two periods. Though most of the great host of migrant birds from North America that winter here leave for the north by May, numerous records were obtained of several species of which there are groups of younger individuals that have not yet attained breeding status but that remain in these tropical areas through the summer season when the older members are on their northern nesting grounds. Ornithological fieldwork in Thailand by Herbert G. Deignan was made possible by grants from the Guggenheim Foundation and special research funds of the Smithsonian Institution. He arrived at Bangkok on October 8, 1952, and 12 days later departed for the hills west of that city accompanied by Robert E. Elbel, Mutual Security Agency, and three native assistants. Collections were made in Kanchanaburi province during October and November. Fieldwork in Prochnap Khiri Khan province, which is situated in southwestern Thailand between the Gulf of Siam and the Tenasserim Mountain range, was completed on December 31, 1952. The field party worked during January 1953 in the mountainous areas of western Nan and northern Lampang provinces on the Thailand-Laos frontier. On February 9, 1953, Deignan arrived at Chiang Rai, capital of the northernmost province, and from there proceeded to the Mekong River Valley and made collections at Chiang Saen Kao in the region where the boundaries of Burma, Thailand, and Indo-China meet. After returning to Bangkok on March 20, Deignan devoted a week to fieldwork in Ratburi province, which is situated betwen the provinces of Kanchanaburi and

Prochnap Khiri Khan. The field party then proceeded late in March to the forested area near Ban Hua Thanon in Khlong Klung Valley, province of Nakhon Sawan, where fieldwork in Thailand was terminated on May 4, 1953.

Traveling by air from Washington, D. C., Dr. Joseph P. E. Morrison, associate curator of mollusks, arrived at Viti Levu, one of the Fiji Islands, on June 11, 1952, and continued the flight on the same day to Tahiti by way of the Cook Islands. Following 10 days of collecting on Tahiti, the team for the study of coral-atoll ecology organized by the Pacific Science Board was transported, through the courtesy of the French Government, some 450 miles by schooner to Raroia Atoll, where field studies and collections were made from June 26 to September 7, 1952. Members of the field party were brought back to Tahiti by the same French schooner. Following another week of collecting on Tahiti, Dr. Morrison proceeded by air to Aitutaki in the Cook Islands and Viti Levu, the season's work being completed on September 23 at that locality.

Fieldwork by three parties engaged in search for invertebrate and vertebrate fossils was financed by the income from the Walcott bequest. Dr. G. A. Cooper, curator, Arthur L. Bowsher, associate curator, and W. T. Allen, aide, division of invertebrate paleontology and paleobotany, commenced the season's work on July 9, 1952, at Adair, Okla., where they spent 2 days collecting Mississippian fossils while en route to Pine Springs Camp in the Guadalupe Mountains of western Texas. Blocks of invertebrate fossils were quarried from the Permian reef limestone near Guadalupe Peak. On July 18 Cooper's party proceeded to Silver City, N. Mex., to obtain Devonian fossils and thence to other Devonian localities in the vicinity of Kingston, Mud Springs Mountains, Derry, the San Andreas and Sacramento Mountains near Alamogordo, and the Mimbres Mountains. Blocks of silicified upper Pennsylvanian limestone were also collected in the southern part of the Sacramento Mountains. On the return trip stops were made July 29 to August 2, at Ponca City and Tulsa, Okla., to collect Permian invertebrates, and in Missouri for Mississippian fossils.

From the middle of September until mid-December, associate curators Dr. A. R. Loeblich, Jr., and Dr. David H. Dunkle searched for Jurassic and Cretaceous invertebrates and Mesozoic and Tertiary vertebrates in eastern and southern Mexico. They made initial collections in the extensive Cretaceous beds in Coahuila and Tamaulipas and later continued the fieldwork in Puebla, Oaxaca, and Chiapas. In the course of this trip, which traversed the Sierra Madre Oriental from the vicinity of Monterrey to beyond the Isthmus of Tehuantepec, they collected Foraminifera, mollusks, and brachiopods from the Mesozoic deposits and vertebrates from an Upper Cretaceous forma-

tion in Tamaulipas, Lower Cretaceous deposits near Tlaxiaco, Oaxaca, and a Tertiary occurrence near Guanajuato.

The recently discovered occurrence of Paleocene mammals in the Bison Basin near the divide between the Red Desert and the valley of the Sweetwater River in south-central Wyoming by a field party of the United States Geological Survey led Dr. C. L. Gazin, curator of vertebrate paleontology, with the assistance of F. L. Pearce, to commence an intensive search for additional materials.

A grant from the National Science Foundation enabled Dr. A. C. Smith, curator of phanerogams, to proceed from Washington on March 6, 1953, to Fiji, where it is his intention to continue botanical field studies until January 1954 on the upland regions on south-central Viti Levu as well as on Ovalau, Taveuni, and Ngan.

Dr. Ernest R. Sohns, associate curator of grasses, devoted several weeks in October and November 1952 to collecting grasses in Mexico, mostly in the State of Guanajuato.

E. P. Killip, research associate in botany, continued his critical studies of the plants of Big Pine Key, Fla., and was engaged also for several months in collecting plants on the Isle of Pines, Cuba.

Mendel L. Peterson, acting head curator of the department of history, participated in May 1953 in the underwater investigation of the site of a Spanish ship sunk off Plantation Key, Fla. Evidence found on the wreck proved this ship to have been one of a fleet commanded by Admiral de Torres which, according to documents preserved in the Casa Lonja in Seville, Spain, was wrecked on a nearby reef during a hurricane on July 15, 1733. Hand grenades, cannon balls, swords, flintlock muskets, silver coins, and pewter utensils were recovered at the site. This fieldwork is carried on under a grant of funds from E. A. Link, of the Link Aviation Corp.

VISITORS

During the fiscal year 1953 there were 3,120,657 visitors to the Museum buildings, an average daily attendance of 8,549. This is an increase of 17,006 over the total of 3,103,651 visitors in the previous fiscal year. The 207,420 school children included in this total arrived in 5,041 separate groups. Most of them traveled by bus, and some came from localities as far distant as Montana, North and South Dakota, Texas, and Mississippi. Small groups of schoolchildren are not recorded. Almost two-thirds of all the visitors entered the Museum buildings during April to August, inclusive. April 1953 was the month of the largest attendance with 495,302 visitors; August 1952 was the next largest with 430,154; and May 1953 was third with 413,736. Attendance records for the buildings show the following numbers of visitors: Smithsonian Building, 623,269; Arts and Industries Building, 1,666,613; and Natural History Building, 830,775.

275494—53——3

BUILDINGS AND EQUIPMENT

During the year five office rooms assigned to the division of crafts and industries in the Arts and Industries Building were reconditioned, the work involving the construction of concrete floors, the painting of the office rooms, and replastering of one wall. Steel racks were constructed for housing 1,170 drawers, which provided accessibility to 3,860 cubic feet of anthropological materials hitherto located in essentially dead storage.

CHANGES IN ORGANIZATION AND STAFF

The vacancy in the division of medicine and public health was filled on December 8, 1952, by the appointment of George B. Griffenhagen as associate curator.

Respectfully submitted.

REMINGTON KELLOGG, *Director.*

Dr. LEONARD CARMICHAEL,
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, the Sixteenth Annual Report of the National Gallery of Art, for the fiscal year ended June 30, 1953. This report is made pursuant to the provisions of section 5 (d) of Public Resolution No. 14, 75th Congress, 1st session, approved March 24, 1937 (50 Stat. 51).

ORGANIZATION

The statutory members of the Board of Trustees of the National Gallery of Art 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. The five general trustees continuing in office during the fiscal year ended June 30, 1953, were Samuel H. Kress, Ferdinand Lammot Belin, Duncan Phillips, Chester Dale, and Paul Mellon. The Board of Trustees held its annual meeting on May 5, 1953. Samuel H. Kress was reelected President and Ferdinand Lammot Belin, Vice President, to serve for the ensuing year. Donald D. Shepard continued to serve during the year as adviser to the Board.

All the executive officers of the Gallery continued in office during the year:

Huntington Cairns, Secretary-Treasurer.
David E. Finley, Director.
Harry A. McBride, Administrator.
Huntington Cairns, General Counsel.
John Walker, Chief Curator.
Macgill James, Assistant Director.

The three standing committees of the Board, as constituted at the annual meeting May 5, 1953, were as follows:

EXECUTIVE COMMITTEE

Chief Justice of the United States, Fred M. Vinson, chairman.
Samuel H. Kress, vice chairman.
Ferdinand Lammot Belin.
Secretary of the Smithsonian Institution, Dr. Leonard Carmichael.
Paul Mellon.

FINANCE COMMITTEE

Secretary of the Treasury, George M. Humphrey, chairman.
Samuel H. Kress, vice chairman.

Ferdinand Lammot Belin.
Chester Dale.
Paul Mellon.

ACQUISITIONS COMMITTEE

Ferdinand Lammot Belin, chairman.
Duncan Phillips.
Chester Dale.
Paul Mellon.
David E. Finley.

PERSONNEL

On June 30, 1953, full-time Government employees on the staff of the National Gallery of Art numbered 304, as compared with 301 employees as of June 30, 1952. The United States Civil Service regulations govern the appointment of employees paid from appropriated public funds.

APPROPRIATIONS

For the fiscal year ended June 30, 1953, the Congress of the United States appropriated for the National Gallery of Art $1,428,050, to be used for salaries and expenses in the operation and upkeep of the Gallery, the protection and care of works of art acquired by the Board of Trustees, and all administrative expenses incident thereto, as authorized by section 4 (a) of Public Resolution No. 14, 75th Congress, 1st session, approved March 24, 1937 (50 Stat. 51). This sum includes the regular appropriation of $1,240,550 and a supplemental appropration of $187,500 for the replacement and repair of refrigeration equipment used in connection with the air conditioning.

From the regular appropriation the following expenditures and encumbrances were incurred:

Personal services	$1,108,950.00
Printing and reproduction	5,222.31
Electricity, supplies, equipment, etc	126,347.59
Unobligated balance	30.10
Total	1,240,550.00

From the supplemental appropriation the following expenditures and encumbrances were incurred:

Replacement of 3 refrigeration machines	$170,398.00
Repair of motors, etc	3,306.30
Unobligated balance	13,795.70
Total	187,500.00

ATTENDANCE

There were 1,647,470 visitors to the Gallery during the fiscal year 1953, an average daily attendance of about 4,538. This is an increase of 124,874 over the number for 1952. Since March 17, 1941, when the Gallery was opened to the public, to June 30, 1953, there have been 21,931,483 visitors.

ACCESSIONS

There were 1,408 accessions by the National Gallery of Art as gifts, loans, or deposits during the fiscal year 1953. Most of the paintings and a number of the prints were placed on exhibition.

GIFTS

PAINTINGS

The Board of Trustees on July 21, 1952, accepted from Mrs. Augustus Vincent Tack the gift of a portrait of President Truman, painted by her husband, which will be held for a National Portrait Gallery. On October 21 the Gallery received the gift of a painting from Samuel L. Fuller, entitled "Portrait of a Lady," by Salviati, which had been accepted by the Board of Trustees on December 6, 1950. On November 3, the Board accepted the bequest by the late Mrs. Charles S. Carstairs of three paintings: "Head of a Woman," by Manet; "The Sisters," by Berthe Morisot; and a portrait of herself by Sir William Orpen. The gift of a painting by Leonid entitled "Faraduro," from the Avalon Foundation, was accepted by the Board of Trustees on December 3, 1952. On February 9, 1953, the Board accepted from Frederick Sturges, Jr., the painting "Newport Harbor, 1857," by John Kensett. On March 30, 1953, the Board accepted a bequest of the following seven paintings from the late Adolph Caspar Miller:

Artist	*Title*
Cranach	Madonna and Child.
Van Dyck	Portrait of a Young Man.
Peter Gertner	Portrait of a Young Man.
Peter Gertner	Portrait of a Lady.
Ambrosius Benson	Portrait of a Man.
Ambrosius Benson	Portrait of a Lady.
Barthel Bruyn	Portrait of a Man.

SCULPTURE

On October 21, 1952, the Board accepted a bequest by the late Albert E. Gallatin of a bust of Whistler by Sir Joseph Edgar Boehm which will be held for a National Portrait Gallery. On December 3 the Board accepted a gift from the children of the late Mrs. Otto Kahn

of a terra-cotta bust of an old man, Florentine School, second half of fifteenth century.

PRINTS AND DRAWINGS

On October 21, 1952, the Board of Trustees accepted 693 prints and drawings from Lessing J. Rosenwald to be added to his gift to the Gallery. On December 3 the Board approved the addition of 96 prints by Alphonse Legros to the gift of George Matthew Adams. On December 30 the Board accepted a gift from Rush H. Kress of an early sixteenth-century German manuscript choral in two volumes.

EXCHANGE OF WORKS OF ART

On October 21, 1952, the Board of Trustees accepted the offer of Lessing J. Rosenwald to exchange the following five prints by Van Meckenem for superior impressions of the same works: "Christ Before Caiphas," "Scourged," "Pilate Washing His Hands," "Christ Shown to the People," and "Crucifixion." On May 5, 1953, the Board approved Mr. Rosenwald's offer to exchange the following three prints for superior impressions: "The Spinner," by Van Meckenem; "Virgin with the Pear," by Durer; "Madonna and Child Standing on a Crescent Moon," by Altdorfer.

WORKS OF ART ON LOAN

During the fiscal year 1953 the following works of art were received on loan by the National Gallery of Art:

From	*Artist*
Chester Dale, New York, N. Y.:	
Mrs. Chester Dale	Bellows.
Edouard Blau	Bazille.
Le Pont Neuf	Marquet.
The Letter	Bonnard.
Woman in a Chemise	Derain.
Mlle. Dora Maar	Picasso.
Dining in the Garden	Vuillard.
Jacques-Louis David	Rouget.
Nude	De la Fresnaye.
Mme. Kisling	Modigliani.
Morning Haze	Monet.
Woman with a Turban	Matisse.
Putnam Foundation, San Diego, Calif.:	
St. Bartholomew	Rembrandt.
Death of the Virgin	Petrus Christus.
Robert Woods Bliss, Washington, D. C.:	
16 objects of pre-Columbian art.	

LOANED WORKS OF ART RETURNED

The following works of art on loan were returned during the fiscal year 1953:

To	
Chester Dale, New York, N. Y.:	*Artist*
The Hunter	David.
Houses of Parliament	Monet.
Mrs. Chester Dale	Bellows.
Mrs. Thomas Palmer (?)	Feke.
Portrait of a Lady in Red	Theus.
Black Hawk	King.
Portrait of a Boy	Rousseau.
The Windmill	Ryder.
Basque Landscape	Oudot.
Woman with a Turban	Matisse.
The Gourmet	Picasso.
Fernand Stuyck del Bruyère, Belgium:	
Calvary	Henri met de Bles.

WORKS OF ART LENT

During the fiscal year 1953, the Gallery lent the following works of art for exhibition purposes:

To	
The Chattanooga Art Association, Chattanooga, Tenn.:	*Artist*
22 American portraits	Various.
The Mint Museum, Charlotte, N. C.:	
22 American portraits	Various.
Randolph-Macon College, Lynchburg, Va.:	
18 American portraits	Various.
American Federation of Arts, New York, N. Y.:	
Mrs. Yates	Gilbert Stuart.
Virginia Museum, Richmond, Va.:	
Bulls of Bordeaux (series of 4)	Goya.
The White House, Washington, D. C.:	
Arctic Three-Toed Woodpecker	J. J. Audubon.
Orchard Oriole	J. J. Audubon.
Allies Day, May 1917	Childe Hassam.
Portrait of Lincoln	Volk.
Abraham Lincoln	Lambdin.
Newport Harbor, 1857	Kensett.
Landscape	Harpignies.
Nathaniel Hawthorne	Emanuel Leutze.
DeWitt Clinton	John W. Jarvis.
Andrew Jackson	Ralph Earle.
General Washington at Princeton	Charles Polk.
The Flags (San Marco, Venice)	E. Vail.
Blair-Lee House, Washington, D. C.:	
Henry Clay	Healy.
Franklin Pierce	Healy.
William Henry Harrison	Lambdin.
John Marshall	Lambdin.
Allies Day, May 1917	Childe Hassam.

EXHIBITIONS

The following exhibitions were held at the National Gallery of Art during the fiscal year 1953:

Lithographs by Toulouse-Lautrec. Selected from the Rosenwald Collection. Continued from previous fiscal year through August 3, 1952.

American Portraits from the Collection of the National Gallery of Art. August 10 through September 28, 1952.

Demonstration of Techniques. Watercolor renderings from the Index of American Design. October 5 through October 7, 1952.

American Antiques. Watercolor renderings from the Index of American Design. October 9 through October 19, 1952.

French Drawings, Masterpieces from Five Centuries. From the Louvre, other French museums and private collections. Sponsored by Smithsonian Traveling Exhibition Service. November 2 through November 30, 1952.

Twentieth-Century French Paintings From the Chester Dale Collection. Opened November 22, 1952, to continue indefinitely.

Japanese Painting and Sculpture, From the 6th Century A. D. to the 19th Century. Sponsored by the Government of Japan. January 25 through February 25, 1953.

Nuremberg and the German World, 1460–1530. Prints and books from the Kress and Rosenwald Collections. March 15 through July 12, 1953.

19th- and 20th-Century Paintings from the Edward G. Robinson Collection. May 10 through June 24, 1953.

TRAVELING EXHIBITIONS

Rosenwald Collection.—Special exhibitions of prints from the Rosenwald Collection were circulated to the following places during the fiscal year 1953:

Chattanooga Art Association, Chattanooga, Tenn.:
Collection of Master Prints.
July 12–August 4, 1952.

University of Alabama, University, Ala.:
Toulouse-Lautrec Prints.
August 1952.

Detroit Institute of Arts, Detroit, Mich.:
18th-Century Venetian Art.
September–October, 1952.

Walters Art Gallery, Baltimore, Md.:
"The World Encompassed"—4 maps.
October 7–November 23, 1952.

Academy of Music, Philadelphia, Pa.:
3 Blake prints, to accompany premier of Virgil Thompson's themes from Blake's "Songs of Innocence and Experience."
October 10, 1952.

Philadelphia Museum of Art, Philadelphia, Pa.:
"Graphic Art by 20th-Century Sculptors"—12 drawings.
October 11–December 7, 1952.

Society of the Four Arts, Palm Springs, Fla.:
2 Oudry Drawings.
November 15–December 12, 1952.

Religious Art Committee of Student Body, Union Theological Seminary, New York, N. Y.:
4 prints.
November 30–December 16, 1952.
John Herron Art Institute, Indianapolis, Ind.:
18th-Century Venetian Art.
November 1952–January 4, 1953.
Randolph-Macon Woman's College, Lynchburg, Va.:
Collection of Master Prints.
December 1952.
Virginia Museum, Richmond, Va.:
Goya-Tauromachia prints.
January 1953.
Toledo Museum of Art, Toledo, Ohio:
Music Manuscripts.
January 11–March 1, 1953.
Pierpont Morgan Library, New York, N. Y.:
"Landscape Drawings and Water Colors; Breugel to Cezanne"—7 drawings.
January 30–April 11, 1953.
Philadelphia Art Alliance, Philadelphia, Pa.:
Selections from Recent French Acquisitions.
February 9–March 1, 1953.
Denver Art Museum, Denver, Colo.:
"Art Tells the Story"—1 Blake print.
March 1–April 28, 1953.
Vancouver Art Gallery, Vancouver, British Columbia:
French Impressionism, Drawings and Watercolors.
March 23–April 19, 1953.
Tyler School of Art, Elkins Park, Pa.:
Hobby Show for Abington Hospital Benefit.
April 15, 1953.
Minneapolis Institute of Arts, Minneapolis, Minn.:
19th-Century Monotypes—5.
May 5–June 30, 1953.

Index of American Design.—During the fiscal year 1953, 25 traveling exhibitions of original watercolor renderings of this collection, with 58 bookings, were sent to the following States and countries:

State or country	*Number of exhibitions*
Alabama	3
Arkansas	1
Connecticut	1
District of Columbia	9
Illinois	2
Indiana	1
Iowa	6
Kentucky	1
Louisiana	1
Maine	1
Maryland	3
Michigan	1
Mississippi	1
New Jersey	2

State or country	Number of exhibitions
New York	4
North Carolina	5
Ohio	4
Pennsylvania	1
South Carolina	1
Tennessee	2
Virginia	1
Wisconsin	1
Greece	1
Italy	1
Palestine	1
Turkey	1
Western Germany	1
Western Germany and Austria	1

CURATORIAL ACTIVITIES

The Curatorial Department accessioned 927 gifts to the Gallery during the fiscal year 1953. Advice was given regarding 285 works of art brought to the Gallery for opinion, and 60 visits to other collections were made by members of the staff for either expert opinion or in connection with offers of gifts. About 1,200 inquiries requiring research were answered verbally and by letter. On August 10, 1952, John Walker, as representative of the United States Government on the occasion of the Centennial Celebration of the German National Museum of Nüremberg, gave an address before a large audience. Charles M. Richards conducted two courses in art history under the auspices of the Department of Agriculture. Miss Elizabeth Mongan gave a series of lectures on prints at Beaver College, Swarthmore College, and the Tyler School of Art. Mr. Richards served as an "expert on art" and lecturer at the Career Conference held at George Washington University. He also attended the annual meeting of the American Association of Museums at Buffalo, N. Y., and an organizational meeting of the Southern Conference of Museums at Raleigh, N. C. Miss Katharine Shepard was sent as a delegate from the Washington Society to the annual meeting of the Archaeological Institute of America in Cleveland. Perry B. Cott was elected vice president of this Society. Mr. Cott served on the following committees: Fine Arts Committee, Washington Cathedral; Advisory Committee for Fulbright Awards in Fine Arts; Committee for the Inaugural Medal; Committee for the Protection of Cultural Property. Mr. Cott arranged a schedule of tours of United States museums for visiting foreigners under the International Exchange of Persons Division, Department of State. Erwin O. Christensen was one of five judges at the Army-Wide Library Publicity Contest. Mr. Christensen was chairman of the session on "European and American Art" at the Howard University Festival of Fine Arts this spring, and he also made examinations and wrote

reports on the Morosini and Negroli helmets in the Widener Collection. William P. Campbell was one of three judges at the "Neighborhood Art Show" in Fauquier County, Va.

Special installations were prepared for the French drawings exhibition and the exhibition of Japanese paintings and sculpture under the direction of Mr. Cott. He also supervised the installation of new vitrines for the Robert Woods Bliss Collection of pre-Columbian art.

RESTORATION AND REPAIR OF WORKS OF ART

Necessary restoration and repair of paintings and sculpture in the Gallery's collections were made by Francis Sullivan, resident restorer to the Gallery. Thirty-one pieces of furniture in the Widener Collection were shipped to New York for repair and conditioning; these were returned to the Gallery in October.

PUBLICATIONS

During the year Huntington Cairns contributed an article on "Symbolism and the Language of Jurisprudence" to the forthcoming volume "In the Beginning Was the Word: An Inquiry into the Meaning and Function of Language," and reviews of "The Theodosian Code and Novels" and "Law, the Science of Inefficiency," by William Seagle, to the Library of Congress United States Quarterly Book Review; "The Note-Books of Matthew Arnold," edited by Lowry, Young, and Dunn, to Poetry Magazine; and "Feeling and Form," by Susanne Langer, to the Virginia Quarterly Review. He also delivered a series of lectures at the Johns Hopkins University on "The Theory of Criticism."

In November a new book, "Great Paintings from the National Gallery of Art," by Huntington Cairns and John Walker, was published by the Macmillan Co.

Nine articles by John Walker on paintings in the Chester Dale Collection appeared in the Ladies Home Journal.

Mr. Christensen contributed an article, "A Page from the Sketchbook of Martin Van Heemkerck" for the Gazette des Beaux-Arts.

Other publications by the staff during the fiscal year 1953 include the following:

"Objects of Medieval Art," Handbook No. 3 in the National Gallery of Art series by Erwin O. Christensen.

A catalog entitled "Twentieth-Century French Paintings from the Chester Dale Collection" was prepared by William P. Campbell.

A book for hobbyists entitled "Early American Design: Toleware" was written by Mr. Christensen. He also wrote the book "Early American Wood Carving."

A monograph on Giovanni Bellini's "Feast of the Gods" is being revised by Mr. Walker and a sixth edition of the catalog, "French

Paintings from the Chester Dale Collection," is being prepared by Mr. Campbell.

During the fiscal year 1953 the Publications Fund added four new color postcards and a new 11- by 14-inch color reproduction to the list available and 6 additional new 11- by 14-inch color prints were on order. Nineteen new monotone postcards and four new Christmas-card color plates were produced. At the time of the opening of the exhibition of Twentieth-Century French Paintings from the Chester Dale Collection a stock of 18 color and monotone postcard subjects was also acquired from the Art Institute of Chicago and distributed here. Eleven more large collotype reproductions of paintings at the Gallery distributed by a New York publisher were placed on sale, and this company also produced the first 6 of a new series of 11- by 14-inch plate-size color reproductions of our works of art.

A new set of playing cards, Wedgwood plates bearing a picture of the Gallery building, a stock of "Famous Paintings" calendars including many Gallery paintings, and the book, "Italian Painters of the Renaissance," by Bernard Berenson, illustrated with numerous Gallery paintings, were also made available. The 1952 A. W. Mellon lectures of Jacques Maritain in published form were placed on sale as well as four other books by National Gallery of Art staff members.

Exhibition catalogs of the French drawings, Robinson, and Japanese shows were distributed, and over 20,000 postcards of Japanese works of art were sold here during the latter exhibition.

EDUCATIONAL PROGRAM

The attendance for the general, congressional, and special tours and the "Picture of the Week" totaled 43,544, while the attendance at 39 auditorium lectures on Sunday afternoons was approximately 13,068 during the fiscal year 1953.

Tours, lectures, and conferences arranged by appointment were given 202 groups and individuals. The total number of people served in this manner was 4,701. These special appointments were made for such groups as representatives from leading universities and museums, groups from other governmental departments, high schools, college students, women's clubs, Sunday-school classes, and a number of foreign visitors. This service also included the training of Junior League volunteers who thereafter conducted tours for art students in the Washington high schools and a training program for members of the Arlington American Association of University Women who served as volunteer docents and conducted tours in the Gallery for all the Arlington public-school children in grades 2 through 6.

The staff of the Education Office delivered 17 lectures; 22 lectures were delivered by guest speakers. During March and April Sir Kenneth Clark delivered the second annual series of the A. W. Mellon

Lectures in the Fine Arts on the theme, "The Nude: A Study of Ideal Form."

During the past year, 113 persons borrowed 3,327 slides from the lending collection. Seven copies of the National Gallery film were circulated on itinerary with 106 bookings completed. In the coming year, 18 copies of the film will be placed in audiovisual libraries in as many different States so that they may have the maximum distribution with guaranteed good treatment.

Eight more sets of the "Christmas Story," a mimeographed lecture illustrated by 34 slides, were made up and circulated with approximately 1,882 people viewing the slides.

The printed Calendar of Events, announcing all Gallery activities and publications, is distributed monthly to a mailing list of 5,100 names.

LIBRARY

Books, pamphlets, periodicals, photographs, and subscriptions purchased out of the fund presented to the National Gallery of Art by Paul Mellon totaled 306 during the fiscal year 1953; 33 were purchased out of the fund given by Harold K. Hochschild. Gifts included 270 books and pamphlets, while 713 books, pamphlets, periodicals, and bulletins were received from other institutions. Outstanding among these gifts were 50 books presented by Lessing J. Rosenwald.

Although the Library is not open to the public, it is possible for students of art and persons with art questions to use the services of the Library. During this fiscal year the Library staff handled 1,430 reference questions, and there were 635 readers other than the Gallery staff who used the Library.

The Library is the depository for photographs of the works of art in the collections of the National Gallery of Art. During the year 425 persons other than the Gallery staff came to purchase prints, and 215 mail orders were filled.

INDEX OF AMERICAN DESIGN

During the fiscal year 1953, a total of 7 new exhibits containing 304 renderings were completed. Index material was studied during the year by 572 persons representing special research interests, designers, groups interested in the material for publications, exhibitions, and slides, and to get a general idea of the collection as a whole.

A total of 859 photographs of Index renderings were sent out of the Gallery on loan, for publicity, and purchase. A gift of seventy 2-x-2″ slides of Index material was made by Dr. Konrad Prothmann. Twenty-two sets (consisting of 1,435 slides) of 2-x-2″ slides were circulated in 26 States, Italy, and England.

MAINTENANCE OF THE BUILDING AND GROUNDS

The usual work in connection with the care and maintenance of the building and its mechanical equipment and the grounds was continued throughout the year. Flowering and foliage plants grown in the moats were used in the garden courts.

In order to provide additional storage space for the Publications Office, a new concrete floor was laid in an unfinished area at the west end of the ground floor.

A partition, stainless steel sink, and print washer were installed in one of the darkrooms of the photographers' laboratory in order to increase the efficiency of that department.

The elevators were inspected by a representative of the District government, and also by a representative of the Hartford Accident & Indemnity Co., and found to be in good mechanical condition.

The high-tension switchgear, together with the safety relays and protective devices, was examined and tested by the Potomac Electric Power Co.

Refrigeration machine No. 4 was thoroughly checked and the necessary adjustments made in order that it would be in first-class operating condition when the heavy summer load of air-conditioning would be placed upon it.

With funds appropriated for the purpose, a contract was entered into with the Worthington Corp. for the replacement of three refrigeration machines. Two of the machines were in operation by June 23, 1953, and the work of installing the third machine is now under way.

OTHER ACTIVITIES

A total of 38 Sunday evening concerts were given during the fiscal year 1953 in the West Garden Court. The National Gallery Orchestra, conducted by Richard Bales, played nine concerts at the Gallery with additional performances at the United States Naval Academy at Annapolis, Md., and in the Corcoran Gallery of Art. Two of the orchestral concerts at the National Gallery were made possible by the Music Performance Trust Fund of the American Federation of Musicians. During April, May, and June, seven Sunday evenings were devoted to the Gallery's Tenth American Music Festival. Thirty-two compositions by thirty-one American composers were played. Most of the concerts were broadcast in their entirety by Station WCFM, Washington, and the Continental Network. A new feature of the series was the addition of the Church of the Reformation Cantata Choir to the National Gallery Orchestra at two concerts which presented both classical and contemporary composers.

The photographic laboratory of the Gallery produced 14,013 prints, 402 black-and-white slides, 1,156 color slides, and 127 color trans-

parencies, in addition to 2,130 negatives, X-rays, infrared and ultraviolet photographs.

During the fiscal year, 2,358 press releases were issued in connection with Gallery activities, while 142 permits to copy paintings, and 224 permits to photograph in the Gallery were issued.

OTHER GIFTS

Gifts of books on works of art and related material were made to the Gallery by Paul Mellon and others. Gifts of money were made during the fiscal year 1953 by the Old Dominion Foundation, the Avalon Foundation, and Harold K. Hochschild.

AUDIT OF PRIVATE FUNDS OF THE GALLERY

An audit of the private funds of the Gallery has been made for the fiscal year ended June 30, 1953, by Price, Waterhouse & Co., public accountants, and the certificate of that company on its examination of the accounting records maintained for such funds will be forwarded to the Gallery.

Respectfully submitted.

HUNTINGTON CAIRNS, *Secretary.*

Dr. LEONARD CARMICHAEL,
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, 1953:

THE SMITHSONIAN ART COMMISSION

The 30th annual meeting of the Smithsonian Art Commission was held in the Regents Room of the Smithsonian Building on Tuesday, December 2, 1952. The members present were: Paul Manship, chairman; Alexander Wetmore, secretary (member, ex officio); John Taylor Arms, Robert Woods Bliss, Gilmore D. Clarke, David E. Finley, Lloyd Goodrich, Walker Hancock, George Hewitt Myers, Archibald Wenley, Lawrence Grant White, Andrew Wyeth, and Mahonri Young. Thomas M. Beggs, Director, and Paul V. Gardner, curator of ceramics, National Collection of Fine Arts, were also present.

The Commission recommended to the Board of Regents the reelection of David E. Finley, Paul Manship, Eugene E. Speicher, and Archibald Wenley for the ensuing 4-year period.

The following officers were elected for the ensuing year: Paul Manship, chairman; Robert Woods Bliss, vice chairman; and Leonard Carmichael, secretary. The following were elected members of the executive committee for the ensuing year: David E. Finley, chairman, Robert Woods Bliss, Gilmore D. Clarke, and George Hewitt Myers. Paul Manship, as chairman of the Commission, and Leonard Carmichael, as secretary of the Commission, are ex officio members of the executive committee. Dr. Alexander Wetmore, retiring Smithsonian Secretary, was added to the list of emeritus members of the Commission.

Dr. Wetmore reported to the Commission that a bill (H. R. 8216) had been introduced in the House of Representatives "to establish as a branch of the Smithsonian Institution an American Academy of Music, Drama, and Ballet, for the education of selected pupils in all the various phases of these arts, and for other purposes, as part of a National War Memorial (to include a theater and opera house)." A similar bill was introduced in the Senate (S. J. 105).

Mr. Beggs presented his annual report to the Commission, and said that special emphasis had been given to exhibitions during the year. He reported the completion of the renovation of the first-floor galleries,

the reorganization of the permanent exhibition of the Harriet Lane Johnston, Ralph Cross Johnson, John Gellatly, and Pell Collections, and the preparation in progress of a new catalog and handbooks of the collections. Responsibility for scheduling the monthly foyer exhibitions in the Natural History Building, including those of scientific materials, was transferred by the Secretary to the National Collection of Fine Arts.

Mr. Beggs also described other activities of the National Collection of Fine Arts: The Third Annual Exhibit of the Kiln Club of Washington, representing accomplishment by local craftsmen under Paul V. Gardner's direction; the exhibits of paintings by Edwin Scott and Alice Pike Barney, indicating new uses of the Barney Fund; the Art and Magic in Arnhem Land Exhibit, shown first in the Natural History Building and now being circulated by the Smithsonian Traveling Exhibition Service; the exhibition of "French Drawings of Five Centuries," lent by the French Government, first shown at the National Gallery of Art by the Smithsonian Traveling Exhibition Service, followed by showings at the Cleveland Museum of Art, the City Art Museum of St. Louis, the William Hayes Fogg Art Museum, and the Metropolitan Museum of Art, before its return to France. Mr. Beggs reported that the contract with the Department of State for funds for the preparation of exhibitions to be sent abroad in 1953 and 1954 had been renewed.

The following objects were accepted by the Commission for the National Collection of Fine Arts:

Oil, The Stephen Children (Theodore Brower, Cornelia, John, and Esther Amelia), attributed to a brother of President Madison. Gift of Amelia R. Lowther.

Oil, Man in White (Dr. Henry Sturgis Drinker), by Cecilia Beaux, N. A. (1863–1942). Henry Ward Ranger bequest.

Oil, Portrait of Dr. George F. Becker (1847–1919), geologist, by Fedor Encke (1851–?). Gift of Mrs. George F. Becker. Accepted for the National Portrait Gallery.

Marble, General Philip H. Sheridan (1831–1888), by Thomas Buchanan Read (1822–1872). Gift of Benjamin Bell. Accepted for the National Portrait Gallery.

Five pieces of modern glass: Gazelle bowl and base (crystal glass designed by Sidney Waugh and made by Steuben Glass, Inc., Corning, New York); vase (8 inches high), ashtray (smoke crystal glass with cut flutings), globular vase (6¼ inches high with crystal glass engraved fish decoration), all designed by Gerda Stromberg and made at Strombergshyttan, Sweden. Gift of Mr. and Mrs. Hugh J. Smith, Jr.

Ceramic, bottle, 14 inches high, St. Ives pottery, stoneware, Tenmoku glaze, designed by Bernard Howell Leach. Gift of the artist.

Ceramic, bottle, 16 inches high, stoneware, Sgraffito decoration, designed by Paul D. Holleman, Roxbury, Mass. Gift of the Kiln Club.

Two award-winning pieces from the Third Annual Exhibition of Ceramic Art, 1952: bottle, hand-modeled, ivory matt glaze, by Alta C. Fuller, winner

of the B. F. Drakenfeld award; and bowl, wine-red glaze, by Lisle Pursel, winner of Winthrop Ceramic Supply Company award. Gift of the Kiln Club.

STUDY COLLECTION

A ceramic sculpture, Toad, designed by Ollie Palmore Long, gift of the Kiln Club, was added to the study collection.

TRANSFERS ACCEPTED

Four watercolors were transferred from the division of birds on March 13, 1953: Cardinal, Towhee Bunting, and Purple Grackle, by John James Audubon; and Rose-breasted Grosbeak, by Joseph B. Kidd, after Audubon.

Three oils were transferred from the division of graphic arts on March 25, 1953: Indian Summer, by Jaspar F. Cropsey, N. A.; October, by Robert C. Minor; and November, by Jervis McEntee, N. A.

LOANS ACCEPTED

Miniature, James D. Simons, attributed to James Peale, was lent by Miss Henrietta Simons, Charleston, S. C., on July 19, 1952 (withdrawn by owner on September 5, 1952).

Seventeen miniatures were lent by Mr. and Mrs. Ruel P. Tolman, Washington, D. C., as follows:

Man with Red Hair, by Alvan Clark (1804–87).
Unknown Gentleman, by Robert Field (c. 1769–1819).
Unknown Gentleman, by Thomas Flatman (1633/7–88).
Unknown Gentleman, by Sarah Goodridge (1788–1853).
John (or Uriah) Vaughan, by Christopher Greiner (fl. 1837–64).
Robert Parker, attributed to Henry Inman (1801–46).
Unknown Young Lady, attributed to Henry Inman (1801–46).
J. B., by Raphaelle Peale (1774–1825).
Self Portrait, by Sarah Peale (1800–85).
Unknown Lady, by John Ramage (1748–1802).
Self Portrait, by Edward Savage (1761–1817).
Unknown Man, by Richard M. Staigg (1820–81).
Nancy de Villers, by Carolyn D. Tyler.
Miss Mary Angell, by Carolyn D. Tyler.
Elizabeth Moore, by Carolyn D. Tyler.
Mr. W., by an undetermined artist.
Unknown Man, by an undetermined artist.

Six pieces of modern glass were lent by Mr. and Mrs. Hugh J. Smith, Jr., Scarsdale, N. Y., on April 11, 1953.

LOANS TO OTHER MUSEUMS AND ORGANIZATIONS

Table, French, 18th century (P. 220), was lent to the American Federation of Arts, Washington, D. C., on July 10, 1952, for an indefinite period.

Venetian plate, of the Cozzi period, c. 1780 (P. 497), and a soup

tureen, dated Turin, c. 1775 (P. 801), were lent to the Detroit Institute of Arts for an exhibition of Arts of Venice in the 18th century, from September 28 to November 1, 1952. (Returned November 14, 1952.)

Two portraits, by Charles Hopkinson—Nikola P. Pashitch and Prince Kimmochi Saionji—were lent to the Century Association, New York City, for an exhibition of work by Charles Hopkinson, from December 3, 1952, to January 4, 1953. (Returned January 22, 1953.)

Oil, Caresse Enfantine, by Mary Cassatt, was lent to the Munson-Williams-Proctor Institute Art Gallery, Utica, N. Y., for an exhibition of expatriates, Whistler, Cassatt, and Sargent, from January 4 through 25, 1953. (Returned January 30, 1953.)

Oil, The Storm, by Ludwick Backhuysen (with seven oils by Edwin Scott from the Smithsonian Lending Collection), was lent to the United States District Court of the District of Columbia on December 15, 1952, for a period of 4 years.

Two oils, Cliffs of the Upper Colorado River, Wyoming Territory, by Thomas Moran, and Moonlight, by Albert P. Ryder, were lent to the American Federation of Arts on January 12, 1953, for an exhibition of 19th-century American paintings to be circulated in Germany.

Two oils, An Abandoned Farm, by Ernest Lawson, and Laguna, New Mexico, by Albert L. Groll, were lent to The White House on February 6, 1953, for an indefinite period.

Oil, Westward the Course of Empire Takes its Way, by Emanuel Leutze, was lent to the Denver Art Museum for an exhibition, "Art Tells the Story," from March 1 through April 26, 1953. (Returned May 6, 1953.)

Oil, At Nature's Mirror, by Ralph Blakelock, was lent to the American Federation of Arts on February 13, 1953, for their traveling show "American Tradition 1800–1900," through May 1953. (Returned May 29, 1953.)

Two oils, Roses, by Walter Shirlaw, and The Signing of the Treaty of Ghent, Christmas Eve, 1814, by Sir Amedee Forestier (with 4 pastels by Alice Pike Barney, and 5 oils by Edwin Scott, from the Smithsonian Lending Collection), were lent to the United States District Court of the District of Columbia on February 18, 1953, for a period of 4 years.

Oil, Portrait of Wyatt Eaton, by J. Alden Weir (with 5 oils by Edwin Scott, from the Smithsonian Lending Collection), was lent to the Department of Justice on March 12, 1953, for a period of 4 years.

Bronze, Bust of Hon. Elihu Root, by James Earle Fraser, was lent to the National War College on March 13, 1953, for a period of 4 years.

Oil, Portrait of Dr. George F. Becker, by Fedor Encke, was lent to the National Academy of Sciences on April 17, 1953, for a period of 4 years.

Four oils, Sea and Rain, by George H. Bogert; Evening Glow, Mount McIntyre, by James Henry Moser; The Vintage, by Alexander Rene Veron; and Conway Hills, by Frederick B. Williams (with a watercolor, Hill and Lake, by James Henry Moser, from the Smithsonian Lending Collection), were lent to the Department of State on April 23, 1953, for a period not to exceed 4 years.

Oil, Portrait of Rear Admiral Richard E. Byrd, by Seymour M. Stone (with 4 oils by Edwin Scott from the Smithsonian Lending Collection), was lent to the Bureau of the Budget on May 13, 1953, for a period not to exceed 4 years.

Three oils, Col. William Shakespeare King, by George Catlin; Hon. Salmon P. Chase, by James Reid Lambdin; Rustic Dance, by Jean Antoine Watteau; and two marble busts, Hon. Charles Evans Hughes, by Moses W. Dykaar, and Gen. Philip H. Sheridan, by Thomas Buchanan Read, were lent to the United States Court of Military Appeals on June 11, 1953, for a period not to exceed 4 years.

Four watercolors by William H. Holmes, My Old Mill, Holmescroft, Near Rockville, Maryland; A Maryland Wheat Field; Over the Maryland Fields; and the Normal Rock Creek about 1910 (with 1 oil by Edwin Scott, from the Smithsonian Lending Collection), were lent to the Bureau of the Budget on June 25, 1953, for a period not to exceed 4 years.

LOANS RETURNED

Two oils, Portrait of George Washington, attributed to William Winstanley, after Gilbert Stuart, and The Signing of the Treaty of Ghent, Christmas Eve, 1814, by Sir Amedee Forestier, lent March 22, 1949, to the Department of State, were returned January 19, 1953.

Three oils, Conway Hills, by Frederick Ballard Williams; The Meadow Brook, by Charles P. Gruppe; and Sea and Rain, by George H. Bogert, lent March 14, 1946, to the Department of the Treasury, were returned February 12, 1953.

Oil, December Uplands, by Bruce Crane, lent June 27, 1950, to the Executive Office, Council of Economic Advisers, was returned February 26, 1953.

SMITHSONIAN LENDING COLLECTION

One oil painting, Paris, 1910, by Edwin Scott (1863–1929), was added to the Alice Pike Barney Memorial Collection on April 11, 1953.

The following paintings were lent for varying periods:

Tuskegee Institute, Tuskegee Institute, Ala.:
August 15, 1952:
Old Man with Pipe, by O. W. Roederstein.
Soldiers of the Empire, by Indoni.
Tangier, by L. Garcia.

Ballerine, by Alice Pike Barney.
Captain Wheeler, by Alice Pike Barney.
Laura Alice in Big Hat, by Alice Pike Barney.
Laura in Fichu, by Alice Pike Barney.
Laura with Blue Scarf, by Alice Pike Barney.
Marie Huet, the Painter, by Alice Pike Barney
Martha, by Alice Pike Barney.
Matsu and Puss, by Alice Pike Barney.
Self Portrait in 1924, by Alice Pike Barney.
Self Portrait with Palette, by Alice Pike Barney.
The Brass Kettle, by Alice Pike Barney.
Woodsprite, by Alice Pike Barney.
Young Girl with Fichu, by Alice Pike Barney.

Department of Justice, Washington, D. C.:

September 25, 1952:

Marie Huet, by Alice Pike Barney.
R. D. Shepherd, by Alice Pike Barney.
White Paradise, by Alice Pike Barney.
Chambre des Députés No. 3, by Edwin Scott.
Femmes près des Escaliers No. 1, by Edwin Scott.
Place de la Madeleine, by Edwin Scott.
Quai de la Seine, Église St. Gervais, by Edwin Scott.
Scene Italienne près del a Fontaine, by Edwin Scott.

March 12, 1953:

La Madeleine No. 2, by Edwin Scott.
Maison de Millet, by Edwin Scott.
Notre Dame, by Edwin Scott.
Place St. Germain-des-Près, by Edwin Scott.
Porte St. Martin No. 2, by Edwin Scott.

United States District Court for the District of Columbia, Washington, D. C.:

December 15, 1952:

Bateau de Pêche, by Edwin Scott.
Église de Ville, by Edwin Scott.
Homme au Chapeau Rouge, by Edwin Scott.
Honfleur Fishing Boats No. 1, by Edwin Scott.
Saint Roche, Rue St. Honore, by Edwin Scott.
Tête de Femme, by Edwin Scott.
The Seine at Paris (L'Institute), by Edwin Scott.

February 18, 1953:

Ali Kuli Kahn, by Alice Pike Barney.
Camille Gorde, by Alice Pike Barney.
Jimmy Davis, by Alice Pike Barney.
Old Actor, by Alice Pike Barney.
Côte aux Environs de Cherbourg, by Edwin Scott.
Porte de Cherbourg, by Edwin Scott.
Porte St. Martin et Enterrement, by Edwin Scott.
Ships at Anchor, Cherbourg, No. 1, by Edwin Scott.
Ship at Anchor, Cherbourg, No. 2, by Edwin Scott.

Lehigh University, Bethlehem, Pa.:

March 3, 1953:

Chambre des Députés in a Mist, by Edwin Scott.
Saint Roche Church, by Edwin Scott.
The Madeleine at Dawn, by Edwin Scott.

Department of State, Washington, D. C.:
April 23, 1953:
Hill and Lake, by James Henry Moser.
Bureau of the Budget, Washington, D. C.:
May 13, 1953:
Boulevard St. Germain (Près St. Germain-des-Près), by Edwin Scott.
Chambre des Députés No. 1, by Edwin Scott.
Place de la Concorde No. 1, by Edwin Scott.
Saint Germaine des Près No. 3, by Edwin Scott.
June 25, 1953:
Saint Germaine des Près No. 2, by Edwin Scott.

ALICE PIKE BARNEY MEMORIAL FUND

An addition of $5,000 to the fund established in 1951 by Miss Natalie Clifford Barney and Mrs. Laura Dreyfus-Barney, in memory of their mother, for the purpose of encouraging the appreciation and creation of art in the United States, was received in January 1953.

THE HENRY WARD RANGER FUND

According to a provision in the Ranger bequest that paintings purchased by the Council of the National Academy of Design from the fund provided by the Henry Ward Ranger bequest, and assigned to American art institutions, may be claimed during the 5-year period beginning 10 years after the death of the artist represented, 2 paintings were recalled for action of the Smithsonian Art Commission at its meeting on December 2, 1952.

No. 62. Man in White (Dr. Henry Sturgis Drinker), by Cecilia Beaux, N. A. (1863–1942), was accepted by the Commission to become a permanent accession.

No. 5. The Orange Bowl, by Anna S. Fisher, N. A. (–1942), was returned to the Rhode Island School of Design, Providence, R. I., where it was originally assigned in 1921.

The following paintings, purchased by the Council of the National Academy of Design in 1952, have been assigned as follows:

Title and Artist	*Assignment*
137. Yorktown Heights (watercolor), by Warren Baumgartner, N. A. (1895–).	Suffolk Museum, Stone Brook, Long Island, N. Y.
138. Pirates Alley, New Orleans, by Guy Pene Du Bois, N. A. (1884–).	Philbrook Art Center, Tulsa, Okla.
139. Night Fair, by Martin Jackson (1871–).	Mead Memorial Museum, Amherst College, Amherst, Mass.
140. Tide Water Creek, Oreg. (watercolor), by Theodore Kautzky, N. A.	William A. Farnsworth Library and Art Museum, Rockland, Maine.
141. My Studio, by John Koch (1910–).	Society of Liberal Arts, Joslyn Art Museum, Omaha, Nebr.
142. Still Life with Leaves, by Roger Kuntz.	Berkshire Museum, Pittsfield, Mass.

SMITHSONIAN TRAVELING EXHIBITION SERVICE

Thirty-two exhibitions were circulated during the past season, 20 in the United States and Canada and 12 abroad, as follows:

UNITED STATES AND CANADA

Painting and Drawing

Title	*Source*
Contemporary Swiss Paintings	Eidgenoessische Kunstkommission of Switzerland; Dr. Heinz Keller, Curator of Kunstmuseum in Winterthur.
Finnish Paintings and Sculpture	Fine Arts Academy and Finnish-American Society in Helsinki; Finnish Legation (Heikki Reenpaa).
French Drawings, Masterpieces from Five Centuries.	Mme. Jacqueline Bouchot-Saupique; M. Georges Salles; French Embassy.
German Drawings and Watercolors	Dr. Charlotte Weidler.
Seven Cuban Painters	Institute of Contemporary Art in Boston; Pan American Union (José Gomez Sicre).

Graphic Arts

Children's Books from Fifty Countries I.	U. S. Office of Education and State Department.
Children's Books from Fifty Countries II.	
Modern Swedish Bookbindings	Swedish Association of Master Bookbinders; Swedish Institute in Stockholm; Swedish Embassy.
Woodcuts by Antonio Frasconi	Print Club of Cleveland; Cleveland Museum of Art; Weyne Gallery.

Design

Furniture, Costume, and Textiles	Index of American Design, National Gallery of Art.
Design from Britain	Council of Industrial Design; Dollar Exports Council; British Embassy.

Architecture

New Libraries	American Institute of Architects.
The Re-union of Architecture and Engineering.	

Textiles

Swedish Textiles	Swedish Embassy; Swedish Homecraft League; Friends of Textile Art.

Ceramics

Artists and Potters of Vallauris I	Rene Batigne, Director, Museum of Vallauris, France.
Artists and Potters of Vallauris II	

Folk Art

Norwegian Decorative Painting	Norwegian Artists Guild; Norwegian Embassy.
Our Wide Land Pennsylvania German Arts and Crafts.	Index of American Design, National Gallery of Art.

Ethnology

Art and Magic in Arnhem Land	Smithsonian Institution, Department of Anthropology.

ABROAD

Influences on American Architecture (Gropius).
American Wallpaper.
Contemporary American Textiles.
Containers and Packaging.
The World of Paul Revere.
The City of New York.
Aspects of the American Film—Fourteen Directors.
Mississippi Panorama.
Fashion and Color Photography.
Carl Schurz.

These displays were scheduled as an integral part of the programs of 77 museums and galleries, located in 29 States, the District of Columbia, and Canada. Catalogs were published for each, including the exhibit of the "French Drawings of Five Centuries," lent by the Government of France. This exhibit was first shown at the National Gallery of Art, Washington, D. C., and then sent to Cleveland, St. Louis, Boston, and New York City, before its return to France. The catalog, prepared by Mme. Bouchot-Saupique, curator of drawings at the Louvre, was privately printed, with an introduction by Mrs. Annemarie H. Pope, chief of the Smithsonian Traveling Exhibition Service.

INFORMATION SERVICE

In addition to the many requests for information received by mail and telephone, inquiries made in person at the office numbered 1,432. Examination was made of 773 works of art submitted for identification.

Washington art groups and local chapters of national civic organizations were served during the year by National Collection of Fine Arts staff members who judged art exhibitions and competitions, and addressed meetings on subjects in their special fields.

Introductions also were written to catalogs of exhibitions published by organizations showing in the foyer gallery.

SPECIAL EXHIBITIONS

Thirteen special exhibitions were held during the year:

July 2 through 30, 1952.—An exhibition of Swedish textiles, arranged in cooperation with the Swedish Embassy by the Potomac Craftsmen, consisting of 195 ceramics, rugs, textiles, books, and paintings.

August 7 through 27, 1952.—An exhibition of 55 oil paintings, "Reveries of Paris," by Edwin Scott, from the Alice Pike Barney Memorial Collection. An illustrated catalog was printed with private funds.

August 7 through 27, 1952.—An exhibition of 14 portraits in oil, "Citizens of Japan," by Marguerite S. Hardesty. An illustrated catalog was privately printed.

September 5 through 28, 1952.—The Third Annual Exhibition of Ceramic Art, sponsored by the Kiln Club of Washington, consisting of 225 pieces (117 by local artists, 39 by invited American artists, and 69 loaned by various Washington Embassies and Legations as representative of the work of their national artists). Demonstrations on the potter's wheel were given twice a day four times a week. A catalog was privately printed.

September 5 through 28, 1952.—The Second Regional Exhibition of the Washington Sculptors Group, consisting of 50 pieces of sculpture. A catalog was privately printed.

October 9 through 29, 1952.—Norwegian Decorative Painting through One Thousand Years, held under the patronage of His Excellency, the Ambassador from Norway, Wilhelm Munthe de Morgenstierne, consisting of 96 large mounted photographs, and 55 pieces of ceramics. A catalog was privately printed.

November 9 through 27, 1952.—The Fifteenth Metropolitan State Art Contest, held under the auspices of the D. C. Chapter, American Artists Professional League, assisted by the Entre Nous Club, consisting of 308 paintings, sculpture, prints, ceramics, and metalcraft. A catalog was privately printed.

December 7, 1952, through January 4, 1953.—The Tenth Annual Exhibition of the Artists' Guild of Washington, consisting of 50 paintings and 9 pieces of sculpture.

January 11 through 28, 1953.—Contemporary Indian Art and Crafts, sponsored by the Government of India, organized by the Academy of Fine Art, Calcutta, and the All-India Association of Fine Art, Bombay, consisting of 363 items. A catalog was privately printed.

March 5 through 29, 1953.—The Sixty-first Annual Exhibition of the Society of Washington Artists, consisting of 83 paintings and 16 pieces of sculpture. A catalog was privately printed.

May 10 through 31, 1953.—The Twentieth Annual Exhibition of the Miniature Painters, Sculptors, and Gravers Society of Washington, D. C., consisting of 221 examples. A catalog was privately printed.

May 22, 1953.—At the request of Representative Charles R. Howell, of New Jersey, the model of the 1939 prize-winning design for the Smithsonian Gallery of Art, by Eliel Saarinen, was placed on exhibition in the lobby of the Natural History Building.

June 7 through 28, 1953.—The Fifty-sixth Annual Exhibition of the Washington Water Color Club, consisting of 135 watercolors, etchings, and drawings. A catalog was privately printed.

Respectfully submitted.

THOMAS M. BEGGS, *Director.*

DR. LEONARD CARMICHAEL,
Secretary, Smithsonian Institution.

APPENDIX 4

Report on the Freer Gallery of Art

SIR: I have the honor to submit the Thirty-third Annual Report on the Freer Gallery of Art for the year ended June 30, 1953.

THE COLLECTIONS

Additions to the collections by purchase were as follows:

BRONZE

52.28. Chinese, Northern Wei dynasty (A. D. 386–535). Standing Buddha image of gilt bronze on a low four-legged platform; removable mandorla decorated with flames and floral patterns cast in low relief. 0.359 x 0.144. (Illustrated.)

53.62. Chinese, Shang dynasty (ca. 1525–1028 B. C.). Cast socketed dagger-ax of the type *ch'ü ko*. Decorations in relief and intaglio; patination malachite with spots of cuprite. 0.236 x 0.068.

JADE

53.9. Chinese, Shang dynasty (ca. 1525–1028 B. C.). Very light, translucent, greenish nephrite ornament mask. Carved in relief and incised. Rear side pierced with six holes for fastening, and a central hole running from top to bottom. 0.046 x 0.041 x 0.006.

LACQUER

53.8. Chinese, Chou dynasty (ca. 3d century B. C.). Brown lacquer bowl with decorations overlaid in red and flat lacquer. 0.055 x 0.271.

53.63. Chinese, Ming dynasty, Wan-li period (A. D. 1573–1619). Red lacquer box with cover; decorations carved in relief and countersunk decoration carved in black and tan intaglio. 0.132 x 0.323.

53.64. Chinese, Ming dynasty, Yung-lo period (A. D. 1403–1425). Red lacquer box with cover; decorations carved in relief and countersunk intaglio. 0.079 x 0.266.

53.69. Chinese, Ming dynasty, Hsüan-tê period (A. D. 1426–1435). Red lacquer box with cover; decorations carved in relief and countersunk intaglio. 0.045 x 0.098.

MANUSCRIPT

53.71. Persian, mid-16th century (A. D. 1557). A leaf from *Yūsuf-u-Zulaikhā* by Jāmī. Persian text in black *nasta'līq* in two columns. Text inlaid in larger leaf of rose color with designs in gold (ibexes, deer, birds). 0.254 x 0.151.

53.72. Persian, mid-16th century (A. D. 1557). A leaf from *Yūsuf-u-Zulaikhā* by Jāmī. Persian text in black *nasta'līq* in two columns with two-line caption in red. Text inlaid in larger leaf of rose color with arabesques and animal designs in gold. 0.253 x 0.151.

53.73. Persian, mid-16th century (A. D. 1557). A leaf from *Yūsuf-u-Zulaikhā* by Jāmī. Persian text in black *nasta'līq* in two columns with two-line caption in red. Text inlaid in larger leaf of rose color with animals in landscape and birds in floral rinceaux, respectively. 0.254 x 0.150.

53.74. Persian, mid-16th century (A. D. 1557). A leaf from *Yūsuf-u-Zulaikhā* by Jāmī. Persian text in black *nasta'līq* in two columns with two-line caption in red. Text inlaid in larger leaf of rose color with animals in landscape and floral and arabesque rinceaux, respectively. 0.254 x 0.151.

METALWORK

52.29. Chinese, Ming dynasty, 15th century. Gold jar with cover; studded with 21 settings for semiprecious stones of which 7 are empty; both jar and cover decorated with incised pattern of dragons among clouds. 0.092 x 0.091.

PAINTING

52.25. Chinese, Yüan dynasty. Ch'ien Hsüan (A. D. 1235–1290). Handscroll entitled "K'o fang t'u." Ink and faint colors on paper. Artist's signature and 8 seals on painting; 1 inscription and 12 seals on mount. 0.251 x 1.034.

52.27. Chinese, dated in correspondence with A. D. 1464, Ming dynasty, Hsi Ch'ang (A. D. 1388–1470). Handscroll entitled "Hsiao-hsiang-kuo-yü." Bamboos in ink on paper. Two inscriptions and seven seals on painting; title, two inscriptions and nine seals on mount. 0.290 x 7.800.

52.31. Indian, second half of 16th century, Mughal, school of Akbar (A. D. 1555–1605). Illustration from a dictionary (unidentified): "Ruler holding court in a tent encampment and investing retainer with gold kaftan." Color and gold. On verso: 35 lines of black *nasta'līq* writing, captions in red. Wide border with birds and plants in gold. 0.238 x 0.123.

52.32. Indian, second half of 16th century, Mughal, school of Akbar (A. D. 1555–1605). Illustration from a dictionary (unidentified): "River scene—Ruler and attendants in main boat and smaller boat in foreground from which a man is being drowned." Color and gold. On verso: 35 lines of black *nasta'līq* with captions in red. Wide gold-painted border with Indian figures in floral setting. 0.231 x 0.125.

52.33. Indian, second half of 16th century, Mughal, school of Akbar (A. D. 1555–1605). "Audience scene in a palace pavilion during which an old courtier kisses the hand of an enthroned young prince." Colors and gold. Wide border with crude animal scenes to fit painting into an album. 0.242 x 0.129.

52.34. Indian, second half of 16th century, Mughal, school of Akbar (A. D. 1555–1605). Illustration from a dictionary (unidentified): "Preparation for the hunt in the palace courtyard." One line of *nasta'līq* writing on top. Delicate color tints and gold. On verso: 35 lines of *nasta'līq* writing in black, captions in red. Wide gold-painted border with Indian figures in stylized landscape. 0.216 x 0.122.

52.35. Persian, 14th century (A. D. 1341), Mongol (Īl-Khān period), Inju school (Shīrāz). Page from a *Shāh-nāma* manuscript showing "Rustam lifting Afrāsiyāb from the saddle." Painted with colors and gold, writing in black proto-*nasta'līq* in six columns between red columnar lines. 0.086 x 0.171.

53.12–53.60. Persian, first half of 17th century (between 1598 and 1643). Period of Shah 'Abbās, school of Isfahan. By Riza Abbasi (Rizāye 'Abbāsī), and other artists. Album of 60 drawings.

53.61. Persian, early 17th century. Period of Shah 'Abbās, school of Isfahan. "Lamentation over the dead body of Christ." By 'Alī Rizā ('Abbāsī) after Perugino. Color and gold. Three gold-painted borders, the last and widest one with animals in rinceaux on blue ground. 0.210 x 0.152.

POTTERY

52.12. Chinese, T'ang dynasty (A. D. 618–906). Figurine, mortuary, of a man on horseback; fine, whitish-buff clay, fired medium hard; transparent glaze, with fine crackle, over areas of brown and green on white surface; man's head, hands, boots, and saddle blanket unglazed and painted. 0.935 x 0.340 x 0.117.

52.13. Chinese, T'ang dynasty (A. D. 618–906). Figurine, mortuary, of a woman on horseback; fine, whitish-buff clay, fired medium hard; transparent glaze, with fine crackle, over areas of brown and green on white surface; woman's head unglazed and painted, also other small areas. 0.431 x 0.376 x 0.148.

52.14. Chinese, T'ang dynasty (A. D. 618–906). Figurine, mortuary, of a Negro groom, left hand restored; fine, whitish-buff clay, fired medium hard; transparent glaze, with fine crackle, over green robe with brown lapels and brown boots, hand white; head and neck unglazed and painted. 0.207 x 0.067.

52.16. Chinese, Ming dynasty, Hsüan-tê period (A. D. 1426–1435). Bowl with conical sides and foliate rim; fine white porcelain; transparent glaze, high-fired; decoration in underglaze cobalt blue, fruit and floral sprays inside and out; six-character Hsüan-tê mark on base. (Pair with 52.17.) 0.079 x 0.227.

52.17. Chinese, Ming dynasty, Hsüan-tê period (A. D. 1426–1435). Bowl with conical sides and foliate rim; fine white porcelain; transparent glaze, high-fired; decoration in underglaze cobalt blue, fruit and floral sprays inside and out; six-character Hsüan-tê mark on base. (Pair with 52.16.) 0.078 x 0.227.

52.18. Chinese, Ming dynasty, Ch'eng-hua period (A. D. 1465–1487). Bowl with plain, slightly flaring rim; fine white porcelain; transparent glaze, high-fired; decoration in underglaze cobalt blue, large lotus sprays inside and out; six-character Ch'eng-hua mark on base. 0.070 x 0.151.

52.19. Chinese, Ming dynasty, Hung-chih period (A. D. 1488–1505). Dish with plain straight rim; fine white porcelain; transparent glaze, high-fired; decoration of dragons amid clouds incised in the paste and covered with brilliant green enamel which shows a fine crackle; six-character Hung-chih mark on base. (Pair with 52.20.) 0.044 x 0.215.

52.20. Chinese, Ming dynasty, Hung-chih period (A. D. 1488–1505). Dish with plain, straight rim; fine white porcelain; transparent glaze, high-fired; decoration of dragons amid clouds incised in the paste and covered with brilliant green enamel which shows a fine crackle; six-character Hung-chih mark on base. (Pair with 52.19.) 0.044 x 0.215.

52.21. Chinese, Ming dynasty, Chêng-tê period (A. D. 1506–1521). Jar of the type *cha-tou;* fine white porcelain; transparent glaze, high-fired, inside and on base; decoration of dragons amid clouds incised in paste and covered with green enamel on a ground of yellow enamel; four-character Chêng-tê mark on base which is perforated by four symmetrically placed drilled holes. 0.113 x 0.146.

52.22. Chinese, Sung dynasty (A. D. 690–1279), Ying-ch'ing type. Vase with broad rounded shoulder and cylindrical neck; coarse-grained white porcelain with earth adhesions; transparent glaze with faint bluish tone and fine crackle; decoration, in relief under glaze, carved lotus pattern below a row of stamped patterns on shoulder, horizontal fluting on body. 0.202 x 0.127.

52.23. Chinese, Han dynasty (207 B. C.–A. D. 220). Vase, small, of *hu* shape with flaring flanged rim; reddish-buff clay with sand tempering, fired medium hard; green glaze with pale iridescence and fine crackle, all over; decoration of horizontal lines in relief and intaglio, three triangular spurs on flat base. 0.131 x 0.107.

52.24. Chinese, Han dynasty (207 B. C.–A. D. 220). Vase, small, with broad shoulder, contracted mouth and low, thick rim; reddish clay with sand tempering, fired medium hard; green glaze with pale iridescence and fine crackle, all over; decoration, none. Two triangular spurs and remains of a third on flat base. 0.113 x 0.149.

52.26. Chinese, Han dynasty (207 B. C.–A. D. 220), Yüeh ware. Basin with rounded sides and horizontal flaring rim; clay not visible, but probably fine gray stoneware; thin, transparent, mat glaze, with slight greenish tinge, all over; decoration stamped and incised in clay; four animal masks with rings applied in relief outside. 0.086 x 0.356.

52.30. Chinese, Shang dynasty (ca. 1525–1028 B. C.). Gray pottery vessel of the type *huo*, decoration incised and in relief. Replica of 42.1, a bronze *huo*. 0.193 x 0.213.

53.1. Chinese, Ming dynasty, Hsüan-tê period (A. D. 1426–1435). Bowl with plain, straight rim; fine white porcelain, brownish mottling on footrim; plain, transparent glaze; decoration in underglaze blue; garden scene with figures outside; plain white inside; six-character Hsüan-tê mark. 0.070 x 0.191.

53.2. Chinese, Ming dynasty, Hsüan-tê period (A. D. 1426–1435). Bowl with plain straight rim and convex center; fine white porcelain, fired pale orange on footrim; plain, transparent glaze; decoration in underglaze blue; floral border and lotus panels outside, scroll border, floral wreath, and interlocking festoons with arabesques; six-character Hsüan-tê mark. 0.060 x 0.152.

53.3. Chinese, Ming dynasty, second half 15th century. Vase of *mei-p'ing* shape with straight neck; fine white porcelain, scattered black flecks on base; plain, transparent glaze; decoration in underglaze blue, clouds on neck; overlapping petals and pendent leaves on shoulder; landscape garden with figures, stylized lotus panels. 0.228 x 0.144.

53.4. Chinese, Ming dynasty, late 15th century. Bowl, shallow with plain, slightly flaring rim; fine white porcelain; plain glaze, faintly gray, transparent inside; decoration in colored glazes, turquoise five-claw dragons on deep blue ground with white flecks, plain inside. 0.038 x 0.148.

53.5. Chinese, Ming dynasty, second half 15th century. Bowl with plain, straight rim; fine white porcelain; plain, transparent glaze; decoration in underglaze blue; cash diaper band at rim, nine dragons amid waves outside; one dragon in waves inside. (Pair with 53.6.) 0.073 x 0.132.

53.6. Chinese, Ming dynasty, second half 15th century. Bowl with plain, straight rim; fine white porcelain; plain, transparent glaze; decoration in underglaze blue; cash diaper band at rim, nine dragons amid waves outside; one dragon in waves inside. (Pair with 53.5.) 0.075 x 0.132.

53.7. Chinese, Ming dynasty, Chêng-tê period (A. D. 1506–1521). Dish with plain, straight rim; fine white porcelain; plain, transparent glaze; decoration in underglaze blue and overglaze yellow enamel; blue flowers on yellow ground; six-character Chêng-tê mark. 0.045 x 0.213.

53.65. Chinese, Ming dynasty, Yung-lo period (A. D. 1403–1424). Bowl of thin white porcelain with floral decorations traced in the white body under the glaze and scarcely visible except as a transparency. 0.100 x 0.201.

53.66. Chinese, Ch'ing dynasty, K'ang Hsi period (A. D. 1662–1722). Porcelain bowl of solid aubergine color, with cloud and dragon decorations carved in body under the glaze; six-character mark of the K'ang Hsi period incised on unglazed foot. 0.091 x 0.128.

53.67. Chinese, Ch'ing dynasty, K'ang Hsi period (A. D. 1662–1722). White bottle-shaped porcelain vase decorated with lotus-leaf design in relief around base; six-character mark of the K'ang Hsi period in underglaze blue on base. 0.200 x 0.069.

53.68. Chinese, Ch'ing dynasty, Ch'ien Lung period (A. D. 1736–1795). Bottle-shaped *famille rose* vase decorated with enamels in the *mille fleur* design; six-character mark of the Ch'ien Lung period in red on base. 0.128 x 0.067.

53.10. Japanese, late 17th century, Kakiemon. A chrysanthemum-shaped deep porcelain plate decorated with vitrifiable enamels. 0.282 x 0.054. (Illustrated.)

53.11. Japanese, late 17th century, Kakiemon. An oval-shaped porcelain bowl decorated with vitrifiable enamels; black lacquer cover. 0.089 x 0.193 x 0.150.

52.11. Persian, 10th century. Platter, shallow, wide-rimmed, on low ring-foot. Two Kufic inscriptions in black-brown on white slip. The clear glaze shows a fine crackle in places. Inside of foot unglazed, revealing the light reddish clay. Broken and put together in ancient times (three bronze rivets) and again recently. Greater part of outer edge and small area on wide margin made of plaster. 0.468 x 0.060. (Illustrated.)

53.70. Persian, 10th century. Bowl, shallow, on solid foot. Knot design in center and festooned edge are in deep brown slip on white glaze pitted in parts and occasionally chipped off along edge. Broken and put together, but only very small pieces missing. 0.324 x 0.067.

STONE SCULPTURE

52.15. Chinese, Northern Ch'i dynasty. Standing figure of a Bodhisattva in high relief against a flat background; right hand holds a lotus bud, left hand a flask. Traces of color. 1.034 x 0.417.

Total number of accessions to date (including above)..... 10,794

REPAIRS TO THE COLLECTIONS

Cleaning and restoration of 24 American paintings were completed by John and Richard Finlayson, of Boston. The Gallery has obtained the services of Takashi Sugiura as picture mounter, assigned to the oriental collections.

CHANGES IN EXHIBITIONS

Changes in exhibitions totaled 141 as follows:

American art:	
Etchings	2
Oil paintings	19
Watercolor paintings	9

Chinese art:	
Bronze	2
Gold	1
Kossŭ	1
Lacquer	2
Paintings	17
Pottery and porcelain	30
Wood sculpture	2
Japanese art:	
Bronze sculpture	1
Paintings	42
Pottery	10
Sassanian art:	
Silver	2
Venito-Islamic art:	
Brass	1

LIBRARY

Accessions of books, pamphlets, periodicals, and study materials totaled 835 pieces, making a total of 31,905 books and pamphlets, of which 18,303 are in Chinese, 6,682 in Japanese, and others in Arabic, Armenian, Hindi, Sanskrit, Tibetan, and Turkish, as well as in the Western languages. The above total does not include study material. One of the year's outstanding gifts to the library was the *Hōryūji Kondō hekiga shū* reproductions from the Tokyo National Museum.

In addition to the work of expanding the card catalog and revision of the oriental books catalog, 976 publications and scrolls were cataloged, 229 parts of serial publications were entered, 3,522 cards were added to the catalogs and shelf lists. A total of 509 items were bound, labeled, repaired, or mounted.

Bibliographic references of the American paintings owned by the Gallery were coordinated with the catalog cards and the Gallery folder sheets. Work on indexing of both the English and Japanese editions of the Japanese periodical *Kokka* continued, and the project is more than half complete. The compilation of abstracted material in the field of art and archeology in cooperation with the associate in technical research has consumed a great deal of time. This publication is intended to be the principal guide to all recent literature on technical abstracts of art and archeology, beginning with published sources for 1943, through December 1952. It is intended that the completed abstracts will be published in the near future as one of the series of Occasional Papers of the Freer Gallery of Art.

PUBLICATIONS

Three publications of the Gallery were issued during the year:

Pope, John Alexander: Fourteenth-century blue-and-white. A group of Chinese porcelains in the Topkapu Sarayı Müzesı, Istanbul, 1952. Occasional Papers, vol. 2, No. 1. (Smithsonian Publ. 4089.)

Pope, John Alexander: Ming porcelains in the Freer Gallery of Art. May 1953.
Gallery Book I: A selection of etchings, drypoints, lithographs and lithotints by James McNeill Whistler (1834–1903).

Papers by staff members appeared in outside publications as follows:

Wenley, A. G.: A *hsi tsun* from the Avery Brundage Collection. Archives, Chinese Art Society of America, vol. 6, 1952.
———. Exhibition of Japanese painting and sculpture. Bulletin, Vereeniging van Vrienden der Aziatische Kunst, Derde Serie, No. 1, June 1953.
Ettinghausen, Richard (contributor): Bibliography of periodical literature on the Near and Middle East, vols. 19–22. The Middle East Journal, 1951–52.
Gettens, R. J.: Science in the art museum. Scientific American, vol. 187, No. 1, pp. 22–27, July 1952.
———. The bleaching of stained and discoloured pictures on paper with sodium chloride and chlorine dioxide (with French translation). Museum, vol. 5, No. 2, pp. 116–130, 1952.
———. La technique des "Primitifs Flamands." Studies in Conservation, vol. 1, No. 1, pp. 1–29, October 1952. (With P. Coremans and J. Thissen.)

REPRODUCTIONS

During the year the photographic laboratory made 3,814 prints, 242 glass negatives, and 1,125 lantern slides. Total number of negatives on hand, 10,044; lantern slides, 7,067.

BUILDING

The general condition of the Freer building is good, and the maintenance and operation have been satisfactory, but the galleries and much mechanical equipment need renovation.

The major projects of the cabinet shop have been the completing and putting in service of eight new exhibition cases and the overhauling of the shop for the oriental picture mounter. Miscellaneous odd jobs in connection with the maintenance of office and Gallery equipment, crating, etc., continue as usual.

ATTENDANCE

The Gallery was open to the public from 9 to 4:30 every day except Christmas Day, until May 25, 1953. Since that date the hours on Tuesdays have been from 2 to 10. The total number of visitors to come in the main entrance was 71,308. The highest monthly attendance was in August, 9,851, and the lowest was in December, 2,623.

There were 1,703 visitors to the office during the year.

HERZFELD ARCHIVE

The Herzfeld material continues to be used by experts in Near Eastern archeology throughout the world.

52.28

Recent Addition to the Collection of the Freer Gallery of Art.

52.11

53.10

Recent Additions to the Collection of the Freer Gallery of Art.

AUDITORIUM

On May 26, 1953, Mr. Pope gave the initial lecture in the 1953–54 series at 8:30 p. m. in the auditorium on "The Ming Dynasty and Its Porcelains" (illustrated). Attendance, 521. In addition, the auditorium was used by four outside agencies.

STAFF ACTIVITIES

The work of the staff members has been devoted to the study of new accessions, of objects contemplated for purchase, and of objects submitted for examination, as well as to individual research projects in the fields represented by the collections of Chinese, Japanese, Persian, Arabic, and Indian materials. Reports, oral or written, and exclusive of those made by the technical laboratory on specimens (listed below), were made upon 4,925 objects as follows: Belonging to private individuals, 2,040; belonging to dealers, 1,142; belonging to other museums, 1,743. In all, 503 photographs of objects were examined and 790 oriental language inscriptions were translated for outside individuals and institutions. By request, 8 groups totaling 343 persons met in the exhibition galleries for docent service by staff members; and 1 group of 9 persons was given docent service in the study-storage rooms. There were 25 distinguished foreign visitors who studied the collections.

Work done in the technical laboratory included the characterization of an organic red pigment found on a number of Chinese objects within and without the Freer Collection, and the analysis of a copper-corrosion product in ancient Egyptian bronzes which is to be described as a new mineral. Examinations were made of 29 objects from the Freer Collection, and 56 from outside sources. Many of these bore on the two problems mentioned above. Also work was continued on the collection of material for Abstracts of Technical Studies in Art and Archeology. The laboratory equipment was augmented by the installation of a comparison microscope, a chemical balance, and an X-ray viewer.

By invitation the following lectures were given outside the Gallery by staff members:

1952

Oct. 15. Mr. Pope addressed members of the Oriental Ceramic Society, in London, on "Some Blue-and-White in Istanbul." (Illustrated with photographs.) Attendance, 100.

Oct. 24. Mr. Pope addressed a joint meeting of the members of the Svenska Orientsällskapet and the Föreningen Keramikens Vänner, in the Nationalmuseum, Stockholm, on "Chinese Porcelains from the Ardebil Shrine." (Illustrated with photographs.) Attendance, 90.

275494—53——5

1952

Oct. 29. Dr. Ettinghausen addressed a joint meeting of the members of the Middle East Institute, the Oriental Club, and the Washington Society, Archaeological Institute of America, at Dumbarton Oaks, on "Islamic Miniatures and the West." (Illustrated.) Attendance, 120.

Oct. 30. Mr. Pope gave a public lecture in the Kunstindustriemuseum, Copenhagen, on "Chinese Porcelains from the Ardebil Shrine." (Illustrated with photographs.) Attendance, 40.

Nov. 6. Mr. Pope addressed members of the Association Française des Amis de l'Orient (in French), in the Musée Guimet, Paris, on "Chinese Porcelains from the Ardebil Shrine." (Illustrated with photographs.) Attendance, 100.

While in London, Mr. Pope gave the following lectures at the University of London under the auspices of the Percival David Foundation of Chinese Art and the School of Oriental and African Studies, as follows:

Nov. 12. "The Introduction of Chinese Porcelain into Europe." (Illustrated with photographs.) Attendance, 70.

Nov. 18. "Chinese Porcelains from the Ardebil Shrine." (Illustrated with photographs.) Attendance, 50.

Nov. 25. "Chinese Porcelains from the Ardebil Shrine." (Illustrated with photographs.) Attendance, 55.

Dec. 11. Dr. Ettinghausen addressed members of the Middle East Institute, Washington, D. C., on "Islamic Art." (Illustrated.) Attendance, 20.

Dec. 16. Dr. Ettinghausen lectured at the University of Michigan, in Ann Arbor, on "Great Art Monuments in Iran, Afghanistan, and India." (Illustrated.) Attendance, 101.

1953

Jan. 5. Dr. Ettinghausen lectured at Dumbarton Oaks, Washington, D. C., on "Iran and Her Historical Monuments." (Illustrated.) Attendance, 170.

Jan. 15. Mr. Wenley addressed the annual dinner of the Smithsonian Board of Regents, giving a brief account of his trip to Japan as chairman of the committee for the Japanese Loan Exhibition. (Illustrated.) Attendance, 26.

Jan. 16. Dr. Ettinghausen gave a lecture at the Iranian Embassy in Washington, D. C., on "Iranian Architecture." (Illustrated with Dr. Ettinghausen's own slides.) Attendance, 85.

Feb. 6. Dr. Ettinghausen gave a lecture at the Foreign Service Institute, State Department, Washington, D. C., on "Islamic Art." (Illustrated.) Attendance, 24.

Feb. 8. Mr. Stern gave a public lecture at the National Gallery of Art, Washington, D. C., on "The Exhibition of Japanese Art." (Illustrated with borrowed slides.) Attendance, 350.

Feb. 8. Mr. Stern gave a lecture to the District of Columbia Library Association at the National Gallery of Art, Washington, D. C., on "The Exhibition of Japanese Art." (Illustrated with borrowed slides.) Attendance, 175.

1953

Feb. 13. Mr. Pope gave a lecture at the John Herron Art Institute, Indianapolis, Ind., on "The Introduction of Chinese Porcelain into Europe." (Illustrated.) Attendance, 110.

Feb. 24. Dr. Ettinghausen gave a lecture at The Mosque, Washington, D. C., on "Near Eastern Art and Facilities for Its Study in Washington, D. C." (Illustrated with borrowed slides.) Attendance, 220.

Feb. 24. Mr. Pope gave a lecture at the Chinese Art Society, China House, New York City, on "Chinese Porcelains from the Ardebil Shrine." (Illustrated.) Attendance, 60.

Mar. 23. Mr. Gettens gave a lecture at the Chemistry Club, Trinity College (Catholic University), Washington, D. C., on "Artificial Coloring Materials of the Ancients." (Illustrated.) Attendance, 25.

Mar. 24. Mr. Stern gave a lecture at the Center for Japanese Studies, Rackham Amphitheatre, University of Michigan, Ann Arbor, on "The Traveling Exhibition of Japanese Art Treasures." (Illustrated.) Attendance, 220.

Mar. 25. Dr. Ettinghausen gave a lecture at the Science Society, Dartmouth College, Hanover, N. H., on "Archaeological Travels in Afghanistan and India." (Illustrated.) Attendance, 100.

Mar. 28. Dr. Ettinghausen gave a lecture at the Frick Collection, New York City, on "Islamic Miniatures and the West." (Illustrated.) Attendance, 185.

Apr. 8. Mr. Pope gave a lecture at the American Oriental Society, Catholic University, Washington, D. C., on "Tentative Identification of Certain Early Persian Collectors of Chinese Porcelain." Attendance, 40.

Apr. 8. Mr. Stern gave a lecture at the American Oriental Society, Catholic University, Washington, D. C., on "Hokusai's *Hyakunin-isshu Ubaga Etoki*, or Poems of a Hundred Poets Explained by a Wet Nurse." (Illustrated.) Attendance, 40.

Apr. 9. Mr. Stern gave a lecture at the American Oriental Society, Hotel Washington, Washington, D. C., on "The Exhibition of Japanese Painting and Sculpture Currently Touring the United States." (Illustrated.) Attendance, 60.

Apr. 10. Dr. Ettinghausen gave a lecture at the Cleveland Museum of Art, Cleveland, Ohio, on "Archaeological Travels in Iran, Afghanistan and India." (Illustrated.) Attendance, 250.

Apr. 16. Dr. Ettinghausen gave a lecture at the Walters Art Gallery, Baltimore, Md., on "Archaeological Travels in Iran and Afghanistan." (Illustrated.) Attendance, 90.

June 17 Mrs. Usilton gave a lecture at the 48th annual meeting of the American Association of Museums (Librarians' Section), Buffalo, N. Y., on "Selling Your Museum Library to Your Board of Directors." (Illustrated.) Attendance, 20.

June 18. Mr. Gettens gave a lecture at the 48th annual meeting of the American Association of Museums, Buffalo, N. Y., on "Current Art Technical Literature: An Abstracts Project." (Illustrated.) Attendance, 85.

June 23. Dr. Ettinghausen gave a lecture at The Cultural Attachés' Group, United Nations Club, Washington, D. C., on "Art and Nature in the Near East." (Illustrated.) Attendance, 38.

Members of the staff traveled outside of Washington on official business as follows:

1952

July 7–Sept. 23. Mr. Wenley went to Japan to serve as chairman of the committee representing five American Museums in which the Japanese Loan Exhibition is being held. This committee was sent to advise with the Japanese Government concerning the contents of the exhibition.

Sept. 23–Dec. 22. Mr. Pope, in Europe, carried out further research on problems related to the Chinese porcelains from the Ardebil Shrine; visited museums and collections and consulted with scholars and connoisseurs in London, Glasgow, Stockholm, Copenhagen, and Paris.

In addition, 5 members of the staff made a total of 18 trips outside of Washington on official business.

Members of the staff held honorary posts and undertook additional duties outside the Gallery as follows:

Mr. Wenley:
- Research Professor of Oriental Art, University of Michigan.
- Member, Board of United States Civil Service Examiners at Washington, D. C., for the Smithsonian Institution.
- Member, Board of Trustees, Textile Museum, Washington, D. C.
- Member, Council of the Far Eastern Ceramic Group.
- Member, Board of Trustees of the Hermitage Foundation, Norfolk, Va.
- Member, Visiting Committee, Dumbarton Oaks Research Library and Collection.
- Member, Smithsonian Art Commission.
- Member, Consultative Committee, Ars Orientalis.
- Chairman, Louise Wallace Hackney Scholarship Committee of the American Oriental Society.

Mr. Pope:
- Member, Board of Governors of the Washington Society of the Archaeological Institute of America; the Board met at the Freer Gallery of Art, on July 23, 1952, and on May 13, 1953.
- President, Far Eastern Ceramic Group.
- Art Editor, Far Eastern Quarterly.
- Member, Editorial Board of the Archives of the Chinese Art Society of America.
- President, Southern Association of Exeter Alumni in Washington.
- Accompanied 5 students and 1 teacher from the Garrison-Forest School, Baltimore, Md., through the Japanese exhibition at the National Gallery of Art, Washington, D. C., February 12, 1953.

Dr. Ettinghausen:
- Research Professor of Islamic Art, University of Michigan.
- Near Eastern editor of Ars Orientalis.
- Member, Editorial Board, The Art Bulletin.
- Trustee, American Research Center in Egypt.
- Member, Comitato Internazionale di Patronato, Museo Internazionale delle Ceramiche, Faenza, Italy.
- Member, Editorial Advisory Committee, Studies in Art and Literature in Honor of Belle DaCosta Greene.

Dr. Ettinghausen: Editor, A Selected and Annotated Bibliography of Books and Periodicals in Western Languages Dealing with the Near and Middle East with Special Emphasis on Medieval and Modern Times; published by the Middle East Institute, 1952.

Went to the Georgetown Branch of the District of Columbia Public Library to examine and advise about the exhibition of 30 Egyptian paintings by Youssef Sida; wrote the Foreword in the Catalogue of the Exhibition of Modern Paintings by Youssef Sida under the Patronage of H. E. the Egyptian Ambassador, July 17–19, 1952.

Mr. Gettens: Associate Editor, Studies in Conservation, published for the International Institute for the Conservation of Museum Objects.

Abstractor for Chemical Abstracts, American Chemical Society.

Mr. Stern: Assisted in the preparation of the catalog of the Japanese Loan Exhibition; also in the installation of the objects in the Exhibition, National Gallery of Art, Washington, D. C., November 1952–January 1953.

Respectfully submitted.

A. G. Wenley, *Director.*

Dr. Leonard Carmichael,
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, 1953, conducted in accordance with the act of Congress of April 10, 1928, as amended August 22, 1949, which provides ". . . to continue independently or in cooperation anthropological researches among the American Indians and the natives of lands under the jurisdiction or protection of the United States and the excavation and preservation of archeologic remains."

SYSTEMATIC RESEARCHES

On January 28 Dr. M. W. Stirling, Director of the Bureau, left for Panama on the fourth National Geographic Society–Smithsonian Institution archeological expedition to Panama. From February 13 to March 1 the expedition was in Darién where 2 weeks were spent on the Sambu River studying the little-known Choco Indians. The fact that their territory was opened for settlement only 2 years ago offered unusual opportunity to study the beginnings of the acculturation process. Following this, Dr. Stirling spent a month in archeological work on the islands of the Gulf of Panama, with headquarters on Taboga Island. Excavations in shell-midden sites were conducted on Taboga and Taboguilla Islands and a large burial site in a rock shelter on Urabá was investigated. He spent the first half of April on Almirante Bay in the Province of Bocas del Toro where he examined midden and cave sites and made test excavations. He returned to Washington on April 20.

Dr. Frank H. H. Roberts, Jr., Associate Director of the Bureau, was occupied most of the year with the management of the River Basin Surveys, of which he is Director. In August he went to Lincoln, Nebr., to inspect the headquarters of the Missouri Basin project, whence, accompanied by Ralph D. Brown, chief of the Missouri Basin project, and Dr. Gordon C. Baldwin, archeologist from the Region 2 office of the National Park Service at Omaha, Nebr., he proceeded to the Harlan County Reservoir project in south-central Nebraska where he visited the excavating party from the Laboratory of Anthropology of the University of Nebraska, under the direction of Dr. John L. Champe. The work at the Harlan County Reservoir was

a cooperative undertaking between the Laboratory of Anthropology and the Inter-Agency Archeological Salvage Program. While there the party examined several sites which had been excavated during the summer or were then being dug. From Dr. Champe's camp the party proceeded to Medicine Creek Reservoir, near Cambridge, Nebr., where E. Mott Davis of the Nebraska State Museum, University of Nebraska, was carrying on another cooperative project, excavating a site containing material belonging in the Early Man category. From Medicine Creek Dr. Roberts and his associates went to Denver, Colo., where they conferred with officials in the regional office of the Bureau of Reclamation. From Denver they went to Laramie, Wyo., where they examined and studied a collection of specimens from excavations carried on by Dr. William Mulloy of the University of Wyoming at the Keyhole Reservoir. The latter work was also a cooperative project. From Laramie the party went to Cody, Wyo., where it spent 2 days at the Horner site where a joint party from the Smithsonian Institution and Princeton University, under the leadership of Dr. Waldo R. Wedel and Dr. Glenn L. Jepsen, was collecting interesting new evidence on one of the early hunting groups in the Plains area. From Cody, Dr. Roberts and his companions went to Billings, Mont., to confer with regional officials of the Bureau of Reclamation about the various projects underway or contemplated in that portion of the Missouri Basin. At Billings the party was joined by John L. Cotter from the Washington office of the National Park Service. From Billings, they went to the Garrison Reservoir in North Dakota where they inspected the excavations being conducted by River Basin Surveys parties at the site of Fort Berthold II and an early historic Indian village on the top of a small butte near Elbowoods, N. Dak. The group then went on to Bismarck, N. Dak., where it examined and studied materials which had been collected by a party from the North Dakota State Historical Society at the site of the Indian village which was adjacent to Fort Berthold II. From Bismarck the party proceeded to Jamestown where the River Basin Surveys were excavating a village site and some mounds in the area to be flooded by the Jamestown Reservoir. It then proceeded to the Oahe Dam of the Oahe Reservoir near Pierre, S. Dak., where two River Basin Surveys groups were digging. One of the latter was at work in the remains of a fortified village a short distance above the dam while the other was occupied at an earlier site some miles upstream. From Pierre, Dr. Roberts and his associates went to the Fort Randall Reservoir where another River Basin Surveys party was digging in two sites. En route they stopped and inspected a site where the University of Kansas had carried on a cooperative excavation project during the earlier part of the season. From Fort Randall the group returned to the headquarters at Lincoln where

several days were spent in examining and studying collections coming in from the various field parties. At that time Dr. Roberts assisted Mr. Brown in preparing plans for the termination of the various field parties and for the fall and winter work at the laboratory in Lincoln.

Dr. Roberts returned to the field office at Lincoln in September following the accidental death of Mr. Brown, and for a period of 2 weeks took charge of the operations there, supervising the termination of the field projects and the return of personnel and equipment to the field headquarters. At that time he also reviewed and edited a number of preliminary reports on reconnaissance surveys, and approved them for mimeographing and distribution.

In December Dr. Roberts went to St. Louis to attend the annual meetings of the American Association for the Advancement of Science and gave the retiring address as chairman of Section H, speaking on the subject "Progress in the Inter-Agency Archeological and Anthropological Salvage Program in the United States." In May he attended the meetings of the Society for American Archaeology at Urbana, Ill., taking part in a number of discussions pertaining to the work in the Plains area. Later in the month he went to Lincoln, Nebr., to take part in a meeting of the Missouri Basin Inter-Agency Field Committee. In January he completed a manuscript, "Earliest Men in America, Their Arrival and Spread in Late Pleistocene and Post Pleistocene Times," for the International Commission for a Scientific and Cultural History of Mankind. During the year Dr. Roberts received an alumni award from the University of Denver for distinguished service in the field of American archeology.

Dr. Henry B. Collins, anthropologist, continued his Eskimo studies and other Arctic activities. He continued to serve as a member of the National Research Council's Committee on International Relations in Anthropology and was appointed a member of the Permanent Council of the International Congress of Anthropological and Ethnological Sciences, to participate in planning for the next session of the Congress, to be held in Philadelphia in 1954.

As a member of the Board of Governors of the Arctic Institute of North America Dr. Collins attended several meetings of the Board and of the executive committee held in Montreal, Ottawa, and Washington. As chairman of the directing committee of the Arctic Bibliography, he continued to supervise the operation of this project and made arrangements with the Department of the Air Force for support of the work during the present and coming fiscal years and for the publication of the material assembled in 1952 and 1953. The Arctic Bibliography is being prepared for the Department of Defense by the Arctic Institute under contract with the Office of Naval Research. It describes, and indexes by topic and region, the contents of 24,000 publications in all fields of science relating to the Arctic and sub-

Arctic regions of America, Siberia, and Europe. About 40 percent of the material is in English, 30 percent in Russian, and the rest mainly in Scandinavian, Finnish, German, and French. The first 3 volumes of the Bibliography, of approximately 1,500 pages each, will be issued as a publication of the Department of the Army in July 1953. A fourth volume of the same size, representing the work of the past 2 years, was turned over to the printer at the end of the present fiscal year.

Dr. Collins participated in the preparation of a Program of History of America, which the Comisión de Historia of Mexico is organizing under the sponsorship of the Rockefeller Foundation. In January he attended a meeting in Havana at which plans for the program were discussed, and prepared a paper on the subject assigned to him—the Arctic Area—which summarized existing knowledge of the archeology, ethnology, physical anthropology, and history of the Eskimo and Indian tribes of the American Arctic.

On June 23 Dr. Collins and his assistant, William E. Taylor, were flown by the R. C. A. F. from Montreal to Cornwallis Island in the Canadian Arctic Archipelago to conduct further archeological excavations for the National Museum of Canada and the Smithsonian Institution. The principal objective of the work is to obtain additional information on the prehistoric Dorset culture, traces of which were found there, with Thule culture remains, by Dr. Collins and Mr. Taylor in 1950 and 1951.

The beginning of the fiscal year found Dr. John P. Harrington, ethnologist, engaged in the preparation of a study of the Abenaki Indians of Maine, Quebec, and formerly also of Vermont, who speak the nearest related living language to the extinct tongue of the Massachusetts Indians, in whose language the Eliot Bible was written. The two tongues were so closely akin that an Indian speaking one could with a little practice have understood the other. A complete treatise on the Abenaki has been assembled, including unique lists of the terms referring to their culture, and the material awaits completion of the typing to make it ready for the printer.

On December 20 Dr. Harrington proceeded to Santa Barbara, Calif., where he continued his studies of the Chumash Indians of the Santa Barbara Channel region. In 1542 the Cabrillo Expedition visited these shores, and, contrary to the custom of the time, put on record about 42 place names, nearly all of which can be identified. All the sites along the coast were visited. The coming of Cabrillo antedated that of the Pilgrim Fathers to what is now Massachusetts by nearly 80 years, and the Indian words written down are far older than any others recorded in California. During the four centuries which have elapsed since Cabrillo came, the language has evidently changed but little. Through good fortune Dr. Harrington was able to locate the

long-looked-for chapel of Saxpilil and to identify the site of the village of Coloc. On April 20, 1953, he returned to Washington.

At the beginning of the fiscal year Dr. Philip Drucker, anthropologist, was in Washington continuing his studies of Meso-American archeology. During the latter part of the summer he began preparations for an acculturational study in southeast Alaska. On September 30 he left Washington for Juneau, Alaska, where he began his investigation of the development and function of the highly interesting intertribal organization of Alaskan Indians known as the Alaska Native Brotherhood. In November he had the good fortune to be invited to attend the annual convention of this organization at Hoonah, Alaska, in the role of an observer. On the first of December he returned to Washington and began preparation of a report on the study just completed.

Shortly after the first of the year Dr. Drucker went to Mexico, D. F., where he conferred with officials of the Mexican Government and obtained the necessary permits to enable him to carry out a program of archeological reconnaissance in the Olmec area of western Tabasco and southern Veracruz. This research project was sponsored jointly by the Smithsonian Institution and the Wenner-Gren Foundation for Anthropological Research. At the end of January he departed for the field where he continued his investigations until the middle of May. He returned to Mexico City to make arrangements for the exportation of the ceramic samples collected in the course of the survey, the study of which should make it possible to identify as to culture affiliation each of the 70-some-odd archeological sites discovered and tested in the course of the trip. On June 10 he left for Washington, D. C.

RIVER BASIN SURVEYS[1]

(Report prepared by Frank H. H. Roberts, Jr.)

As in previous years the investigations of the River Basin Surveys were carried on in cooperation with the National Park Service and the Bureau of Reclamation of the Department of the Interior, the Corps of Engineers of the Department of the Army, and various State and local institutions. During the fiscal year 1952–53 the work was financed by a transfer of $122,700 from the National Park Service to the Smithsonian Institution. Included were $111,065 for investigations in the Missouri Basin and $11,635 for all other areas where projects were underway. An additional $50,294 in carryover of previous funds was also available for the Missouri Basin, making a total of $161,359 for that area. The over-all total for the fiscal year, including an unexpended balance of $3,390, was $172,994. That amount was approxi-

[1] See article by Dr. Roberts in 1951 Smithsonian Report, pp. 351–383, for a 5-year summary of the River Basin Surveys work.

mately 26 percent less than for the preceding year and necessitated a corresponding reduction in operations.

Field investigations consisted of reconnaissance or surveys for locating archeological sites and paleontological deposits that will be affected by construction work, or are located in areas that will be flooded, and the excavation of sites that previous survey parties had observed and recorded. Following the trend of the preceding year there was much greater emphasis on excavation because the survey parties had in large measure caught up with the general program and there were fewer proposed reservoir areas requiring preliminary study. Reconnaissance parties visited 6 new reservoir basins located in 3 States. Further surveys were made in 7 reservoir areas where some preliminary studies had previously been carried on. They were in 5 different States. At the end of the fiscal year excavations were completed or were underway in 6 reservoir basins in 4 States. During the course of the year there were nine excavating parties in the field. Four of them were in areas where there had been no digging previously. The other five continued investigations at reservoir projects where work was started during prior field seasons. A paleontological party collected materials and made geologic studies in 4 reservoir basins in 3 States. By June 30, 1953, reservoir areas where archeological surveys had been made or excavations carried on since the start of the program in 1946 totaled 241 in 27 States. One lock project and four canal areas were also investigated. The survey parties have located and recorded 3,469 archeological sites, and of that number 852 have been recommended for excavation or limited testing. Preliminary appraisal reports were completed for all the reservoirs surveyed, and where additional reconnaissance has resulted in the discovery of further sites supplemental reports have been prepared. Some of those finished during the fiscal year, together with others completed toward the end of the previous year, were mimeographed for limited distribution to the cooperating agencies. In the course of the year 23 such reports were issued. The total number distributed since the start of the program is 172. The variance between that figure and the total number of reservoirs investigated is partially attributable to the fact that in a number of cases a whole series of reservoirs occurring in a basin or subbasin has been included in a single report. Other completed manuscripts had not yet been mimeographed at the end of the year. Excavations carried on during the year brought the total for reservoir projects where such investigations have been made to 42 located in 17 different States. The results of certain phases of some of that work have appeared in various scientific journals, and Bulletin 154 of the Bureau of American Ethnology, River Basin Surveys Papers, containing 6 reports, was ready for release on June 30, 1953. Detailed technical reports on 10 additional excavation projects have

been completed and are ready for publication. Paleontological surveys have been made in 121 reservoir areas. Archeological work has also been done in 88 of them and the remaining 33 will eventually be visited by archeological parties. The total of all reservoir basins surveyed, including those where archeological studies are still to be made, is 273.

The reservoir projects that had been surveyed for archeological remains, as of June 30, 1953, were distributed by States as follows: Alabama, 1; California, 20; Colorado, 24; Georgia, 4; Idaho, 11; Illinois, 2; Kansas, 10; Kentucky, 1; Louisiana, 1; Minnesota, 1; Mississippi, 1; Montana, 15; Nebraska, 28; New Mexico, 1; North Dakota, 13; Ohio, 2; Oklahoma, 7; Oregon, 27; Pennsylvania, 2; South Dakota, 9; Tennessee, 3; Texas, 19; Virginia, 2; Washington, 11; West Virginia, 2; Wyoming, 21. Excavations have been made or were being made in reservoir basins in: California, 5; Colorado, 1; Georgia, 4; Kansas, 3; Montana, 1; Nebraska, 1; New Mexico, 1; North Dakota, 4; Oklahoma, 2; Oregon, 2; South Carolina, 1; South Dakota, 3; Texas, 7; Virginia, 1; Washington, 3; West Virginia, 1; Wyoming, 2. Only the work of the River Basin Surveys or that in which there was direct cooperation with local institutions is included in the foregoing figures. Projects that were in direct cooperation with the National Park Service or were carried on by local institutions alone are not included because complete information about them was not available.

The River Basin Surveys continued to receive extensive and helpful cooperation during the year from the National Park Service, the Bureau of Reclamation, the Corps of Engineers, and various State and local institutions. Detailed maps of the reservoirs under investigation were supplied by the agency concerned and at a number of projects temporary office and laboratory rooms, as well as dwelling facilities, were provided. For survey work in Tennessee guides and transportation were furnished by the Corps of Engineers and the same source made transportation available at a series of excavations in Georgia. The work of the River Basin Surveys men was made much easier by the assistance of the field personnel of the other agencies and their accomplishments were much greater than they would have been without that help. As in other years, the National Park Service functioned as the liaison between the various agencies both in Washington and in the field. Through its several regional offices it secured information about the locations for dams and reservoirs and data on their construction priorities. The National Park Service also was mainly responsible for the preparation of estimates and justifications and procurement of funds for carrying on the program. The enthusiastic cooperation of Park Service personnel was a definite aid in all phases of the operations.

The main office in Washington directed and supervised the work in the east and south, while that in the Missouri Basin was under the supervision of a field headquarters and laboratory at Lincoln, Nebr. The materials collected by survey and excavating parties in the east and south were processed in Washington. Those from the Missouri Basin were handled at the Lincoln laboratory.

Washington office.—The main headquarters of the River Basin Surveys continued under the direction of Dr. Frank H. H. Roberts, Jr., throughout the year. Carl F. Miller and Ralph S. Solecki, archeologists, were based on that office, although Solecki was transferred to the Missouri Basin Project early in July and continued there until October when he returned to Washington. Late in November he was granted leave of absence to accept a Fulbright Scholarship for archeological investigations in Iraq. He was appointed a collaborator of the Smithsonian Institution and from March until the end of June conducted excavations financed jointly by the Iraq Government and the Smithsonian Institution.

At the start of the fiscal year Mr. Miller was in the office working on material obtained the latter part of the previous year at the John H. Kerr Reservoir (Buggs Island) on the Roanoke River in southern Virginia. During July he spent several days inspecting a site near Cambridge, Md., where a large mound attributable to the Adena culture was being destroyed by a housing development. In August he made a brief survey of the Demopolis Reservoir basin on the Warrior River in Alabama and checked on several sites in the Grenada Reservoir on the Yalobusha River in Mississippi. In October he took part in the Southeastern Archeological Conference held at Macon, Ga., and in November made all arrangements for the annual meeting of the Eastern States Archeological Federation which met in Washington. During the autumn months he completed his technical report on the excavations that he made at the Fort Lookout Trading Post site in the Fort Randall Reservoir basin in South Dakota while on loan to the Missouri Basin Project the previous year. He also finished certain revisions in the completed technical report on work at the Allatoona Reservoir on the Etowah River in Georgia. He revised a paper on Indian pottery types of Pissaseck, Va., for publication in the Journal of the Washington Academy of Sciences. Late in December Mr. Miller visited the Bluestone Reservoir on New River near Hinton, W. Va., to ascertain the exact status of the reservoir pool and what the situation was with respect to sites that had been recommended for excavation and testing when a survey was made of the area in 1948. During January and February he studied materials from his excavations at the John H. Kerr Reservoir and worked on his technical report for that project. From March 9 to June 6 he conducted excavations at four sites in the Jim Woodruff Reservoir area on the Flint

River in southern Georgia, and gave a number of talks on the River Basin Surveys program before local groups both in Georgia and northern Florida.

Dr. Theodore E. White, geologist, divided his time between the Washington office and the Missouri Basin. From November 12, 1952, to March 30, 1953, he was in Washington, cleaning, cataloging, and identifying the small mammals he had collected during the field season. In addition he identified three lots of bone from archeological sites in the Columbia Basin and one lot from a site excavated by a cooperating agency in the Missouri Basin. He completed a series of five papers on "Observations on the Butchering Technique of Some Aboriginal People" and was a joint author, with C. M. Barber, of a sixth. All have been submitted for publication in American Antiquity. He also finished a manuscript, "Endocrine Glands and Evolution, No. 3," for the journal Evolution. Two other papers, "Lithology, Distribution and Correlation of the Alachua Formation of Florida" and "Lithology, Distribution and Correlation of the Bone Valley Formation of Florida," were submitted to the Committee on the Nomenclature and Correlation of North American Continential Tertiary. Three papers by Dr. White were published during the year. They were: "A Method of Calculating the Dietary Percentage of Various Food Animals Utilized by Aboriginal Peoples," American Antiquity, vol. 18, No. 4, pp. 396–98; "Collecting Osteological Material," Plains Archeological Conference News Letter, vol. 6, No. 1, pp. 3–7; and "Studying Osteological Material," ibid., pp. 8–15.

Alabama.—An archeological reconnaissance of the Demopolis Reservoir basin on the Warrior River made August 5–7, 1952, showed that although archeological remains are present in the area they would be little affected by flooding in the bottomlands. No excavations were recommended for the project.

Georgia.—During the period from March 9 to June 6, 1953, surveys and excavations were carried on along the Flint River, in southern Georgia, in a portion of the area that will be flooded by the Jim Woodruff Dam situated in the Apalachicola River, just below the junction of the Flint and Chattahoochee Rivers, in northern Florida. Carl F. Miller completely excavated 2 sites, partially excavated 2 others, and located 25 sites not previously listed by the University of Georgia when it made the preliminary survey there. One of the excavated sites, Montgomery Fields (9Dr10), was basically Weeden Island in its relationships but contained a number of traits not previously reported for that culture. The floor pattern of a fairly large rectangular structure that had been formed by individual posts, each set in its own hole, was uncovered, and outlines of a number of small circular structures suggesting the same type of construction were found. The large feature probably was a dwelling, while the smaller ones were either

sweat houses or menstrual huts. There were some 30 midden or roasting pits associated with the house remains. One dog burial was found but no human remains. Underlying the Weeden Island material was a nonceramic level characterized by stone artifacts in which projectile points were the predominant form. The latter differ from previously known types from preceramic levels in the area and may indicate a separate culture. A slightly different variant of Weeden Island culture was found at the Lusk Springs site (9Dr21), which was thoroughly tested but not completely excavated.

The second site was on the south bank of the Flint River 2½ miles east of Hutchinson's Ferry Landing. An extensive deposit of shells located there had been recorded as a single site (9Dr29) but actually proved to be two (designated A and B). Unit A was found to contain a straight Weeden Island II component, while Unit B represented a Weeden Island I component with an underlying deposit of Santa Rosa–Swift Creek materials. About 150 yards east of 9Dr29 early spring floodwaters in the Flint River exposed another small site (9Dr37). The deposits at that location were widely scattered and had very little depth. From various eroded pits and subsequent test digging, however, a series of Deptford, Swift Creek, and Weeden Island I potsherds were recovered, which makes possible the placing of the site in the cultural sequence for the area. During the course of his surveys Mr. Miller joined in the search for the historically significant location of Apalachicola Fort or Cherokeeleechee's Fort at the junction of the Chattahoochee and Flint Rivers. That town was established in 1716 by the Apalachicola when, as a result of the Yamasee war, they moved back from the Savannah River in South Carolina to the territory they had formerly occupied in southern Georgia. Their chief at that time was named Cherokeeleechee or "Cherokee Killer," and his town frequently goes by the same designation. Not many years later the group withdrew to a new location farther up the Chattahoochee. Mr. Miller tested one site tentatively identified as that of the fort but did not find evidence to support such a possibility.

During the period that Mr. Miller was working in the Jim Woodruff area Joseph R. Caldwell, archeologist of the National Park Service, was digging at a productive site on the Chattahoochee River known as Fairchild's Landing. Considerable new material was found there in a series of stratified shell deposits. Several phases of the Weeden Island culture are represented, and at one end of the site were some early historic remains. Caldwell's data and those of Miller should serve as cross checks and definitely establish all Weeden Island characteristics for the area. In the region adjacent to Fairchild's Landing Mr. Caldwell observed evidence of a possible historic Indian site which may represent one of the several "Fowl Towns" mentioned in various documents. Mr. Caldwell also took part in the search for Apalachi-

cola. Dr. Mark F. Boyd, of the Florida Historical Society, through an agreement between the National Park Service and the Society, made a historic-site survey of the whole reservoir basin, working in conjunction with Miller and Caldwell in a number of instances. Dr. Arthur Kelly, of the University of Georgia, cooperated in all the recent activities, giving Caldwell and Miller the benefit of the knowledge he obtained while making a general survey of the Jim Woodruff area in previous years. He also helped Dr. Boyd with his historic-sites investigations.

During June excavations were carried on by Ripley P. Bullen in the small portion of the Jim Woodruff Reservoir lying in Florida, under a cooperative agreement between the National Park Service and the Florida State Museum of the University of Florida. Mr. Bullen and his party dug one site near the dam, finding four superimposed occupation levels separated by sterile zones. The bottom level yielded quantities of lithic materials and definitely represented a preceramic culture. The next higher cultural layer contained sherds from fiber-tempered pottery, fragments from steatite vessels, and numerous stone artifacts. The latter, Mr. Bullen reported, constitute many times the number of previously documented worked-stone specimens from the fiber-tempered period in all Florida. The third occupation level was found to belong to the Deptford cultural horizon. The upper layer contained village remains of the Fort Walton period. Associated with that occupation were four "specialized" pits containing charred kernels of corn. The evidence from the site will be extremely important to Florida archeology because it is the first place that a fiber-tempered complex has been found in situ in west Florida and is only the second place where undisturbed Fort Walton village material has been available for extensive study. Investigations at three other sites produced materials that will help in filling the gap between the Deptford and Fort Walton periods at the large site. One of the three indicated a Weeden Island period and another a Kolomoki complex. That is the first time "pure" Kolomoki remains have been found in Florida.

Mississippi.—The Grenada Reservoir area on the Yalobusha River in Mississippi had been surveyed for archeological remains during a previous fiscal year by the University of Mississippi operating under a cooperative agreement with the National Park Service. Upon the completion of that survey 4 of the 51 sites found were recommended for excavation. To determine whether digging there was more essential than in some other areas, several of the sites were examined during August 25–27, 1952. It was finally decided that the meager funds available for digging might be used to better advantage in districts where less was known about the cultural manifestations, particularly so since there is a considerable number of sites in the Grenada basin that will not be affected and can be investigated at some future date.

Remains of Indian village on top of Night-Walker's Butte in the Garrison Reservoir Area, N. Dak. Traces of 27 earth lodges and surrounding palisade were uncovered at that location by River Basin Surveys operations.

Aerial view of the excavations of the River Basin Surveys at the site of Fort Berthold II. Locations of bastions at two diagnonally opposite corners of the palisade are clearly shown. Dark strip across center of enclosure indicates area still to be excavated when photograph was made. Field party camp in upper right corner of picture.

Missouri Basin.—The Missouri Basin Project continued to operate throughout fiscal 1953 from the field headquarters at Lincoln, Nebr. Ralph D. Brown served as chief of the project from July 1 to September 7, when he died as the result of an accident. On September 22, Robert L. Stephenson, who had been on leave from the River Basin Surveys' staff, returned to active duty and was assigned to the supervision of the project, serving as acting chief throughout the remainder of the year. In the interval from September 7 to 22, Dr. Frank H. H. Roberts, Jr., was in direct charge of the Lincoln office. Activities during the year were concerned with all four phases of the salvage program. There were preliminary surveys; excavations; processing of the collections obtained from the digging, analyses and study of the materials, and the preparation of general and technical manuscripts on the results; and the publication and dissemination of scientific and popular reports. Most of the work was in the second and third phases. Much of phase 1 was finished in previous years and phase 4 will not get into full swing until more of phase 3 is completed. At the start of the year there was a permanent staff for the Missouri Basin Project of 20 persons. In addition there were 4 temporary part-time employees assisting in the laboratory. Through July and August and part of September 6 temporary assistant archeologists, 60 temporary student laborers, and 25 local nonstudent laborers were employed in the field. During the summer season 11 of the regular staff were also engaged in fieldwork. As the surveys and excavations were brought to a close the temporary employees were gradually laid off and by the first of November only the permanent staff of 20 and a temporary draftsman-illustrator were on the rolls. In May it became evident that a much more limited budget would be available for 1954 and that a reduction in force would be necessary. Consequently by the close of the day's work on June 30 the staff had been reduced to 11 persons.

On May 18 and 19 the Interior Missouri Basin Field Committee, consisting of representatives from all the agencies of the Department of the Interior concerned with the over-all Missouri Basin program, held its 61st regular meeting at the River Basin Surveys' headquarters on the campus of the University of Nebraska, at the invitation of the Missouri Basin Project and the Laboratory of Anthropology of the University. The first session was devoted to routine business, but during the evening of May 18 the members visited the Surveys' laboratory located in the business section of Lincoln and heard Mr. Stephenson explain in detail the mechanics of the field and laboratory work of the salvage program. A series of exhibits of fossil specimens, objects from historic sites, Indian-site artifacts, and methods of pottery reconstruction was used to illustrate portions of Mr. Stephenson's talk. The visitors were also shown the entire process of han-

275494—53——6

dling materials from the time they arrive from the field until their analysis and study have been completed and the covering report has been written. Most of the session on May 19 was devoted to a presentation of the work and results of the Inter-Agency Archeological and Paleontological Program. Howard W. Baker, regional director of the National Park Service, Region 2, at Omaha, Nebr., served as chairman. Frederick H. Johnson, secretary of the independent-advisory Committee for the Recovery of Archeological Remains, sketched briefly the general background and importance of the recovery program and explained the activities and purpose of his committee. Dr. Frank H. H. Roberts, Jr., then discussed the Smithsonian Institution's part in the program as a whole, both from the standpoint of the Missouri Basin and other areas throughout the country. Dr. Gordon C. Baldwin, archeologist, Region 2, National Park Service, explained the part his organization has played, told what had been accomplished as of that date, and outlined the needs for the future in a 6-year program. Robert L. Stephenson told about the plans for the remainder of the fiscal year in the Missouri Basin and explained the reasons for the proposed projects. Dr. C. Bertrand Schultz, director of the Nebraska State Museum of the University of Nebraska, summarized the work that his institution had been carrying on as a cooperative effort in the paleontological phase of the investigations and stressed the need for such studies in a proper understanding of the Missouri Basin. Dr. John L. Champe, director of the Laboratory of Anthropology, University of Nebraska, commented on the status of archeology in the Plains area before the salvage program was started and spoke about the current activities from the viewpoint of the cooperating institutions. The historical aspects of the program were presented by Merrill Mattes, regional historian of the Region 2 office, National Park Service. He outlined the historical background for the area, described the current activities and the methods used in making the studies, and made clear the relationship between that subject and those discussed by the other speakers. As a result of the session the members of the Committee undoubtedly left Lincoln with a much better understanding of the salvage program and its aims.

During the year 10 field parties operated in the Missouri Basin. One of them made a series of extensive tests in 4 archeological sites, while 7 were primarily occupied in conducting full-scale excavations in 19 sites. In connection with that work, however, some reconnaissance was carried on in the areas where their investigations were underway. One of the parties was concerned mainly with archeological surveys and another with paleontological studies. The excavations were in 2 reservoir areas in North Dakota, 2 in South Dakota, and 2 in Kansas. The survey party operated in 5 reservoir areas in Kansas, 3 of them being covered for the first time and 2 being revisited

for further checking. The paleontological party worked in 1 reservoir area in Montana, 1 in North Dakota, and 1 in South Dakota. It also visited another project in North Dakota to examine a specimen reported from the Upper Cretaceous deposits there. During July and August 1952, 3 aerial photographic missions were flown over 12 reservoir areas. In all, 5,000 air miles were flown and 62 objectives were photographed. The latter included excavated archeological sites, sites to be excavated, dams and reservoir construction features, and the general topography of the areas to be covered by the ground surveys. The plane used was the personal property of one of the staff archeologists and the pictures were taken by the staff photographer.

The reservoir basins where reconnaissance work was carried on were: The Kirwin, on the north fork of the Solomon River, where 4 additional archeological sites were located and recorded; the Webster, on the south fork of the Solomon, where 3 were found; Tuttle Creek, on the Big Blue River, with 118; Glen Elder, on the Solomon River, with 17; and Wilson, on the Saline River, with 18. On the basis of the evidence obtained, it is apparent that no additional studies will be needed in the Kirwin and Webster areas. At Tuttle Creek, however, there is important material and 10 of the sites have been recommended for future excavation. Included in the 10 are 4 historic sites which are of special significance with respect to the early exploration and settlement of that section of the West. Of the 17 sites recorded for the Glen Elder, 6 small ones gave evidence of being extremely important because they contain materials thus far not observed in the area and they have been recommended for complete excavation. At the Wilson Reservoir 6 of the 18 sites were found to be significant from the standpoint of their relationship to one of the pre-Columbian cultures which thus far is imperfectly known. Two of the sites are caves, probably containing dry materials, and should yield types of artifacts rarely preserved in open sites. One of the recommended sites may prove to be of considerable importance because materials there are eroding from a terrace bank and appear to belong to one of the early occupations in the Plains area. Parties working in the Fort Randall Reservoir basin in South Dakota located 2 new sites, while those operating in the Oahe basin in the same State found 180. At the Jamestown Reservoir in North Dakota 3 new sites were found. The total of new sites observed and recorded in the Missouri Basin during the fiscal year was 339.

In the Garrison Reservoir basin on the main stem of the Missouri River above Bismarck, N. Dak., 2 field parties conducted archeological excavations in 3 of the 147 known there. During July and August and part of September one party dug in the remains of Fort Berthold II. The work at that location falls into the historic category, but it

is important because the fort was established in connection with the large Mandan-Hidatsa-Arikara village, called Like-a-Fishhook, which was occupied from about 1845 to 1890. The remains of the Indian village were studied by parties from the North Dakota State Historical Society under a cooperative agreement with the National Park Service, but much information was needed with respect to the fort and the evidence it might contain bearing on the relationships between the Indians and the Whites. Fort Berthold was originally built in 1858 as a trading post and was known as Fort Atkinson. Its name was changed in 1862, and from 1863 to 1867 it served as a military post. Later it became the agency for the three tribes living in the adjacent village. While there is fairly extensive documentary evidence about the military and trading post, there are many gaps in the record and the archeological excavations contributed information which will help to complete the story of the activities there. About 75 percent of the fort, including the stockade line and two bastions, was excavated. Plans call for further work there during fiscal 1954.

In July and August one party excavated the site of a fortified village on the top of a small butte on the north bank of the Missouri about 10 miles above Fort Berthold. The site is known by the name Night-Walker's Butte in the Bull Pasture because there is an Indian tradition to the effect that a Hidatsa chief by the name of Night-Walker broke away from the main tribe and led his band to the top of a butte where he built a village. Two other sites in the area are also in somewhat similar locations, and which of the three actually was the Night-Walker village is open to question. Nothing found during the excavations throws any light on the problem. The floor areas of 27 earth lodges were uncovered; 29 fire pits, 26 cache pits, 10 roasting pits, and 2 sweat lodges were dug; and approximately three-fourths of the stockade which encircled the edge of the butte was traced. Materials found there suggest that the village was built about or shortly before 1800. The excavations were completed and the detailed technical report on the results was well in progress at the end of the year.

In September the party that worked on the butte investigated the remains of an earth lodge across the river from the village site. It was called Grandmother's Lodge and was the traditional dwelling place of one of the Mandan or Hidatsa supernatural beings who was believed to be the patroness of gardens and crops. The ceremonial lodge, which was only partially excavated, appears to have been rectangular in floor plan and may be older than any other lodge thus far reported for that area. At least one additional lodge and probably several others are present at the site and further work is planned for it during fiscal 1954. That particular location provides an excellent opportunity for comparing evidence obtained through archeo-

logical investigations with the legendary story which is a part of the myths of the Indians in that district.

At the Jamestown Reservoir on the James River in eastern North Dakota one field party continued excavations started toward the close of the previous year. By the end of the season in September it had dug in 5 of the 28 known archeological sites which will be flooded by that reservoir. Two of the sites were burial mounds attributable to the Woodland culture, one was a campsite consisting of a series of boulder-lined depressions strung along the crest of a low bluff, one was a burial pit exposed by a power shovel in the borrow area directly west of the dam, and the other comprised the remains of an Indian village. The floors of four circular houses and a small sweat lodge were uncovered at the latter location. The site covers more than 2 acres and only about 10 percent of it was investigated. A few metal objects and the potsherds found there suggest that the village had Mandan affiliations or at least trade relations with that group and that it was occupied during the first half of the eighteenth century.

In the Oahe Reservoir Basin in South Dakota two parties continued investigations started toward the end of the preceding fiscal year. Excavations were carried on in 4 of the known 318 sites in the basin. At the Black Widow site (39ST3), the location of an extensive earth-lodge village of many scattered houses, about 30 miles upstream from the dam on the west side of the Missouri, evidence of two occupations was found. One period was prior to contact with the whites and the other was during the eighteenth century. During July, August, and September numerous cache pits, a refuse mound, and extensive areas of village surface were dug and four house floors were cleared. Three of the houses belonged to the early period, while the other was of the later occupation. The fourth house was superimposed upon cache pits of the early occupation. All four houses were circular in outline but there were conspicuous architectural differences between the three older examples and the one late form. Materials from the site suggest that the older level had its closest affiliations with the Myers site (39ST10), where the South Dakota Archeological Commission did some excavating in 1949, and with one of the three components in the Cheyenne River site (39ST1), which was partially excavated by a Missouri Basin Project party in the summer of 1951. The later period of occupation appears to be Arikara, although historic documentation for the site seemingly is not known. The same party exhumed a single flexed burial which was about to be destroyed by erosion at a multicomponent site (39ST23) not far from the Black Widow site. Part of the skeleton was missing and there were no mortuary offerings accompanying it.

The second excavating party concentrated its efforts in the immediate vicinity of the dam. It completed excavations started at the

Indian Creek site (39ST15) the previous year, made a series of tests at the Mathison site (39ST16), and did extensive digging at the Buffalo Pasture site (39ST6). At the Indian Creek site, which lies on the line of the proposed discharge channel for the Oahe Reservoir, two house floors were cleared. One, probably a ceremonial structure, was 50 feet in diameter. It contained a raised earthen platform or altar, covered with mud plaster, along the wall opposite the entryway. Beside the altar was a buffalo-skull shrine. Only about 1 percent of that site was excavated, but since it was evident that there would be some delay in the construction of the discharge channel, further efforts were deferred until a later field season. The Mathison site, also on the line of the discharge channel, is stratified and the tests showed it contains data on several different Indian periods. In addition it probably was the location of Fort Galpin, one of the frontier posts. Most of the activity during July, August, and early September was at the Buffalo Pasture site 1 mile upstream from the right wing of the dam on the west bank of the river. A large fortified earth-lodge village had been located there. Four earth lodges, the cross section of the defensive ditch or moat, and over 210 linear feet of the palisade wall inside the moat were excavated. One of the lodges proved to be a ceremonial house and contained an excellent example of an altar with bison-skull offerings. Although only about 8 percent of the site was excavated there was an unusually large yield of artifacts. Included in the materials are over 100 restorable pottery vessels, which is a rare find so far as the Plains area is concerned. The material and information from Buffalo Pasture rounds out and helps to clarify that obtained from two sites, Dodd (39ST30) and Phillips Ranch (39ST14), between it and the dam which were dug during previous seasons.

While the River Basin Surveys parties were working in the Oahe area in the summer of 1952 the South Dakota Archeological Commission and the W. H. Over Museum of the University of South Dakota carried on excavations at the Thomas Riggs site (39HU1) under a cooperative agreement with the National Park Service. On two previous occasions the W. H. Over Museum had worked there but had not completed its investigations. During the 1952 season its party, under the leadership of Dr. Wesley R. Hurt, Jr., excavated the remains of five houses and dug a long trench through the village area. Evidence found there indicates that the village was occupied at about A. D. 1500 and that it probably did not have more than 200 inhabitants at any one time. Just what the relationship between it and later Arikara or Mandan communities may have been is still to be determined.

The two parties, one for Indian and one for historical sites, working in the Fort Randall Reservoir basin continued the operations started toward the end of the preceding year. During the field season excava-

tions were carried on in 6 of the 53 known sites which will be inundated. At the start of the year the Indian-site party was centering its activities in village remains where considerable digging had been done the previous field season. At that location, the Oldham site (39CH7), there was evidence for three periods of occupation. The latest was an earth-lodge village with palisade and moat where most of the digging was done during the 1951 season, the middle period was an earth-lodge village with a palisade but no moat, and the earliest was an occupation level underlying both of the others. At the start of the 1952 field season, in May, activities were centered on the portion of the site representing the middle period. Beginning with the new fiscal year attention was turned to the area where there was some overlap between the remains of the last two periods. During the course of the digging 2 earth lodges, 3 drying racks, 2 infant burials, 270 feet of stockade, including 1 bastion, 76 pits, most of which were cache pits, and numerous fire pits were uncovered. Tubular copper beads were found in one of the infant burials. The specimen yield from the site was great and study of the material shows that when the results are completely tabulated there will be much new information about the material culture of the people who inhabited that area. The middle period apparently correlates with what is known as the Great Oasis Aspect in Minnesota. Although less than half of the site was excavated, sufficient data were obtained to warrant stopping the work in August and moving the laborers to a new location. The latter, the Hitchell site (39CH45), consisted of the remains of a semipermanent village characterized by circular, hutlike, pole-framed structures which probably were covered with skins or brush. The site was stratified and preliminary analysis of the materials from it indicates that it was related to the latest and the earliest periods at the Oldham site. While work was underway at the Hitchell site some of the laborers, under the supervision of a field assistant, dug 1,698 feet of test trenches at the Pease Creek site (39CH5) several miles downstream. The evidence revealed by the trenches shows that there were two occupations. The latest was by a group using the location mainly as a camping area, while the earlier presumably had a more permanent type of settlement. Pottery found there suggests Upper Republican and Nebraska cultural influences. The artifact complex as a whole is unique in the Fort Randall area. During the summer season additional testing was carried on at a campsite (39CH51) where some digging had been done during a previous year. Those investigations completed the studies at that location. The activities of the Fort Randall Indian party were brought to a close in late September.

During July the historic-site party completed the excavation of the Fort Whetstone site (39GR4) on the west bank of the Missouri River near the mouth of Whetstone Creek. The palisade was traced

and the outlines of the buildings that stood inside the fortification were followed. Exact dimensions of the fort and buildings were obtained, as were some of the constructional features of the interior of the buildings. All wooden structures had been burned, and evidence indicates that the post was destroyed shortly after abandonment in 1872. About 90 percent of the site was excavated and no additional work will be required there. A number of discrepancies found between the various features revealed by the digging and a plan of the fort drawn in 1871 raised a number of puzzling historical problems. About 500 yards northwest of the fort the remains of a "Missouri Dugout" were found and excavated. At the end of July the party moved to the Fort Randall site (39GR15) on the west bank of the Missouri River half a mile southeast of the Fort Randall military post. Work there showed that the remains were those of a brick kiln, which probably belonged to the period of Fort Randall I. The remains of the kiln and features associated with it were completely excavated and the party left the Fort Randall Reservoir area at the end of August, proceeding to the Kirwin Reservoir in Kansas.

During the 1952 field season work was also carried on in the Fort Randall area by the Nebraska State Historical Society and the University of Kansas under cooperative agreements with the National Park Service. The Historical Society party under the direction of Marvin F. Kivett continued excavations in two sites (39LM26 and 39LM27) located along the highway a short distance east of Oacoma and about 2 miles west of Chamberlain, S. Dak. Some digging was also done at a site (39LM81) 10½ miles upriver from Chamberlain. The work at the first two locations, which was completed, showed evidence of a historic Siouan occupation underlain by an earth-lodge village belonging to what has been called the Fort Thompson focus. The third site was found to have three components, historic Siouan, a level producing a simple-stamped type of pottery which has not yet been culturally correlated, and an earlier Woodland occupation. The University of Kansas party under Dr. Carlyle S. Smith spent a third season at the Talking Crow site (39BF3) about 3½ miles below Fort Thompson, S. Dak. During the three seasons at the site 9 houses were completely excavated, 4 were partially excavated, and 14 were tested to obtain their dimensions and samples of materials from them. Stratigraphic tests were made in three refuse mounds, trenches were dug across the surrounding fortification on four sides of the site, two long trenches were cut through areas between the houses, and numerous other test pits and trenches were dug. From the data obtained it appears that the site had four components. The latest was Siouan dating from shortly after the Civil War. Prior to that was the last occupation by earth-lodge-building people, probably the Arikara, during the period when European trade goods were beginning to

appear in the area. Preceding that was an occupation which just antedated the introduction of trade goods. The earliest occupation was definitely prehistoric in age and its cultural affinities seem to have been widespread. The latest component appears to correlate with one phase of Kivett's Oacoma sites and with the Indian Creek site in the Oahe area. The one just preceding seems to equate with an older phase at Kivett's sites and with the latest component at the Oldham site. The next to the oldest component correlates with the older level at the Black Widow site in the Oahe area, but there is still some question as to the relationship of the first occupation at Talking Crow.

In the Kirwin Reservoir basin in Kansas the historic-sites party, which had moved from the Fort Randall area, spent the period from September 2 to 20 excavating the remains of Camp Kirwan, an old frontier post located on the right bank of the Solomon River in Phillips County. The site (14PH6) was completely excavated and the palisade line was traced as an intrusive trench in the soil.

An archeological party spent 3 weeks in June 1953 testing sites at the Tuttle Creek Reservoir in Kansas. During that period work was carried on at four sites; three of them were in the spillway construction area, and one in the general construction area for the dam. Two of them had been severely damaged by the cut for the spillway, while the others were in immediate danger of destruction by further activities. One of the sites in the spillway line (14PO14) was an earth and stone mound approximately 26 feet in diameter with a maximum height of 1½ feet. The mound contained a burial pit with skeletal remains occurring at two levels. The original interment of at least three bodies apparently had been dug into to make room for subsequent burial of three, possibly four, more bodies. In both levels there was one articulated skeleton in a semiflexed position. Stone implements, copper beads, and fragmentary bits of copper sheeting were found with the bones. At some distance from the pit the remains of an extended burial without a skull were found. It had no accompanying mortuary offering. Indications were that the skull had been removed by some earlier digger and also that the interment was a later intrusion in the mound. In general appearance the mound suggested relationship to others in the Tuttle Creek, Glen Elder, and Wilson Reservoir basins. They have not as yet been assigned to any culture but may well have Woodland affiliations. The extended burial possibly is attributable to the Kansa, as it had certain similarities to others found elsewhere which presumably were made by that tribe. Furthermore, materials collected from two occupation areas nearby indicate a late occupancy, and since a historic Kansa village is known to have existed in the immediate area it seems likely that they may also have lived at those locations. As a matter of fact, the two sites (14PO12 and 14PO13)

may represent parts of a single large occupational area as one is on the eastern edge of the spillway and one is on the western edge of it and both have been extensively damaged by construction activities. Materials collected during the digging there consist of buff-colored potsherds with gray shell-tempered paste and punctated decorations, small triangular-unnotched projectile points, an abundance of stone scrapers, a conical copper bangle, and some bits of sheet metal. The fourth site tested (14RY10) is on the west side of the Blue River. It was buried under considerable flood-borne silt but the exploratory trenches indicated the former presence of an earth lodge and other village features. Potsherds from the house area suggest that a cultural transition was underway at that location. It was not possible to do any extensive digging there, but at the end of the fiscal year plans were being made by one of the local institutions to continue the investigations as a cooperative effort. It was necessary for the River Basin Surveys party to close down its work on June 26 and return to the headquarters at Lincoln.

The paleontological field party completed its activities at the Keyhole Reservoir in Wyoming on July 1, 1952, and left the following day for the Canyon Ferry Reservoir in Montana. En route, at the request of the National Park Service, it visited the South Unit of the Theodore Roosevelt National Monument to examine some paleontological material found in that area. From July 5 to August 3 the party explored exposures of the Oligocene and Miocene deposits in the Canyon Ferry Basin. Some 75 specimens of small mammals were collected, adding greatly to the knowledge of certain groups, particularly the rabbits and small dogs of the Miocene. During the period the paleontologist also identified the Tertiary sediments in a number of localities in the Toston Basin for a mapping party of the United States Geological Survey. From August 9 to 30 the party explored the exposures of the Paleocene Fort Union formation in the Garrison Reservoir near Elbowoods, N. Dak. Specimens are exceedingly rare in that formation, and because of the uncertain correlation of the deposits the value of those found is materially increased. During that period the nearly complete skeleton of *Champsosaurus*, an alligatorlike aquatic reptile, was collected. Exposures of the Oacoma member of the Upper Cretaceous Pierre shale in the vicinity of the Oahe Dam were explored from September 2 to 10. A number of specimens of marine reptiles were found but they had been exposed too long to be worth collecting.

The paleontological party returned to the field in June, and from June 1 to 7, 1953, at the request of the National Park Service made a paleontological survey of certain areas in the Badlands National Monument. From the 9th to the 27th it continued explorations of the Oligocene and Miocene deposits of the Canyon Ferry Reservoir area.

Initial flooding of the reservoir made it necessary to visit several localities by boat. About 100 specimens of small mammals, rabbits, rodents, and marsupials were obtained. Of special interest is a very small rabbit, details of the teeth of which suggest that it may be ancestral to the cony or pika, the tiny rock rabbit which lives high in the mountains. If such should prove to be true these are the earliest known specimens of that group of rabbits found anywhere in the world. The Canyon Ferry Reservoir basin, which will not be available for study another season because of the impounded water, has been the most productive, both in the number and variety of species, of any locality in the area and is the only one thus far that has produced a sizable Middle Oligocene fauna in the Intermountain Basins. On June 27 the party moved to the Fort Peck Reservoir in Montana for the purpose of examining a plesiosaur (marine reptile) skeleton found in the Upper Cretaceous Bear Paw shale by a member of the Fish and Wildlife Service. At the end of the year the party was at Fort Peck.

During the year 18 preliminary appraisal reports were completed, mimeographed, and distributed to the cooperating agencies. One supplemental report, on the Fort Randall Reservoir, was completed and ready to mimeograph. Fourteen short articles on specific subjects in Plains archeology were completed and printed in various publications. Six appeared in the Plains Archeological Conference News Letter; four in the Proceedings of the Nebraska Academy of Sciences, 63d annual meeting; one in American Antiquity; one in the Americana Annual; and two in the Missouri Basin Progress Report, issued monthly by the Interior Missouri Basin Field Committee. Thirteen additional articles were completed and had been accepted for publication by various journals. Nine reports were completed and were ready to submit for publication. They included three technical papers on excavations in the Garrison Reservoir area, one on an excavated site in the Oahe area, one on historic sites dug in the Fort Randall basin, one on excavations in the Kirwin Reservoir, one general paper on the subject of articles of white manufacture as exemplified by the materials from various sites in the Missouri Basin, and two on work in the Northwest done by a member of the staff prior to his joining the Missouri Basin Project.

The laboratory at Lincoln processed 161,036 specimens from 339 sites in 9 reservoir areas and 1 unassignable site. A total of 22,570 catalog numbers was assigned to the series of specimens. The work in the laboratory also included: Reflex copies of record sheets, both negatives and prints, 12,629; photographic negatives, 2,281; photographic contact prints, 11,474; enlargements, 5″ x 7″ to 20″ x 24″, 4,082; photographs mounted for files, 6,374; transparencies mounted in glass, 1,132; drawings, tracings, and maps, 126; specimens drawn for

illustration, 504; completion of restoration of pottery vessels, 32; vessels or rim sections restored, 84.

Temporary interpretative displays showing the scope and results of archeological investigations in the Missouri Basin were installed in the windows of the laboratory in the business section of Lincoln in November 1952, and in the windows of a large Lincoln department store in February 1953. A special display illustrating and interpreting the archeology of the Oahe Reservoir area was installed for the Corps of Engineers by the Missouri Basin Project in the registration building for visitors at the Oahe Dam observation point. Special archeological and paleontological displays were prepared for the meetings of the Interior Missouri Basin Field Committee held at the headquarters and laboratory in May.

Paul L. Cooper, consulting archeologist, was in charge of one excavating and survey party in the Oahe Reservoir basin from July 1 until October 16. He supervised the digging at the Black Widow site and toward the end of the season participated in the reconnaissance work. During the fall and winter months in the laboratory he correlated the records of the Oahe reconnaissance with previous records, summarized information from published and unpublished sources of varied nature, made use of data obtained from excavations by the Missouri Basin Project and other agencies, and prepared "An Appraisal of the Archeology of the Oahe Reservoir." He also worked on a summary report of the activities of the Missouri Basin Project during the calendar years 1950 and 1951. This is concerned with investigations in 42 reservoir areas, the work of 2 full-season survey parties and other shorter-term parties, the activities of a paleontological party during 2 field seasons, and the excavations carried on by 12 full-season parties in Indian and historic sites in 6 different reservoir basins. The specimens obtained from the Black Widow site received preliminary study and a provisional classification was made of the pottery found there. Mr. Cooper participated in the Tenth Conference for Plains Archeology at Lincoln in November and attended the sessions of the Society for American Archeology at Urbana, Ill., in May.

Robert B. Cumming, Jr., archeologist, was in charge of the Indian-site excavations and survey in the Fort Randall Reservoir area in South Dakota from July 1 to September 26. He supervised the digging at the Oldham, Hitchell, and Pease Creek sites. During the months at the laboratory in Lincoln he made analyses of the material and data obtained during the 1951 and 1952 seasons at the Oldham site and prepared a technical report on the results of his investigations at that location. In addition he completed a supplementary report for the previously issued "Appraisal of the Archeological and Paleontological Resources of the Lower Platte Basin," and finished the first

draft, with an accompanying map showing the location of all sites found to that date in the reservoir area, of a supplementary report on the Fort Randall basin. From June 10 through 17, 1953, he supervised the work of the excavating party in the Tuttle Creek Dam area in Kansas. Mr. Cumming presented a résumé of the 1952 field work at the Tenth Conference for Plains Archeology in November.

From July 1 to September 15 Franklin Fenenga, archeologist, was in charge of an excavating party in the Oahe Reservoir area and also took part in additional surveys in the general vicinity of the dam. He directed the digging at the Buffalo Pasture, Mathison, and Indian Creek sites. In August he installed a special display to interpret the archeology of the Oahe Dam area in the observation building maintained by the Corps of Engineers at a spot overlooking the east wing of the dam. During the remainder of the year, at the Lincoln headquarters, he completed appraisal reports on the archeology of the Gavins Point Reservoir in Nebraska and South Dakota and for the Middle Fork Reservoir in Wyoming. He also completed a detailed technical report on the results obtained at the Indian Creek site and had finished approximately 75 percent of the report on the Buffalo Pasture Village by the end of the fiscal year. He presented three papers on archeological field methods before the Seminar on Plains Archeology at the Laboratory of Anthropology of the University of Nebraska. He took part in the Tenth Conference for Plains Archeology and was reelected to a third term as editor of the Plains Archeological Conference News Letter by that group. He presided as president at the anthropological section of the 63d annual meeting of the Nebraska Academy of Sciences and presented a paper, "The Ice-Glider Game, an 18th-Century Innovation in Northern Plains Culture." He also prepared an article, "The Weights of Chipped-Stone Projectile Points, a Clue to Their Functions," for publication in the Southwestern Journal for Anthropology. While in the field he addressed several organizations, telling about the work of the River Basin Surveys, and during the months in Lincoln acted as preceptor of the Indian Project of two groups of Campfire Girls. Because of the curtailment of funds for the Missouri Basin Project it was necessary to terminate Mr. Fenenga's appointment in a reduction-in-force action on June 30, 1953.

During July, August, and early September Donald D. Hartle, archeologist, was in charge of the excavations at the Night-Walker's Butte site and Grandmother's Lodge in the Garrison Reservoir area. In September he also measured and photographed a modern dance lodge in the Santee Bottoms. Throughout the remainder of the year he was at the Lincoln headquarters where he completed the detailed technical report on the excavations, carried on during 2 previous years at the Rock Village site (32ME15). He completed a series

of notes on the work at Night-Walker's Butte, the Grandmother's Lodge, and the dance lodge, and presented a summary report on his summer's work at one of the sessions of the Tenth Conference for Plains Archeology. As a result of the reduction in force, made necessary by curtailed funds, Mr. Hartle's employment was terminated on June 30, 1953.

George Metcalf, field and laboratory assistant, was a member of the Fort Berthold excavating party in the Garrison Reservoir area from July 1 to September 26, 1952. In addition to taking an active part in the digging at the fort he spent several days guiding the paleontological party to exposures noted during the previous year's surveys and in checking on the location of archeological sites reported by local residents. Mr. Metcalf also assisted in the investigations at the Grandmother's Lodge site. After returning to the Lincoln headquarters he prepared the material from Fort Berthold II for cataloging, made an analysis of the artifacts from the Night-Walker's Butte excavations, studied and prepared descriptions of specimens from the Star Village site (32ME16) dug the preceding year, and started work on a description of the remains of the last Arikara earth lodge, a task at which he was engaged until the end of the fiscal year. During the winter he also prepared book reviews for the North Dakota Historical Quarterly and for Nebraska History. Mr. Metcalf's employment was terminated on June 30 through the reduction-in-force program, but on July 1 he was to take a position as a museum aide in the division of archeology, United States National Museum.

On July 1, 1952, John E. Mills, archeologist, was occupied with an excavating party at the site of the Whetstone Army post in the Fort Randall Reservoir area in South Dakota. He completed that work on July 25 and moved his party to the Fort Randall brick-kiln site where he dug until August 29. During August he also made a reconnaissance, visiting the sites of the Lower Brule Indian Agency, Fort Lower Brule, and Fort Hale for the purpose of planning possible future excavations at those locations. In September he took his party to the Kirwin Reservoir area in Kansas and dug the site of Camp Kirwan. From October through June Mr. Mills was engaged at headquarters analyzing materials and preparing reports on the results of his investigations. He completed technical papers on "Historic-Sites Archeology in Fort Randall Reservoir, South Dakota," and "Excavation at Camp Kirwan, Kansas." In addition he completed manuscripts on the results of work which he did before joining the staff of the Missouri Basin Project. They were: "Quantitative Analysis of a Columbia River Shell Mound," and "Cultural Continuity at Nootka Sound, Vancouver Island." In September he addressed the Kirwin High School on the subject "Smithsonian Institution River Basin Surveys" and in May presented a paper, "Ethnohistory," before

the Nebraska Academy of Sciences. Mr. Mills requested leave of absence in May to return to the University of Washington to complete his studies for an advanced degree in anthropology. Such was granted, but in the reduction-in-force program it was necessary to remove his name from the rolls as of June 30.

At the start of the fiscal year J. M. Shippee, field and laboratory assistant, was at the headquarters in Lincoln. He spent several days assembling data for use in making an aerial survey and on July 15 and 16 flew with Ralph S. Solecki over five reservoir areas in Kansas. On July 23, under the general direction of Mr. Solecki, he started a ground survey of the Tuttle Creek Reservoir and was in that area until September 8. From that date until October 4 he assisted in the survey of the Glen Elder, Kirwin, Webster, and Wilson Reservoir basins. On his return to the laboratory he helped to complete the survey sheets and maps for the 156 new sites found, aided in the analysis of specimens, the identification of photographs, and the preparation of exhibits. He wrote an outline summary of the results of Solecki's work for presentation at the Tenth Conference for Plains Archeology. In November he also gave an illustrated talk before the Kansas City Chapter of the Missouri Archeological Society. On June 10, 1953, Shippee went to the Tuttle Creek Reservoir as assistant to Mr. Cumming and after the latter's return to Lincoln on June 17, was in charge of the excavating party for the remainder of the project. Mr. Shippee's employment was terminated by the reduction in force on June 30.

G. H. Smith, acheologist, was in charge of the party digging at the site of Fort Berthold II on July 1 and continued to supervise those excavations until the end of the season on September 23. Returning to the headquarters at Lincoln he spent the time from September 26 to June 30 working over materials and writing reports on his fieldwork. He completed the detailed technical paper on the results of the investigations made during a previous year at Fort Stevenson in the Garrison area. He also finished a brief report on the excavation of Fort Berthold II intended primarily to indicate progress at the site as of the end of the fiscal year. A manuscript consisting of a descriptive account of glass beads, some 8,000 in number, recovered at Fort Berthold was written and accepted for publication by the Central Texas Archeologist. A summary account of the history of the Niobrara River Basin was prepared for submission to the Bureau of Reclamation for use in the revision of the Niobrara Basin report of that Bureau's Region 7 office. At the Tenth Conference for Plains Archeology Mr. Smith reported on the work at Fort Berthold II and also presided as chairman at a session devoted to Plains Ethnohistory. Mr. Smith resigned, effective June 19, to attend the American School of Research, Athens, Greece.

Ralph S. Solecki, archeologist, was transferred to the Missouri Basin Project early in July. During the period from then until October 4 he was in charge of the surveys of the five Kansas reservoirs and in July and August flew three aerial photographic missions over other Missouri Basin areas. After completing the aerial missions Mr. Solecki prepared an article, "Photographing the Past," which appeared in the September issue of the Missouri River Basin Progress Report. While at the Lincoln office during the latter part of October and early November appraisal reports on the five Kansas Reservoir surveys were completed by Mr. Solecki.

Robert L. Stephenson, acting chief of the Missouri Basin Project, devoted a major portion of his time to managing the operations of the project. However, he was able to prepare a series of summary statements on the past 7 years of Missouri Basin Project activities in detail, reservoir by reservoir. He also did extensive work on a technical report of the excavations he supervised during previous years at the Whitney Reservoir on the Brazos River, Hill County, Tex., and made some analysis of notes and materials from the Accokeek site in Maryland. He served as chairman of one section of the Tenth Conference for Plains Archeology in November, attended the annual meeting of the Society for American Archeology at Urbana, Ill., where he presented a paper, "Accokeek: A Middle-Atlantic Culture Sequence," and acted as a discussant for two other papers. He served as chairman for an informal conference of Plains archeologists held at the Lincoln headquarters in April, and was host for the meeting of the Interior Missouri Basin Field Committee meeting in May. At the end of the fiscal year he was on a tour of inspection of the Missouri Basin. While in the field he visited White's paleontological party at Canyon Ferry Reservoir in Montana.

At the start of the fiscal year Richard Page Wheeler, archeologist, was in charge of the survey and excavation party at the Jamestown Reservoir in North Dakota. He continued his investigations there until September 26 when he returned to the headquarters at Lincoln, Nebr. Throughout the remainder of the year he worked on a major technical report summarizing the results of excavations and surveys made by himself and others in the Angostura Reservoir, S. Dak., and in the Boysen and Keyhole Reservoirs in Wyoming, between 1946 and 1951. That report was virtually completed at the close of the year. In addition he prepared a paper, "Plains Ceramic Analysis: A Check-List of Features and Descriptive Terms," which was published in the Plains Archeological Conference News Letter, vol. 5, No. 2. He also wrote an interim report, "Appraisal of the Archeological and Paleontological Resources of the Jamestown Reservoir, North Dakota: Supplement," which was mimeographed and distributed to the cooperating agencies. At the Tenth Conference for

Plains Archeology in November he gave a résumé of the Jamestown investigations and read a paper on the preceramic subsistence patterns in the Great Plains. On May 1 he presented a paper on Dakota mounds and earthworks at the 63d annual meeting of the Nebraska Academy of Sciences. In the late spring he collaborated with Dr. Donald J. Lehmer on a paper, "Time Horizons in the Northern Plains."

Dr. Theodore E. White, geologist, was in charge of the paleontological field party during all its operations. As previously noted, work during the 1952 season was in the Canyon Ferry, Garrison, and Oahe reservoir areas, and in June 1953 the party returned to the Canyon Ferry Reservoir in Montana for additional collecting. From September 15 to November 6, 1952, and from April 2 to May 30, 1953, Dr. White was in the laboratory at Lincoln. During those periods he was occupied in identifying osteological material collected by the various archeological excavating parties. Dr. White's other activities were discussed in connection with the operations of the Washington office.

Cooperating institutions.—Various State and local institutions cooperated in the Inter-Agency Salvage Program during the year. Most of those activities were on the basis of agreements between the agencies and the National Park Service, but in a few cases State groups carried on independently, although correlating their efforts closely with the over-all operations. The Ohio State Archeological and Historical Society continued to assume responsibility for all reservoir areas in that State. The Indiana Historical Society included surveys of potential reservoir areas in its general program for archeological research in Indiana and made periodical reports on the results of the investigations. Institutions working under agreements with the Service and the projects undertaken were: California Archeological Survey, University of California, Berkeley, made surveys of the proposed Trinity, Lewiston, Mooney Gulch, Red Bank, Oroville, Nimbus, Ice House, Union Valley, Pilot Creek, San Luis, and San Lucas Reservoirs of California and the Humboldt River and tributaries in Nevada, and started excavations in sites in the Nimbus and Red Bank areas; the Carnegie Museum of Pittsburgh excavated in the Conemaugh Reservoir area on the Conemaugh River in Pennsylvania; the Florida State Museum of the University of Florida dug a number of sites in the portion of the Jim Woodruff Reservoir basin located in Florida; the University of Kansas continued excavations at a site in the Fort Randall Reservoir basin in South Dakota; the University of Missouri excavated in the Pomme de Terre Reservoir on the river of the same name and at the Table Rock Reservoir on the White River in Missouri; Montana State University dug several small sites in the Garrison Reservoir area in North Dakota; the Nebraska

275494—53——7

State Historical Society worked at three sites in the Fort Randall basin, South Dakota; the University of Nebraska Laboratory of Anthropology continued excavations in the Harlan County Reservoir on the Republican River, Nebr.; the University of Nebraska State Museum made archeological excavations in the Medicine Creek Reservoir in western Nebraska, and on a volunteer basis did paleontological work in several Missouri Basin projects; the State Historical Society of North Dakota continued excavations in the Garrison area; the University of Oklahoma worked at the Tenkiller Ferry Reservoir on the Illinois River and at the Keystone Reservoir on the Arkansas River in Oklahoma; the University of Oregon excavated in sites near The Dalles Dam on the Oregon side of the Columbia River; the University of South Dakota worked in the Oahe Reservoir basin in South Dakota; the State College of Washington investigated an early site in the Lind Coulee, Wash.; the University of Washington excavated at the Wakemap Mound site on the Washington side of the Columbia in The Dalles Reservoir basin; and the University of Wyoming continued its digging at the Keyhole Reservoir on the Belle Fourche River in Wyoming.

INSTITUTE OF SOCIAL ANTHROPOLOGY

In the spring of 1952 the Institute of Inter-American Affairs, Department of State, which had made a grant to the Institute of Social Anthropology to enable it to carry on its functions from January 1, 1952, to the end of the fiscal year with the understanding that the Smithsonian anthropologists would be available for program analyses of technical aid projects, decided to utilize anthropologists on a permanent basis. A request was made that plans be prepared to transfer ISA personnel to the Institute of Inter-American Affairs on July 1 and bring to a close the ISA activities as such. Late in June 1952, however, the Institute of Inter-American Affairs extended its grant to the Smithsonian Institution for an additional 3 months, so that there could be an orderly transfer of personnel, and provided $15,725 to finance the ISA until September 30, 1952. Before that date it became apparent that further time would be needed, and the grant was extended to December 31, 1952, and an additional $15,725 made available. The total funds for the 6-month period were $31,450. The activities of the Institute of Social Anthropology ended on December 31, 1952.

The period from July 1 to December 31, 1952, was one of retrenchment and the closing down of projects. In Washington Dr. Foster was occupied in terminating the work of the Institute, in the planning of anthropological aspects of the program in the Institute of Inter-American Affairs, and in the preparation of four article-length manuscripts on contemporary cultures in Latin America for publication

in anthropological journals. Dr. Kalervo Oberg, who had returned to the Washington office in June, prepared reports on the cultural problems encountered by technical aid programs in Brazil, and read and commented on Institute of Inter-American Affairs reports, as requested. He described Servicio programs in Brazil at the annual meeting of the American Association for the Advancement of Science at St. Louis, Mo., in December.

In Mexico all former Institute of Social Anthropology programs were terminated and the activities of Dr. Isabel T. Kelly were integrated with those of the Mexico City offices of the Institute of Inter-American Affairs. Her assignments, all made from that office, included trips to Monterey and Veracruz. In Colombia, beginning July 1, the work of Charles J. Erasmus was directly integrated with the Bogotá office of the Institute of Inter-American Affairs and all assignments, including program planning, routine office work, and field work in fisheries and agriculture were made by that office. Dr. Ozzie Simmons was in Peru on July 1 awaiting transfer to Chile by the Institute of Inter-American Affairs. There was unexected delay in the shift, however, and as he had not been assigned to an Institute program in Peru he made use of the time in terminating basic field studies in the Cañete Valley which, when published, will add to the knowledge of contemporary Latin American culture and will be a useful adjunct to program planning in the Institute of Inter-American Affairs. Dr. Donald Pierson resigned his position in Brazil on June 30, 1952, and subsequently returned to the United States.

Mrs. Eloise B. Edelen, of the Smithsonian Institution editorial staff, continued to edit Institute of Social Anthopology manuscripts. Publication No. 13, "The Tajín Totonac," by Isabel T. Kelly and Angel Palerm, was released on September 22, 1952. Publications No. 15, "Indian Tribes of Northern Mato Grosso, Brazil," by Kalervo Oberg, and No. 16, "Penny Capitalism: A Guatemalan Indian Economy," by Sol Tax, were released for distribution on April 2 and June 16, 1953, respectively.

On December 31, 1952, the employment of Dr. George M. Foster, Director, was terminated through a reduction-in-force action; and anthropologists Isabel T. Kelly, Charles J. Erasmus, Ozzie Simmons, and Kalervo Oberg were transferred to the Institute of Inter-American Affairs.

ARCHIVES

An apparent increase in public interest concerning American Indians, particularly those of the West, has resulted in greater demands on the large photographic collections. For the period from March 1 to June 30, 1953, 288 prints, together with data concerning them, were furnished in response to 104 requests.

During this same period 77 manuscripts were consulted, and 12 orders for microfilm and photostatic copies were filled.

Numerous gifts of photographs and manuscripts were received during the year. New linguistic materials accessioned included a portion of a Ponca-English vocabulary and a number of hymns translated in the Omaha language. This material, prepared in 1872 by J. O. Dorsey, was presented to the Bureau by Mrs. Virginia Dorsey Lightfoot. A portion of an English-Choctaw vocabulary prepared by Cyrus Byington about 1860 was presented by Donald D. McKay. The Historical and Philosophical Society of Ohio presented a newspaper of 1874 in the Creek language.

ILLUSTRATIONS

The time of the illustrator was spent in preparing and executing illustrations and maps for Bureau and River Basin Surveys publications and for research associates, and making posters, graphs, charts, diagrams, and maps, and repairing and altering illustrations for the editorial division and other departments of the Institution. Floor plans and front elevations also were executed for the Smithsonian planning committee.

EDITORIAL WORK AND PUBLICATIONS

There were issued 1 Annual Report, 5 Bulletins, and 3 Publications of the Institute of Social Anthropology, as follows:

Sixty-ninth Annual Report of the Bureau of American Ethnology, 1951–1952. ii+30 pp. 1953.

Bulletin 145. The Indian tribes of North America, by John R. Swanton. vi+726 pp., 5 maps. 1952.

Bulletin 150. The modal personality structure of the Tuscarora Indians, as revealed by the Rorschach test, by Anthony F. C. Wallace. viii+120 pp., 1 pl., 8 figs. 1952.

Bulletin 151. Anthropological Papers, Nos. 33–42. ix+507 pp., 37 pls., 25 figs., 7 maps. 1953.

No. 33. "Of the Crow Nation," by Edwin Thompson Denig. Edited, with biographical sketch and footnotes, by John C. Ewers.

No. 34. The water lily in Maya art: A complex of alleged Asiatic origin, by Robert L. Rands.

No. 35. The Medicine Bundles of the Florida Seminole and the Green Corn Dance, by Louis Capron.

No. 36. Technique in the music of the American Indian, by Frances Densmore.

No. 37. The belief of the Indian in a connection between song and the supernatural, by Frances Densmore.

No. 38. Aboriginal fish poisons, by Robert F. Heizer.

No. 39. Aboriginal navigation off the coasts of Upper and Baja California, by Robert F. Heizer and William C. Massey.

No. 40. Exploration of an Adena mound at Natrium, West Virginia, by Ralph S. Solecki.

No. 41. The Wind River Shoshone Sun Dance, by D. B. Shimkin.

No. 42. Current trends in the Wind River Shoshone Sun Dance, by Fred W. Voget.

Bulletin 153. La Venta, Tabasco: A study of Olmec ceramics and art, by Philip Drucker. x+257 pp., 66 pls., 64 figs. 1952.

Bulletin 155. Prehistoric settlement patterns in the Virú Valley, Perú, by Gordon R. Willey. xxii+453 pp., 60 pls., 88 figs. 1953.

Institute of Social Anthropology Publication No. 13. The Tajín Totonac. Part 1. History, subsistence, shelter, and technology, by Isabel Kelly and Angel Palerm. xiv+369 pp., 33 pls., 69 figs., 18 maps. 1952.

Institute of Social Anthropology Publication No. 15. Indian tribes of northern Mato Grosso, Brazil, by Kalervo Oberg. With appendix entitled "Anthropometry of the Umotina, Nambicuara, and Iranxe, with comparative data from other northern Mato Grosso tribes," by Marshall T. Newman. vii+144 pp., 10 pls., 2 figs., 3 maps, 14 charts. 1953.

Institute of Social Anthropology Publication No. 16. Penny capitalism: A Guatemalan Indian economy, by Sol Tax. x+230 pp., 6 maps, 19 charts. 1953.

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

Bulletin 152. Index to Schoolcraft's "Indian Tribes of the United States," compiled by Frances S. Nichols.

Bulletin 154. River Basin Surveys Papers: Inter-Agency Archeological Salvage Program. Nos. 1–6.

No. 1. Prehistory and the Missouri Valley Development Program: Summary report on the Missouri River Basin Archeological Survey in 1948, by Waldo R. Wedel.

No. 2. Prehistory and the Missouri Valley Development Program: Summary report on the Missouri Basin Archeological Survey in 1949, by Waldo R. Wedel.

No. 3. The Woodruff Ossuary, a prehistoric burial site in Phillips County, Kans., by Marvin F. Kivett.

No. 4. The Addicks Dam sites:

I. An archeological survey of the Addicks Dam basin, Southeast Texas, by Joe Ben Wheat.

II. Indian skeletal remains from the Doering and Kobs sites, Addicks Reservoir, Tex., by Marshall T. Newman.

No. 5. The Hodges site:

I. Two rock shelters near Tucumcari, N. Mex., by Herbert W. Dick.

II. Geology of the Hodges site, Quay County, N. Mex., by Sheldon Judson.

No. 6. The Rembert Mounds, Elbert County, Ga., by Joseph R. Caldwell.

Appendix. List of River Basin Surveys reports published in other series.

Bulletin 156. The Iroquois Eagle Dance, an offshoot of the Calumut Dance, by William N. Fenton, with an analysis of the Iroquois Eagle Dance and songs, by Gertrude Prokosch Kurath.

Bulletin 157. Anthropological Papers, Nos. 43–48.

No. 43. Stone Monuments of the Río Chiquito, Veracruz, Mexico, by Matthew W. Stirling.

No. 44. The Cerro de las Mesas offering of jade and other materials, by Philip Drucker.

No. 45. Archeological materials from the vicinity of Mobridge, S. Dak., by Waldo R. Wedel.

No. 46. The original Strachey vocabulary of the Virginia Indian language, by John P. Harrington.

No. 47. The Sun Dance of the Northern Ute, by John Alan Jones.

No. 48. Some manifestations of water in Mesoamerican art, by Robert L. Rands.

Publications distributed totaled 38,596, as compared with 21,505 for the fiscal year 1952.

COLLECTIONS

Acc. No.

188983. 7 ethnological specimens from States of Washington and California, and from the Amazon Basin; 120 archeological specimens from Texas, México and Panamá.

195312. (Through Dr. F. H. H. Roberts, Jr.) Plesiosaur skeleton and spine of hybodont shark from Graneros formation, Newcastle member, in Keyhole Reservoir area, Crook County, Wyo., collected in June 1952 by Dr. Theodore E. White, River Basin Surveys.

195942. Approximately 74 fossil vertebrates from Oligocene and Miocene deposits of Canyon Ferry Reservoir area in Montana, and 4 mollusks, collected August 1952, by Dr. Theodore E. White, River Basin Surveys.

195943. Skeleton, without skull, of fossil reptile from Tongue River member of Fort Union formation in the Fort Garrison Reservoir area, North Dakota, collected in September 1952 by Dr. Theodore E. White, River Basin Surveys.

197275. Archeological materials excavated by field party under Franklin Fenenga at Slick Rock Village, Tulare County, Calif., River Basin Surveys.

197689. 144 specimens from Georgia including deeply weathered flint artifacts from Macon Plateau, Bibb County, and 1 lot of chips, probably from old Oconeetown, Milledgeville, Baldwin County.

197886. Bones of 2 species of birds from State of Washington. River Basin Surveys.

198525. 613 archeological surface specimens from Eufaula Reservoir, Onapa and Canadian Reservoir areas, southeastern Oklahoma, collected August and September 1948 by David J. Wenner, Jr., River Basin Surveys.

198526. 380 archeological surface specimens from the Eufaula (Gaines Creek) Reservoir, southeastern Oklahoma, collected July and August 1950 by Leonard G. Johnson, River Basin Surveys.

198527. 54 archeological surface specimens from Optima Reservoir, North Canadian River, Texas County, Okla., collected August 1950 by Leonard G. Johnson, River Basin Surveys.

MISCELLANEOUS

Dr. Frances Densmore, Dr. John R. Swanton, and Dr. Antonio J. Waring, Jr., continued as collaborators of the Bureau of American Ethnology. On November 14, 1952, Ralph S. Solecki was named collaborator in archeology.

On February 24, 1953, Mrs. Margaret C. Blaker joined the staff of the Bureau as archives assistant.

Information was furnished during the past year by members of the Bureau staff in reply to numerous inquiries concerning the American Indians, past and present, of both continents. The increased number of requests from teachers, particularly from primary and secondary grades, from Scout organizations, and from the general public, indicates a rapidly growing interest in the American Indian. Various specimens sent to the Bureau were identified and data on them furnished for their owners.

Respectfully submitted.

M. W. Stirling, *Director.*

Dr. Leonard Carmichael,
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 for the fiscal year ended June 30, 1953:

The Smithsonian Institution is the official United States agency for the exchange with other nations of governmental, scientific, and literary publications. The International Exchange Service, initiated by the Smithsonian Institution in the early years of its existence for the interchange of scientific publications between learned societies and individuals in the United States and those of foreign countries, serves as a means of developing and executing in part the broad and comprehensive objective, "the diffusion of knowledge." It was later designated by the United States Government as the agency for the transmission of official documents to selected depositories throughout the world, and it continues to execute the exchanges pursuant to conventions, treaties, and other international agreements.

The number of packages of publications received for transmission during the year increased by 20,324 to the yearly total of 1,021,938, and the total weight of the packages of publications increased by 29,475 to the yearly total of 855,102 pounds. The average weight of the individual package increased to 13.38 ounces, as compared to the 13.18-ounce average for the fiscal year of 1952. The publications received from both the foreign and domestic sources for shipment are classified as shown in the following table:

Classification	Packages		Weight	
	Number	*Number*	*Pounds*	*Pounds*
United States parliamentary documents sent abroad	571,936		251,190	
Publications received in return for parliamentary documents		14,072		20,588
United States departmental documents sent abroad	196,438		231,985	
Publications received in return for departmental documents		10,637		22,793
Miscellaneous scientific and literary publications sent abroad	163,563		216,036	
Miscellaneous scientific and literary publications received from abroad for distribution in the United States		65,292		112,510
Total	931,937	90,001	699,211	155,891
Grand total	1,021,938		855,102	

The packages of publications are forwarded to the exchange bureaus of foreign countries by freight or, where shipment by such means is impractical, to the addressees by direct mail. The number of boxes

shipped to the foreign exchange bureaus was 2,649, or 409 less than for the previous year. Of these boxes 802 were for depositories of full sets of United States Government documents, these publications being furnished in exchange for the official publications of foreign governments which are received for deposit in the Library of Congress. The number of packages forwarded by mail and by means other than freight was 205,666.

Owing to the insufficiency of funds for transportation it was necessary to suspend shipments to the foreign exchange bureaus on March 15. Fortunately, the Institution was able to secure a grant of $6,000 from the National Science Foundation for the transportation of exchange publications. This was made available to the International Exchange Service in the latter part of May, and between that time and the end of June $5,110.18 was expended for the shipment of 98,945 pounds that would otherwise have been delayed pending the receipt of the appropriation for the fiscal year of 1954. The remaining amount will be used in July pending the availability of the new appropriation. The grant made it possible for the International Exchange Service to effect delivery of these important scientific publications to the foreign addressees at least a month earlier than would otherwise have been possible. It not only eliminated the necessity for additional storage space, decreased handling, and lessened the probable percentage of error in transmission, but also obviated the necessity for a great deal of correspondence regarding the nonreceipt of publications.

Transportation rates continue to increase and are primarily responsible for the 235,422 pounds of publications that remained unshipped at the end of the fiscal year.

No shipments are being made to China, North Korea, or Rumania. Publications intended for addressees in Formosa and formerly sent through the Chinese Exchange Bureau at Nanking are now forwarded by direct mail.

Regulations of the Office of International Trade, Department of Commerce, provide that each package of publications exported bear a general license symbol and a legend "Export License Not Required," and the International Exchange Service accepts for transmission to foreign destinations only those packages of publications to which the general license symbol and legend have been applied by the consignor.

FOREIGN DEPOSITORIES OF GOVERNMENTAL DOCUMENTS

The number of sets of United States official publications received by the Exchange Service for transmission abroad in return for the official publications sent by foreign governments for deposit in the Library of Congress is now 105 (63 full and 42 partial sets), listed

below. Changes that occurred during the year are shown in the footnotes.

DEPOSITORIES OF FULL SETS

ARGENTINA: División Biblioteca, 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: Public Library of South Australia, Adelaide.
TASMANIA: Parliamentary Library, Hobart.
VICTORIA: Public Library of Victoria, Melbourne.
WESTERN AUSTRALIA: Public Library of Western Australia, Perth.
AUSTRIA: Administrative Library, Federal Chancellery, Vienna.
BELGIUM: Bibliothèque Royale, Bruxelles.
BRAZIL: Biblioteca Nacional, Rio de Janeiro.
BULGARIA: Bulgarian Bibliographical Institute, Sofia.
BURMA: Government Book Depot, Rangoon.
CANADA: Library of Parliament, Ottawa.
MANITOBA: Provincial Library, Winnipeg.
ONTARIO: Legislative Library, Toronto.
QUEBEC: Library of the Legislature of the Province of Quebec.
CEYLON: Department of Information, Government of Ceylon, Colombo.
CHILE: Biblioteca Nacional, Santiago.
CHINA: Ministry of Education, National Library, Nanking, China.[1]
PEIPING: National Library of Peiping.[1]
COLOMBIA: Biblioteca Nacional, Bogotá.
COSTA RICA: Biblioteca Nacional, San José.
CUBA: Ministerio de Estado, Canje Internacional, Habana.
CZECHOSLOVAKIA: National and University Library, Prague.
DENMARK: Institut Danios des Échanges Internationaux, Copenhagen.
EGYPT: Bureau des Publications, Ministère des Finances, Cairo.
FINLAND: Parliamentary Library, Helsinki.
FRANCE: Bibliothèque Nationale, Paris.
GERMANY: Offentliche Wissenschaftliche Biblothek, Berlin.
Parliamentary Library, Bonn.
Free University of Berlin, Berlin.[2]
GREAT BRITAIN:
ENGLAND: British Museum, London.
LONDON: London School of Economics and Political Science. (Depository of the London County Council.)
HUNGARY: Library of Parliament, Budapest.
INDIA: National Library, Calcutta.
Central Secretariat Library, New Delhi.
INDONESIA: Ministry for Foreign Affairs, Djakarta.
IRELAND: National Library of Ireland, Dublin.
ISRAEL: Government Archives and Library, Hakirya.
ITALY: Ministerio della Publica Istruzione, Rome.
JAPAN: National Diet Library, Tokyo.[3]
MEXICO: Secretaría de Relaciones Exteriores, Departamento de Información para el Extranjero, México, D. F.

[1] Shipment suspended.
[2] Added during year.
[3] Receives two sets.

NETHERLANDS: Royal Library, The Hague.
NEW ZEALAND: General Assembly Library, Wellington.
NORWAY: Utenriksdepartmentets Bibliothek, Oslo.
PAKISTAN: Central Secretariat Library, Karachi.
PERU: Sección de Propaganda y Publicaciones, Ministerio de Relaciones Exteriores, Lima.
PHILIPPINES: Bureau of Public Libraries, Department of Education, Manila.
POLAND: Bibliothèque Nacionale, Warsaw.
PORTUGAL: Biblioteca Nacional, Lisbon.
SPAIN: Biblioteca Nacional, 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.
UNITED NATIONS: Library of the United Nations, Geneva, Switzerland.
URUGUAY: Oficina de Canje Internacional de Publicaciones, Montevideo.
VENEZUELA: Biblioteca Nacional, Caracas.
YUGOSLAVIA: Bibliografski Institut, Belgrade.[3]

DEPOSITORIES OF PARTIAL SETS

AFGHANISTAN: Library of the Afghan Academy, Kabul.
ANGLO-EGYPTIAN SUDAN: Gordon Memorial College, Khartoum.
BOLIVIA: Biblioteca del Ministerio de Relaciones Exteriores y Culto, La Paz.
BRAZIL:
MINAS GERAIS: Directoria Geral de Estatistica em Minas, Belo Horizonte.
BRITISH GUIANA: Government Secretary's Office, Georgetown, Demerara.
CANADA:
ALBERTA: Provincial Library, Edmonton.
BRITISH COLUMBIA: Provincial Library, Victoria.
NEW BRUNSWICK: Legislative Library, Fredericton.
NEWFOUNDLAND: Department of Provincial Affairs, St. John's.
NOVA SCOTIA: Provincial Secretary of Novia Scotia, Halifax.
SASKATCHEWAN: Legislative Library, Regina.
DOMINICAN REPUBLIC: Biblioteca de la Universidad de Santo Domingo, Ciudad Trujillo.
ECUADOR: Biblioteca Nacional, Quito.
EL SALVADOR:
Biblioteca Nacional, San Salvador.
Ministerio de Relaciones Exteriores, San Salvador.
GREECE: National Library, Athens.
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:
BIHAR AND ORISSA: Revenue Department, Patna.
BOMBAY: Undersecretary to the Government of Bombay, General Department Bombay.

INDIA—Continued
UNITED PROVINCES OF AGRA AND OUDH:
University of Allahabad, Allahabad.
Secretariat Library, Uttar Pradesh, Lucknow.
WEST BENGAL: Library, West Bengal Legislative Secretariat, Assembly House, Calcutta.
IRAN: Imperial Ministry of Education, Tehran.
IRAQ: Public Library, Baghdad.
JAMAICA: Colonial Secretary, Kingston.
University College of the West Indies, St. Andrew.
LEBANON: American University of Beirut, Beirut.
LIBERIA: Department of State, Monrovia.
MALAYA: Federal Secretariat, Federation of Malaya, Kuala Lumpur.
MALTA: Minister for the Treasury, Valleta.
NICARAGUA: Ministerio de Relaciones Exteriores, Managua.
PAKISTAN: Chief Secretary to the Government of Punjab, Lahore.
PANAMA: Ministerio de Relaciones Exteriores, Panamá.
PARAGUAY: Ministerio de Relaciones Exteriores, Sección Biblioteca, Asunción.
SCOTLAND: National Library of Scotland, Edinburgh.
SIAM: National Library, Bangkok.
SINGAPORE: Chief Secretary, Government Offices, Singapore.
VATICAN CITY: Biblioteca Apostolica Vaticana, Vatican City, Italy.

INTERPARLIAMENTARY EXCHANGE OF THE OFFICIAL JOURNAL

There are now being sent abroad 92 copies of the Federal Register and 102 copies of the Congressional Record. This is an increase over the preceding year of 5 copies of the Federal Register and 8 copies of the Congressional Record. The countries to which these journals are being forwarded are given in the following list.

DEPOSITORIES OF CONGRESSIONAL RECORD AND FEDERAL REGISTER

ARGENTINA:
Biblioteca del Congreso Nacional, Buenos Aires.
Biblioteca del Poder Judicial, Mendoza.[4]
Boletín Oficial de la República Argentina, Ministerio de Justica e Instrucción Pública, Buenos Aires.
Cámara de Diputados Oficina de Información Parlamentaria, Buenos Aires.
AUSTRALIA:
Commonwealth Parliament and National Library, Canberra.
NEW SOUTH WALES: Library of Parliament of New South Wales, Sydney.
QUEENSLAND: Chief Secretary's Office, Brisbane.
VICTORIA: Public Library of Victoria, Melbourne.[4]
WESTERN AUSTRALIA: Library of Parliament of Western Australia, Perth.
BRAZIL:
Biblioteca da Camera dos Deputados, Rio de Janeiro.
Secretaria de Presidencia, Rio de Janeiro.[5]
AMAZONAS: Archivo, Biblioteca 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: Imprensa Oficial do Estado, Porto Alegre.
SERGIPE: Biblioteca Pública do Estado de Sergipe, Aracajú.
SÃO PAULO: Imprensa Oficial do Estada, São Paulo.

[4] Federal Register only.
[5] Congressional Record only.

BRITISH HONDURAS: Colonial Secretary, Belize.
CANADA:
Library of Parliament, Ottawa.
Clerk of the Senate, Houses of Parliament, Ottawa.
CEYLON: Ceylon Ministry of Defense and External Affairs, Colombo.[5]
CHINA:
Legislative Yuan, Taipei, Taiwan.[2 5]
Taiwan Provincial Government, Taipei, Taiwan.[2]
CUBA:
Biblioteca del Capitolio, Habana.
Biblioteca Publica Panamericana, Habana.[4]
Biblioteca Martí, Cámara de Representantes, Habana.
CZECHOSLOVAKIA: Library of the Czechoslovak National Assembly, Prague.[5]
EGYPT: Ministry of Foreign Affairs, Egyptian Government, Cairo.[5]
EL SALVADOR: Library, National Assembly, San Salvador.
FRANCE:
Bibliothèque Assemblée Nationale, Paris.
Bibliothèque Conseil de la République, Paris.
Library, Organization for European Economic Cooperation, Paris.[5]
Publiques de l'Institut de Droit Comparé, Université de Paris, Paris.[4]
Research Department, Council of Europe, Strasbourg.[5]
Service de la Documentation Étrangère, Assemblée Nationale, Paris.[5]
GERMANY:
Amerika-Institut der Universität München, München.[5]
Archiv, Deutscher Bundesrat, Bonn.
Bibliotek der Instituts für Weltwirtschaft an der Universität Kiel, Kiel-Wik.
Bibliothek Hessischer Landtag, Wiesbaden.[2 5]
Der Bayrische Landtag, Munich.[5 6]
Deutscher Bundesrat, Bonn.[5]
Deutscher Bundestag, Bonn.[5]
GREAT BRITAIN:
Department of Printed Books, British Museum, London.[5]
House of Commons Library, London.[5]
Printed Library of the Foreign Office, London.
Royal Institute of International Affairs, London.[5]
GREECE: Bibliothèque, Chambre des Députés Hellénique, Athens.
GUATEMALA: Biblioteca de la Asamblea Legislativa, Guatemala.
HAITI: Bibliothèque Nationale, Port-au-Prince.
HONDURAS: Biblioteca del Congreso Nacional, Tegucigalpa.
INDIA:
Civil Secretariat Library, Lucknow, United Provinces.[4]
Indian Council of World Affairs, New Delhi.[5]
Legislative Assembly Library, Lucknow, United Provinces.
Legislative Assembly Library, Trivandrum.[2 5]
Legislative Department, Simla.
Parliament Library, New Delhi.[5]
Servants of India Society, Poona.[2 5]
IRELAND: Dail Eireann, Dublin.
ISRAEL: Library of the Knesset, Jerusalem.[2]
ITALY:
Biblioteca Camera dei Deputati, Rome.
Biblioteca del Senato della Republica, Rome.

[6] Three copies.

ITALY—Continued
European Office, Food and Agriculture Organization of the United Nations, Rome.[4]
International Institute for the Unification of Private Law, Rome.[4]
JAPAN: Library of the National Diet, Tokyo.
KOREA: Secretary General, National Assembly, Pusan.
LUXEMBOURG: Assemblée Commune de la C. E. C. A., Luxembourg.[2]
MEXICO:
Dirección General Información, Secretaría de Gobernación, México, D. F.
Biblioteca Benjamin Franklin, México, D. F.
AGUASCALIENTES: Gobernador del Estado de Aguascalientes, Aguascalientes.
BAJA CALIFORNIA: Gobernador del Distrito Norte, Mexicali.
CAMPECHE: Gobernador del Estado de Campeche, Campeche.
CHIAPAS: Gobernador del Estado de Chiapas, Tuxtla Gutiérrez.
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.
MÉXICO: Gaceta del Gobierno, Toluca.
MICHOACÁN: Secretaría General de Gobierno del Estado de Michoacán, Morelia.
MORELOS: Palacio de Gobierno, Cuernavaca.
NAYARIT: Gobernador de Nayarit, Tepic.
NUEVO LEÓN: Biblioteca del Estado, Monterrey.
OAXACA: Periódico Oficial, Palacia 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 de Gobierno, Sessión 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.
NETHERLANDS: Koninklijke Bibliotheek, The Hague.[4]
NEW ZEALAND: General Assembly Library, Wellington.
NORWAY: Library of the Norwegian Parliament, Oslo.
PAKISTAN: Punjab Legislative Assembly Department, Lahore.
PANAMA: Biblioteca Nacional, Panama City.[2 5]
PERU: Cámara de Diputados, Lima.
POLAND: Ministry of Justice, Warsaw.[4]
PORTUGAL: Secretaria de Assembla National, Lisbon.[5]
PORTUGUESE TIMOR: Repartição Central de Administração Civil, Dili.[4]
SWITZERLAND: Bibliothèque, Bureau International du Travail, Geneva.[4]
International Labor Office, Geneva.[4 7]
Library, United Nations, Geneva.

---

[7] Two copies.

UNION OF SOUTH AFRICA:
CAPE OF GOOD HOPE: Library of Parliament, Cape Town.
TRANSVAAL: State Library, Pretoria.
UNION OF SOVIET SOCIALIST REPUBLICS: Fundamental'niia Biblioteka, Obshchestvennykh, Nauk, Moscow.[5]
URUGUAY: Diario Oficial, Calle Florida 1178, Montevideo.
VENEZUELA: Biblioteca del Congreso, Caracas.

FOREIGN EXCHANGE SERVICES

Exchange publications for addresses in the countries listed below are forwarded by freight to the exchange services of those countries. Exchange publications for addresses in other countries are forwarded directly to the addresses by mail.

LIST OF EXCHANGE SERVICES

AUSTRIA: Austrian National Library, Vienna.
BELGIUM: Service des Échanges Internationaux, Bibliothèque Royale de Belgique, Bruxelles.
CHINA: Bureau of International Exchange, National Central Library, Nanking.[3]
CZECHOSLOVAKIA: Bureau of International Exchanges, National and University Library, Prague.
DENMARK: Institut Danois des Échanges Internationaux, Bibliothèque Royale, Copenhagen K.
EGYPT: Government Press, Publications Office, Bulaq, Cairo.
FINLAND: Delegation of the Scientific Societies, Snellmaninkatu 9–11, Helsinki.
FRANCE: Service des Échanges Internationaux, Bibliothèque Nationale, 58 Rue de Richelieu, Paris.
GERMANY: Notgemeinschaft der Deutschen Wissenschaft, Bad Godesberg.
GREAT BRITAIN AND IRELAND: Wheldon & Wesley, 83/84 Berwick Street, London, W. 1.[8]
HUNGARY: Hungarian Libraries Board, Ferenciektere 5, Budapest, IV.
INDIA: Superintendent of Government Printing and Stationary, Bombay.
INDONESIA: Department of Cultural Affairs and Education, Djakarta.
ISRAEL: Jewish National and University Library, Jerusalem.
ITALY: Ufficio degli Scambi Internazionali, Ministero della Publica Istruzione, Rome.
JAPAN: Division of International Affairs, National Diet Library, Tokyo.
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.
PHILIPPINES: Bureau of Public Libraries, Department of Education, Manila.
POLAND: Service Polonais des Échanges Internationaux, Bibliothèque Nationale, Warsaw.
PORTUGAL: Secção de Trocas Internacionais, Biblioteca Nacional, Lisbon.
QUEENSLAND: Bureau of Exchanges of International Publications, Chief Secretary's Office, Brisbane.

[8] Between the United States and England only.

RUMANIA: Ministère de la Propagande Nationale, Service des Échanges Internationaux, Bucharest.[1]

SOUTH AUSTRALIA: South Australian Government Exchanges Bureau, Government Printing and Stationary 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, Palais Fédéral, Berne.

TASMANIA: Secretary of the Premier, Hobart.

TURKEY: Ministry of Education, Department of Printing and Engraving, Istanbul.

UNION OF SOUTH AFRICA: Government Printing and Stationary Office, Cape Town, Cape of Good Hope.

UNION OF SOVIET SOCIALIST REPUBLICS: Bureau of Book Exchange, State Lenin Library, Moscow 19.

VICTORIA: Public Library of Victoria, Melbourne.

WESTERN AUSTRALIA: Public Library of Western Australia, Perth.

YUGOSLAVIA: Bibliografski Institut FNRJ, Belgrade.

Respectfully submitted.

D. G. WILLIAMS, *Chief.*

Dr. LEONARD CARMICHAEL,
Secretary, Smithsonian Institution.

APPENDIX 7

Report on the National Zoological Park

SIR: Transmitted herewith is a report on the operations of the National Zoological Park for the fiscal year ended June 30, 1953.

This year showed a considerable increase over last in accessions to the Zoo. In all, 810 accessions, comprising 1,797 individual animals, were added to the collection during the year by gifts, deposits, purchases, exchanges, births, and hatchings. Among these were many rare specimens never before shown in this Zoo. The addition of new kinds of animals enhances the value of the collection, which is maintained not only for exhibition but also for research and education, thus fostering the Smithsonian's established purpose of "the increase and diffusion of knowledge." Opportunities for research are afforded students of biology, particularly vertebrate zoology, as well as artists, photographers, and writers. Methods of study that do not endanger the welfare of animals or the safety of the public are encouraged.

Services of the staff included answering in person or by phone, mail, or telegraph questions regarding animals and their care and transportation; furnishing to other zoos and other agencies, public and private, information regarding structures for housing animals; cooperating with other agencies of Federal, State, and municipal governments in research work; and preparing manuscripts for publication.

The stone restaurant building, which was constructed in the Park in 1940, is leased at $46,212 a year. This money is deposited in the United States Treasury. The concessionaire serves meals and light refreshments and sells souvenirs.

THE EXHIBITS

Animals for exhibition are acquired by gift, deposit, purchase, exchange, birth, and hatching, and are removed by death, exchange, or return of those on deposit. Although depositors are at liberty to remove their specimens, many leave them permanently.

As in any colony of living things, there is a steady turnover, and the exhibits are constantly changing. Thus, the inventory of specimens in the collection on June 30 of each year does not show all the kinds of animals that were exhibited during the year, for sometimes creatures of outstanding interest at the time they were shown are no longer in the collection at the time the inventory is made.

Upper right: Allen's monkeys. These two were the first specimens of their kind to be exhibited in the National Zoological Park and, with the exception of two others received at the San Diego Zoo at about the same time, the first to be exhibited in the United States. They are extremely rare, less than a dozen specimens having heretofore been in zoos or museums anywhere in the world.

Lower left: Young Brazilian flat-tailed otter. This is the first one to be exhibited in the National Zoological Park, or, possibly, in the United States. These are large otters that inhabit streams of the Amazon Basin. The feet are as fully webbed as the common river otter, and the tail is flattened in a peculiar manner.

Photographs by Ernest P. Walker.

Right: Frilled lizard of Australia, in a defensive attitude but without its frill or ruff being fully extended as it is when the lizard is annoyed. This and another specimen were the first to be exhibited in the National Zoological Park. On the limb beneath, an Australian bearded lizard. On the throat are large folds of skin which the animal extends when angry to produce a threatening appearance.

Lower left: European midwife toad. The female lays her eggs in a strand somewhat like beads strung on a cord. The male then wraps them around his body in front of his hind legs and cares for them until they hatch.

Photographs by Ernest P. Walker.

The United States National Museum is given first choice of all specimens that die in the Zoo. If they are not desired for the Museum they are then made available to other institutions or scientific workers. Thus the value of the specimen continues long after it is dead.

ACCESSIONS

GIFTS AND DEPOSITS

The Zoo has been particularly fortunate in having friends who have showed their sincere interest by bringing in specimens, or arranging for acquisitions from foreign countries. During the year, the following have made valuable contributions to the collection:

Lt. Col. Robert Traub, Chief, Department of Entomology, Medical Service Graduate School, Walter Reed Army Medical Center, Washington, D. C., supplied animals from Malaya, Borneo, and Korea.

Thomas McKnew, of the National Geographic Society, interested Sir Gordon H. A. MacMillan of MacMillan, Governor and Commander in Chief of Gibraltar, in presenting two Barbary apes.

Dr. Robert E. Kuntz, of the United States Naval Medical Research Unit No. 3, Cairo, Egypt, and George Malakatis, gave reptiles that they had obtained in Egypt.

Dr. Donald J. Pletsch, of the World Health Organization at Taipeh, Taiwan, sent a fine, tame civet (*Paguma larvata taviana*), a form found only on the island of Formosa. This was the first of its kind exhibited in the Zoo.

Dr. Egberto Garcia S., Director of the Department of Public Health of Ecuador, sent two large Galápagos turtles.

The Honorable Carlton Skinner, Governor of Guam, gave three East Indian monitor lizards.

Forest Bartl, of Edgewater, Md., presented a specimen of the beautiful eclectus parrot, a native of the Papuan Islands and rare in collections.

Mrs. Helen B. Irwin, Washington, D. C., gave a beautiful sulphur-crested cockatoo.

Paul M. Menendez and Bernard F. Salb, both of Washington, D. C., each presented a white-armed marmoset.

The National Institutes of Health deposited a chimpanzee.

The Round Table Kennels, of Middletown, Del., presented 12 young blue peafowl.

Dorothy Schenck, Willimantic, Conn., gave a ball python.

The United States Fish and Wildlife Service, through various members of its staff, continued to assist during the year in maintaining an interesting collection.

275494—53——8

J. E. Bannister, St. Leonards, Md., went to considerable effort to bring to the Zoo a scarlet king snake, one of the more beautifully marked of North American snakes, and very rare in this region.

The Philadelphia Zoological Gardens gave two Arctic foxes.

Dr. E. Raymond Hall and Richard P. Grossenheider, of the University of Kansas, presented two Point Barrow lemmings; these are rare in collections because they do not ordinarily thrive in capitivity.

W. W. Dornin, Phoenix, Ariz., personally collected and shipped to the Zoo representatives of 13 species of reptiles of the southwestern United States.

Superintendent Curtis Reid, of the District of Columbia Jail, and William Stokes gave a Virginia deer that had been raised from a fawn at the jail.

Mrs. Fred J. McKay, Arlington, Va., gave an American crocodile.

This year, as in many years past, various individuals have deposited in the Zoo animals to which they desired to retain title. These specimens are most acceptable additions to the exhibits. Depositors are assured that the animals will receive routine care, but the Zoo assumes no responsibility for their return or no obligation to replace any that do not survive.

This year a group of 42 mammals and reptiles was deposited by Gordon Gaver, who operates an animal exhibit at Thurmont, Md., during the summer. He deposited his specimens with the Zoo in the fall and removed them in the spring.

A similar procedure has been adopted by M. A. Stroop, of New Market, Va., who deposited 68 specimens with us this year.

There was a decided increase in the number of spectacled caimans (*Caiman sclerops*) received as gifts, due to the fact that Florida is now prohibiting exportation of baby alligators and so dealers are selling instead young spectacled caimans from Central and South America, and many of these eventually reach the zoos.

DEPOSITORS AND DONORS AND THEIR GIFTS

(Deposits are marked *; unless otherwise indicated, addresses of donors are Washington, D. C.)

Aben, Jerry, 8 golden hamsters, *golden hamster.
Abramson, Karen, Alexandria, Va., 2 Pekin ducks.
Adair, Ralph, Chevy Chase, Md., opossum.
Adams, John, Arlington, Va., Pekin duck.
Allen, Ronald, 2 common newts.
Alsever, Mrs. Margery, opossum.
Alston, Hezekiah, Pekin duck.
Altman, Franklin O., Takoma Park, Md., 2 domestic rabbits.
Alvard, Kathy, robin.
Anderson, Mrs. M., 2 cardinals.
Animal Rescue League, woodcock.
Animal Welfare League, Arlington, Va., skunk.
Army Medical Service, through Col. Robert Traub, *2 rajah tree rats, *2 wood rats, *2 Asiatic squirrels, *2 southern Asiatic squirrels, *2 Berdmore's squirrels, *6 Siamese rats, *4 large spiny-backed tree rats, *1 lesser bandicoot rat, *4 Allegheny wood rats, *2 raccoon dogs.

Arons, Mrs. H. C., Silver Spring, Md., white rabbit.
Ashton, Francis, 3 rabbits, 3 guinea pigs, hamster, painted turtle, opossum.
Ayer, Lorraine, domestic rabbit.
Baber, James M., squirrel monkey.
Babst, Carol L., black rabbit.
Baden, Mrs. G., robin.
Bailey, George, Pekin duck.
Baker, James, chain or king snake.
Baker, Judd O., alligator.
Baker, N. B., Alexandria, Va., 3 Pekin ducks.
Bannister, J. E., St. Leonards, Md., scarlet king snake.
Bargmann, Louis, Arlington, Va., pilot black snake.
Bartl, Forest F., Edgewater, Md., eclectus parrot.
Belintende, S. J., Silver Spring, Md., summer tanager.
Benn, Mrs. W. G., Falls Church, Va., pine lizard, blue-tailed skink.
Bennett, Mrs. Robert, Silver Spring, Md., 4 guinea pigs.
Berliner, Steve, coot.
Bernstein, Ed, *white-throated capuchin.
Berryman, Mrs. R. M., false map turtle.
Berthold, Alfred, Chevy Chase, Md., Cumberland turtle.
Betz, Thomas, black widow spider.
Bigio, Fred, 3 tree frogs.
Blackman, Robert, Arlington, Va., 4 false chameleons.
Bond, Danny, 2 rabbits.
Bower, Clayton, Fort Howard, Md., fighting fowl.
Brady, Thomas, timber rattlesnake.
Breed, Harold A., Clifton, Va., copperhead.
Breslin, G. L., 2 Cook's tree boas.
Brickham, Marguerite H., Annandale, Va., 2 hamsters.
Brill, Mrs. Alice, Eastpine, Md., 5 gray squirrels.
Broadhurst, Joe, and Kern, Gary, 2 water snakes, snapping turtle.
Brockdorff, P. F., Silver Spring, Md., horned lizard.
Broodwater, Bobby, Hyattsville, Md., pilot black snake.
Brown, Mrs. Clark E., Chevy Chase, Md., robin.
Brown, George Jr., Silver Spring, Md., rabbit.
Brown, Lynn R., Bladensburg, Md., and McCrory, V. E., Alexandria, Va., *hawk-billed turtle.
Brown, Mrs. Ray, *Pekin duck.
Brucker, W. B., Long Beach, Calif., *Pacific rattler.
Brunhouse, Mrs. Helen, 2 pickerel frogs, alligator, 3 red-lined turtles, 3 Cumberland turtles, geographic turtle, 2 green frogs, 2 common newts, hamster.
Buck, Sally, Garrett Park, Md., alligator.
Burgess, Pamela, Pekin duck.
Burke, William L., Alexandria, Va., 16 opossums.
Burrows, Mrs. Inez C., Takoma Park, Md., opossum.
Bushnell, Guy, water snake, 8 bullfrogs.
Caldwell, William Jr., 2 Pekin ducks.
Calvert, Miss Ann, Pekin duck.
Campbell, Harold F., Bethesda, Md., 5 fighting game chickens.
Camp Detrick, Frederick, Md., copperhead.
Cardozo High School, spectacled caiman.
Carew, H. E., Silver Spring, Md., cottontail rabbit.
Carey, J., Edgewater, Md., brown capuchin.
Carson, James, Arlington, Va., burrowing snake.
Carter, C. Glen, Silver Spring, Md., 2 Pekin ducks.
Cartner, Mrs. Helen, wood thrush.
Castell, Bill, Arlington, Va., spectacled caiman.
Charles, Frank, Takoma Park, Md., domestic rabbit.
Christel, Mrs. C. J., domestic rabbit.
Clapp, Dr. Stewart, Kensington, Md., barred owl.
Clark, Mrs. Austin, snapping turtle.
Clarke, Mrs. Mary Elizabeth, Silver Spring, Md., skunk.
Clarke, Mrs. Peggy, Landover, Md., *2 Indian pythons, *3 Florida king snakes, *alligator, *Indian rock python.
Cleary, Mrs. Mary D., domestic rabbit.
Clow, Mrs. Kenneth A., Chevy Chase, Md., domestic pigeon.
Coffin, David M., Silver Spring, Md., opossum.
Coleman, Elizabeth Ann, *Pekin duck.
Colison, C. W., domestic rabbit.
Collady, S. F., 2 white rabbits.
Connelly, Marc, Falls Church, Va., 2 Pekin ducks.
Connett, Mrs. W. B., Fairfax, Va., South American turtle.
Connolly, John Alfred, copperhead.
Cook, Martin Thomas, ring-necked snake.
Coray, Mrs. J. B., robin.
Corbet, Pat, Silver Spring, Md., tree frog.
Cordle, Farman E., Vienna, Va., *rhesus monkey.
Covan, Mrs. W. C., Arlington, Va., white rabbit.
Craig, Col. Malin, Jr., Chevy Chase, Md., mourning dove.
Cramer, Corliss, Arlington, Va., sparrow hawk.
Crawford, William E., East Riverdale, Md., king snake.

Cross, Miss Ann G., Sweet Briar, Va., ringed aracari toucan.
Crowley, Mrs. H. G., blue jay.
Crowley, Mrs. Thomas B., Kensington, Md., skunk.
Czizauskas, Edward, domestic pigeon.
Dale, C. K., *wood turtle, *2 box turtles, *3 pilot black snakes, *water snake, *keeled green snake, *ringneck snake, *worm snake, *queen snake, *mole snake, *2 blue-tailed skinks.
Daniel, Wayne L., Kensington, Md., 2 guinea pigs.
Dann, Douglas B., Jr., Alexandria, Va., snapping turtle.
Danneman, Eli, Silver Spring, Md., Pekin duck.
Dante, Robert, 2 golden hamsters.
Darnell, Basil, opossum.
Davis, Frank A., Silver Spring, Md., albino corn snake.
Davis, Col. Homer, Arlington, Va., 2 Pekin ducks.
Davis, Malcolm, painted bunting.
Davis, Mrs. R. F., Takoma Park, Md., pilot black snake.
Dawson, John Henry, Bethesda, Md., guinea pig.
Deddo, Tony Nick, sooty mangabey.
DePrato, Jack, Langley Park, Md., water snake.
DePrato, Jack and Joe, Langley Park, Md., gopher tortoise, pygmy rattlesnake, *young anaconda, wood toad, ground skink.
Dickson, J. T., horned lizard.
Dillon, Tandy N., Silver Spring, Md., 2 Pekin ducks.
DiMaggio, Andrea, pilot black snake.
District of Columbia Jail, through Superintendent Curtis Reid and William Stokes, Virginia deer.
Dopp, H. G., Bladensburg, Md., red fox.
Dornin, W. W., Phoenix, Ariz., 2 gila monsters, chuckwalla lizard, 3 California horned lizards, chain king snake, 3 bull snakes, LeConte's snake, 2 garter snakes, ribbon snake, 18 rattlesnakes, including Western diamond-backed rattlers, red diamond-backed rattlers, sidewinders, Mohave rattlers, Pacific rattlers.
Dowad, Charles, alligator.
Drumheller, Ralph P., District Heights, Md., opossum.
Dunn, April, Pekin duck.
Dunn, D. M., Takoma Park, Md., guinea pig.
Dunn, Mrs. H. E., Takoma Park, Md., white-throated capuchin.
Ecuador, Department of Public Health, through Dr. Egberto Garcia S., Director, 2 Galápagos turtles.
Eddy, Chip, opossum.
Edelon, Mrs. E. J., Jr., Port Tobacco, Md., barn owl.
Edwards, Joan, 2 Pekin ducks.
Erwin, Mrs. Helen B., sulphur-crested cockatoo.
Evans, Radie, Potomac, Md., *2 lions.
Evans, S. W., *5 desert tortoises.
Ewing, Mrs. F. W., Kenwood, Md., 2 Muscovy ducks.
Faquih, Khaled, robin.
Faust, Mrs. Mary D., domestic rabbit.
Felix, Mary Katherine, Pekin duck.
Ferguson, Robert, Chevy Chase, Md., Cumberland turtle.
Ferguson, Mrs. Robert, *ferret.
Finney, Mr. and Mrs. Edward G., Waynesboro, Pa., 2 red foxes.
Fisher, Mrs. J., Alexandria, Va., red-bellied woodpecker.
Fisher, Sydney N., gray squirrel.
Flanagan, Mrs. Matthew, spectacled caiman.
Ford, Douglas O., Kensington, Md., 2 Pekin ducks.
Foster, Bonnie, Pekin duck.
Fowler, Mr. and Mrs. S. Robert, West Beach, Md., *alligator.
Fratt, N. D., Arlington, Va., spectacled caiman.
Freedenberg, Norman, Pekin duck.
Friedman, Seymour, Mount Rainier, Md., Pekin duck.
Fruland, Roddy, Falls Church, Va., screech owl.
Gault, Albert, Paradise fish, 5 blue acaras.
Gaver, Gordon, Thurmont, Md., *Javan macaque, *2 water snakes, *king cobra, *brown water snake, *2 regal pythons, *2 South American boa constrictors, *African python, *Indian python, *ball python, *rainbow boa, *king snake, *Indian cobra, *gray rat snake, *corn snake, *6 alligators, *2 eastern diamond-backed rattlesnakes, *2 timber rattlesnakes, *2 copperheads, *12 water moccasins.
Geier, Mrs. John, 3 opossums.
Gelwicks, Maj. Harold G., Arlington, Va., 2 Pekin ducks.
Gibbs, Mary, 2 white mice.
Gibson, Mrs. William, Bethesda, Md., 2 Pekin ducks.
Gideon, Bobby, Arlington, Va., boa constrictor.
Gilden, Mrs. J. E., Arlington, Va., common pigeon.
Gilpin, Kenneth B., Bethesda, Md., raccoon.
Ginsburg, Jerome, milk snake, garter snake, smooth-scaled green snake.
Glazier, Dr. Manuel, Newton, Mass., 2 chameleons.
Glenn, Mr. and Mrs. Robert A., squirrel monkey.
Godfrey, H. R., Hyattsville, Md., spotted catfish, 40 flag-tailed guppies, four-horned snail, 12 Siamese fighting fish, 1 short-tailed shrew, 2 catfish.

Goodnough, Mrs. C. W., Arlington, Va., robin.
Gordon, Keith W., Pekin duck.
Gottlieb, Mrs. Joanne, blue jay.
Greco, Mrs. Joseph, Hyattsville, Md., 2 Pekin ducks.
Grieve, Wesley I., Vienna, Va., 4 bantam fowl.
Griggs, John A., 8 painted turtles, spotted turtle, 2 musk turtles, queen snake.
Grillo, Mrs. Berta J., 2 Pekin ducks.
Groshon, E. N., Hyattsville, Md., Pekin duck.
Grusd, Dulcy, domestic rabbit.
Haennie, Carol Anne, Bethesda, Md., box turtle, Pekin duck.
Hall, Dr. E. Raymond, and Grossenheider, Richard P., Lawrence, Kans., 2 Point Barrow lemmings.
Hall, M. W., barred owl.
Hall, Tommie C., Arlington, Va., 2 barred owls.
Hall, W. L., Pekin duck.
Hanagon, John G., golden eagle.
Handy, Benjamin H., III, Arlington, Va., horned lizard.
Hansen, Mrs. Ira H., Arlington, Va., robin.
Hansion, John, flicker.
Hanson, Charles L., Alexandria, Va., *Central American boa.
Harig, J. M., Arlington Va., rhesus monkey.
Harry, Charles William, Arlington, Va., *broad-winged hawk.
Hassett, B. C., Arlington, Va., 2 Pekin ducks.
Hay, Michael, Pekin duck.
Haynes, Mrs. Evan A., Pekin duck.
Henderson, Mrs. Agnes, box turtle.
Hendricks, Frankie, guinea pig.
Herbert, Robert, red fox.
Hewitt, Paul, Falls Church, Va., pilot black snake.
Hogan, Bart, Bethesda, Md., Eastern skunk.
Hogan, Mrs. Viola, Bethesda, Md., grass parakeet.
Hohensee, B. G., Great Mills, Md., barred owl.
Hoke, John, *2 common iguanas, *2 Central American boas.
Horton, Ruth, red-lined turtle.
Hough, Royce, 3 Cumberland turtles.
Houston, Robert H., 2 Pekin ducks.
Howard University, *9 pigeons.
Hubert, Mabel, eastern skunk.
Huff, Herbert, spotted salamander.
Hughes, David, 2 horned lizards.
Hutchins, Mrs. Dorothy, Alexandria, Va., 3 Pekin ducks.
Hutchins, Trafton and Paula, Pekin duck.
Hutchinson, Jim, Arlington, Va., American crow.
Iraneta, Mrs. Pedro, Silver Spring, Md., cottontail rabbit.
Irons, Donald W., Lewisdale, Md., 3 Pekin ducks.
Irwin, Mrs. Helen B., sulphur-crested cockatoo.
Jacobs, Mrs. L. P., Arlington, Va., 2 Pekin ducks.
Jani, Gary, horned lizard.
Jenkins, Herschel, Mosley, Va., 5 copperheads.
Johns, Mrs. Jerrold, Bethesda, Md., blue racer snake.
Johnson, Eugene R., domestic rabbit.
Johnstone, Delight and Kathy, white rabbit.
Jones, Mrs. A., 2 ring-necked doves.
Jones, Robert M., 2 Pekin ducks.
Kahn, Hermine, Arlington, Va., Pekin duck.
Kane, Gerard J., Kensington, Md., Pekin duck.
Karchner, Donald, green guenon.
Karn, Norman, Arlington, Va., 2 hog-nosed snakes.
Kefauver, David, blue jay.
Keller, Gary, Silver Spring, Md., Pekin duck.
Kelley, Mike, Silver Spring, Md., 2 Pekin ducks.
Kenn, Gary, water snake.
Kerkom, Mrs. William B., mourning dove.
Ketchum, Harry W., Silver Spring, Md., domestic rabbit.
Key, Mr., Bethesda, Md., copperhead.
Kiger, Carol M., Westhaven, Md., 2 Pekin ducks.
Kilsheimer, Linda, 3 Pekin ducks.
King, Francis, domestic rabbit.
Klaben, Mrs. R., spectacled caiman.
Klein, Barbara Ann, black rabbit.
Klinger, R. L. raccoon.
Knapp, Earl L., 2 domestic rabbits.
Kneessi, John, South American caiman.
Knott, John E., Arlington, Va., DeKay's snake.
Koff, Mrs. M. Polle, Silver Spring, Md., domestic rabbit.
Krumke, Karl E., III, spectacled caiman.
Kuntz, Dr. Robert E. and Malakatis, George, Cairo, Egypt, 25 worm snakes, 3 sand boas, horned viper.
Lacey, Dale, red-bellied turtle.
Lamb, Mrs. Geo. P., 2 Pekin ducks.
Langer, W. C., Silver Spring, Md., Pekin duck.
Large, Mrs. E. E., yellow-naped parrot.
Lawrence, Jane, *eastern mockingbird.
Lawrence, Mrs. Jane, robin.
Lawrence, Lt. Rex D., 2 spectacled caimans.
Lee, Jackson D., Arlington, Va., rabbit.
Leek, Jackie, Pekin duck.
Lehman, J. W., Los Angeles, Calif., *mole snake.
Leva, Leo Marx, blue jay.
Levin, Jerry, Pekin duck.

Liebert, Mrs. John, Bethesda, Md., 2 rabbits.
Linkins, Bernard R., Silver Spring, Md., blue jay.
Litoff, Louis, horned lizard.
LoCastro, Frank J., alligator.
Locke, Frederick W., robin.
Lockhart, Lt. Col. Eugene E., Carlisle, Pa., 13-lined ground squirrel.
Loftis, James Robert, Pekin duck.
Long, Clifford E., Alexandria, Va., 3 Java finches.
Long, Mr. and Mrs. M. G., McLean, Va., Chinese golden pheasant.
LoPresti, Sammy Joe and Vinny, and Wilson, Harry and Kendall, red-bellied turtle.
Lose, Mrs. W. C., Chevy Chase, Md., 4 domestic rabbits.
Lucas, Ethel M., domestic rabbit.
Lund, E. A., Ishpeming, Mich., raven.
Lyle, Evelyn, Herndon, Va., opossum.
Lynn, David, 2 Pekin ducks.
MacMillan of MacMillan, Sir Gordon H. A., Governor and Commander in Chief, Gibraltar, 2 Barbary apes.
Madden, Judge J. Warren, pilot black snake.
Mainhart, Howard, Bethesda, Md., domestic rabbit.
Malakoff, Leon, 2 Pekin ducks.
Manning, Kenneth M., *Pekin duck.
Marsh, Francis, alligator.
Marshall, John G., anolis lizard.
Marth, Leonard E., Silver Spring, Md., 2 Pekin ducks.
Martin, Mrs. R. B., Newport News, Va., 2 woodchucks.
Mask, Dudley L., Hyattsville, Md., domestic rabbit.
Master, Sieber F., Arlington, Va., Cumberland turtle.
Masters, Carl, Beltsville, Md., water snake.
Matter, John M., Arlington, Va., 2 Pekin ducks.
McCorkle, Miss, 2 horned lizards.
McCreight, William, College Park, Md., hog-nosed snake.
McFarland, Mrs. Nina, robin.
McGreevy, Leo, 5 domestic rabbits.
McKay, Mrs. Fred J., Arlington, Va., American crocodile.
McKeldin, Lt. Col. James R., opossum.
McKenny, Mrs. W. E., Silver Spring, Md., 3 Pekin ducks.
Meggers, John C., eastern skunk.
Menendez, Paul M., white-armed marmoset.
Messenga, Missy, domestic rabbit.
Meyer, Hanny, weasel.
Meyer, Robert J., Silver Spring, Md., opossum.
Miller, Mrs. Beatrice, hamster.
Miller, C. R., Bethesda, Md., Pekin duck.
Miller, Roger, Silver Spring, Md., spectacled caiman.
Miller, W. T., Ancon, Canal Zone, yellow atelopus frog, small tree frog.
Mills, Mrs. W. M., Silver Spring, Md., domestic rabbit.
Monagan, Kathy, gray squirrel.
Montgomery, C. R., Sarasota, Fla., *2 Indian rock pythons.
Moore, Mrs. B. E., Pekin duck.
Moore, Mrs. Bessie, 2 mockingbirds.
Morris, Roland, ferret.
Morrison, Mrs. James, 4 white rabbits.
Muir, R. D., 2 Pekin ducks.
Munday, Charles H., Sterling, Va., 3 gray foxes.
Murphy, Carl D., Norbeck, Md., 2 garter snakes.
Naber, R. H., 2 gopher tortoises.
National Capital Parks, Superintendent, copperhead.
National Institutes of Health, Bethesda, Md., *chimpanzee.
Newton, J. O., Jr., 2 rabbits.
Noble, Patricia, and Candee, Joan, wild rabbit.
Novack, Mrs. W., Takoma Park, Md., 2 canaries.
O'Brien, P. G., Silver Spring, Md., Pekin duck.
O'Connor, Adele R., 19 canaries, 2 spice finches.
O'Hare, Patty, Bethesda, Md., grass parakeet.
Orrison, Mrs. A. B., rabbit.
Oxenberg, Jerome, 2 domestic rabbits.
Pantili, Mrs., Takoma Park, Md., eastern skunk.
Paranich, Mrs. J. A., Hyattsville, Md., Pekin duck.
Paulin, W. B., Arlington, Va., Pekin duck.
Payne, L. E., Falls Church, Va., raccoon.
Pearson, Billy, Silver Spring, Md., white rabbit.
Pemberton, Mrs. F. D., Alexandria, Va., Pekin duck.
Philadelphia Zoological Gardens, Philadelphia, Pa., 2 Arctic foxes.
Pletsch, Dr. Donald J., Ping Yong, Tiawan, kitsume or civet.
Porter, Mrs. Martha, domestic fowl.
Potter, W. Taylor, Silver Spring, Md., screech owl.
Powers, Patricia, alligator.
Pratt, Richard A., Arlington, Va., Pekin duck.
Presley, T. W., Arlington ,Va., hamster.
Pryce, Wendy, Arlington, Va., Pekin duck.
Pumphrey, D., Bladensburg, Md., *2 black racers.
Ragan, Rodney, Silver Spring, Md., Pekin duck.
Rauh, Carl, 4 American anolis.
Raver, Dean, Bethesda, Md., Pekin duck.
Ray, H. A., Arlington, Va., skunk.

Reinoehl, Mrs. Elmer S., domestic pigeon.
Reiser, C. L., Cottage City, Md., horned lizard.
Reutiman, E. R., Arlington, Va., rabbit.
Revelee, Robert and William, Canadian goose.
Rhue, Bond, domestic pigeon.
Robbins, Larry, Silver Spring, Md., 2 water snakes.
Robinson, Mrs. Mark T., 2 Java sparrows, grass parakeet.
Roebuck, Marion C., Falls Church, Va., 3 Pekin ducks.
Rogers, Mrs. Charles, Silver Spring, Md., Pekin duck.
Rohwer, Dru, Arlington, Va., fish hawk.
Ronnie, J. C., Silver Spring, Md., screech owl.
Rothbard, Charles, Pekin duck.
Rothrock, W. L., diamond-backed turtle.
Round Table Kennels, Middletown, Del., 12 blue peafowl.
Royer, Jon, Bethesda, Md., *copperhead, 3 ferrets, 2 ring-necked doves.
Russel, Robert, *Nias wattled mynah.
Russel, W. F., Hyattsville, Md., white-nosed guenon.
Russell, Warren H., Arlington, Va., domestic pigeon.
Ryan, James T., Jr., 2 rabbits.
Ryan, John E., Arlington, Va., *squirrel monkey.
Salb, Bernard F., white-armed marmoset.
Sams, Mrs. Clifton, domestic rabbit.
Sapp, Chris and Vincent, Bethesda, Md., opossum.
Sargent, Virginia W., Garrett Park, Md., domestic pigeon.
Satterfield, Mrs. W. J., Silver Spring, Md., yellow-bellied turtle.
Sayre, Rev. Francis B., cacomistle.
Schenck, Dorothy, Willimantic, Conn., ball python.
Scher, Mrs. Irene, 2 Pekin ducks.
Scherer, Charles, 8 hamsters.
Scherer, James, Java finch, Chinese goose.
Schmid, Paul, Bethesda, Md., *corn snake, *rat snake, *pilot black snake, *black racer, *2 garter snakes.
Schriner, Frank, box turtle.
Schrum, Ted, Mount Rainier, Md., 2 Pekin ducks.
Schuld, J. G., 2 Pekin ducks.
Schwartz, Greta, spectacled caiman.
Searls, Loyes, *2 white mice.
Selby, William E., coatimundi.
Self, Edward C., Glenwood, Ga., spectacled caiman.
Sheas, James H., domestic pigeon.
Shelldrake, T. W., 5 opossums.
Shipley, Carl, western porcupine.
Shirey, William N., Frederick, Md., copperhead.
Shoemaker, Mrs. Charles G., Bethesda, Md., 2 domestic rabbits.
Siemel, Sasha, Green Lane, Pa., *2 jaguars, *2 anacondas.
Sills, Mrs. R., grass parakeet.
Simpson, Mrs. Berry, Alexandria, Va., 2 Pekin ducks.
Sipes, Richard, Alexandria, Va., keeled green snake.
Skelly, Mrs. Ed, Augusta, Ga., fox squirrel, pilot black snake, gopher tortoise.
Skinner, Hon. Carlton, Governor of Guam, 3 East Indies monitor lizards.
Smith, C. W., 2 domestic rabbits.
Smith, Mrs. Paula, Falls Church, Va., robin.
Smith, Ronald E., water snake.
Souder, Virgil B., Deerwood, Md., 5 copperheads.
Spears, Mrs. Loma, Takoma Park, Md., 10 Pekin ducks.
Spirlet, Gilbert, Takoma Park, Md., sparrow hawk.
Staight, David, Alexandria, Va., garter snake.
Starkey, R. B., Bethesda, Md., alligator.
Steadman, C. R., brown capuchin.
Storitz, Ned, Silver Spring, Md., cottontail rabbit.
Stroop, M. A., New Market, Va., 9 American alligators, *sulphur-breasted toucan, *2 red, blue, and yellow macaws, *17 alligators, *4 boa constrictors, *anaconda, *10 pilot black snakes, *10 water moccasins, *timber rattlesnake, *2 eastern diamond-backed rattlesnakes, *copperhead, *yellow bull snake, *indigo snake, *2 yellow chicken snakes, *milk snake, *3 water snakes, *pine snake, *king snake.
Stroup, R. W., College Park, Md., Pekin duck.
Stubbs, Lee, Bethesda, Md., 2 Pekin ducks.
Tackett, J. Anderson, green tree frog.
Tansley, Doris, Takoma Park, Md., spectacled caiman.
Taylor, Mrs. M. C., Falls Church, Va., alligator.
Taylor, Robert, 2 Pekin ducks.
Teagle, Roy, *10 bull frogs.
Thomas, Mrs., Riverdale, Md., 2 Pekin ducks.
Thomas, R. B., Jr., Sandy Spring, Md., 2 sparrow hawks.
Thomas, Mrs. William R., Silver Spring, Md., domestic rabbit.
Thompson, Loren L., Arlington, Va., 2 copperheads, box turtle.
Thornton, Abigail, Pekin duck.

Tracewell, Mrs. C. E., Chevy Chase, Md., robin.
Trimble, James L., Pekin duck.
Triplet, William S., Arlington, Va., 2 Muscovy ducks.
Troobnick, Doris, Burke, Va., pilot black snake.
Trott, Fred P., Pekin duck.
Twiford, Mrs. Nan B., 4 grass parakeets, 8 canaries.
Tyler, E. D., Jr., Alexandria, Va., 2 barred owls.
United States Fish and Wildlife Service: From Blackwater National Wildlife Refuge, Cambridge, Md., 1 red-headed duck, 2 ring-necked ducks, bald-pate duck, 2 pintail ducks, 2 blue-winged teal, green-winged teal, 2 black ducks, 2 blue geese. From Bluepoint, Long Island, N. Y., cardinal, 2 indigo buntings. From Newburyport, Mass., golden-eyed duck. From Orlando, Fla., bald eagle. From Washington, D. C., through Robert O. Halstead, 2 whistling swans. Through Mr. Seth Low, osprey.
Uransky, Mrs. Gayna, Arlington, Va., spectacled caiman.
Valore, Mrs. Patricia T., white rabbit.
Vanchura, Samuel M., sparrow hawk.
Van Eckhardt, Mrs. Greve W., woodcock.
Vasquez, Alberto, Arlington, Va., *gopher snake, *California garter snake, *10 western swifts, *ground lizard, *3 alligator lizards, *3 pond turtles.
Vieth, Janie, domestic goose.
Voigt, Fred and Sally, Arlington, Va., 2 Pekin ducks.
Votey, Charles H., tree boa, *2 red, blue, and yellow macaws.
Wade, J. L., Bethesda, Md., domestic rabbit.
Waldrop, Robert, Bethesda, Md., *king snake.
Waldrop, Robert S., Jr., Bethesda Md., *black snake.
Walker, H. P., Silver Spring, Md., 2 white rabbits.
Walker, Lewis Wayne, Pacific Beach, Calif., 2 Tortuga rattlesnakes.
Walkup, Joe, Landover, Md., tarantula, brown scorpion, spiny-tailed iguana.
Ward, Lt. Charles R., Hyattsville, Md., lesser scaup duck.
Warner, Mrs. Sturgis, 3 Pekin ducks.
Wasuta, F. R., Alexander, Va., Pekin duck.
Watson, J. Harold, spectacled caiman.
Weaver, L. E., red fox.
Weckerly, Ida, hamster.
West, David W., Chevy Chase, Md., domestic rabbit.
White, E. J., Arlington, Va., 2 Pekin ducks.
White, Richard O., Jr., Hyattsville, Md., brown king snake.
Wiengen, Albin, Alexandria, Va., *skunk.
Wilkerson, David R., rabbit.
Wilkins, Mrs. John H., 3 grass parakeets.
Willard, Mr., rabbit.
Willey, Don, Arlington, Va., horned lizard.
Williamson, Robert E., *blue jay.
Willingham, Maurice, Alexandria, Va., 3 horned lizards.
Wilson, Mrs. E. R., Hyattsville, Md., Pekin duck.
Wilson, Susan, Arlington, Va., Pekin duck.
Wilt, J. Bernard, 4 ribbon snakes, garter snake, indigo snake, 2 Florida water snakes, Florida king snake, 3 racers.
Withrow, Robert, skunk.
Witt, Bill, Arlington, Va., black widow spider, DeKay's snake.
Wood, Col. Frank, Arlington, Va., 2 Pekin ducks.
Wood, Glenn N., Mount Rainier, Md., horseshoe crab.
Wrenn, Raymond, Wheaton, Md., tiger salamander.
Xanten, Bill, 2 rabbits.
Yatsevitch, Mrs. Gael, Chevy Chase, Md., garter snake.
Yingling, Mrs. Milton L., Silver Spring, Md., 3 wild rabbits.
Yokum, Otis, Pekin duck.
Young, Teddy and Stephen, 2 Pekin ducks.
Young, Tina, Takoma Park, Md., domestic rabbit.
Zumstein, Mrs. Jessie S., crow.

PURCHASES

Among a number of interesting specimens obtained by purchase were:

Two Allen's monkeys (*Allenopithecus nigroviridis*), which were the prize acquisition of the year, as they are among the half dozen exceedingly rare primates of the world. They are not conspicuous animals,

but are active and entertaining, and give scientists and others their first glimpse of this extremely rare form.

A flat-tailed otter (*Pteronura brasiliensis*), the first of its kind to be exhibited in the Zoo. It was a young of the large river otter of Brazil that is fairly well known in its native habitat but so far as is known has not previously been exhibited in the United States.

Two wombats had been ordered as a pair, but on arrival one was found to be the rare hairy-nosed wombat (*Lasiorhinus latifrons*), an even more desirable specimen than the common wombat (*Vombatus hirsutus*) that accompanied it. This is the first hairy-nosed wombat exhibited in this Zoo.

Two lesser pandas (*Ailurus fulgens*), the first in the collection for many years, were received in June. These relatives of the raccoons are uncommon in collections largely because of the difficulty of getting them to eat the food that can be provided. One of these has apparently adapted itself to conditions in the Zoo and appears to be thriving on its favorite food, bamboo leaves and shoots, plus pablum and eggs.

Four young gibbons (*Hylobates*) constituted one of the most entertaining exhibits in the park. All are still in their immature buff-colored coat but are gradually acquiring the markings characteristic of the adults so that definite identification can later be made.

A fine pair of cheetahs (*Acinonyx jubatus*) were received. These large, graceful, long-legged, spotted cats are the swiftest of all four-legged animals and are frequently tamed and trained for hunting. Their feet are unique among those of cats in that they resemble the feet of dogs in not having retractile claws.

A choice pair of young tayras (*Tayra barbara*) are so active in their cage that they have greatly interested the public. These giant weasel-like creatures of South America are dark brown with gray heads and have a striking cream-colored marking on the throat.

A pair of giant Indian squirrels (*Ratufa indica*) also provide excellent entertainment by playing in their big wheel and displaying their brilliant coloration of rich reddish brown and buff.

Three young South American tapirs (*Tapirus terrestris*) were purchased. The appearance of young tapirs in contrast to the adults is particularly interesting. The young are longitudinally striped with rows of whitish spots on a dull brownish-gray background, whereas the adults are almost black.

A young female black rhinoceros (*Diceros bicornis*) was bought as a possible mate for the male which has been in the Zoo 1½ years.

A beautiful specimen of Wilson's bird-of-paradise (*Schlegelia*

wilsoni) was secured through the kindly interest of W. J. C. Frost, of the Zoological Society of London.

Two shipments of African sunbirds collected by John Seago were received. These little feathered jewels, representing three species, were the first ever exhibited in this Zoo.

Three specimens of the showy Cuban trogon (*Prinotelus temnurus*) were obtained.

A golden eagle (*Aquila chrysaetos*), which had been captured in the Tennessee region, was turned over to the Zoo by the United States Fish and Wildlife Service. Golden eagles are rather rare in the southeastern United States and so this specimen is of more than ordinary interest.

Of particular interest in a shipment received from Australia were:

Two examples of the very rare Australian frilled lizard (*Chlamydosaurus kingii*). These are the first ever exhibited in this Zoo. They are large lizards and unique in having around the neck a fold of skin that can be extended to project outward from the neck like a ruff when the animal is excited. The red coloration in the ruff makes a striking display.

Six bearded lizards (*Amphibolurus barbatus*), so-called because of their peculiar habit of distending the loose skin of the throat to form what appears to be a beard.

Three beautiful specimens of the poisonous banded krait (*Bungarus fasciatus*), relatives of the cobras, were received.

A specimen of the false cobra (*Phrynonax sulphureus*), not previously exhibited in this Zoo, was purchased.

With the growth of the Washington metropolitan region there has been a constant increase in the number of local wild creatures found helpless and rescued by kind people, and turned over to the Zoo. Some of those that seem to have a fair chance of survival are liberated, and some are exchanged for material that is needed for the Zoo. During the past year there was a total of 191 such accessions. Also, ducks and rabbits given to children at Easter time that have outgrown their homes are turned over to the Zoo. This gives unduly large accession and removal lists, but to receive, care for, and place such creatures appears to be a proper function of the Zoo.

BIRTHS AND HATCHINGS

Conditions under which animals are kept on exhibition are usually not favorable for breeding or raising young. However, occasionally young are born or hatched that are of outstanding interest to the public, and are valuable as additions to the group, or for exchange.

The following were produced in the Zoo during the fiscal year:

A baby female giraffe (*Giraffa camelopardalis*), the fifth born here, was a choice addition to the herd.

A pygmy hippo (*Choeropsis liberiensis*), the thirteenth for this Zoo.

A gaur calf (*Bibos gaurus*), the tenth of this species born in the Park.

A vulpine phalanger (*Trichosurus vulpecula*) was born to one of the females in the group that were obtained from Sir Edward Hallstrom in November 1951.

The pair of Kinabalu tree shrews (*Tupai montana baluensis*) that were deposited with us by Lt. Col. Robert Traub, gave birth to young three times during the year. Unfortunately the mother killed the young within a few hours or a few days. However, by these births the gestation period has been determined as not more than 21 days. Colonel Traub is much interested in the ability of these animals to produce young in captivity, as it indicates that the food mixture that was developed by the Assistant Director of the Zoo and which was described in the Annual Report of the Zoo for 1950 is satisfactory for tree shrews as well as other shrews and bats. Colonel Traub, who has been engaged in work concerning certain human diseases, thinks it possible that tree shrews, which are believed by some zoologists to be a primitive primate type, might be suitable animals for laboratory studies of the diseases of man. Therefore, the successful keeping and rearing of tree shrews in captivity might be of considerable importance.

The little herd of Chinese water deer (*Hydropotes inermis*) was increased by the birth of three sets of twins. These small deer are of particular interest because of their habit of living in swampy areas in their native haunts and because of the fact that the males lack horns but have considerably enlarged canine teeth.

Another slender-tailed cloud rat (*Phloeomys cumingi*) has been born to augment the family group of this very rare Philippine high-altitude relative of the rat. This species has more the appearance of an opossum than of a rat.

Another young was born to the group of pacas (*Cuniculus paca*). These are large, conspicuously marked rodents that are always a satisfactory exhibit.

Twice during the year a pair of African porcupines (*Hystrix galeata*) produced a single young. It was interesting to witness the remarkable maneuvers of the parents and the older young one to protect the newborn.

A pair of crested screamers (*Chauna torquata*) hatched and raised one young.

Following is a complete list of the births and hatchings:

MAMMALS

Scientific name	*Common name*	*Number*
Alopex lagopus	Arctic fox	4
Ammotragus lervia	Aoudad	9
Ateles vellerosus	Mexican spider monkey	1
Bibos gaurus	Gaur	1
Bos taurus	British Park cattle	1
	West Highland cattle	1
Cercopithecus aethiops sabaeus × *C. a. pygerythrus*	Green guenon × vervet guenon	1
Cervus canadensis	Elk	1
Cervus nippon	Japanese deer	3
Choeropsis liberiensis	Pygmy hippopotamus	1
Choloepus didactylus	Two-toed sloth	1
Cuniculus paca	Paca	2
Dama dama	Brown fallow deer	4
	White fallow deer	4
Equus burchellii	Grant's zebra	1
Erethizon epixanthum	Western porcupine	1
Felis concolor × *Felis patagonica*	Hybrid puma	2
Felis leo	Lion	3
Felis tigris	Bengal tiger	3
Giraffa camelopardalis	Nubian giraffe	1
Hydropotes inermis	Chinese water deer	6
Hystrix galeata	African porcupine	2
Lama glama	Llama	2
Lama pacos	Alpaca	1
Leontocebus rosalia	Silky marmoset	2
Mephitis mephitis nigra	Eastern skunk	4
Mustela eversmanni	Ferret	5
Myocastor coypus	Coypu	3
Odocoileus virginianus	Virginia deer	4
Papio hamadryas	Hamadryas baboon	1
Phloeomys cumingi	Slender-tailed cloud rat	1
Procyon lotor	Raccoon	6
Taurotragus oryx	Eland	1
Thalarctos maritimus × *Ursus middendorffi*	Hybrid bear	2
Trichosurus vulpecula	Vulpine phalanger	2
Tupai montana baluensis	Kinabalu tree shrew	7
Ursus horribilis	Grizzly bear	1

BIRDS

Anas platyrhynchos	Mallard duck	18
	White mallard duck	9
Branta canadensis	Canada goose	15
Chauna torquata	Crested screamer	1
Larus novaehollandiae	Silver gull	2
Lonchura leucogastroides	Bengali finch	2
Nycticorax nycticorax hoatli	Black-crowned night heron	20
Pavo cristatus	Peafowl	1
Streptopelia tranquebarica	Blue-headed ring dove	2
Taeniopygia castanotis	Zebra finch	47
Zenaida asiatica	White-winged dove	2

REPTILES

Boa enydris	Tree boa	13
Boa imperator	Central American boa	20

MAINTENANCE AND IMPROVEMENTS

Maintenance and repair work at the Zoo suffered considerably during the fiscal year 1953 owing mainly to shortage of funds for the hire of personnel. Being forced to absorb the salary increases, the

Zoo had to reduce greatly the use of temporary labor and also had to leave vacant positions of personnel concerned with maintenance work.

The installation of zone heat regulators in the small-mammal and reptile houses was completed. These provide even and adequate distribution of heat, so necessary to the health and well-being of the animals housed in these buildings.

In addition to the daily work of cleaning cages, buildings, and grounds and making minor repairs, the construction and maintenance department is constantly engaged in making necessary improvements for the proper care of the animals and the safety of visitors to the Park. The following are some of the more important projects undertaken during the year:

In the bird house, glass was installed in the upper half of the fronts of 34 cages to replace wire that had deteriorated. Nine cages outside of the monkey house were extensively repaired and new partitions between the cages installed. A 2,000-gallon water tank was installed in the basement of the reptile house to supplement the 1,000-gallon tank, which has never been adequate. Concrete floors were laid in 6 cages in the antelope building and in the 3 buildings housing the zebras, wild horses, wild ass, and Scotch cattle. The series of cages between the reptile house and the small-mammal house were given an extensive overhauling, and five new cinder-block shelters for the animals were built, replacing the old wooden ones no longer usable. Small concrete shelters were constructed in the American waterfowl pond to replace the decaying wooden ones. The slope of the moat back of the bears was faced with concrete to prevent erosion and the resultant stoppage of the drain.

The fight to eradicate poison ivy in the Zoo grounds is being continued. This plant pest has been almost completely eliminated in those parts most frequented by the public, and control measures are being extended to more remote sections to keep it from returning to areas used by visitors. Otherwise the long-established policy of leaving the woodlands undisturbed is being followed.

Over a period of years there has been a gradual increase in the amount of trimming of trees necessary along the roads, walks, and paths, and in the exhibition area. Because of disease or age, some of the trees are dying and must be cut down. Others must be trimmed to remove dead or broken limbs which might fall and injure people or animals, or damage automobiles or structures.

Temporary policemen were employed this year to assist the regular police during days of heaviest attendance or when the force was short-handed. This has been a highly satisfactory arrangement and much more economical than employing additional full-time policemen when the permanent personnel now authorized is adequate for a large proportion of the time.

As in previous years the Zoo received gifts of various kinds of food that could not be sold for human consumption but was suitable for animals. Some of this material was turned over to the Zoo at the suggestion of District of Columbia food inspectors. This helps considerably to hold purchases to a minimum.

Through the office of United States Marshal W. Bruce Matthews, food that had been condemned by the courts was sent to the Zoo for the animals. This consisted of 1,544 pounds of frozen shrimp, 291 pounds of chickens, 170 pounds of peanut butter, and 570 pounds of pecan halves.

In a few instances such materials as rice, flour, and beans unacceptable for human use have been purchased at low prices from General Services Administration or commercial firms.

The National Institutes of Health, Navy Medical Center, and Army Medical Center gave the Zoo mice, rats, guinea pigs, rabbits, and other animals no longer suitable for their purposes.

The practice has been continued of picking up from grocery stores in the vicinity of the Zoo quantities of discarded green material such as beet tops, celery stalks, and the outer leaves of cabbage, cauliflower, and lettuce. This provides an abundance of greens for the animals and helps reduce purchase of such foods.

COOPERATION

At all times special efforts are made to maintain friendly contacts with other Government and State agencies, private concerns and individuals, and scientific workers for mutual assistance. As a result the Zoo receives much help and advice and many valuable specimens, and in turn the Zoo furnishes information and, whenever possible, specimens not needed.

In 1950 Dr. Willard H. Eyestone, veterinary pathologist of the National Cancer Institute, Bethesda, Md., requested permission to examine animals that died at the Zoo in order to obtain information regarding cancer and other diseases affecting human beings. Accordingly arrangements were made to notify Dr. Eyestone of all deaths of animals in the Zoo and give him an opportunity to perform autopsies, if he desired. The following two paragraphs are from a brief report on the results of this work:

> Over 250 autopsies have been performed since 1950. Among them six cancers have been discovered. The most striking pathological change common to any group is found in the thyroid gland of carnivores, in which all gradations from the slightest proliferative growths to spreading cancer have been seen. Most deaths are caused by infectious agents, including bacteria, fungi, and the animal parasites. Some deaths are the result of degenerative diseases of old age.
>
> A summary of the interesting highlights covering the Zoo autopsies was presented before the Washington Society of Pathologists on October 8, 1952. Similar reports are planned for the future, besides the publishing of scientific papers

in research journals concerning the pathologic data obtained from the examination of the Zoo animals.

Special acknowledgment is due to the United States Dispatch Agent in New York City, Howard Fyfe, an officer of the State Department, who has frequently been called upon to clear shipments of animals coming from abroad. This he has done, often at great personal inconvenience, and the animals have been forwarded to Washington without the loss of a single specimen.

NEEDS OF THE ZOO

Replacement of antiquated structures that have long since ceased to be suitable for the purposes for which they are used is still the principal need of the Zoo. The more urgently needed are:

A building, to be situated in a central location, to have toilet facilities, a first-aid room, police headquarters, and, incidentally, with basement space for a gardener's headquarters and storage for the gardener's supplies and small equipment. The few old, dilapidated toilet facilities in the Park have not been adequate for many years and are now in such a deplorable state from normal deterioration and as a result of vandalism that it is difficult and unduly expensive to keep them in a sanitary condition.

A new administration building to replace the 148-year-old historic landmark now in use as an office building but which is neither suitably located nor well adapted for the purpose.

A building to house antelopes and other medium-sized hoofed animals that require a heated building.

A fireproof service building for receiving shipments of animals, quarantining them, and caring for those in ill health or those that cannot be placed on exhibition.

A new ventilating system for the bird house.

Lesser items of equipment that are needed are a vacuum pump for more efficient and economical operation of the heating system in the reptile house; a band saw to replace one that is more than 40 years old; and an air compressor for general use about the Park.

The enclosures and pools for beavers, otters, seals, and nutrias, in the ravine, need to be reconstructed. Owing to lack of funds for upkeep and consequent deterioration, this area has become unsightly and inadequate for the proper care and exhibition of these animals.

Experience with the young Indian elephants makes it appear probable that it will be necessary to construct an elephant-proof fence around the outdoor yard now occupied by these elephants.

The job of cleaning up the grounds is a major undertaking. Using all available manpower, it usually takes 5 to 10 days to pick up the trash and restore the Park to a fair degree of presentability after

Easter Sunday and Monday. Because of the shortage of help, clean-up work has of necessity been reduced to a minimum, with the result that the Zoo has been criticized by correspondents and the press for the condition of the grounds. Two permanent additional laborers are needed for proper maintenance, removal of broken or fallen tree limbs and other safety hazards, and repair of walks, guard rails, and other structures, for the protection of the public.

In addition, temporary manpower is needed to supplement the regular personnel at certain times of the year. These periods are during the summer, when vegetation is growing vigorously and must be kept under control, and when the greatest number of visitors are coming to the Park with a corresponding increase in trash left on the grounds; and in the fall and early winter, when leaf removal is necessary to keep the fire hazard at a minimum and prevent leaves from clogging drains. Also, additional help is needed during the summer, when certain construction and repair work can be carried on more advantageously than at other times.

By employing men temporarily when actually needed to handle the peak workloads, work can be performed satisfactorily at considerably less cost than by increasing the permanent personnel. For several years this was done but the practice had to be abandoned during the past year as available funds had to be used to absorb the salary increases authorized by Congress, to pay for accumulated annual leave of retiring employees, and contribute to Federal social security for indefinite employees. For employment of temporary help an additional appropriation of $9,000 is needed, to be allotted as follows:

Mechanical department	$5,000
Grounds department	3,000
Police department	1,000

Also, $1,000 is needed for the Zoo's contribution to the cost of social security for employees not under civil service.

There is need for a veterinarian to assist the animal department in selecting suitable foods, presenting foods to the animals in a satisfactory manner, practicing preventive medicine, and performing autopsies to determine causes of death.

The steadily increasing popularity of the Zoo, as a source of both entertainment and education, has developed such a volume of requests for information that there is now need for an additional scientist to share the load of answering queries and to assist in other administrative work so that the Director and Assistant Director can devote more time to general supervision of the Zoo.

To comply with the requirements of keeping property and inventory records, in accordance with the program laid down by the General Services Administration, by authority of Federal Property and Ad-

ministrative Services Act of 1949 (Public Law 152, 81st Congress, approved June 30, 1949) General Regulation 100 of the General Accounting Office, and Budget-Treasury Regulation No. 1, there is need for three additional clerks.

VISITORS

The estimated number of visitors to the Zoo was 3,231,450, which was 63,119 less than for the year 1952, a decrease due mainly to several rainy or threatening weekends in the spring.

Estimated number of visitors for fiscal year 1953

July (1952)	389,000	February	101,500
August	413,800	March	211,600
September	346,000	April	353,000
October	246,700	May	467,000
November	186,600	June	377,300
December	65,800		
January (1953)	73,150	Total	3,231,450

Groups came to the Zoo from schools in Mexico, South America, Japan, and 30 States, some as far away as Maine, Florida, Kansas, and Wisconsin. There was an increase of 36 groups and 3,681 individuals in groups over last year.

Number of groups from schools

Locality	Number of groups	Number in groups	Locality	Number of groups	Number in groups
Alabama	22	768	Mississippi	2	158
Connecticut	12	619	Missouri	2	56
Delaware	17	769	New Hampshire	3	120
District of Columbia	114	5,837	New Jersey	17	1,210
Florida	7	1,222	New York	72	5,811
Georgia	61	7,679	North Carolina	213	9,261
Illinois	2	634	Ohio	53	2,485
Indiana	13	729	Pennsylvania	261	14,159
Iowa	1	16	South America	1	40
Japan	1	29	South Carolina	53	1,876
Kansas	1	32	Tennessee	62	2,864
Kentucky	19	671	Texas	1	19
Maine	13	658	Virginia	516	27,738
Maryland	611	36,701	West Virginia	45	3,902
Massachusetts	19	749	Wisconsin	2	111
Mexico	1	28			
Michigan	7	470	Total	2,227	127,553
Minnesota	3	132			

About 2 p. m. each day the cars then parked in the Zoo are counted and listed according to the State, Territory, or country from which they came. This is, of course, not a census of the cars coming to the Zoo but is valuable in showing the percentage of attendance, by States, of people in private automobiles. Many of the District of Columbia, Maryland, and Virginia cars come to the Zoo to bring

guests from other States. The tabulation for the fiscal year 1953 is as follows:

	Percent		Percent
Maryland	27	Ohio	1.8
Virginia	22.5	New Jersey	1.6
Washington, D. C.	20.8	West Virginia	1.4
Pennsylvania	4.3	Massachusetts	1.1
New York	3	Florida	1.1
North Carolina	2.2	California	1.1

The cars that make up the remaining 12.1 percent came from every one of the remaining States, as well as from Alaska, Canada, Canal Zone, Cuba, England, Germany, Guam, Hawaii, Honduras, Japan, Mexico, the Philippines, Puerto Rico, and the Virgin Islands.

On the days of small attendance there are cars parked in the Zoo from at least 15 States, Territories, the District, and foreign countries. On average days there are cars from about 22 States, Territories, the District, and foreign countries; and during the periods of greatest attendance the cars represent not less than 34 different States, Territories, and countries.

STATUS OF THE COLLECTION

Class	Species or subspecies	Individuals	Class	Species or subspecies	Individuals
Mammals	210	699	Arachnids	2	3
Birds	307	1,111	Insects	1	100
Reptiles	129	518	Mollusks	1	2
Amphibians	23	87			
Fish	21	221	Total	694	2,741

SUMMARY

Animals on hand July 1, 1952	2,675
Accessions during the year	1,797
Total number of animals in collection during the year	4,472
Removals for various reasons such as death, exchanges, return of animals on deposit, etc	1,731
In collection on June 30, 1953	2,741

Respectfully submitted.

W. M. MANN, *Director.*

DR. LEONARD CARMICHAEL,
Secretary, Smithsonian Institution.

APPENDIX 8

Report on the Astrophysical Observatory

SIR: I have the honor to submit the following report on the operations of the Astrophysical Observatory for the fiscal year ended June 30, 1953.

The Astrophysical Observatory comprises two divisions: the original division of astrophysical research devoted to solar radiation problems, and the division of radiation and organisms established in 1929 to study the effects of radiation on organisms. Funds available for the Observatory included an allotment of $119,841.10 from "Salaries and expenses, Smithsonian Institution, 1953," and $2,500 from private funds of the Institution. At the end of the fiscal year all equipment and buildings were in satisfactory condition.

DIVISION OF ASTROPHYSICAL RESEARCH

Two high-altitude observing stations, on Montezuma, Chile, and Table Mountain, Calif., have continued in operation. The goal of the two stations is to obtain complete solar-constant observations by the long or short method, or both, on each day presenting a sky sufficiently clear and uniform for satisfactory results.

The principal and most time-consuming event of the year was the preparation of volume 7 of the Annals of the Astrophysical Observatory. The completed manuscript, covering the work of the division of astrophysical research during the years 1939 through 1952, was submitted to the editor on April 29, 1953. The following are the main subjects included:

1. Studies of the characteristics of the silver-disk pyrheliometer.
2. Recent tests of the Smithsonian standard water-flow pyrheliometer.
3. Ultraviolet and infrared corrections to the solar constant.
4. The scale of the solar-constant record.
5. Instrumental developments.
6. Summaries of total sun and sky radiation, and the relative energy in ultraviolet, visible, and infrared regions, as measured at Camp Lee, Va., Miami, Fla., and Montezuma, Chile.
7. Description of the method of Dr. Oliver R. Wulf, of the United States Weather Bureau, for determining the amount of ozone above Table Mountain, Calif., from regular solar-constant bolographs.

8. Summary of 13 years of solar-constant determinations. This, added to 17 years published in volume 6 of the Annals, forms as nearly as possible a homogeneous record covering 30 years, based upon the scale of the original Mount Wilson work.

Work in Washington.—William H. Hoover, chief of the division, in April 1953 completed a study of the silver-disk pyrheliometer under carefully controlled conditions of temperature, timing, shutter operation, and source of energy. This important work, together with a report of new calibrations against the standard water-flow pyrheliometer which Mr. Hoover and Mr. Froiland made in September 1952 on Table Mountain, is described in a paper to be published in the Smithsonian Miscellaneous Collections.

Preliminary to certain laboratory tests of new equipment, the observatory siderostat was completely overhauled by Mr. Talbert and Mr. Harrison. This excellent instrument, built by Grubb of Dublin over 60 years ago, is now fitted with a synchronous motor instead of clock drive, new bearings have been installed, and the instrument carefully adjusted. A new sliding house of aluminum protects it from the weather. Inside the laboratory a light-tight housing has been built around the spectrometer to reduce stray light.

Last year's report referred to cooperative work with the United States Weather Bureau in an effort to improve the method of calibrating the Eppley pyrheliometers in use by the Bureau. This cooperation has continued and the results will shortly be published under the auspices of the Weather Bureau.

The Smithsonian standard scale of radiation, established in 1913 and widely adopted, has been further disseminated during the year by the sale, at cost, of two silver-disk pyrheliometers, built and calibrated at the Institution, as follows:

S. I. 91 to the Observatory, India Meteorological Department, New Delhi, India.

S. I. 92 to the University of Wisconsin, Madison, Wis.

All the galley proof of the Ninth Revised Edition of the Smithsonian Physical Tables has been received from the printer.

An important paper by Dr. C. G. Abbot, research associate, summarizing all his findings concerning the effect of solar-radiation changes upon weather, was in press at the close of the year.

Andrew Kramer, instrument maker of the Observatory for nearly 61 years, retired on June 30, at the age of 84. His record is unique. Not only was his work outstanding, but his kindliness and cooperative spirit endeared him to many Smithsonian employees.

Work in the field.—At Montezuma, Chile, the series of tape exposures made under contract with the Office of the Quartermaster General was continued during the year. Daily measurements are made of the total sun and sky radiation as received upon a horizontal

surface and as received upon the exposed tapes which are mounted at an angle of 45° facing north. After a predetermined quantity of solar radiation has fallen upon the tapes they are returned to the Philadelphia Quartermaster Depot for a study of the amount of deterioration of the textiles due to humidity and to the amount of radiation received.

Seismographic records have been maintained for some years at Montezuma for the United States Coast and Geodetic Survey. The Survey recently sent to Montezuma a new modern seismometer, with accessories, which is now being installed. It is expected that greatly improved earthquake records will result.

At Table Mountain, Calif., Hoover and Froiland obtained a very complete series of comparisons between the Smithsonian double-tube, water-flow, standard pyrheliometer and substandard silver-disk pyrheliometer S. I. 5. These comparisons confirm the results of three previous determinations made at Mount Wilson in the years 1932, 1934, and 1947. This confirmation of the permanence of the constants of the instruments is very gratifying since the 1952 comparisons are entirely independent, being made at a different station and by different observers.

The filter form of pyranometer, mentioned in last year's report as sent to Table Mountain for testing, proved to have a troublesome drift under field conditions. It was returned to Washington for alterations. At the close of the year a new series of tests was in progress at Table Mountain.

The instrument installed last year by Mr. Hoover to measure the optical quality of the sky continues to serve as an independent means for judging the steadiness of the sky during observations. It has now been altered to register through a Beckman photopen recorder, thus eliminating the process of daily removing and developing a photographic record.

Owing to a temporary shortage of personnel, progress in the ozone studies referred to in last year's report was somewhat delayed. This project is being resumed as rapidly as possible.

DIVISION OF RADIATION AND ORGANISMS

(Report prepared by Dr. R. B. Withrow, chief of the division)

The research of the Division has been concerned chiefly with investigations of the physiological and biochemical processes by which light regulates plant growth and the mechanisms of the action of the auxin-type growth hormones. While most of the sunlight absorbed by plants is used in the production of food materials through the process of photosynthesis, a small part of the light energy is required for the production of chlorophyll and in the initiation of photochemi-

cal reactions which control the development of the various organs of the plant. In the absence of light and in the presence of adequate food reserves, higher plants fail to develop normal leaves and stems, and in the dicotyledonous plants the hook that forms in the stem of the germinating seed never completely disappears.

Dr. W. H. Klein and V. Elstad have continued investigations of the effect of light intensity and various growth regulatory chemicals on the opening of the hypocotyl hook in Black Valentine bean. A new set of subirrigated growth chambers has been constructed which yield plant material of very great uniformity. By the use of a special green fluorescent safe light employing a filter transmitting light between 520 and 610 millimicrons, it is possible to remove the hooks from the plants and make measurements on them without producing any detectable light effect. The hook sections are placed in petri dishes containing a small amount of water and exposed to various light and chemical treatments. A 24-hour exposure to very weak red light in the region of 650 millimicrons at an intensity of 0.01 microwatt per square centimeter produces a 45° opening in a 24-hour period; in the dark there is no significant opening of the hook in this period. The rate of opening of the hook is proportional to the logarithm of the light intensity. It appears that this organ is a very useful tool for the bioassay of photochemically synthesized growth factors.

The auxin group of hormones such as indoleacetic acid opposes the effect of the light. The effect is proportional to the logarithm of the concentration of the auxin over a very wide range and the test appears to have a sensitivity nearly equal to the classical *Avena* test, but is a much simpler one to execute.

Thus far no pigment system has been extracted from plants whose absorption spectrum can account for the regulatory effect of the longer wavelengths in the visible spectrum. In order to obtain information as to the absorption spectrum of the pigment system, work has been started by Dr. Withrow, Dr. Klein, and Mr. Elstad on determining the effectiveness spectrum of the stem-hook response and the synthesis of anthocyanin in bean stems. A system of 10 interference filter monochromator units has been constructed, each of which employs two interference filters in tandem for isolating a narrow band of wavelengths about 20 millimicrons wide. Each monochromator unit has a separate source and cabinet, and the whole system is in a room maintained at constant humidity and temperature.

Dr. W. D. Bonner and L. Price have initiated a systematic biochemical study of various fractions from dark-grown and far-red-irradiated bean seedlings with the objective of finding those biochemical systems that are associated with the light-initiated responses. Estimations of the activities of various enzyme systems have shown no significant differences between the dark- and the light-

treated seedlings. The systems that have been studied are the ascorbic acid and polyphenol oxidases involving the copper proteins; catalase and peroxidase involving the iron proteins; and various components of the cytochrome enzyme systems.

Research by Dr. Alice P. Withrow on the effect of plant growth regulators on salt exchange of plants has indicated that high salt–low carbohydrate plants lose salt more rapidly when treated with ammonium 2,4-dichlorophenoxyacetate and that low salt–high carbohydrate plants absorb salts less rapidly under the influence of this growth regulator as compared with untreated plants.

Studies have been initiated on the effect of plant-growth regulators on the respiratory processes in mitochondrial preparations of bean seedlings and rat livers.

The following research papers by members of the staff have been published during the past year:

Withrow, R. B., Klein, W. H., Price, L., and Elstad, V. Influence of visible and near infrared radiant energy on organ development and pigment synthesis in bean and corn. Plant Physiol., vol. 28, pp. 1–14, 1953.

Withrow, R. B., and Price, L. Filters for the isolation of narrow regions in the visible and near-visible spectrum. Plant Physiol., vol. 28, pp. 105–114, 1953.

Withrow, R. B., and Elstad, V. Water-cooled lamp systems with refluxing aqueous filters. Plant Physiol., vol. 28, pp. 334–338, 1953.

Withrow, R. B., and Withrow, Alice P. A linear recording ac conductance bridge for measuring salt exchange in plants. Physiol. Plantarum, vol. 6, pp. 444–450, 1953.

Respectfully submitted.

L. B. Aldrich, *Director.*

Dr. Leonard Carmichael,
Secretary, Smithsonian Institution.

APPENDIX 9

Report on the National Air Museum

SIR: I have the honor to submit the following report on the activities of the National Air Museum for the fiscal year ended June 30, 1953:

GENERAL STATEMENT OF CONDITIONS

The care of the stored material in the national aeronautical collection continues to be the principal concern of the staff. Aircraft and components that are awaiting provision of an adequate building for the National Air Museum comprise more than two-thirds of the total collection, and although there are several renowned aircraft among the 35 exhibited in the Smithsonian buildings in Washington, there are a number that are regarded with near-equal esteem and are of great value in depicting aeronautical progress among the 74 being preserved at Park Ridge, Ill., and those others being retained for the Museum at naval bases and in scattered places.

As stated in last year's report, the Air Museum had been ordered to vacate the storage facility at the Air Force Base at Park Ridge. Therefore, at the beginning of the fiscal year, efforts were made to establish near Washington a storage base for the material to be moved. The urgency of this move was somewhat relaxed as the result of an inspection of the storage area by an official of the Budget Bureau who was so impressed by the efforts of the Museum personnel to preserve its material and at the same time comply with the requirements of the Air Force that he directed that more consideration be given the needs of the Museum. The Air Force finally agreed that the Museum could temporarily remain on the base. However, this does not solve the problem because the space assigned to the Museum—30,000 square feet in Building T–6—is inadequate, and most of the aircraft will still have to remain outdoors. A storage base was started at Suitland, Md., about a mile beyond the District of Columbia line, but lack of funds to complete the project still leaves the Museum with inadequate storage space.

In spite of these difficulties progress has been made at Park Ridge in caring for the stored material there, and the facility at Suitland has been developed sufficiently to take care of 20 loads of material brought in from Park Ridge. Details of these operations are given in later portions of this report.

Although every effort has been made to keep up the other functions of the Museum at the Washington office, the maintenance of exhibits, public services, research, and planning have reluctantly been given less attention owing to reduction in personnel and enforced priority of other projects. Normally the staff includes an administrative head, a curator, and two associate curators. With the retirement last year of the former head of the Museum and the addition of his administrative duties to those of the curator, plus the continued absence on naval duty of one of the two associates, there are now only two persons to do the work previously assigned to four.

Because the Fiftieth Anniversary of Powered Flight is being celebrated during the calendar year 1953, the National Air Museum has experienced a very busy period, with many requests to assist the national anniversary committee, State organizations, industrial units, airlines, aeronautical groups, and others who have joined to mark the progress of a half century of human flight. This concentration of interest in past accomplishments since the marvelous flight by the Wright Brothers in 1903 has brought due recognition to the National Air Museum as the authoritative source of records of the past. The staff has frequently been called upon to furnish data on historic aircraft, biographies of noted airmen and engineers, photographs and descriptions of aeronautical events, drawings of airplanes, and other material. Authors have come to the Museum to consult the staff and to examine the library and reference files; teachers have requested assistance in planning courses; students have sought help in meeting assignments; and compilers of textbooks and pictorials have found much needed data. As opportunity permitted, the staff worked on the Museum's own feature exhibit that is to further honor the Wright Brothers and mark the anniversary. This will be put on display during December 1953 and will emphasize the fact that the Wright Brothers not only invented the aeroplane but also developed it to a practical form and in addition taught others to fly.

As part of its function in distributing aeronautical knowledge, the Museum issued a number of texts on airmen and aircraft for free distribution to correspondents, students, and others, and as the fiscal year closed the ninth edition of the "Handbook of the National Aeronautical Collections" was being prepared.

ADVISORY BOARD

Although there were no formal meetings of the Advisory Board during the fiscal year, the Board members gave generously of their time to advance the projects of the Museum. Informal conferences were held at which the problems of the Museum were discussed, constructive suggestions made, and progressive action planned. Dr.

Leonard Carmichael, present Secretary of the Smithsonian, succeeded former Secretary Alexander Wetmore on the Advisory Board upon the latter's retirement December 31, 1952.

STEPHENSON BEQUEST

The bequest of George H. Stephenson, of Philadelphia, provides for a sculptured figure of Gen. William Mitchell, as a gift to the National Air Museum. Arrangements for procurement of the statue have been in charge of the Director of the Smithsonian's National Collection of Fine Arts and officials of the National Gallery of Art and the Fine Arts Commission. During the year a number of prominent sculptors were considered for this undertaking.

SPECIAL EVENTS AND DISPLAYS

Throughout the year the National Air Museum participated in many special events and exhibits and arranged several special displays:

Three occasions commemorative of the beginning of the airmail service—the forerunner of commercial aviation—are noteworthy. On August 12, 1952, the 34th anniversary of the date the Post Office Department took over operation of the airmail, All American Airways (now Allegheny Airlines) presented to the Air Museum a scale model of the Stinson SR–10 airplane used by that airline for airmail pickup service from 1939 to 1949. This took place at a luncheon given by that airline to several officials of the Post Office Department, the Smithsonian Institution, the Air Museum, and about 50 persons of prominence in aeronautics. Whereas August 12, 1918, was the date when the Post Office began operations with its own pilots and planes and assisting personnel, airmail service on a permanently scheduled basis had been inaugurated on May 15, 1918, by the Signal Corps Aviation Section as a military experiment. The anniversary of that date in 1953 was observed by the Aero Club of Washington. The head curator of the Air Museum, who had been present at the original occasion, pointed out to members of the Club the location from which the first mail planes took off; he also composed the text of a marker, which was turned over to the National Park and Planning Commission, to commemorate that event and mark the location. On May 24, 1953, the Indiana State Society gave a luncheon at the National Airport in honor of Robert Shank, who was one of the original four pilots hired by the Post Office when that Department took over the airmail service from the military. Three weeks earlier Governor George N. Craig of Indiana, Representatives Charles A. Halleck and Charles B. Brownson, and E. C. Gaertner, a member of the Society, had visited the Museum in order to see the airmail exhibit

and better acquaint themselves with the personal story of Robert Shank. They were shown the Museum's Curtiss JN–4 airplane, similar to one in which the early airmail was flown, and models of other types flown by Shank and his fellow mail pilots. Upon request, several of these models were shown at the Society's luncheon, together with a series of photographs, taken in 1918, of airmail events. The head curator of the Air Museum described these models and photographs and spoke from personal recollections of early airmail service.

Another noted pilot, Roscoe Turner, was honored August 14, 1952, when he was presented with the Distinguished Flying Cross. The Air Museum assisted with an exhibit in the Pentagon Building of aircraft models representing types flown by Turner.

At the annual banquet of the Aero Club of Washington on December 17, to mark the anniversary of the Wright Brothers' first flight, the Museum provided a Wright engine of 25 horsepower to serve as a contrast to a modern jet engine of about 5,000 pounds thrust. At this banquet the Museum also helped with preliminary arrangements for the presentation of the Robert J. Collier Trophy, symbolic of outstanding achievement, to John Stack, engineer of the National Advisory Committee for Aeronautics.

At the meeting of the Board of Regents of the Smithsonian Institution on January 16, 1953, the Air Museum exhibited the rocket engine popularly known as *Black Betsy*. This is the prototype of those that powered the first manned supersonic flight and established current records for altitude and speed.

During February, in conjunction with the National Collection of Fine Arts, an exhibition of watercolors by Lt. Col. H. H. Sims of the Air Force was shown. These had been painted during visits to various interesting parts of the world, in connection with his assigned duties. At the end of March a special exhibit was held in the D. C. National Guard Armory illustrating the many uses of magnesium. One of the first aircraft to employ this remarkably light metal was the Northrop *Black Bullet*, XP–56, made for the Air Force in 1943, and now in the Air Museum collection. It was among those stored at Park Ridge but was brought to Washington for this showing and then placed in storage at Suitland. During April, by courtesy of the Westinghouse Electric Corporation and the Navy Bureau of Aeronautics, a cutaway operating example of the J–34 jet engine was shown in the Aircraft Building. This type powers the Navy's Douglas F3D *Skyknight* and the McDonnell F2H *Banshee*, used in Korea.

The Museum participated in or assisted with several television programs during the year.

SURVEY

In determining the whereabouts and suitability of material required for the national collection, either as evidence of current prog-

ress or to fill in historical and technical gaps, most of the inquiries and negotiations can be conducted by mail, but in many cases personal visits by members of the staff are desirable to learn the story behind the material under consideration and attend to the many details involved in securing it for the Museum. The following trips were made in this connection.

July 8, by the head curator, to the Glenn L. Martin Aircraft Co. at Middle River, Md., to inspect models of the PBM and JRM aircraft.

August 11–15, by the associate curator, Robert Strobell, to Wright-Patterson Air Force Base, Dayton, Ohio, to determine progress being made on models of Wright Brothers' aircraft and examine data on the aerial torpedo of World War I.

October 5–7, by Mr. Strobell, to Great Neck, L. I., N. Y., and Wood-Ridge, N. J., to obtain data on guided missiles, determine progress on instrument exhibit, and examine and select photographs of Curtiss aircraft.

May 4–6, by the head curator, to Langley Field, Va., to attend an inspection of the laboratory of the National Advisory Committee for Aeronautics and determine the availability to the Museum of displayed material.

June 26–27, by the senior exhibits worker, Stanley Potter, to Indianapolis, Ind., to discuss methods of delivering and disassembling the Boeing 247–D airplane being considered for transfer to the Museum by the Civil Aeronautics Administration.

ADDITIONS TO THE COLLECTION AND IMPROVEMENT OF EXHIBITS

New material received this year covers a wide range—from items representative of past accomplishments to objects showing recent developments. These form a permanent record of progress and outstanding achievement.

Of the full-sized aircraft received, an impressive gift is the Douglas DC–3 transport airplane presented by Eastern Air Lines through its president, Edward V. Rickenbacker, with the helpful assistance of Beverly Griffith. Before World War II the DC–3 was used on airlines throughout the world. During that war this type, appropriately named the *Sky Train* and known as C–47 to the Air Force, R4D to the Navy, *Dakota* to the British, was used in every theater of operations and is still giving the same reliable passenger service. The airplane presented by Eastern Air Lines has flown 8,517,000 miles, and carried 213,000 passengers. Since its purchase in 1937 and until its retirement, it had been in operation on an average of 10½ hours per day.

The *Excalibur III* airplane in which a series of remarkable flights were made, was presented to the Museum by Pan American Airways. This is the P–51 *Mustang*, made by North American Aviation, Inc., and powered with a Packard Rolls-Royce Merlin engine. Transcontinental records were made in it by Paul Mantz in 1946 and 1947, and in 1951 Charles Blair flew it nonstop from New York to London at a record speed averaging 446 miles an hour, and made the first solo

flight across the North Pole from Bardufoss, Norway, to Fairbanks, Alaska, 3,260 miles in 10½ hours.

Another important accession was a German Me 163, known as a rocket interceptor, used by our adversaries in World War II. The Museum was also fortunate in receiving as a gift from Hiller Helicopters the XH–44, the original *Hiller-copter* devised by Stanley Hiller in California in 1944, and one of the first successful types to use contrarotating blades. The control stick from a much earlier helicopter, the one designed by Dr. George DeBothezat and Ivan Jerome and constructed by the Engineering Division of the Army Air Service at McCook Field in 1922, was presented by Mr. Jerome, together with photographs, drawings, and other data.

Many types of aircraft that cannot be represented in the Museum by full-sized examples are illustrated by scale models. Two models received this year are almost as large as some full-sized planes. These were received from the Glenn L. Martin Co., one being the quarter-sized PBM Naval *Mariner* patrol plane and the other a quarter-sized model of the JRM *Mars* long-range flying boat. The PBM model was made in 1937, as a flyable test unit to determine the characteristics and performance of the large craft which was then only on the drawing boards. It proved to be a very valuable and prophetic means of "working out the bugs" at reduced expense. The JRM model was made for testing in the large-scale wind tunnel at the Langley Memorial Laboratory of the National Advisory Committee for Aeronautics, and through such testing revealed the probable performance of the type, again saving the time and cost of determining this information by full-scale experiments. Another acquisition is the original test model of the Northrop Flying Wing, a skillfully made lightweight miniature, about 3 feet in span, which was hand-launched and glided to test the lift and stability of a type from which developed the large B–35 and B–49 bombers of our Air Force. It is exhibited in the Museum beside photographs of its huge descendants. One of the earliest configurations of the delta design was devised by Michael E. Gluhareff of Sikorsky Aircraft in 1939, starting by experiments with light balsa-wood glider models which demonstrated the utility of the dartlike pattern. His tests the next year were even more convincing, and in 1941 he designed a pursuit interceptor for the Air Force of that delta-wing shape. That was before the current era of jet power, and he planned to use contrarotating pusher propellers. Concentration by Sikorsky Aircraft upon the helicopter program prevented continuation of the experiments with this design at that time, but today delta-winged aircraft have been successfully flown in Germany, America, and England, and are recognized as especially adapted to solving the problems encountered at supersonic speeds.

Other scale models of full-sized aircraft received this year represent

the Wright Brothers' first glider of 1900, the Gallaudet D–4 of 1918 —one of the advanced types produced by the Gallaudet Aircraft Corporation for the United States Navy during the first World War—and the McDonnell *Phantom* FH–1, a current type of Navy fighter employed in Korea. M. A. Krieger donated an excellent scale model of the V–1 German buzz bomb. A full-sized specimen of this weapon, which caused such destruction in England during World War II, is in the Museum's collection, but is not exhibited for lack of space. The Army and Navy Club of Washington presented to the Museum an automatic pilot from an actual V–1 which fell in the vicinity of the United Service Club in London. The Navy has added this year to the Museum's series of small airplane "recognition" models which show the characteristics of ex-enemy and other foreign aircraft, as well as current United States types. These are used in the Navy for training purposes, and are of value in the Museum for preserving the record of service types.

Two very famous power units have been added to the Museum's "Engine Row" this year: The Pratt and Whitney R–4360–35 Wasp Major engine, number 1 of the four which powered the United States Air Force Boeing B–50 bomber *Lucky Lady II* when it made the first nonstop world flight, taking off from Fort Worth, Tex., February 26, 1949; and the famous *Black Betsy*, a four-tube liquid-propellent rocket designed and built in 1940 by Reaction Motors, Inc. In great contrast to the complicated fuel system of these modern engines is a little "puddle carburetor" sent in by a friend of the Museum who had found it among some relics of pioneer flying. Several propellers were received; also a unique electric generator showing the application of the airplane type of propeller to power production. This wind-driven generator was developed by H. R. Stuart and E. N. Fales in 1922, and came into commercial use a year later.

Mementos of famous flyers provide personal associations which increase interest in the collections. Two exhibits of this nature have been added to the group of World War I airplanes. One was prepared with the cooperation of Capt. Edward V. Rickenbacker and includes his uniform, scale models of his Nieuport 28 and Spad 13 airplanes, records and photographs of the members of the 94th Squadron which he commanded, and photographs of enemy aircraft which they engaged. This has been placed near the Spad fighter. A panel recording some of the accomplishments of Col. Harold H. Hartney, who was commanding officer of the First Pursuit Group which captured the German Fokker D–7—now in the Museum—has been installed near that plane. The first world-flight flagplane, Douglas Cruiser *Chicago*, now has beside it, in a case containing a scale model of his *Cloudster*, a portrait sculpture of the aircraft designer, Donald Douglas. This was given by the artist, W. F. Engelman, of Florida, who also pre-

sented his sculpture of Admiral Richard E. Byrd, which has been placed with instruments and other material recalling the polar fights of that great explorer. Woodward Burke, famous pilot who test-flew some of the Brewster Naval fighters during World War II, was one of the first to develop a pressure-bearing garment for aviators which aided in controlling the abnormal passage of blood during aerial maneuvers at extreme speeds. This elementary "G-suit," so named because it restricts the effects of gravity, has been given to the Museum by his widow. In the memorial exhibit to Amelia Earhart has been placed a small American flag, a gift from the family of ex-Mayor Malcolm E. Nichols of Boston, carried by Miss Earhart on her first flight across the Atlantic in the Fokker airplane *Friendship*, 1928.

The Navy's P2V Lockheed airplane, *Truculent Turtle*, which established the current nonstop distance record, flying from Perth, Australia, to Columbus, Ohio, about 11,822 miles in slightly over 55 hours, is being held for the Museum by the Department of the Navy until space can be provided for its display; in the meanwhile the "How-Goes-It-Board" used on that flight has been placed on exhibit. That is the navigator's sheet on which the plan of the flight was drawn up, and which was consulted by pilot and navigator as the flight progressed. The Navy has also presented parts of two historic wind tunnels, recently decommissioned at the Washington Naval Gun Factory. In these tunnels scale models of many of the Navy's earliest and most renowned aircraft were first tested. Individual listing of the year's accessions is given in the final pages of this report.

The two exhibits workers of the Museum, in addition to assisting with unloadings and other operations at the Suitland storage area, received and placed much of the material above described and in addition made improvements in existing displays. The parts of the original John J. Montgomery gliders of 1905 and 1911 were mounted in new frames, thereby improving this exhibit. The Naval Curtiss F9C–2 *Sparrowhawk* fighter of 1935 was completed by addition of its overhead hook-on gear supplied by the Navy Department Bureau of Aeronautics. The scale model of the U. S. S. *Pennsylvania*, which had been reconstructed to show the landing deck on which Eugene Ely made the first landing followed by a take-off on January 18, 1911, was provided with a more attractive base on which photographs of the event are mounted and in which a slide projector recounts the story of the evolution of aircraft carrier operations. The showing of scale models of aircraft used in World War II was improved; changes and additions were made in the impressive lineup of aircraft engines in the Aircraft Building. The famous aeronautical trophies were placed in larger cases, and material showing the histories of these trophies and their presentations was added, making the display more attractive and of greater educational value.

STORAGE

The difficulties experienced during the year in operating the Park Ridge, Ill., storage facility and in establishing the one at Suitland, Md., have been reviewed in the general statement. In spite of these problems, considerable progress was made in the operations at Park Ridge.

Because the shipment of the stored material to Washington is the final objective of the storage facility, the principal project at Park Ridge is the disassembly, preservation, and boxing of aircraft, engines, and other materials. During the year 9 full-sized airplanes were taken apart to their major components, given preservative treatment, and boxed, bringing the total of airplanes so prepared to 72 and leaving but 10 presently scheduled for such treatment. Several of these, however, are large aircraft and will present serious problems in disassembly because they are foreign types for which little or no breakdown data exists, and, having been constructed for immediate and nearby combat operations they do not have the disassembly features common to American aircraft. Of the aircraft boxes formerly built, 17 were repaired and weatherproofed, 100 were sprayed with protective material, 4 were provided with new skids, and all were weighed to obtain data for final shipment. In the latter operation, the assistance of the State of Illinois Traffic Police, who lent their large scales, was particularly appreciated. Of the engines, 140 were given cleaning and preservative treatment, and boxes were constructed for 8, while all the engine boxes were checked for ventilation and a number of new lids constructed. In the final weeks of the fiscal year, when 20 truckloads of boxes containing components were shipped to Suitland, all those boxes were examined, repaired, their contents given cleaning and preservation treatment where necessary, the closed boxes banded, the material prearranged in load lots, and finally loaded on the trucks. In addition there were times when the two carpenters were required to construct office space or enclosures and shelves for tools, supplies, and equipment, and when the three mechanics had to stop their aircraft work in order to repair the crane, forklifts, and other handling equipment and vehicles. The guards frequently volunteered a helpful hand, and the manager, Walter Male, to whom much credit for the efficient operation at Park Ridge is due, apportioned his time so that he was able to visit the plant of Airwork Corporation at Millville, N. J., where they kindly explained to him their techniques for preserving aircraft, enabling these methods to be added to our processing. Mr. Male also visited Wright-Patterson Field at Dayton, where he searched for data on foreign aircraft in order to better care for those in the Museum collection; and, at the Naval Base in Mechanicsburg and other places, learned about their methods of storing aircraft, and related operations.

At Suitland, continuing with the erection of the prefabricated Butler buildings, the remaining 4 of the 6 purchased last year were assembled on concrete bases by late November. The 6 buildings provide a total of 24,000 square feet and enabled the Museum to accept custody of 3 of the 4 full-sized airplanes received this year and of the 2 large Martin models; but of very great assistance was the storage of the 20 loads of components shipped from Park Ridge. This operation saved double handling of those 3,000 boxes which, had Suitland been unavailable, would have had to be moved again from one building to another at Park Ridge, stacked in vitally needed space, and otherwise cared for. As it is, they are now near their final destination, some have been inspected, and a few of the more interesting specimens that can be accommodated are being prepared for exhibition.

Within the Smithsonian buildings in Washington where there have been two rooms devoted to aeronautical storage, the congestion has been greatly relieved by transferring material to Suitland; these rooms are being prepared as extensions of the reference-file space, and for keeping handling equipment and exhibition supplies.

ASSISTANCE TO OTHER AGENCIES

A large portion of the time of the staff is required in answering requests for information. During this anniversary year this public service has increased greatly in volume and variety, and many projects that are part of the general effort to make this an outstanding year in aeronautical progress have been aided by the Museum. One undertaking that will be of great permanent value is the compilation by the Division of Aeronautics of the Library of Congress of two volumes intended to be a complete record of the work by the Wright Brothers. The Museum made available its exhibits and files to the staff of that division. Other departments of the Government have their Anniversary projects: the Civil Aeronautics Administration is preparing exhibits featuring famous flights, the Office of Education is compiling lists of aeronautical material for distribution to schools, the Navy's Bureau of Aeronautics assembled several displays showing historic and current developments, and the Air Force for Armed Forces Day prepared impressive shows. All these projects received help from the Museum. Some units of the Government in need of assistance in connection with current work were the Department of Justice, wishing construction details on cockpit harnesses, parachute hardware, and engine starters; the Air Force, asking for the loan of ex-enemy aircraft in order that the crews who were to examine the shot-down planes of our adversaries in Korea could be indoctrinated in foreign techniques, and requesting help in preparing educational and historical displays for student airmen. The Navy received descriptions of helicopter

developments; the State Department asked for help in preparing articles on aeronautical subjects for use in foreign broadcasts and papers; and the Weather Bureau was supplied with photographs of famous flights for which that Bureau had supplied vital meteorological information. The artist Allyn Cox required accurate details of the Wright Brothers' first aeroplane and facts about the air pioneers Langley and Chanute for incorporation in the frieze which he is completing on the rotunda wall of the United States Capitol. Several schools, including the Northrop Aero Institute and the School of Aeronautics in Denver, requested and received help from this Museum. The Institute of Aeronautical Sciences sent its curator to the National Air Museum to study exhibition procedures and methods of recording material; and drawings, photographs, and data on aircraft were exchanged to mutual advantage with museums in California, France, Holland, and England. Slides for lectures were supplied to B. L. Whelan of Sikorsky Aircraft recalling early days in aviation, and to Capt. Ralph Barnaby, USN Ret., describing the gliders of the Wright Brothers. The head curator gave 11 lectures during the year on various phases of aeronautics and the work of the National Air Museum, speaking to Reserve units of the Navy and Air Force, airline groups, and to the American Society of Civil Engineers at their national meeting in Chicago, September 5.

IMPROVEMENTS IN REFERENCE MATERIAL

The documentation of the aeronautical collection is an important phase of museum work and must be maintained together with the preservation of the specimens. Without such documents as original correspondence records, descriptions of technical details and performance, drawings, photographs, and related texts, the labeling of specimens and the furnishing of information about them would be difficult and perhaps inaccurate. With each accession the Museum endeavors to obtain such data as opportunity permits, and seeks to procure books, magazines, catalogs, and other literature pertinent to the general history of aeronautics. Frequently other persons studying the history and development of aircraft and patriotically interested in improving the national collections will give or exchange with the Museum from their collections. Some material has been received from bequests.

From the Air Force, 170 boxes of technical orders were received. These cover such subjects as maintenance of aircraft, instructions for disassembly and overhaul, pilot's operating instructions and other operational data, and are a very valuable source of information. These documents are being screened in order to extract data relative to the collection. The General Services Administration, Department of Archives, has generously supplied from its files a number of photo-

graphs of aircraft, and many aircraft manufacturers have responded to requests for photographs of their current and earlier types. Having established a periodical library during the previous fiscal year, the Museum has endeavored to maintain these aeronautical publications current and to add missing issues. To assist the Museum in filling requests for information on current aircraft the magazine *Aero Digest* very generously gave 500 reprints of their March 1953 Directory number which featured a complete listing of types now in production. Maj. Kimbrough Brown of the Air Force, during his recent duty in Europe, collected much valuable information for the Museum and assisted with its incorporation into the files upon his return to this country. Bell Aircraft supplied material for the improvement of the Museum exhibition of the supersonic X–1 and another local exhibit. The Air Force Association assisted in supplying a catalog of the paintings by Col. H. H. Sims exhibited during February. The Museum is particularly indebted to Charles Taylor, the mechanic associated with the Wright Brothers, who worked on the construction of the engine for their first airplane and helped to build and repair many of their aircraft. From his recollections he has been most helpful in answering questions about the engine, construction details of Wright aircraft, and events of those wonderful days.

The following lots of reference material have been separately acknowledged and entered:

Mrs. Gretchen Schneider Black, Fort Worth, Tex.: The Eddie A. Schneider Memorial Library consisting of 67 books, 35 pamphlets, and a painting.

Division of Military and Naval History, U. S. National Museum: A collection of 18 books from the Gen. John J. Pershing Library.

Mrs. M. S. Gilpatric, New York, N. Y.: Four scrapbooks, a poster, an insignia of the First Aero Squadron, photographs, etc., collected by her son, Guy Gilpatric, renowned pioneer flier and World War I aviator. These are largely descriptive of the aircraft flown by him, and his piloting experiences.

J. C. MacCartee, Sr., Osteen, Fla.: A collection of 64 photographs taken by him at College Park, Md., during 1911 and 1912, showing early aircraft and flights, principally those in Wright Brothers' airplanes, and by notable military pilots of that era.

Joseph Nieto, San Antonio, Tex.: Four 3-view scale-dimensioned drawings of famous aircraft, drawn by himself.

North American Aviation, Inc., Los Angeles, Calif.: A collection of 36 photographs, enlarged and framed, of types produced by this company.

James J. Sloan, Aero Historical Society, Van Nuys, Calif.: A group of 11 3-view scale-dimensioned drawings of aircraft, including several unique types of World War I.

Stanford University Libraries, Stanford, Calif.: A collection of 60 bound volumes of aviation periodicals.

RESEARCH

The quantity of work involved in other phases of the Museum program limits the amount of time that can be devoted to personal re-

search by the staff, but as opportunity permitted, several projects were advanced.

Anticipating that the Fiftieth Anniversary of Powered Flight would be celebrated during 1953, the Museum intensified the collecting of photographs and other material relative to the Wright Brothers. Persons who had taken pictures of the Wrights and their aircraft and pupils in America were generous in sharing them with the Museum, but it was difficult to find photographs taken when the brothers were in Europe. Persistent correspondence by the associate curator finally located several helpful sources in England, France, Germany, and Holland and, thanks to such cooperation, the Museum's collection is now one of the most complete. This material has been of great service to many publishers, writers, artists, modelmakers, and others, and selections will form part of the special Wright display being planned for December of 1953.

Efforts were continued throughout the year to procure authentic documents and drawings about America's early work in the guided-missile field. Extensive material was obtained describing the Dayton-Kettering developments during the First World War, but little has been received about the Long Island-Sperry efforts.

ACCESSIONS

This year the National Air Museum received 32 accessions from 28 sources totaling 112 specimens. Those from Government departments are recorded as transfers; others were received as gifts except as noted.

AIR FORCE, DEPARTMENT OF, Washington, D. C.: German Messerschmitt Me 163 rocket interceptor, used in World War II to oppose operations of American and English bombers (N. A. M. 763). (Through Pratt & Whitney Aircraft) The Pratt & Whitney R–4360–35 Wasp Major aircraft engine, Serial No. P–675, from the B–50–A bomber *Lucky Lady II* which made the first nonstop flight around the world, February 26–March 2, 1949 (N. A. M. 753).

ALLEGHENY AIRLINES, Washington, D. C.: Scale exhibition model 1 : 16 of Stinson SR–10 airplane of type used by the predecessor company, All American Airways, from 1939 to 1949 for airmail service, featuring a unique pickup-in-flight system (N. A. M. 758).

ARMY AND NAVY CLUB, Washington, D. C.: An automatic pilot from a German V–1 flying bomb which came down in the vicinity of the United Service Club, London, England, World War II (N. A. M. 757).

AUGUSTINE, DAVID, Landover, Md.: An airplane propeller of Micarta, a compressed resinous material, in use about 1928 (N. A. M. 782).

BURKE, MRS. OLIVIA BENDELARI, New Hope, Pa.: An aviator's restrictive garment for maintaining pressure on parts of the body to reduce effects of inertia during extreme maneuvers at high speeds. Devised by her husband, Woodward Burke, test pilot, who gave his life in 1945 during development of a Navy jet fighter (N. A. M. 765).

EASTERN AIR LINES, New York, N. Y.: Douglas DC–3 airplane No. 164, constructed 1937, and veteran of over 8½ million air miles (N. A. M. 766).

EMSCHWILLER, LT. WILLIAM M., U. S. M. C., Hyattsville, Md.: Scale exhibition model 1:24 of the McDonnell FH–1 *Phantom*, a current type of Naval jet-powered airplane (N. A. M. 752, loan).

ENGLEMAN, WILLIAM F., Miami, Fla.: Two portrait busts, one of Adm. Richard E. Byrd, Naval pilot and polar explorer, and one of Donald W. Douglas, noted aircraft designer and manufacturer (N. A. M. 755).

GARBER, PAUL EDWARD, Washington, D. C.: Five kites, one a reproduction of that used by Benjamin Franklin 200 years ago in his experiments with lightning, and four of Chinese origin in outlines of a butterfly, fish, bat, and bird (N. A. M. 761).

HARTNEY, MRS. HAROLD, Washington, D. C.: Material associated with the military and aeronautical accomplishments of her husband, the late Col. Harold Hartney, commander of the First Pursuit Group, World War I (N. A. M. 767).

HERRING, M. G., Washington, D. C.: An aircraft propeller, wooden, two-bladed, from an Aeromarine–40 flying boat, about 1921 (N. A. M. 779).

HILLER HELICOPTERS, Palo Alto, Calif.: The XH–44, original *Hiller-copter* designed and constructed by Stanley Hiller in 1944; it has two 2-bladed contra-rotating rotors (N. A. M. 769).

HUBBELL, CHARLES, Cleveland, Ohio: Scale exhibition model 1:16 of the Wright Brothers' first glider, 1900 (N. A. M. 771, purchase).

HUNDEMER, CHARLES, Baton Rouge, La.: A mixing valve or "puddle carburetor" used on an airplane engine of the period 1908–1910 (N. A. M. 780).

JEROME, IVAN, Massapequa, L. I., N. Y.: Original control stick from the helicopter constructed by the Engineering Division of the U. S. Army Air Service, McCook Field, Dayton, Ohio, 1922, designed by Dr. George DeBothezat and Mr. Jerome (N. A. M. 768).

KICKERT, HOWARD, Arlington, Va.: An aircraft propeller, wooden, 2-bladed, of early design, used with a low-horsepower engine (N. A. M. 772, loan).

KRIEGER, M. A., Dallas, Tex.: Scale exhibition model 1:24 of transparent materials showing construction of a German V–1 buzz bomb as used against England, World War II; with associated data (N. A. M. 781).

MARTIN, GLENN L., Co., Middle River, Md.: Two quarter-sized models of Martin flying boats, one being the flying model with which characteristics of the Navy PBM *Mariner* were predetermined; the other the wind-tunnel model of the Navy JRM *Mars*, long-range patrol and cargo plane (N. A. M. 774).

MODEL BUILDERS, INC., William Chaffee, President, Chicago, Ill.: Two scale exhibition models, 1:16, illustrating the Nieuport 28 and Spad 13 airplanes flown in World War I by Capt. Edward V. Rickenbacker (N. A. M. 760, purchase).

NAVY, DEPARTMENT OF, Washington, D. C.: Parts of two wind tunnels recently decommissioned at the Naval Gun Factory in Washington; the earlier was the 8-foot square-throat wooden tunnel built in 1914; the other circular, of metal, was constructed about 15 years later (N. A. M. 776). The "How-Goes-It-Board" used by pilot and navigator of the Navy's Lockheed *Truculent Turtle* which established the world record for nonstop distance, 11,822 miles, October 1, 1946 (N. A. M. 777). (Through Reaction Motors, Inc., Rockaway, N. J.) The original *Black Betsy* rocket engine which served as prototype for the engines that powered the first manned supersonic flight by the Air Force's Bell X–1 and the Navy's Douglas D–558–2, which has flown higher and faster than any other manned aircraft (N. A. M. 754). A collection of 48 aircraft models, scale 1:72, of recent and current types; used for training in aircraft recognition (N. A. M. 751).

NICHOLS, MALCOLM E., THE FAMILY OF, Boston, Mass.: A small American flag, carried by Amelia Earhart on her first flight across the Atlantic Ocean, with

Wilmer Stultz, pilot, and Lew Gordon, mechanic, in the Fokker seaplane *Friendship*, June 17–18, 1928 (N. A. M. 762).

Northrop Aircraft, Inc., Hawthorne, Calif.: Experimental glide model of the flying wing, used for the original test of this configuration (N. A. M. 778).

Pan American Airways, New York, N. Y.: The airplane *Excalibur III* in which Capt. Charles Blair made a transatlantic record flight and the first nonstop solo flight over the North Pole, 1951 (N. A. M. 775).

Rickenbacker, Capt. Edward V., New York, N. Y.: The uniform worn by him in World War I with records and photographs of members of the 94th Squadron which he commanded (N. A. M. 759).

Roderick, Harry M., Oakland, Calif.: Compressed-air-powered experimental model airplane, 1909 (N. A. M. 773).

Short, Roxor V., Madison, Conn.: Scale exhibition model, 1:16, of the Gallaudet D–4 Navy seaplane, 1918, an advanced pusher biplane design (N. A. M. 756, purchase).

Sikorsky Aircraft, Division of the United Aircraft Corp., Bridgeport, Conn.: Scale exhibition model, 1:16, of the proposed delta-winged fighter designed by M. E. Gluhareff in 1941 (N. A. M. 770).

Stuart, H. R., and Fales, E. N., Washington, D. C.: Original wind-driven electric generator, equipped with a propeller similar to the airplane type, developed jointly by the donors in 1922 (N. A. M. 764).

Respectfully submitted.

Paul E. Garber, *Head Curator.*

Dr. Leonard Carmichael,
Secretary, Smithsonian Institution.

APPENDIX 10

Report on the Canal Zone Biological Area

SIR: It gives me pleasure to present herewith the annual report of the Canal Zone Biological Area for the fiscal year ended June 30, 1953.

BUILDINGS AND EQUIPMENT

The major accomplishment at Barro Colorado Island during the year was the installation of two 15-KVA Diesel-driven generators. This required the construction of a concrete foundation, to which the generators had to be anchored, and a well-ventilated building to house the units; the installation of large instrument panels and insulated pipes for overhead distribution; and procurement of necessary accessories for operation. Although the annual operating cost of the generators amounts to about $1,650, the benefits to be derived from a constant flow of current are inestimable; and being able to operate the refrigerator, deep freeze, dry cabinets, and dehumidifiers 24 hours a day, thereby eliminating spoilage, will result in considerable savings. Also, an adequate and uninterrupted supply of electricity should attract many more investigators who need current at all hours.

The pit for the rainwater reservoir, west of the new laboratory building, was completed, and the reinforcing steel and form lumber were cut to size. Because of deficient rainfall, there was not enough water to mix the concrete, and so this project was not finished.

Shelving was added to the large (original) laboratory building for a collection of reptiles and amphibians, largely from the island, and for the extensive collection of Central American fruits, mostly from Panama, obtained by the resident manager during his years of study of fruit flies of the genus *Anastrepha.* Dr. and Mrs. E. R. Dunn, of Haverford College, put most of the reptile and amphibian specimens in new jars and relabeled them.

An electrically heated plant drier was built and has already been put to good use by scientists.

It was necessary to build an extension to the dock at the island, and also to the covered area for the launches. Both launches required minor repairs to the hulls, and the engine of one needed replacement of parts. A large, well-built cayuco was obtained, for use with an outboard motor, in order to police the island more adequately.

The trails are in good condition, but some of the markers need to be replaced.

The Fuertes house and the houses at the end of Drayton trail are in excellent condition. The old main laboratory is in good shape, except for minor repairs, and can accommodate at least 20 scientists a day. The Chapman house can still be used as a laboratory building, and with a minimum of repairs should serve well for 5 years or more. The buildings occupied by the warden-caretaker and the cook are in good condition; the one used by the laborers needs some repairs. The plywood building at the tower was primarily a test for termites and resin glues, and can still be used as a shelter.

MOST URGENT NEEDS

Most urgently needed is the rainwater reservoir. It is hoped that the concrete for this can be poured early in the next fiscal year and that funds will be available to cover it with concrete slabs, add the necessary pipes, and divert the runoff from the aluminum roof into the tank. Also, a new 2-horsepower electric motor to run the pump must be purchased. With this reservoir we should have adequate "safe" water to last through even a dry season.

Next in importance is the need for electric wiring in the new building, water service for the lower floor, the installation of sinks, tables, and shelves, so that at least the two main laboratory rooms (each accommodating four persons) can be made available to scientists; and the installation of exhaust fans, shelves, and other equipment in the photographic dark room. Dehumidifiers will have to be purchased; these are very necessary to prevent deterioration and corrosion from the high humidity.

With these things accomplished, the library, herbarium, and index cabinets can be transferred from the Haskins building to the new building, and the kitchens moved to the fireproof Haskins building. Purchase of an electric water heater for the kitchen, an urgent need, has been approved.

SCIENTISTS AND THEIR STUDIES

The primary purpose of the Canal Zone Biological Area is to provide a safe and accessible area for scientific research in the lower humid tropics in the Americas. Probably nowhere else in the world can be found the combination of unspoiled tropical jungle and healthful laboratory surroundings. Here scientists find a profusion of plants and animals and are able to carry on a wide variety of special studies.

During the 1953 fiscal year, 57 scientists came to the island. The high cost of transportation prevents many from coming and also, in

many cases, curtails the length of stay. A list of the season's investigators, with a brief summary of their interests, follows:

Investigator	*Principal interest or special study*
Ajello, Dr. Libero, U. S. Public Health Service, Atlanta, Ga.	Environmental factors.
Anderberg, T., Sweden.	Member of Blomberg expedition. (See Dr. Rolf Blomberg.)
Andrew, Dr. Warren, Bowman Gray School of Medicine, Winston-Salem, N. C.	Land mollusks.
Ansley, Dr. Hudson R., Columbia University, New York, N. Y.	Sex determination in centipedes.
Bloedel, Prentiss, University of California, Berkeley, Calif.	Orientation in bats.
Blomberg, Dr. Rolf, Sweden and Ecuador.	Color photography, stills, and sound recordings; intensive study of tropical wildlife.
Boberg, Walter, Sweden.	Member of Blomberg expedition. (See Dr. Rolf Blomberg.)
Bradley, John C., Waterbury, Conn.	Mollusks.
Bromfield, Louis, Malabar Farm, Lucas, Ohio.	Tropical flora and birds.
Buchanan, Charles, Puerto Rico.	Bird survey and habitats.
Burk, Gordan, Scripps Institution of Oceanography, La Jolla, Calif.	Mammals and birds.
Chamberlain, Mrs. Florence, Des Moines, Iowa.	Bird survey and nests.
Clark, Dr. Walter, Eastman Kodak Research Laboratories, Rochester, N. Y.	Review of Eastman Kodak exposure tests; color photography and sound recordings.
Crookchewit, Hans, Amsterdam, Holland.	Birds.
Drury, Dr. William, Harvard University, Cambridge, Mass.	Forest topography as affecting bird life.
Dunn, Dr. and Mrs. E. R., Haverford College, Haverford, Pa.	Amphibians and reptiles and rearrangement of island collection.
Eisenmann, Dr. Eugene, New York, N. Y.	Continuation of long-range bird studies.
Erickson, Clarence O., Paramount Pictures, Hollywood, Calif.	Appraisal of island for motion film of army ants.
Geysa, Vanita von, Illinois.	Continuation of her painting.
Goelet, Dr. Robert, New York Zoological Society, New York, N. Y.	Birds, mammals, and flora.
Goodale, Dr. Robert L., Boston, Mass.	Bird studies.
Graham, Dr. E. H., U. S. Soil Conservation Service, Washington, D. C.	Wildlife and flora.
Griffin, Dr. Donald R., Cornell University, Ithaca, N. Y.	Orientation in bats.
Hartman, Dr. Frank M., Ohio State University, Columbus, Ohio.	Continuation of studies on adrenals of birds and mammals.
Heim, Roger, Museum of Natural History, Paris, France.	Fungi and environment.

Investigator	*Principal interest or special study*
Henry, Mr. and Mrs. Thomas R., Washington Star, Washington, D. C.	To collect data on plants and animals for press releases.
Hiestand, Dr. Norman T., Los Alamos, N. Mex.	General biology, color photography, and sound recordings.
Hodgson, Dr. Edward S., Barnard College, Columbia University, New York, N. Y.	Behavior of leaf-cutting ants.
Kelly, Dr. Junea, Alameda, Calif.	Continuation of bird studies.
Kerr, Miss Charlotte, U. S. Embassy, Panama.	Observations on birds and mammals.
Koronda, John, Michigan State College, East Lansing, Mich.	Algae.
Loegering, William I., IICA Turrialba, Costa Rica.	Plants and ecology.
Lundy, William E., Assistant Paymaster, Panama Canal.	Continuation of studies on birds and mammals.
MacLeish, Kenneth, Life Magazine, New York, N. Y.	Appraisal of animal life in rain forest of American Tropics.
Martin, Dr. George W., State University of Iowa, Iowa City, Iowa.	Fungi.
McGinty, Thomas, Florida.	Mollusks.
Miller, Melville W., Vermillion, S. Dak.	Birds, mammals, and flora.
Monros, Dr. and Mrs. F., Instituto Miguel Lillo, Tucumán, Argentina.	Coleoptera.
Morris, Robert C., U. S. Bureau of Entomology and Plant Quarantine, Gulfport, Miss.	Termites.
Murie, Dr. Olaus J., Wilderness Society, Moose, Wyo.	Animal footprints.
Nadler, Aaron M., Brooklyn, N. Y.	Intensive collecting and study of Psocidae.
Olsson, Dr. A. A., Academy of Natural Sciences of Philadelphia.	Paleontology.
Parsons, Dr. James J., University of California, Berkeley, Calif.	Grasses.
Perrygo, Watson M., U. S. National Museum, Washington, D. C.	Birds.
Prescott, Dr. George W., Michigan State College, East Lansing, Mich.	Algae.
Rimmer, David, Malabar Farm, Lucas, Ohio.	Birds and plants.
Scattergood, Dr. Leslie, U. S. Legation Mission.	Tropical flora.
Setzer, Dr. Henry W., U. S. National Museum, Washington, D. C.	Mammals.
Soper, Dr. Cleveland C., Tropical Research Laboratory, Eastman Kodak Co., Panama City, Panama.	Deterioration and corrosion of photographic equipment and supplies. Gave technical advice and help on Diesel generators.
Steward, Richard, National Geographic Society, Washington, D. C.	Photography.
Stirling, Dr. and Mrs. M. W., Smithsonian Institution.	General biology and reconnaissance.

Investigator	*Principal interest or special study*
Swift, Lloyd W., U. S. Forest Service, Washington, D. C.	Wildlife and flora.
Weber, Dr. Jay A., Miami, Fla.	Mollusks.
Weldon, A. L., State University of Iowa, Iowa City, Iowa.	Fungi.
Wetmore, Dr. Alexander, Smithsonian Institution.	Birds, and general inspection of the plant.

VISITORS

There were about 700 visitors to the island during the year. Most of them came in small groups, and quite a number stayed overnight or for a few days. Among these were Boy Scouts, Girl Scouts, and photography clubs; groups from schools in Panama City, Colon, and elsewhere; from colleges, and from the University of Panama. There were also a number of groups from the Armed Forces, the United States Embassy in Panama, many technical and specialized missions, and branches of the Point-4 Program.

DONATIONS

The resident manager donated to the library a complete series of bound volumes of the Journal of Agricultural Research; a series of Natural History magazines, complete to date; many miscellaneous publications; and a quantity of laboratory glassware, chemicals, and other supplies.

RAINFALL

In 1952, during the dry season (January to April) rains of 0.01 inch or more fell on 36 days (98 hours), and on 203 days (744) hours during the 8 months of the wet season.

Rainfall was 9.26 inches below the station average for 28 years—an excess of 1.09 inches during the dry season and a deficiency of 10.35 inches during the wet season. March was the driest month, 0.11 inch, and October the wettest, 16.96 inches.

TABLE 1.—*Annual rainfall, Barrow Colorado Island, C. Z.*

Year	*Total inches*	*Station average*	*Year*	*Total inches*	*Station average*
1925	104. 37	------	1939	115. 47	110. 94
1926	118. 22	113. 56	1940	86. 51	109. 43
1927	116. 36	114. 68	1941	91. 82	108. 41
1928	101. 52	111. 35	1942	111. 10	108. 55
1929	87. 84	106. 56	1943	120. 29	109. 20
1930	76. 57	101. 51	1944	111. 96	109. 30
1931	123. 30	104. 69	1945	120. 42	109. 84
1932	113. 52	105. 76	1946	87. 38	108. 81
1933	101. 73	105. 32	1947	77. 92	107. 49
1934	122. 42	107. 04	1948	83. 16	106. 43
1935	143. 42	110. 35	1949	114. 86	106. 76
1936	93. 88	108. 98	1950	114. 51	107. 07
1937	124. 13	110. 12	1951	112. 72	107. 28
1938	117. 09	110. 62	1952	97. 68	106. 94

TABLE 2.—*Comparison of 1951 and 1952 rainfall, Barro Colorado Island, C. Z. (inches)*

Month	Total		Station average	Years of record	Excess or deficiency	Accumulated excess or deficiency
	1951	1952				
January	2.21	2.40	1.77	27	+0.63	+0.63
February	3.76	.39	1.26	27	−.87	−.24
March	.30	.11	1.20	27	−1.09	−1.33
April	8.53	5.46	3.04	28	+2.42	+1.09
May	12.19	12.39	10.89	28	+1.50	+2.59
June	10.94	11.76	11.40	28	+.36	+2.95
July	5.37	6.01	11.28	28	−5.27	−2.32
August	11.29	9.11	12.16	28	−3.05	−5.37
September	9.62	11.18	10.06	28	+1.07	−4.30
October	19.43	16.96	13.52	28	+3.44	−.86
November	16.15	9.50	19.10	28	−9.60	−10.46
December	12.93	12.46	11.26	28	+1.20	−9.26
Year	112.72	97.68	106.94			−9.26
Dry season	14.80	8.36	7.27			+1.09
Wet season	97.92	89.32	99.67			−10.35

The maximum yearly rainfall of record on the island was 143.42 inches, and the minimum 76.57 inches. The maximums of record for short periods were as follows: 5 minutes, 1.30 inches (a new record) ; 10 minutes, 1.65 inches (a new record) ; 1 hour, 4.11 inches; 2 hours, 4.81 inches; 24 hours, 10.48 inches.

During 1952 the maximums were: 5 minutes, 1.30 inches; 10 minutes, 1.65 inches; 15 minutes, 1.71 inches; 30 minutes, 2.15 inches; 1 hour, 2.86 inches; 2 hours, 3.43 inches; 24 hours, 4.48 inches.

FISCAL REPORT

Trust funds during the 1953 fiscal year amounted to $11,255.03, as follows: Balance from fiscal year 1952, $264.03; fees from scientists, $2,501.16; fees from visitors, $2,177; table subscriptions, $1,900; Smithsonian Institution private funds, $2,800; donations, $1,130; miscellaneous, $482.84.

Items paid from trust funds are: Wages of warden-caretaker and laborers, food, office expenses, and miscellaneous items for upkeep and repairs. Wages amounted to 58.2 percent of the expenditures, and food and kitchen needs 35.8 percent, a total of 94 percent. At the close of the 1953 fiscal year there remained a balance of $437.74 in the trust funds.

The Smithsonian Institution allotted $7,033.29 from Government-appropriated funds. Approximately 60 percent of this was expended for supplies from Panama Canal Storehouses, the major items being $614.63 for lumber; $198.98 for gravel; $490.88 for cement; $192.94 for water lines and toilets; $390.77 for reinforcing steel, pipe, etc., for the water reservoir; $550.90 for the overhead installation of the Diesel generators; $493.66 for Diesel fuel; $72.08 for lubricating oil;

$114.64 for the dock extension; $346.62 for the extension of the sheds for the launches; and $60.78 for materials for the launches.

The other 40 percent covered such items as gasoline, ice, freight, telephone, and rentals; repairs to launches ($214.74); transportation of the two Diesels to the Isthmus ($190.74); parts, filters, repairs, and maintenance inspections for the generators ($370.96); and shelving ($255.86).

The rates for scientists and visitors now in effect are $3 a day per person for 1-day visitors, $4 a full day for scientists from institutions that support the laboratory through table subscriptions, and $5 a full day for all others. A 1-day visit includes the use of the launch to and from the island, the noon meal, and the guide in the morning. A full day for scientists includes three meals and lodging.

The following institutions continued their support to the laboratory through the payment of table subscriptions:

Eastman Kodak Co	$1,000
New York Zoological Society	300
American Museum of Natural History	300
Smithsonian Institution	300

It is gratifying to record again donations from Dr. Eugene Eisenmann of New York, Dr. Robert L. Goodale of Boston, and Dr. Robert Goelet of New York.

Those contemplating a visit to this unique spot of the Americas should communicate with the Secretary of the Smithsonian Institution, Washington 25, D. C., or with the Resident Manager of the Canal Zone Biological Area, Drawer C, Balboa, Canal Zone.

ACKNOWLEDGMENTS

Thanks are due to the Panama Canal Company, particularly the Dredging and Commissary Divisions and the Storehouses; the Canal Zone Government, especially the Police Division; and the officials and employees of the Panama Railroad for their wholehearted cooperation. Without their generous and unfailing assistance, the Area could not function so successfully.

Respecfully submitted.

JAMES ZETEK, *Resident Manager.*

Dr. LEONARD CARMICHAEL,
Secretary, Smithsonian Institution.

APPENDIX 11

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, 1953:

More than 100 foreign countries, including dominions, colonies, and protectorates, were represented among the 68,414 publications that came to the Smithsonian library, many of them through the International Exchange Service, during the past year. Of these publications, all except 734 books which were purchased, and the serial parts of the 430 journals for which the library subscribed, came either in exchange for Smithsonian publications or as gifts. The acquisiiton by exchange or gift of so large a proportion of the important additions, mostly serials, to the library each year is made possible by the cordial cooperation of issuing agencies all over the world and by the generosity of many friends. The constant inflow of these records of scientific and cultural advance is the lifeblood of research, and the library is the pipeline through which this indispensable material is channeled to all parts of the Institution.

The postwar years have seen many changes among scientific and other journals, but "births" continue to outnumber "deaths"; and in spite of wars and other vicissitudes the continuity of a surprising number of the series of publications issued by long-established institutions and learned societies has been unbroken. So eternal vigilance is necessary not only to see that important new serials are obtained but also that missing parts of old ones are procured as promptly as possible. This is especially true of complicated irregularly issued foreign serials, often published in very small editions which quickly go out of print. To meet the larger number of these needs, 573 new exchanges were arranged during the year, and 7,073 volumes and parts were obtained by exchange to fill gaps in existing sets or to supply individual publications on special subjects.

Of the many gifts presented to the library by generous friends, the Eugene N. Costales philatelic library was one of the largest. Together with the many rare nineteenth-century publications on philately that Malcom MacGregor added to his previously reported gifts, these were especially important additions to the library's fast-growing collection of philatelic literature.

Extensive as are the exchange relations of the Institution, there are many books and periodicals in its subject fields that can be ob-

tained only by purchase. In the face of limited funds, rising prices, and the unceasing and increasing output of scientific and technical literature, careful screening is imperative. Of the many books requested during the year only 734 could be bought. About half the allotment of funds had to be earmarked for subscriptions to periodicals; and as usual allowance had to be made for the purchase of the annual volumes of reference books on special subjects.

The library has no interest in acquiring rare books as such, but occasionally it is possible through one of the Institution's special funds to acquire a much-needed rare work. Notable among such during the year was the purchase out of the Frances Lee Chamberlain fund of the extremely rare Gastropoda parts, by W. Wenz, of the "Handbuch der Paläozoologie," for the division of mollusks. At present, this is the only complete and original copy of this very important work, published in seven parts in Berlin in 1938–44, known to be in this country. The stock of some of the parts was almost completely destroyed during the war.

Additions to the Smithsonian Deposit at the Library of Congress, mostly parts of serial publications, numbered 5,840, of which 261 went to the Langley Aeronautical Library. Other publications sent to the Library of Congress, counted but not individually cataloged or entered here in the serial records, were 2,250 doctoral dissertations, chiefly from European universities, 5,507 documents, mostly from foreign governments, and 14,231 miscellaneous pieces of literature, from all over the world, on subjects of little or no immediate interest to the Institution.

Many publications on subjects in the special fields of other Government agencies were transferred to those agencies, the largest number being 4,104 pieces sent to the Armed Forces Medical Library, 881 of which were medical dissertations.

Every effort was made to keep additions to the library's collection of duplicates to a minimum; 14,326 pieces sent to the United States Book Exchange for exchange credit reduced the collection somewhat but still made no appreciable visible impression on the whole.

Statistics of the catalog section show that 3,185 books were cataloged, 22,625 periodicals entered, and 31,761 new cards added to the catalog and shelf lists and that more than 110,000 cards were handled in the task of merging the two formerly separately maintained main catalogs. This merging of records points continually to the large amount of greatly needed cataloging or recataloging to be done, notably of special collections, which have previously been sketchily recorded, or not cataloged at all.

Funds for binding permitted only 700 volumes to be sent to the Government Printing Office bindery, and so the large backlog of binding continued to increase. In the library, 1,527 books were expertly repaired.

The 8,641 loans recorded during the year show only a fraction of the use of the library's collections. Many more than this number of books were consulted in the reference room and in the stacks of the main and branch libraries, while the annual use of publications on the highly specialized subjects of the different divisions of the Museum, shelved in their sectional libraries, could certainly be counted well up in the thousands. Intramural circulation of the 3,370 publications, mostly parts of periodicals, assigned to the sectional libraries for filing this past year, would alone, in terms of use, need to be multiplied by several times that number.

Beside the use of books within the Institution, the library serves, and is in turn served by, outside libraries through interlibrary loans. During the year, 82 different libraries throughout the country borrowed 965 books from us for the use of local scientists and other serious students. In addition to the many books borrowed from the Library of Congress, a large number of which were Smithsonian Deposit copies, 891 were borrowed from other libraries, chiefly from the library of the Department of Agriculture.

The reference and informational use of the library was especially heavy, and more than 27,000 questions, many of them in response to letters and telephone calls from outside the Institution, were answered in the reference and circulation section.

The virtual closing of the branch libraries because of understaffing made it extremely difficult to give more than token service from them to the staff of the Institution; and special arrangements had to be made to serve the visiting scholars who needed to have access to the material housed in them. The scattered, inconveniently arranged, and overcrowded housing of the library throughout the Institution, worsened by the hundreds of volumes needing binding or repair, has long since become a chronic and increasingly serious condition, for the full relief of which a practical solution is yet to be found.

SUMMARIZED STATISTICS

ACCESSIONS

	Volumes	Total recorded volumes, 1953
Smithsonian Deposit at the Library of Congress	82	584, 295
Smithsonian main library (includes former Office and Museum branches)	2, 142	289, 787
Astrophysical Observatory (includes Radiation Organisms)	62	14, 102
Bureau of American Ethnology	282	35, 350
National Air Museum	18	306
National Collection of Fine Arts	599	13, 284
National Zoological Park		4, 204
Total	3, 185	941, 328

Cataloged volumes only have been counted in the records of current accessions, and no incomplete volumes of serial publications or separates and reprints from serial publications are included in any of the totals.

EXCHANGES

New exchanges arranged	573
189 of these were for the Smithsonian Deposit.	
Specially requested publications received	7,073
999 of these were obtained to fill gaps in Smithsonian Deposit sets.	

CATALOGING

Volumes cataloged	3,185
Cards added to catalogs and shelf lists	31,761

PERIODICALS

Periodical parts entered	22,625
5,758 were for the Smithsonian Deposit.	

CIRCULATION

Loans of books and periodicals	8,641
Circulation of books and periodicals in sectional libraries is not counted, except in the division of insects.	

BINDING

Volumes sent to the Government Printing Office bindery	700
Volumes repaired in the library	1,527

Respectfully submitted.

LEILA F. CLARK, *Librarian.*

Dr. LEONARD CARMICHAEL,
Secretary, Smithsonian Institution.

APPENDIX 12

Report on Publications

SIR: I have the honor to submit the following report on the publications of the Smithsonian Institution and its branches for the year ended June 30, 1953:

The publications of the Smithsonian Institution are in two categories—those issued from federally appropriated funds (particularly the publications of the National Museum and the Bureau of American Ethnology, and the Smithsonian Report) and those issued under income from the Institution's various endowment funds (Smithsonian Miscellaneous Collections, publications of the Freer Gallery of Art, and special publications). Eight regular series are issued, plus six others that appear less frequently. Publications are distributed free to more than a thousand libraries, both in this country and abroad, as well as to a large list of educational and scientific organizations and specialists in various fields. The Smithsonian publications program is a major part in the Institution's endeavor to fulfill the diffusion-of-knowledge function prescribed by its founder.

During 1952–53 the Institution published 23 papers in the Smithsonian Miscellaneous Collections and title page and table of contents for 1 volume in this series; 1 Annual Report of the Board of Regents and pamphlet copies of 20 articles in the Report appendix, 1 Annual Report of the Secretary, and 1 special publication.

The United States National Museum issued 1 Annual Report of the Director, 13 Proceedings papers, 3 Bulletins, and 1 paper in the series Contributions from the United States National Herbarium.

The Bureau of Amercan Ethnology issued 1 Annual Report, 5 Bulletins, and 3 papers in the series Publications of the Institute of Social Anthropology.

The National Collection of Fine Arts issued 6 catalogs; and the Freer Gallery of Art published 1 paper in the Occasional Papers series.

At the end of the year practically all the galley proofs of the tables in the ninth revised edition of the Smithsonian Physical Tables had been received from the printer.

Of the publications there were distributed 177,675 copies, which included 11 volumes and separates of Smithsonian Contributions to Knowledge, 50,185 volumes and separates of Smithsonian Miscellaneous Collections, 31,317 volumes and separates of Smithsonian Annual Reports, 1,988 War Background Studies, 4,582 Smithsonian

275494—53——11

special publications, 49 reports and 142 sets of pictures of the Harriman Alaska Expedition, 41,111 volumes and separates of National Museum publications, 30,281 publications of the Bureau of American Ethnology, 8,315 publications of the Institute of Social Anthropology, 2,817 catalogs of the National Collection of Fine Arts, 583 volumes and pamphlets of the Freer Gallery of Art, 9 Annals of the Astrophysical Observatory, 2,554 reports of the American Historical Association, and 3,731 miscellaneous publications not published by the Smithsonian Institution (mostly Survival Manuals).

In addition, 22,851 picture pamphlets, 97,922 guide books, 119,881 natural-history, Smithsonian buildings, and art postcards, 14.825 sets of photo cards and picture postcards, 18 sets and 8 prints of North American Wild Flowers, and 4 volumes of Pitcher Plants were distributed.

The 1953 allotment from Government funds of $92,320 for printing and binding was entirely obligated at the close of the year.

SMITHSONIAN PUBLICATIONS

SMITHSONIAN MISCELLANEOUS COLLECTIONS

VOLUME 117

No. 12. Two aboriginal works of art from the Veracruz coast, by Philip Drucker. 7 pp., 3 pls., 1 fig. (Publ. 4091.) Aug. 26, 1952. (20 cents.)

No. 13. Primitive fossil gastropods and their bearing on gastropod classification, by J. Brookes Knight. 56 pp., 2 pls., 10 figs. (Publ. 4092.) Oct. 29, 1952. (60 cents.)

No. 14. New and unusual species of brachiopods from the Arbuckle group in Oklahoma, by G. Arthur Cooper. 35 pp., 4 pls. (Publ. 4093.) Sept. 23, 1952. (50 cents.)

No. 15. The foraminiferal genus *Triplasia* Reuss, 1854, by Alfred R. Loeblich, Jr., and Helen Tappan. 61 pp., 8 pls., 11 figs. (Publ. 4094.) Sept. 9, 1952. (60 cents.)

No. 16. Solar variation and precipitation at Peoria, Illinois, by C. G. Abbot, 18 pp., 8 figs. (Publ. 4095.) Sept. 3, 1952. (30 cents.)

No. 17. A generic synopsis of the lizards of the subfamily Lygosominae, by M. B. Mittleman. 35 pp. (Publ. 4096.) Nov. 4, 1952. (50 cents.)

No. 18. The lower Eocene Knight formation of western Wyoming and its mammalian fauna, by C. Lewis Gazin. 82 pp., 11 pls., 6 figs. (Publ. 4097.) Dec. 9, 1952. ($1.00.)

Title page and table of contents. (Publ. 4134.) [May 27] 1953.

VOLUME 119

No. 1. Cambrian stratigraphy and paleontology near Caborca, northwestern Sonora, Mexico, by G. Arthur Cooper et al. 184 pp., 31 pls., 9 figs., 2 charts. (Publ. 4085.) Aug. 6, 1952. ($3.00.)

No. 2. Permian fauna at El Antimonio, western Sonora, Mexico, by G. Arthur Cooper et al. 111 pp., 25 pls., 3 figs. (Publ. 4108.) June 25, 1953. ($2.50.)

VOLUME 121

No. 1. Geology of the San Jon site, eastern New Mexico, by Sheldon S. Judson. 70 pp., 5 pls., 22 figs. (Publ. 4098.) Mar. 5, 1953. ($1.15.)

No. 2. The birds of the Islands of Taboga, Taboguilla, and Uravá, Panamá, by Alexander Wetmore. 32 pp., 3 pls. (Publ. 4099.) Dec. 2, 1952. (35 cents.)

No. 3. A revision of the Colombian species of *Monnina*, by Ramón Ferreyra. 59 pp., 7 figs. (Publ. 4100.) Feb. 3, 1953. (50 cents.)

No. 4. Structure and function of the genitalia in some American agelenid spiders, by Robert L. Gering. 84 pp., 72 figs. (Publ. 4101.) Mar. 17, 1953. (80 cents.)

No. 5. Solar variation and precipitation at Albany, N .Y., by C. G. Abbot. 16 pp., 6 figs. (Publ. 4103.) Jan. 27, 1953. (30 cents.)

No. 6. Sponges of the Alaskan Arctic, by M. W. de Laubenfels. 22 pp., 12 figs. (Publ. 4104.) Mar. 19, 1953. (30 cents.)

No. 7. Some Recent Arctic Foraminifera, by Alfred R. Loeblich, Jr., and Helen Tappan. 150 pp., 24 pls., 1 fig. (Publ. 4105.) Apr. 2, 1953. ($2.00.)

No. 8. Western Atlantic scorpionfishes, by Isaac Ginsburg. 103 pp., 6 figs. (Publ. 4106.) May 28, 1953. ($1.10.)

No. 9. A new Devonian crinoid from western Maryland, by Arthur L. Bowsher. 8 pp., 1 pl., 1 fig. (Publ. 4107.) Apr. 16, 1953. (20 cents.)

No. 10. The Tillodontia : An early Tertiary order of mammals, by C. Lewis Gazin. 110 pp., 16 pls., 38 figs. (Publ. 4109.) June 23, 1953. ($1.50.)

No. 11. Geologic background of Iyatayet archeological site, Cape Denbigh, Alaska, by D. M. Hopkins and J. L. Giddings, Jr. 33 pp., 4 pls., 7 figs. (Publ. 4110.) June 11, 1953. (50 cents.)

No. 13. Regarding Washington, D. C., precipitation and temperature, 1952 and 1953, by C. G. Abbot. 7 pp., 2 figs. (Publ. 4130.) Mar. 3, 1953. (10 cents.)

VOLUME 122

No. 1. Long-range effects of the sun's variation on the temperature of Washington, D. C. 14 pp., 5 figs. (Publ. 4131.) May 12, 1953. (25 cents.)

No. 3. The metamorphosis of a fly's head, by R. E. Snodgrass. 25 pp., 7 figs. (Publ. 4133.) June 25, 1953. (30 cents.)

ANNUAL REPORTS

Report for 1951.—The complete volume of the Annual Report of the Board of Regents for 1951 was received from the printer October 7, 1952:

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, 1951. ix + 449 pp., 69 pls., 16 figs. (Publ. 4062.) 1952.

The general appendix contained the following papers (Publs. 4063–4082):

Stormy weather on the sun, by Walter Orr Roberts.

An appraisal of cloud seeding as a means of increasing precipitation, by Henry G. Houghton.

On Einstein's new theory, by Leopold Infeld.

Some results in the field of high-pressure physics, by P. W. Bridgman.

Ultrasonics, by Arthur R. Laufer.

The industrial applications of atomic energy, by M. L. Oliphant.

Some prospects in the field of electronics, by V. K. Zworykin.

The new chemical elements, by Saul Dushman.

The insides of metals, by Carl A. Zapffe.
Atomic weapons against cancer, by E. N. Lockard.
Enzymes: Machine tools of the cellular factory, by B. A. Kilby.
The fauna of America, by Austin H. Clark.
The mechanics of snakes, by Alfred Leutscher.
Hormones and the metamorphosis of insects, by V. B. Wigglesworth.
Utilizing our soil resources for greater production, by Robert M. Salter.
The carbon-14 method of age determination, by Frank H. H. Roberts, Jr.
River Basin Surveys: The first five years of the Inter-Agency Archeological and Paleontological Salvage Program, by Frank H. H. Roberts, Jr.
Artificial lighting in America: 1830–1860, by C. Malcolm Watkins.
The development of the halftone screen, by Jacob Kainen.
The artist and the atom, by Peter Blanc.

Report for 1952.—The Report of the Secretary, which will form part of the Annual Report of the Board of Regents to Congress, was issued January 8, 1953:

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, 1952. ix + 175 pp., 3 pls., 1 fig. (Publ. 4102.) 1953.

SPECIAL PUBLICATIONS

Dresses of the First Ladies of the White House, by Margaret W. Brown. 149 pp., 70 pls. (35 in color). (Publ. 4060.) [Aug. 19] 1952. ($6.00.)

PUBLICATIONS OF THE UNITED STATES NATIONAL MUSEUM

The editorial work of the National Museum continued under the immediate direction of the editor, John S. Lea. Ernest E. Biebighauser was added to the editorial staff on January 5, 1953, by transfer from the Public Health Service. The Museum issued during the year 1 Annual Report, 13 Proceedings papers, 3 Bulletins, and 1 paper in the series Contributions from the United States National Herbarium, as follows:

ANNUAL REPORT

Annual Report for the year ended June 30, 1952. iv + 103 pp. [Jan. 15, 1953.]

PROCEEDINGS

VOLUME 102

No. 3306. The sipunculid worms of California and Baja California, by Walter Kenrick Fisher. Pp. 371–450, pls. 18–39. July 8, 1952.

VOLUME 103

No. 3311. Two new naucorid bugs of the genus *Ambrysus*, by Ira La Rivers. Pp. 1–7, fig. 1. Feb. 12, 1953.
No. 3312. Two new scale-mite parasites of lizards, by R. F. Lawrence. Pp. 9–18, figs. 2–7. Mar. 10, 1953.
No. 3313. Notes on the biology and immature stages of a cricket parasite of the genus *Rhopalosoma*, by Ashley B. Gurney. Pp. 19–34, pl. 1, figs. 8 and 9. Mar. 10, 1953.

No. 3314. *Photuris bethaniensis*, a new lampyrid firefly, by Frank A. McDermott. Pp. 35–37. Feb. 26, 1953.

No. 3315. Distribution, general bionomics, and recognition characters of two cockroaches recently established in the United States, by Ashley B. Gurney. Pp. 39–56, pl. 2, fig. 10. Mar. 10, 1953.

No. 3316. Biting midges of the heleid genus *Stilobezzia* in North America, by Willis W. Wirth. Pp. 57–85, figs. 11 and 12. May 15, 1953.

No. 3317. Beetles of oedemerid genus *Vasaces* Champion, by Ross H. Arnett, Jr. Pp. 87–94, fig. 13. Apr. 30, 1953.

No. 3318. Scarabaeid beetles of the genus *Bradycinetulus* and closely related genera in the United States, by O. L. Cartwright. Pp. 95–120, pls. 3 and 4, figs. 14–16. June 5, 1953.

No. 3319. The chrysomelid beetles of the genus *Strabala* Chevrolat, by Doris Holmes Blake. Pp. 121–134, fig. 17. June 5, 1953.

No. 3320. American biting midges of the heleid genus *Monohelea*, by Willis W. Wirth. Pp. 135–154, figs. 18 and 19. June 17, 1953.

No. 3321. A review of the beetle family Cephaloidae, by Ross H. Arnett, Jr. Pp. 155–161, pl. 5, fig. 20. May 15, 1953.

No. 3322. The fresh-water triclads (Turbellaria) of Alaska, by Roman Kenk. Pp. 163–186, pls. 6–8, figs. 21–25. June 5, 1953.

BULLETINS

200. The generic names of the beetle family Staphylinidae, by Richard E. Blackwelder. iv + 483 pp. July 21, 1952.

203. Life histories of North American wood warblers, by Arthur Cleveland Bent. Pp. xi + 734, 83 pls. June 15, 1953.

204. Catalog of the cycle collection of the Division of Engineering, United States National Museum, by Smith Hempstone Oliver. Pp. vi + 40, 24 pls., 1 fig. May 26, 1953.

CONTRIBUTIONS FROM THE UNITED STATES NATIONAL HERBARIUM

VOLUME 30

Part 5. Studies of Pacific Island plants, XV. The genus *Elaeocarpus* in the New Hebrides, Fiji, Samoa, and Tonga, by A. C. Smith. Pp. i–v + 523–575. [May 8] 1953.

PUBLICATIONS OF THE BUREAU OF AMERICAN ETHNOLOGY

During the year the Bureau issued 1 Annual Report, 5 Bulletins, and 3 papers in the series Publications of the Institute of Social Anthropology, as follows:

ANNUAL REPORT

Sixty-ninth Annual Report of the Bureau of American Ethnology, 1951–1952. ii + 30 pp. [Feb. 6] 1953.

BULLETINS

145. The Indian tribes of North America, by John R. Swanton. Pp. i–vi + 1–726, 5 maps. [Nov. 10] 1952.

150. The modal personality structure of the Tuscarora Indians, as revealed by the Rorschach test, by Anthony F. C. Wallace. Pp. i–viii + 1–120, 1 pl. 8 figs. [Oct. 9] 1952.

151. Anthropological Papers, Nos. 33–42. Pp. i–ix + 1–507, 37 pls., 25 figs., 7 maps. [Mar. 16] 1953.

No. 33. "Of the Crow Nation," by Edwin Thompson Denig, edited, with biographical sketch and footnotes, by John C. Ewers.

No. 34. The water lily in Maya art: A complex of alleged Asiatic origin, by Robert L. Rands.

No. 35. The Medicine Bundles of the Florida Seminole and the Green Corn Dance, by Louis Capron.

No. 36. Technique in the music of the American Indian, by Frances Densmore.

No. 37. The belief of the Indian in a connection between song and the supernatural, by Frances Densmore.

No. 38. Aboriginal fish poisons, by Robert F. Heizer.

No. 39. Aboriginal navigation off the coasts of Upper and Baja California, by Robert F. Heizer and William C. Massey.

No. 40. Exploration of an Adena mound at Natrium, West Virginia, by Ralph S. Solecki.

No. 41. The Wind River Shoshone Sun Dance, by D. B. Shimkin.

No. 42. Current trends in the Wind River Shoshone Sun Dance, by Fred W. Voget.

153. La Venta, Tabasco: A study of Olmec ceramics and art, by Philip Drucker. Pp. i–x+1–257, 66 pls., 64 figs. [Dec. 17] 1952.

155. Prehistoric settlement patterns in the Virú Valley, Perú, by Gordon R. Willey. Pp. i–xxii + 1–453, 60 pls., 88 figs. [Apr. 10] 1953.

PUBLICATIONS OF THE INSTITUTE OF SOCIAL ANTHROPOLOGY

No. 13. The Tajín Totonac. Part 1. History, subsistence, shelter, and technology, by Isabel Kelly and Angel Palerm. Pp. i–xiv + 1–369, 33 pls., 69 figs., 18 maps. [Sept. 22] 1952.

No. 15. Indian tribes of northern Mato Grosso, Brazil, by Kalervo Oberg. Pp. i–vii+1–144, 10 pls., 2 figs., 3 maps, 14 charts. [Apr. 2] 1953.

No. 16. Penny Capitalism: A Guatemalan Indian economy, by Sol Tax. Pp. i–x + 1–230, 6 maps, 19 charts. [June 16] 1953.

PUBLICATIONS OF THE NATIONAL COLLECTION OF FINE ARTS

Contemporary Swiss paintings. (Smithsonian Institution Traveling Exhibition Service). Illustrated. [July 1952.]

Reveries of Paris, by Edwin Scott (1863–1929). Illustrated. [August 1952.]

French drawings. (Smithsonian Institution Traveling Exhibition Service.) Illustrated. [November 1952.]

Pastel portraits by Alice Pike Barney, and Paintings of Paris by Edwin Scott. Illustrated. [November 1952.]

Art and magic in Arnhem Land. (Smithsonian Institution Traveling Exhibition Service.) Illustrated. [November 1952.]

Design from Britain. (Smithsonian Institution Traveling Exhibition Service.) Illustrated. [May 1953.]

PUBLICATIONS OF THE FREER GALLERY OF ART

OCCASIONAL PAPERS

VOLUME 2

No. 1. Fourteenth-century blue-and-white: A group of Chinese porcelains in the Topkapu Sarayı Müzesı, Istanbul, by John Alexander Pope. 85 pp., 44 pls. [July 1] 1952.

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 by him communicated to Congress, as provided by the act of incorporation of the Association. The following report volumes were issued during the year:

Annual Report of the American Historical Association, 1950. Vol. 2. Writings on American history, 1948. xxxiii + 462 pp. [Oct. 31] 1952.

Annual Report of the American Historical Association, 1951. Vol. 1. Proceedings and list of members. 207 pp. [Apr. 14] 1953.

REPORT OF THE NATIONAL SOCIETY, DAUGHTERS OF THE AMERICAN REVOLUTION

The manuscript of the Fifty-fifth Annual Report of the National Society, Daughters of the American Revolution, was transmitted to Congress, in accordance with law, on January 28, 1953.

Respectfully submitted.

PAUL H. OEHSER, *Chief, Editorial Division.*

Dr. LEONARD CARMICHAEL,
Secretary, Smithsonian Institution.

Report of the Executive Committee of the Board of Regents of the Smithsonian Institution

For the Year Ended June 30, 1953

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, and other incidental expenses, 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, the income from which may be used for the general work of the Institution. These, including the original bequest, plus savings, are listed below, together with the income for the present year.

ENDOWMENT FUNDS

(Income for the unrestricted use of the Institution)

Partly deposited in the United States Treasury at 6 percent and partly invested in stocks, bonds, and other holdings

Fund	Investment	Income present year
Parent fund (original Smithson bequest, plus accumulated savings)	$728,977.24	$43,726.13
Subsequent bequests, gifts, and other funds, partly deposited in the U. S. Treasury and partly invested in the consolidated fund:		
Abbott, W. L., special fund	5,270.00	52.00
Avery, Robert S. and Lydia, bequest fund	57,267.18	3,031.80
Endowment fund	387,154.40	19,612.18
Habel, Dr. S., bequest fund	500.00	30.00
Hachenberg, George P. and Caroline, bequest fund	4,405.40	223.12
Hamilton, James, bequest fund	2,942.20	172.42
Henry, Caroline, bequest fund	1,324.81	67.09
Hodgkins, Thomas G. (general gift)	149,182.04	8,640.91
Porter, Henry Kirke, memorial fund	313,713.17	15,891.75
Rhees, William Jones, bequest fund	1,108.21	61.67
Sanford, George H., memorial fund	2,075.12	115.37
Witherspoon, Thomas A., memorial fund	141,360.51	7,160.86
Total	1,066,303.04	55,059.17
Grand total	1,795,280.28	98,785.30

The Institution holds also a number of endowment gifts, the income of each being restricted to specific use. These, plus accretions to date, are listed below, together with income for the present year.

Fund	Investment	Income present year
Abbot, William L., fund, for investigations in biology	$114,655.51	$5,786.26
Arthur, James, fund, for investigations and study of the sun and annual lecture on same	43,808.44	2,219.20
Bacon, Virginia Purdy, fund, for traveling scholarship to investigate fauna of countries other than the United States	54,880.05	2,779.99
Baird, Lucy H., fund, for creating a memorial to Secretary Baird	26,373.56	1,335.98
Barney, Alice Pike, memorial fund, for collecting of paintings and pastels and for encouragement of American artistic endeavor	26,477.87	1,341.25
Barstow, Frederick D., fund, for purchase of animals for Zoological Park	1,095.17	55.49
Canfield Collection fund, for increase and care of the Canfield collection of minerals	41,895.57	2,122.29
Casey, Thomas L., fund, for maintenance of the Casey collection and promotion of researches relating to Coleoptera	13,730.13	695.53
Chamberlain, Francis Lea, fund, for increase and promotion of Isaac Lea collection of gems and mollusks	30,846.83	1,562.61
Dykes, Charles, bequest fund, for support in financial research	47,166.59	2,388.99
Eickemeyer, Florence Brevoort, fund, for preservation and exhibition of the photographic collection of Rudolph Eickemeyer, Jr	11,906.67	603.17
Hillyer, Virgil, fund, for increase and care of Virgil Hillyer collection of lighting objects	7,199.12	364.67
Hitchcock, Albert S., library fund, for care of the Hitchcock Agrostological library	1,728.46	87.56
Hodgkins fund, specific, for increase and diffusion of more exact knowledge in regard to nature and properties of atmospheric air	100,000.00	6,000.00
Hrdlička, Aleš and Marie, fund, to further researches in physical anthropology and publication in connection therewith	34,747.61	1,675.31
Hughes, Bruce, fund, to found Hughes alcove	20,967.27	1,062 16
Long, Annette and Edith C., fund, for upkeep and preservation of Long collection of embroideries, laces, and textiles	594.78	30.12
Maxwell, Mary E., fund, for care and exhibition of Maxwell collection	21,485.60	1,088.36
Myer, Catherine Walden, fund, for purchase of first-class works of art for use and benefit of the National Collection of Fine Arts	20,763.96	1,051.81
Nelson, Edward W., fund, for support of biological studies	5,290.60	147.43
Noyes, Frank B., fund, for use in connection with the collection of dolls placed in the U. S. National Museum through the interest of Mr. and Mrs. Noyes	1,052.40	53.33
Pell, Cornelia Livingston, fund, for maintenance of Alfred Duane Pell collection	8,119.55	411.31
Poore, Lucy T. and George W., fund, for general use of the Institution when principal amounts to $250,000	155,971.69	7,757.27
Rathbun, Richard, memorial fund, for use of division of U. S. National Museum containing Crustacea	11,650.56	590.19
Reid, Addison T., fund, for founding chair in biology, in memory of Asher Tunis	31,440.75	1,692.52
Roebling Collection fund, for care, improvement, and increase of Roebling collection of minerals	132,200.95	6,696.88
Rollins, Miriam and William, fund, for investigations in physics and chemistry	102,854.58	5,210.36
Smithsonian employees' retirement fund	30,221.14	1,590.59
Springer, Frank, fund, for care and increase of the Springer collection and library	19,643.49	995.06
Strong, Julia D., bequest fund, for benefit of the National Collection of Fine Arts	10,952.22	554.79
Walcott, Charles D. and Mary Vaux, research fund, for development of geological and paleontological studies and publishing results thereof	486,060.81	21,419.18
Walcott, Mary Vaux, fund, for publications in botany	63,407.02	3,212.10
Younger, Helen Walcott, fund, held in trust	69,077.72	3,120.88
Zerbee, Frances Brinckle, fund, for endowment of aquaria	1,039.05	52.65
Total	1,749,305.72	86,162.30

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 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.

The above fund of Mr. Freer was almost entirely represented by 20,465 shares of stock in Parke, Davis & Co. As this stock advanced in value, much of it was sold and the proceeds reinvested so that the fund now amounts to $6,951,703.80 in selected securities.

SUMMARY OF ENDOWMENTS

Invested endowment for general purposes	$1, 795, 280. 28
Invested endowment for specific purposes other than Freer endowment	1, 749, 305. 72
Total invested endowment other than Freer endowment	3, 544, 586. 00
Freer invested endowment for specific purposes	6, 951, 703. 80
Total invested endowment for all purposes	10, 496, 289. 80

CLASSIFICATION OF INVESTMENTS

Deposited in the U. S. Treasury at 6 percent per annum, as authorized in the U. S. Revised Statutes, sec. 5591		1, 000, 000. 00
Investments other than Freer endowment (cost or market value at date acquired):		
Bonds	$873, 194. 93	
Stocks	1, 558, 447. 71	
Real estate and first-mortgage notes	6, 071. 00	
Uninvested capital	106, 872. 36	
		2, 544, 586. 00
Total investments other than Freer endowment		3, 544, 586. 00
Investments of Freer endowment (cost or market value at date acquired):		
Bonds	$4, 012, 130. 08	
Stocks	2, 925, 890. 21	
Uninvested capital	13, 683. 51	
		6, 951, 703. 80
Total investments		10, 496, 289. 80

CASH BALANCES, RECEIPTS, AND DISBURSEMENTS DURING FISCAL YEAR 1953[1]

Cash balance on hand June 30, 1952		$511,063.79
Receipts, other than Freer endowment:		
Income from investments	$207,174.39	
Gifts and contributions	120,932.05	
Books and publications	42,325.07	
Miscellaneous	30,612,65	
Proceeds from real estate	8,643.96	
Payroll withholdings and refund of advances (net)	375.05	
Proceeds from other stocks and bonds (net)	102,912.53	
Total receipts other then Freer endowment		512,975.70
Receipts from Freer endowment:		
Interest and dividends	$326,453.31	
Proceeds from sales and purchases (net)	13,477.04	
Total receipts from Freer endowment		339,930.35
Total		1,363,969.84
Disbursements other than Freer endowment:		
Administration	$95,643.45	
Publications	28,196.50	
Library	855.51	
Custodian fees and servicing securities	1,260.72	
Miscellaneous	2,213.40	
Researches	194,674.67	
S. I. Retirement System	2,768.34	
U. S. Government and other contracts (net)	571.63	
Purchase and sale of securities (net)	130,637.20	
Total disbursements other than Freer endowment		456,821.42
Disbursements from Freer endowment:		
Salaries	$108,485.59	
Purchases for art collection	134,955.00	
Custodian fees and servicing securities	10,494.99	
Miscellaneous	20,041.87	
Total disbursements from Freer endowment		273,977.45
Disbursements of current funds for investments in U. S. Government bonds:		
Purchases	$798,746.76	
Sold or redeemed	699,406.13	
Total disbursements of current funds for investments in U. S. Government bonds (net)		99,340.63
Total disbursements		830,139.50
Cash balance June 30, 1953		533,830.34
Total		1,363,969.84

[1] This statement does not include Government appropriations under the administrative charge of the Institution.

ASSETS

Cash:			
United States Treasury current account	$369, 195. 19		
In banks and on hand	164, 665. 15		
	533, 860. 34		
Less uninvested endowment funds	120, 555. 87		
		$413, 304. 47	
Travel and other advances		16, 252. 81	
Cash invested (U. S. Treasury notes)		699, 594. 60	
			$1, 129, 151. 88
Investments—at book value:			
Endowment funds:			
Freer Gallery of Art:			
Stocks and bonds	$6, 938, 020. 29		
Uninvested cash	13, 683. 51		
		6, 951, 703. 80	
Investments at book value other than Freer:			
Stocks and bonds	$2, 431, 642. 64		
Real-estate and mortgage notes	6, 071. 00		
Uninvested cash	106, 872. 36		
Special deposit in U. S. Treasury at 6 percent interest	1, 000, 000. 00		
		3, 544, 586. 00	
			10, 496, 289. 80
			11, 625, 441. 68

UNEXPENDED FUNDS AND ENDOWMENTS

Unexpended funds:			
Income from Freer Gallery of Art endowment			$477, 020. 89
Income from other endowments:			
Restricted		$246, 696. 79	
General		126, 323. 90	
			373, 020. 69
Gifts and grants			279, 110. 30
			1, 129, 151. 88
Endowment funds:			
Freer Gallery of Art		$6, 951, 703. 80	
Other:			
Restricted	$1, 749, 305. 72		
General	1, 795, 280. 28		
		3, 544, 586. 00	
			10, 496, 289. 80
			11, 625, 441. 68

The practice of maintaining savings accounts in several of the Washington banks and trust companies has been continued during the past year, and interest on these deposits amounted to $871.17.

In many instances, deposits are made in banks for convenience in collection of checks, and later such funds are withdrawn and deposited in the United States Treasury. Disbursement of funds is made by check signed by the Secretary of the Institution and drawn on the United States Treasury.

The foregoing report relates only to the private funds of the Institution.

The Institution gratefully acknowledges gifts from the following:

Brittain Thompson.
Laura D. Barney, additional gift for the Alice Pike Barney memorial fund.
Rose Banon.
Robert M. de Calry.
Guggenheim Foundation, grant for Honey Guide Bird Publication.
E. A. Link, Link Aviation Corporation, additional gift for historical research (marine archeology).
Dr. R. C. Moore, for illustrations fund for Foraminifera.
National Science Foundation, for research, Descriptive Flora of the Fiji Islands.
National Science Foundation, grant for foreign exchanges.
Edward W. Nelson, for biological studies.
National Geographic Society, for archeological work in Panama.
Research Corporation, for Canal Zone Biological Area.

The following appropriations were made by Congress for the Government bureaus under the administrative charge of the Smithsonian Institution for the fiscal year 1953:

Salaries and expenses	$2,419,500.00
National Zoological Park	615,000.00

In addition, funds were transferred from other departments of the Government for expenditure under the direction of the Smithsonian Institution as follows:

Working fund (transferred to the Smithsonian Institution by the Institute of Inter-American Affairs)	$24,287.37
Working funds, transferred from the National Park Service, Interior Department, for archeological investigations in river basins throughout the United States	122,700.00

The Institution also administers a trust fund for partial support of the Canal Zone Biological Area, located on Barro Colorado Island in the Canal Zone.

The report of the audit of the Smithsonian private funds follows:

WASHINGTON, D. C., *September 8, 1953.*

TO THE BOARD OF REGENTS,
Smithsonian Institution,
Washington 25, D. C.:

We have examined the accounts of the Smithsonian Institution relative to its private endowment funds and gifts (but excluding the National Gallery of Art and other departments, bureaus, or operations administered by the Institution under Federal appropriations) for the year ended June 30, 1953. Our examina-

tion was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

The Institution maintains its accounts on a cash basis and does not accrue income and expenses. Land, buildings, furniture, equipment, works of art, living and other specimens and certain sundry property are not included in the accounts of the Institution.

In our opinion, the accompanying financial statements present fairly the position of the private funds and the cash and investments thereof of the Smithsonian Institution at June 30, 1953 (excluding the National Gallery of Art and other departments, bureaus, or operations administered by the Institution under Federal appropriations) and the cash receipts and disbursements for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

PEAT, MARWICK, MITCHELL & CO.

Respectfully submitted.

ROBERT V. FLEMING,
VANNEVAR BUSH,
CLARENCE CANNON,
Executive Committee.

○

SMITHSONIAN INSTITUTION LIBRARIES
3 9088 01583 1084