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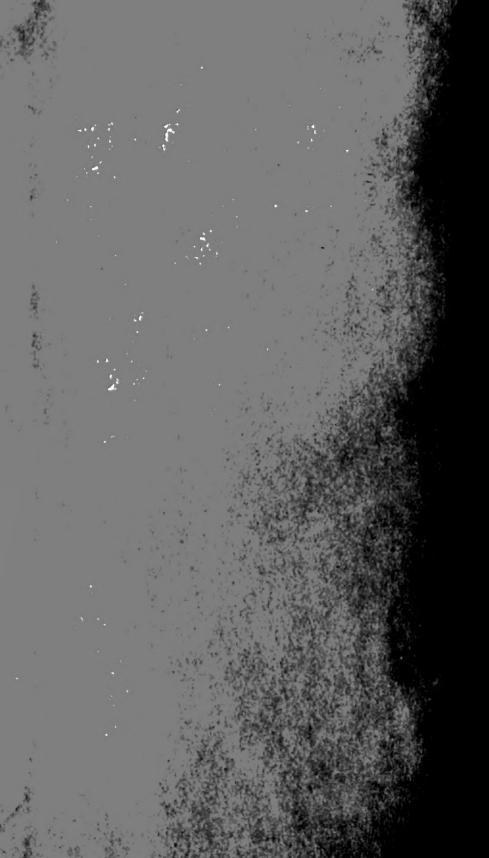
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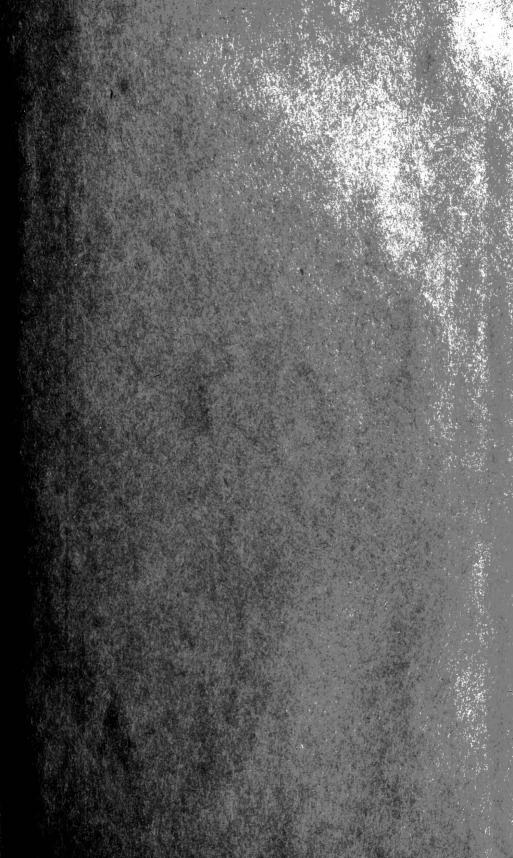
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PUBLICATIONS

of

FIELD MUSEUM OF NATURAL HISTORY

REPORT SERIES Volume XII



CHICAGO, U.S.A. 1939–1941 JUL 3 0 1942 JUL 3 0 1942 JULERSITY OF ILLINOIS



ANNUAL REPORT OF THE DIRECTOR

TO THE

BOARD OF TRUSTEES

FOR THE YEAR 1941



JUL 3 0 1942 UNIVERSITY OF ILLINOIS

REPORT SERIES
FIELD MUSEUM OF NATURAL HISTORY
VOLUME 12, NUMBER 3
JANUARY, 1942

PUBLICATION 515



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OF THE



ANNUAL REPORT OF THE DIRECTOR

TO THE

BOARD OF TRUSTEES

FOR THE YEAR 1941

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REPORT SERIES

FIELD MUSEUM OF NATURAL HISTORY

VOLUME 12, NUMBER 3

JANUARY, 1942

PUBLICATION 515

CONTENTS

st of Plates	10.5
	335
	337
	338
	339
	340
	343
	362
Department of Botany	371
Department of Geology	382
Department of Zoology	889
N. W. Harris Public School Extension	399
James Nelson and Anna Louise Raymond Foundation for Public School and Children's Lectures	102
	102
	110
	112
	116
	20
	22
Public Relations	27
Membership	29
Comparative Attendance Statistics and Door Receipts 4	32
Comparative Financial Statements 4	33
List of Accessions	34
Articles of Incorporation	49
Amended By-Laws	51
st of Members	56
	56
	56

CONTENTS

List of Members Continued	TAGE
Patrons	456
Corresponding Members	457
Contributors	457
Corporate Members	458
Life Members	458
Non-Resident Life Members	460
Associate Members	461
Non-Resident Associate Members	475
Sustaining Members	475
Annual Members	475

LIST OF PLATES

FACING

		AGE
23.	Solomon A. Smith	331
24.	Cup Stand from Kish	342
25.	Pit House near Reserve, New Mexico	362
26.	A Cassava Mill in Northeastern Brazil	374
27.	Seaweeds on the North Atlantic Coast	380
28.	New Type of Exhibit in Paleontology	388
29.	Green Peafowl	396
30.	A Group of American Crocodiles Sunning on a Rocky Reef $$.	404
31.	Portable Natural History Exhibit for Chicago Schools	408
32.	A Glimpse of Part of the New Hall of Gems and Jewels	
	(Holl 91)	191



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CUP STAND FROM KISH

Bronze, with drinking vessel of stone. The base of the stand is cast in the form of a frog, with inlays of shell for eyes. From a Sumerian tomb, 3000 B.C.

Hall of Babylonian Archaeology (Hall K)

THE UNIVERSITY OF ILLINOIS

ANNUAL REPORT OF THE DIRECTOR

1941

To the Trustees of Field Museum of Natural History:

I have the honor to present a report of the operations of the Museum for the year ending December 31, 1941.

During the past year I have been on active duty with the United States Army, serving at Sixth Corps Area Headquarters in Chicago. I desire to express my sincere appreciation to the Board of Trustees for permitting me to continue as Director of the Museum during this period. I further desire to record my gratitude to President Stanley Field, who by assuming many of the duties which normally fall to the Director has made it possible for me to carry the remaining load in the evening hours and in the week-ends at my disposal.

The activities of the past year have been colored somewhat by anticipation of the impending war, which finally came to our country on December 7. Every effort was made at the Museum to bring to a conclusion the many required tasks of maintenance and the many purchases of equipment which might be difficult to obtain due to the increasing restrictions brought about by so-called "defense priorities."

On June 30 the federal Work Projects Administration program at Field Museum was discontinued by governmental order to make available the full force of WPA assistance for other projects closely connected with the national defense efforts. The administration of Field Museum had long anticipated the discontinuance of this program, and the Director had repeatedly warned the staff to bring as many special projects to a conclusion as possible. It was desired to avoid being caught with several unfinished projects on hand and no labor available. This course of action proved to be a wise one. Temporary provision was made for a very few unfinished items of business, as it was manifestly impossible to foresee accurately the exact month when discontinuance of WPA work would occur.

During the latter part of the year plans were made for operations on a greatly reduced scale, because the current and future enormous increases in taxation are almost certain to be felt in the way of reduced income for this institution. The competition for contributions, due to the needs of many worth-while wartime projects such as United Service Organizations, the Red Cross, and others, together

with the proper desire of our citizens to purchase as large quantities as possible of government bonds for war purposes, is bound to be felt in the form of loss of income at the Museum. It seems proper, then, to plan to operate on a reduced income, maintaining as far as is possible all of the many services available to the public in order that the influence of this institution may still be felt at a time when normal educational and cultural influences are most necessary. It is hoped, however, that Members of the Museum will appreciate the problems of this institution as well as its services to the public, and will therefore continue their support to the best of their ability. It is encouraging to note that despite the increasing demands made upon the public purse, the Museum achieved a modest gain in memberships during 1941. There were 4,313 names of Members on the rolls at December 31 as compared with 4,225 on the corresponding date of the previous year.

One of the major undertakings completed during the year was the relocation and reconstruction of the Library so as to make it more easily available to the public. The opportunity was seized to install the finest type of indirect lighting available, and further, to build into the new library many of the features found to be helpful through an experience of twenty years in its former location. The space formerly occupied by the Library has been converted into a stackroom, where provision has been made in advance to take care of the expected increases in space demands due to the additional books and pamphlets which are continually being acquired. It has also been possible to provide for the binding of many years' accumulation of periodicals, and for the rebinding of many fine volumes which had suffered from years of almost constant use.

Another outstanding improvement accomplished during 1941 was the reinstallation of the splendid collection of gems and jewelry in H. N. Higinbotham Hall (Hall 31). These beautiful and valuable precious and semi-precious stones had been displayed since 1894 in the original cases which contained them at the time of their acquisition. It is historically interesting to recall further that these cases housed the basic collection at the 1893 World's Columbian Exposition in Chicago. During the intervening years tremendous improvements have been made in case-building, room construction, and lighting. The opening of the new hall late in June brought amazement to many who were quite familiar with the collections, for their great beauty had been so inadequately brought out in the former installation that a sharply striking and certainly most pleasing con-

trast was provided by the improvements now achieved. On the day of opening, a reception and tea were announced for the Members of the Museum, many of whom responded and were welcomed to the new Hall of Gems.

One of the most unusual exhibits in any museum of anthropology or natural history is that of the mummy Harwa, which was installed in the Hall of Egyptian Archaeology (Hall J) in 1941 after being seen by millions at the New York World's Fair during 1939 and 1940. This mummy came to America in 1904 and has been a part of Field Museum's collection since that time. It was lent to the General Electric X-ray Corporation for the purpose of their special exhibit, due to the fact that this institution and that company had previously co-operated in experiments to perfect the technique of X-raying material of this type. At the close of the second year of the fair in New York, the General Electric X-ray Corporation, in appreciation, graciously presented the entire exhibit to Field Museum. desire here to express publicly the sincere thanks of this institution for such a splendid gift. The exhibit has been placed in a special chamber in Hall J. There visitors may see Harwa first in his external mummy wrappings; then, automatically, a fluoroscopic screen moves in front of the mummy and an electric current of 125,000 volts activates X-rays which penetrate to Harwa's interior and project the image of his ancient skeleton on the screen. Lead glass protects visitors from being harmed by the rays. The X-ray and mechanical equipment were especially designed and built for this particular purpose, at a cost of many thousands of dollars. General Electric engineers and technicians assisted in the work of installing it at the Museum. When visitors to the Egyptian Hall are few in number, they may themselves operate the exhibit by pushing a button. On days when there are many visitors, the cycle is repeated automatically at 40-second intervals throughout the day.

The opening in 1941 of the Hall of Fishes (Hall O) on the ground floor completes a series of three splendid halls which are devoted to marine life. The Hall of Marine Mammals (Hall N) occupies a central position and contains habitat groups of seals, sea lions, manatee, and narwhal. On the south side of this hall is the Hall of Lower Invertebrates (Hall M) which was announced in the Annual Report of the Director for the year 1939. The new Hall of Fishes, which was opened in July, is adjacent to and directly connected with the Hall of Marine Mammals. Habitat groups include one showing the fishes of the Bahama coral reefs, another showing the

rocky coast of Maine, and one of the sandy ocean floor of the Texas coast. In addition, there is an extensive systematic collection of fishes in kindred forms running from the giant whale-shark down to the tiny frog-fish from the Sargasso Sea.

Throughout this report there are cited many instances of new exhibits which have been opened to the public. It is only natural that any reader would attribute full credit to the department sponsoring each exhibit. Little thought or appreciation is given to the Division of Maintenance or the Division of Engineering through whose efforts the painstaking details of case-planning, lighting, construction, and even to a large extent the actual installation are carried out. I am pleased to call especial attention to the effectiveness, thoroughness, and spirit of co-operation with which these divisions carry on their work.

There are many persons whose names are not found in the press reports or on the labels of the Museum exhibits, who contribute valuable service without which the Museum could not continue. I acknowledge a debt of gratitude to the many men and women who perform routine jobs with skill and extreme care, and who thus contribute to the maintenance of the good name of this institution.

A development which will contribute greatly to the comfort and convenience of the public was the replacement with new facilities, at a cost approximating \$30,000, of the former distantly separated men's and women's lavatories. The new arrangement consists of a lobby, providing smoking-room and rest-room accommodations and a meeting place for both men and women, on either side of which are new lavatories with capacity double that formerly available, and fitted out with the most modern equipment. Details of this, and other construction and maintenance accomplishments, including tuck pointing of the Museum building and rebuilding of the parapet walls on the north side of the building, will be found in this Report under the heading Maintenance and Construction (page 422).

After the entrance of the United States into the war, such steps were taken throughout the building as were considered necessary to provide protection against possible new hazards from saboteurs, fire, and other eventualities.

In times such as those through which we are now living, preservation of public morale is generally conceded to be one of the most important factors toward winning the war and winning the peace to which we look forward. Field Museum and kindred institutions are performing and must continue to perform a leading function in this respect both for men in the armed services of the nation and for The value of the Museum as a haven for mental and spiritual rehabilitation is recognized by Army and Navy authorities. and groups of soldiers, sailors, marines, and coast guardsmen, when on leave or furlough, are constantly coming to the Museum. Admission to the Museum is free of charge on all days to men in military uniform. The attendance during 1941—1,258,147 persons indicates that the Museum is serving its role as a morale sustainer and morale builder. Although this attendance was somewhat under that of the preceding year, it compares favorably with the average of other recent years. Slight fluctuations from the general level established over a period of years are naturally to be expected, and can hardly be considered as abnormal. Further illustration of the tendency toward unaccountable fluctuations is afforded by the number of paid admissions which went in the opposite direction. increasing to 86,535 as against 80,888 in 1940.

In addition to those actually visiting the Museum itself, the institution's benefits were extended, as in past years, to many additional hundreds of thousands outside the Museum, through traveling exhibits circulated by the N. W. Harris Public School Extension, and through the extension lectures provided in the schools by the James Nelson and Anna Louise Raymond Foundation for Public School and Children's Lectures. Further, as has been emphasized in past Reports, scientific information originating in Field Museum reaches probably millions of other people in this country and elsewhere through such channels as thousands of newspapers and periodicals, the institution's own publications, and the radio.

Programs such as the Museum's spring and autumn courses of lectures for adults, the spring, summer and autumn series of moving picture programs for children presented by the Raymond Foundation, the daily guide-lecture tours, the Sunday afternoon Layman Lectures presented by Mr. Paul G. Dallwig, and other special events, were responsible for bringing more than 110,000 persons to the Museum. Special groups included the annual delegations of farm boys and girls sent to the Museum by the National Congress of Four-H Clubs, the adult graduating class of the Chicago Public Schools, whose commencement exercises were held in the James Simpson Theatre, the American Society of Mammalogists, which held its annual convention at the Museum, the American Oriental Society, the Hoosier Salon Patrons Association, and the Chicago Chapter of the American Gem Society.

Due to the abnormal conditions existing in the world, and their effect upon the yield of such securities as are held in the endowment funds of the Museum, this institution is more than usually dependent upon the generous contributions of its benefactors. Acknowledgment is hereby made to those who have contributed to the Museum's funds, and also to those who have given material for use in the exhibits, study collections, and Library.

Mr. Marshall Field, member of the Board of Trustees, again, as for many years past, was the Museum's outstanding individual supporter, his contributions during 1941 amounting to the sum of \$282,815.24, or more than one-third of the Museum's entire expenditures for the year.

The special fund maintained by Mr. Stanley Field, President of the Museum, for designated purposes and purposes to be designated was augmented during 1941 by his gifts totaling \$29,003.

The operations of the James Nelson and Anna Louise Raymond Foundation for Public School and Children's Lectures were supported, as they have been ever since 1925, by the Founder, Mrs. James Nelson Raymond, who during 1941 contributed \$6,000 for this purpose.

Mrs. Richard T. Crane, Jr., presented twenty-three gems, valued at \$25,000, for addition to the collections in the new H. N. Higin-botham Hall of Gems and Jewels. This hall is named in honor of Mrs. Crane's father, who provided the original and major part of the collection in 1894. He served as a Trustee in the period from 1894 until his death in 1919, and was the second President of the Museum (1898-1908).

Another notable contribution for Higinbotham Hall is a beautiful stained glass window by Tiffany, valued at \$1,000, and presented by Mr. F. G. James, of Cleveland, Ohio. The installation of this window in the hall adds greatly to the pleasing decor of the room. In recognition of this gift, the Trustees elected Mr. James to membership as a Contributor Mrs. Crane's name already had been on the list of Contributors for some years past as a result of other gifts she had made at various times).

Gifts from Mr. Leon Mandel amounted to \$1,747.76. Also, at his own expense, Mr. Mandel sponsored an expedition to the Galapagos Islands.

Prior to his much regretted death, on August 26, 1941, Mr. Charles H. Schweppe, for years a generous contributor to the

Museum, made a further gift of \$2,000 for an exhibition project toward which he had given \$2,500 in the preceding year.

Dr. Louis B. Bishop, of Pasadena, California, was elected a Contributor following the receipt of his gift of 1,180 specimens of birds (valued at more than \$2,210) for addition to the Bishop Collection of Birds, which he founded. Since acquisition by the Museum in 1939 of the major portion of its more than 50,000 specimens, the Bishop Collection has constituted one of the principal resources of the Division of Ornithology.

The continued purchase of specimens of birds of prey for addition to the collection begun by the late Leslie Wheeler, former Trustee of the Museum, was assured by Mrs. Clarence C. Prentice, who again made a contribution of \$1,000 to the Leslie Wheeler Fund.

From Dr. Henry J. Bruman, of State College, Pennsylvania, the Museum received a valuable collection of ethnological specimens representing the Huichol Indians of Mexico.

Mr. Boardman Conover, a Trustee of the Museum, made gifts totaling \$1,146, partly for use toward the expenses of an expedition to Peru, and the balance for other purposes.

The death of Mrs. Elizabeth Ayer Johnson on March 13, 1941, released to the Museum the Edward E. Ayer Lecture Fund, now amounting to \$104,077.75 (in which Mrs. Johnson had had a life interest).

The sum of \$13,163.78 was received from the Estate of Martin A. Ryerson as an additional accrual to the legacy he left the Museum, earlier proceeds of which have been reported in previous years.

From the estate of the late William Benson Storey the Museum received payment in 1941 of the \$8,000 legacy designated for this institution in Mr. Storey's will. The bequest of this sum was indicated in the 1940 Annual Report. In recognition of his generosity, the Trustees honored Mr. Storey by posthumous election to membership as a Contributor to the Museum.

Among others whose gifts in money or materials were notable are Mrs. Sara Carroll Field (Mrs. Stanley Field), Mrs. John Stuart Coonley, Mr. Paul C. Standley, Dr. Julian A. Steyermark, and Dr. Paul S. Martin.

Details of the many gifts of material received for the collections of the Museum will be found in the departmental sections of this Report, and a complete list classified as to departments, and with names of donors alphabetically arranged, begins on page 434.

The tax levied by the Chicago Park District to aid in the support of Field Museum and other museums, under an act of the State Legislature, yielded \$129,498.70 to this institution in 1941, as compared with \$58,130.33 in the preceding year.

Beginning October 1, it became necessary for Field Museum to charge a federal admission tax of three cents in addition to the regular twenty-five cents for adults on Mondays, Tuesdays, Wednesdays, and Fridays. This was caused by Congressional enactment of the Revenue Act of 1941, which removed the exemption from tax on admission charges which formerly applied to religious, educational. and charitable organizations. The free days, Thursdays, Saturdays, and Sundays, are unaffected by the provisions of the new legislation. The Museum will continue to admit school children free; also, students and faculty members of recognized educational institutions will be admitted free on all days upon presentation of proper credentials, although the Museum itself will be required to pay the three-cent tax on such admissions, and on all children over twelve years of age on the days when charge is made to other persons. Likewise, all Members of the Museum will retain the privilege of free admission for themselves, their families, and their guests. Admission will continue to be free on all days to members of the armed forces of the United States, in uniform, whom the law specifically exempts from the tax.

On May 2, 1941, Field Museum celebrated the twentieth anniversary of its occupancy of the present building. Since this monumental structure was opened on May 2, 1921, more than 25,000,000 men, women, and children have entered the world of natural science through its portals; during some twenty-five years when the Museum was located in its original home in Jackson Park an additional 5,800,000 visitors had been counted, bringing to approximately 31,000,000 the number served during the existence of the institution. As recalled in a special article appearing in the May, 1941, issue of Field Museum News, the task of moving the Museum's exhibits and other collections to the new building in 1921 was a gigantic one one of the greatest operations of its kind ever undertaken - and it was accomplished with negligible loss and damage. The News article points out further that "within the twenty years of occupancy of this building, advances and improvements have been so rapid, and so constant, that today the Museum is scarcely recognizable as the same institution. Many of the exhibits . . . have either been changed and improved, or replaced with better material, while the

additions of new material have perhaps doubled both the exhibits and the research collections.... In Jackson Park there were few habitat groups . . . today hall after hall presents extensive series of this type.... Great improvements have been made in labeling... in lighting.... Other Museum activities have kept pace during these twenty years with the development in exhibition techniques. The educational work of . . . the Harris Extension and the Raymond Foundation . . . has grown in scope, importance, and in numbers of school children and teachers reached.... Twenty years have seen an amazing growth in . . . the Library . . . in the publications of the Museum...mechanical equipment....What has happened in twenty years cannot be covered in the available space. The important thing is that the Museum has kept vigorously alive and constantly growing. The move to a new location and building was only one of many forward steps that had to be taken to provide for its continuing growth and expansion."

The Board of Trustees held its Annual Meeting on January 20, at which time Mr. Stanley Field was re-elected to serve his thirty-third consecutive year in the office of President. All other officers who had served the Museum in the preceding year were re-elected. In October, Mr. Albert W. Harris, Third Vice-President, found it necessary for personal reasons to resign from that office and from his Trusteeship. The vacancy thus created on the Board was filled in December with the election of Mr. Howard W. Fenton as a Trustee. The election of a new Third Vice-President was deferred for action at the next Annual Meeting, to be held in January, 1942.

A few new appointments to the staff, and other changes in personnel, were made during the year:

Mr. Orr Goodson, a capable business executive, was appointed Assistant to the Director.

Mr. Donald Collier, who has done notable work in American archaeology, was appointed Assistant Curator of South American Ethnology and Archaeology, a new post created by new needs; and consequently the title of Dr. Alexander Spoehr was changed from Assistant Curator of American Ethnology and Archaeology to Assistant Curator of North American Ethnology and Archaeology, with corresponding limitation of his field to the northern continent. The growing importance of inter-American relations justifies an increase in the emphasis on this division of the Department of Anthropology. Prospects toward the end of the year were that

Dr. Spoehr would go on leave for the duration of the war in order to enter the service of the United States Army, but fortunately Dr. Paul S. Martin. Chief Curator of the Department, is also a specialist in American ethnology and archaeology. Mrs. Alexander Anne Harding Spoehr, an artist, was given an appointment for two years on the staff of the Department of Anthropology to execute a series of paintings for new exhibits to be installed in the Hall of North American Archaeology Hall B; and Mr. Alfred Lee Rowell was appointed as Dioramist to prepare a series of miniature dioramas for the same hall.

Mr. J. Eric Thompson, of the staff of the Division of Historical Research at the Carnegie Institution of Washington, D.C., was given an honorary appointment on the staff of Field Museum, as Research Associate in Middle American Archaeology. Mr. Thompson, well known as an expert on Maya archaeology and ethnology, was for a number of years Assistant Curator of Central and South American Archaeology at Field Museum.

Miss Elizabeth Best, formerly a volunteer worker in the Department of Zoology, was appointed as a guide-lecturer on the staff of the James Nelson and Anna Louise Raymond Foundation for Public School and Children's Lectures.

Mr. Carl F. Gronemann, the Museum's Illustrator since 1917, was retired June 30 on pension, due to ill health; subsequently he died, on November 4. Mr. John J. Janecek, his assistant, was appointed Illustrator.

Mr. Henry S. Dybas was given a temporary appointment as Assistant in Entomology. Mr. Joe B. Krstolich was appointed Artist-Preparator in the Department of Zoology.

A few appointments, some temporary for specific tasks and periods of time, some permanent for routine positions such as printers, clerical assistants, preparators, guards, etc., were made during the year. Some of these were selected from the most capable of the workers assigned to the Museum by the Work Projects Administration, following the termination of the WPA project on June 30.

Dr. Henry Field, Curator of Physical Anthropology, resigned to accept a special assignment in the Library of Congress, Washington, D.C. Mr. Henry Herpers, Assistant Curator of Geology, also resigned.

As was to be expected under existing conditions, a number of the younger men employed by the Museum have been inducted into

various branches of military service; also some others who had retained their connections with the reserve corps of the Army and Navy have gone into active service. Prospects are that more men will likewise be called from time to time during the coming year. At the end of 1941, Field Museum's honor roll of men in the service of their country, including two members of the Board of Trustees, was as follows:

Theodore Roosevelt, Trustee—Brigadier-General, U. S. Army Joseph Nash Field, Trustee—Lieutenant (J. G.), U. S. Navy Clifford C. Cragg. Director. Major, H. S. Armer

Clifford C. Gregg, Director—Major, U. S. Army

Melvin A. Traylor, Jr., Associate, Birds—Private, U. S. Marine Corps

Patrick T. McEnery, Guard—Master-at-arms, U. S. Navy John Syckowski, Guard—Chief Commissary Steward, U. S. Navy George Jahrand, Guard—Chief Water Tender, U. S. Navy

M. C. Darnall, Jr., Guard—Candidates' Class, U. S. Marine Corps Reserve (Officers' Training Course)

James C. McIntyre, Guard-Private, U. S. Army, Coast Artillery

Others who had been notified that their calls to service would come in the first few weeks of 1942, and had arranged their affairs accordingly, were: Mr. Lester Armour, a Trustee, who was about to resume active service under his reserve commission as a Lieutenant-Commander in the United States Navy; Dr. John Rinaldo, Associate in Southwestern Archaeology, who served several months as a private in the Army during 1941 and had been honorably discharged, but was subject to recall following the United States' declaration of war; Dr. Alexander Spoehr, whose imminent call to service as an Army private has already been mentioned; Mr. Clyde James Nash, of the Museum guard force, a naval reserve man about to be recalled to service as a Chief Gunner's Mate, and Mr. Bert E. Grove, guide-lecturer on the Raymond Foundation staff, who had enrolled with the American Field Service for ambulance duty in north Africa, and at the end of the year was awaiting his sailing orders.

Also serving the nation, although in a civilian capacity, is Mr. Bryant Mather, Assistant Curator of Mineralogy, who was granted a leave of absence to accept an emergency appointment in a laboratory at West Point, to work for the Corps of Engineers of the United States Army.

Mr. Herbert Weeks, a preparator in the laboratories of the Department of Anthropology since 1918, died on May 13. A skillful

artisan, he was responsible for the installation of many cases. His final, and one of his finest accomplishments, was the preparation of the Department of Anthropology's section of H. N. Higinbotham Hall of Gems and Jewels, which was opened shortly after his death. Others who died during 1941 were Mr. Gronemann (mentioned elsewhere); Mr. Axel Danielson, a carpenter; Mr. Bernhard Auchter, assistant collotyper; Mr. Thomas Mason, and Mr. A. J. Thompson, former maintenance workers who had been retired on pensions, and Mr. Henry F. McNeill, a janitor. Under the Museum's group insurance policy \$2,000 was paid to the widow of Mr. Weeks, \$1,000 to the widow of Mr. Danielson, \$1,000 to the nephew of Mr. Mason, \$1,000 to the son and two daughters of Mr. Thompson, and \$1,500 to the widow of Mr. McNeill.

The services of faithful and hard-working volunteers assisted the Museum again, as in past years, in the advancement of its research program, and also in the carrying on of various routine tasks which would overtax the members of the regular paid staff, all of whom have full burdens of duty. In the List of the Staff at the beginning of this Report will be found the names of some of these volunteer workers—they bear the distinguishing titles of "Research Associate" and "Associate" to set them apart from listings of salaried workers; and one, Mr. Paul G. Dallwig, who also serves without compensation. is designated as "The Layman Lecturer." For their services, grateful acknowledgment is made to all who are so listed, and also to the following additional volunteers: Mrs. Rose Miller, Miss Marjorie Kelly, Mr. Millard Rogers, Miss Jane Darrow, and Miss Florence Parks Rucker, who performed various tasks in the Department of Anthropology; Mr. Donald Richards, Mr. Lawrence J. King, Dr. Verne O. Graham, Mrs. Cloyd B. Stifler, Mr. Frank Dunkel, and Miss Jeanne Paul, who assisted in the Department of Botany; Mr. Harold Hanson, Miss Peggy Collins, Dr. Walter Segall, Mr. David Owens, Mr. William J. Beecher, and Mr. Robert Haas, who worked in the Department of Zoology, and Mr. Clarence L. Brown who served as a volunteer lecturer on the staff of the James Nelson and Anna Louise Raymond Foundation for Public School and Children's Lectures.

The Museum acknowledges a great advancement in many branches of its work as a result of the efforts of the many workers assigned to it by the federal Work Projects Administration, whose project at this institution was discontinued on June 30. The workers assigned to the Museum by WPA, and by earlier federal and state agencies created to cope with the unemployment problem and later absorbed into WPA, had been serving Field Museum since 1933, and at times the forces assigned to this institution numbered well over 200 persons. Most of these men and women proved to be willing and conscientious workers, and many had native talents and special skills which proved adaptable to various technical phases of museum work. A few were so satisfactory that, when their WPA assignments terminated, the Museum engaged them to continue as regular employees, some on a temporary, and a very few on a permanent basis.

As has been the case for several years past, but for even more emphatic reasons this year due to the ever-widening expanse of the second World War, it was necessary to confine Museum expeditions to the western hemisphere. Although satisfactory progress in the Museum's research program cannot be made without expeditions, it became apparent by the end of the year, especially after the entry of our own country into the war, that explorational activities of this type probably must be still more severely curtailed for the duration of the war, and eventually may cease entirely, even in the Latin-American countries.

Outstanding among the expeditions of 1941 were the Tenth Field Museum Archaeological Expedition to the Southwest, and the Leon Mandel Galapagos Expedition. The Southwest expedition, directed, as were its nine predecessors, by Dr. Paul S. Martin, Chief Curator of Anthropology, this year worked on a site of ancient Mogollon culture in western central New Mexico. findings and collections, in the assemblage of which Dr. Martin was assisted by a large staff, are especially important in the broadening of knowledge of American archaeology, and are the subject of further publications which Dr. Martin has in preparation. Galapagos Expedition, led by Mr. Leon Mandel (his fifth contribution of this type to the Museum) made a large collection of fishes, reptiles, birds and mammals. The scientific staff was headed by Dr. Wilfred H. Osgood, Curator Emeritus of Zoology, and included Mr. Rudyerd Boulton, Curator of Birds; Mr. Loren P. Woods, Assistant Curator of Fishes; Mr. Melvin A. Traylor, Jr., Associate in Ornithology; Staff Taxidermist Leon L. Walters, and Mr. Ronald Lambert as assistant taxidermist. In the departmental sections of this Report (beginning on page 362) will be found detailed accounts of these and a number of other expeditions conducted during the year.

The Book Shop of Field Museum had its most successful year since its establishment in 1938, despite increases affecting various costs entering into its operation. There was a far greater volume of sales both over the counter to visitors in the Museum, and in the fulfillment of mail orders resulting largely from advertising in Field Museum News, and the distribution several times during the year of lists of books notable for their seasonal interest. The stock of books and other merchandise (such as book-ends, accurate models of animals, etc.) was maintained on a larger and more varied scale than hitherto. Public confidence was sustained by the continued policy of offering only such books, whether for adults or children, as bore the endorsement of qualified members of the Museum's scientific staff to whom they were submitted for approval.

The School of the Art Institute of Chicago continued to send certain classes to Field Museum to use natural history exhibits as inspirational material for painting and drawing, under the co-operative arrangements which have existed between the two institutions for many years. Field Museum was of particular value to classes concerned with problems arising in the study of composition and research, pattern design, and sketching. For students in such courses as the history of art, the rich collections of art material by primitive and ancient peoples in the Department of Anthropology were of notable value. Instructors in the art school's Saturday Junior Department brought classes of children to Field Museum as a part of their regular curriculum.

In July, Field Museum presented part of its collection of facsimiles of Irish antiquities, formerly exhibited in the Department of Anthropology, to the University of Chicago, and part to Father Flanagan's Boys' Town in Nebraska. A formal presentation of the University's portion was made by President Stanley Field to Dr. Ulrich A. Middeldorf, Chairman of the University's Department of Art. The collection did not fit properly within the scope of Field Museum, but at the University the gold-embossed reproductions, created by Irish craftsmen and representing the major antiquities of Ireland, will be made available to scholars in the fields of Irish history, art, and literature. The gift was arranged through the Director and Dr. Tom Peete Cross, Professor of English and Comparative Literature at the University, who is an authority on ancient Irish culture.

Field Museum presented to Chicago's Museum of Science and Industry the models of an Illinois brick yard and of a cement plant which formerly were exhibited in the Department of Geology. These exhibits, because of their industrial aspects, seem to fit more closely within the scope of the Jackson Park museum than that of this institution.

For the second time, Field Museum participated in the annual Rotary Club Exposition, held in April at the Hotel Sherman. In recognition of the great public interest in techniques and "behind-thescenes" activities, demonstrations of museum procedures constituted the essential part of the display. The booth was manned by Mr. W. E. Eigsti, Staff Taxidermist, who mounted specimens for a small-mammal exhibit, and Mr. James H. Quinn, Chief Preparator in Paleontology, who prepared specimens of fossil ungulates. Planning and supervision of the exhibit was by Mr. John R. Millar, Curator of the N. W. Harris Public School Extension.

In accordance with the Museum's policy of co-operating with other worthy civic enterprises, special lecture tours were given in certain of the exhibition halls on Pan American Day, April 14, sponsored by the Pan American Council. Miss Elizabeth Hambleton of the Raymond Foundation staff lectured on "Story of the People of Latin America," and Mr. Clarence L. Brown, Raymond Foundation volunteer, on "Commercial Products of Latin America."

Much favorable comment resulted from Field Museum's representation in the Exhibit of Indian Art of the United States held from January to April at the Museum of Modern Art in New York. Displayed, together with material from other institutions in all parts of the country, were especially selected examples of the finest types of Indian arts and crafts. The loan of this material from the collections of the Department of Anthropology was made at the urgent request of the United States Department of the Interior, which particularly desired to make the New York exhibit all-inclusive. It should be noted that in consenting to make the loan the Trustees were deviating from an established Field Museum policy of many years' standing.

A notable addition to the service of the N. W. Harris Public School Extension was made by the placing of ten hospital schools on the list of educational institutions receiving the benefits of traveling exhibition cases. These hospital schools are branches of regular or special public schools, and it is their function to provide instruction for children who, through misfortune, must undergo long hospitalization for the treatment of various non-infectious maladies such as rheumatic heart, chorea, or crippling deformities of various

kinds. To adapt the Harris Extension cases to hospital conditions, special tubular metal stands with large free-rolling casters were made. These support the usual loan of two school cases at bedside or wheel-chair height, and the cases can be moved easily.

A notable accession for the Division of Entomology was made in the purchase of the Ballou collection of hister beetles, containing some 15,000 specimens accumulated over a period of twenty years by Mr. Charles A. Ballou, Jr., former New York publisher. This is the most extensive collection of hister beetles in the Americas, and includes approximately one-half of all the known species of the world, as well as many undescribed ones. Acquisition of this collection, made possible by the Emily Crane Chadbourne Fund, provides excellent opportunity for extensive systematic research.

The book, Birds of El Salvador, published by Field Museum in its Zoological Series, won for its authors, Mr. Adrian van Rossem, of the University of California at Los Angeles, and the late Donald S. Dickey, the William Brewster Medal of the American Ornithologists' Union.

The discovery in Guatemala of a showy and stately spider-lily of a species new to science—a flower that gives great promise for cultivation in conservatories and gardens of the United States—was reported during 1941 by Dr. Julian A. Steyermark, Assistant Curator of the Herbarium. He found the plant during his expedition in 1939 40, but needed until 1941 to confirm his theory that it was a new species. This was accomplished in November when bulbs which Dr. Steyermark had brought back grew to the flowering stage at the Garfield Park Conservatory. Dr. Steyermark has prepared a technical description for publication.

Various honors were bestowed upon some of the members of the Museum staff during the year:

The University of Chicago conferred the degree of Doctor of Philosophy upon Curator Sharat K. Roy (Geology). The degree is based partly upon Dr. Roy's research and publication in connection with geological and paleontological problems in Baffin Land, where he conducted investigations some years ago as a member of the Rawson MacMillan Subarctic Expedition of Field Museum.

Columbia University, New York, conferred the degree of Doctor of Philosophy on Curator C. Martin Wilbur (Chinese Archaeology and Ethnology). This degree represents a recognition of Dr. Wilbur's exhaustive research and dissertation on the subject of slavery in China during part of the Han period.

Field Museum itself honored its Curator Emeritus of Zoology, Dr. Wilfred Hudson Osgood, one of America's most eminent biological scientists, by the publication of a testimonial volume of some 400 pages under the title *Papers on Mammalogy*. An especially bound copy of the book was presented to Dr. Osgood by President Stanley Field on December 8, which was Dr. Osgood's sixty-sixth birthday. Official publication, and the beginning of international distribution of the volume to scientific institutions and scientists, occurred on the same date. The book opens with two dedicatory articles, one by President Field and one by the Director, in which fitting tribute is paid to Dr. Osgood as a scientist and as a man. In the pages that follow are eleven scientific articles by mammalogists on the staff of Field Museum and by colleagues of Dr. Osgood's on the staffs of other institutions both in this country and abroad.

Mr. Karl P. Schmidt, who succeeded Dr. Osgood as Chief Curator of the Department of Zoology at the beginning of 1941, was honored by the American Association for the Advancement of Science which asked him to present a paper in an important symposium of leading scientists on *The Training of a Biologist*. Mr. Schmidt acted as representative of the group which includes America's field naturalists and systematic zoologists.

The Director of the Museum was honored by election as a Fellow of the American Association for the Advancement of Science.

Mr. Bryant Mather, Assistant Curator of Mineralogy, was elected Vice-Chairman of the Marquette Geologists' Association, and was appointed Technical Counselor to the Chicago Chapter of the American Gem Society.

Dr. Julian A. Steyermark, Assistant Curator of the Herbarium, was appointed to the Board of Directors of the Midwest Horticultural Society.

Mrs. Leota G. Thomas, of the Raymond Foundation lecture staff, fulfilled a request to teach an Indiana University Extension course. She also took a leading part in organizational and other activities of the Museum-School Relations Committee of the Progressive Education Association.

At the invitation of the Ministry of Agriculture of the Venezuelan government, Mr. Llewelyn Williams for the second time accepted an appointment to conduct official botanical surveys in that country, and for this purpose was granted leave of absence from his post as Curator of Economic Botany at Field Museum. He will remain in Venezuela until well into 1942, and will collect

material for the Museum in addition to his duties for the government of that country.

Mr. Alfred C. Weed, Curator of Fishes, consented to accept an assignment from an editorial board of co-operating American ichthyologists to review the mullets of the North Atlantic region. This material is to be incorporated into a general account of Atlantic coast marine fishes of which publication is planned.

Mr. Rudyerd Boulton, Curator of Birds, was re-elected Treasurer and Business Manager of the American Ornithologists' Union, a position which he has held since 1938.

Mr. Bert E. Grove, staff lecturer of the Raymond Foundation, organized and conducted a group of natural science clubs for both children and adults, at the request of the Trailside Museum of River Forest, Illinois. Miss Elizabeth Best, also a Raymond Foundation lecturer, demonstrated methods of dissection and taxidermy during the laboratory course given to the members of these clubs.

Mr. Henry W. Nichols, Chief Curator of the Department of Geology, was appointed to the Committee on Legal Ownership of Meteorites, and the Committee on Terminology, of the Society for Research on Meteorites.

In accordance with the custom of past years, many members of the Museum staff were active, both in Chicago and outside the city, in special studies at other institutions, on local field trips, in attending meetings of various learned societies, and in filling engagements as guest speakers for organizations of many types or on programs presented over the radio. A number of the lecture engagements were received from universities and colleges. Prominent among those who figured as lecturers and radio speakers were Dr. Julian A. Stevermark, Assistant Curator of the Herbarium; Mr. Rudyerd Boulton, Curator of Birds; Mr. Bryant Mather, Assistant Curator of Mineralogy; Mr. John W. Moyer, Staff Taxidermist; Mr. Emmet R. Blake, Assistant Curator of Birds; Major Clifford C. Gregg, Director; Dr. Wilfrid D. Hambly, Curator of African Ethnology; Dr. Fritz Haas, Curator of Lower Invertebrates; Mr. Karl P. Schmidt, Chief Curator of Zoology; Dr. Paul S. Martin, Chief Curator of Anthropology; Dr. Wilfred H. Osgood, Curator Emeritus of Zoology; Mr. C. J. Albrecht, Staff Taxidermist; Mr. Llewelyn Williams, Curator of Economic Botany; Dr. Alexander Spoehr, Assistant Curator of North American Ethnology and Archaeology; Mr. Loren P. Woods, Assistant Curator of Fishes, and

Dr. C. Martin Wilbur, Curator of Chinese Archaeology and Ethnology.

Mr. Rupert L. Wenzel, Assistant Curator of Insects, made an eastern trip in the course of which he conducted research based upon type specimens of parasitic bat flies and histerid beetles in the collections of principal museums in New York, Philadelphia, Washington. Pittsburgh, and Boston. Mr. Elmer S. Riggs, Curator of Paleontology, visited the Carnegie Museum in Pittsburgh to arrange exchanges of fossils. Mr. Karl P. Schmidt, Chief Curator of Zoology, read a scientific paper before the Texas Herpetological Society. Mrs. Leota G. Thomas, of the Raymond Foundation staff, attended the annual meeting of the American Association of Museums. held at Columbus, Ohio. Mr. Clifford H. Pope, Curator of Reptiles. conducted zoological field research in northwestern Illinois, and in the same general region similar botanical work was conducted by Mr. Paul C. Standley and Dr. Julian A. Steyermark, Curator and Assistant Curator respectively of the Herbarium. Dr. Fritz Haas, Curator of Lower Invertebrates, presented a paper before the American Malacological Union, meeting at Thomaston, Maine. Mr. Rudverd Boulton, Curator of Birds, presented a paper at the Denver meeting of the American Ornithologists' Union. J. Francis Macbride, Associate Curator of the Herbarium, made a study of the Andean collections in the herbarium of the University of California. Mr. James H. Quinn, Chief Preparator in Paleontology, made a survey of the laboratories in principal museums of the east, studying their preparation and installation methods. Dr. C. Martin Wilbur, Curator of Chinese Archaeology and Ethnology, read a paper before the American Historical Association which held its annual meeting in Chicago.

Members of Field Museum's staff took a leading part at an all-day conference of officials of schools and museums held April 19 at the Museum of Science and Industry. General problems relating to the educational use of all Chicago's museums were discussed. The meeting was sponsored by the Chicago Museum-School Relations Committee, a voluntary organization composed of representatives of the several museums and principal school systems of the city and adjacent areas, whose aim is to effect greater co-operation. Field Museum's staff members who participated include the Director; Mr. John R. Millar, Curator of the Harris Extension; Miss Miriam Wood, Chief of the Raymond Foundation; and Mrs. Leota G. Thomas and Miss Elizabeth Hambleton of the Raymond Foundation staff.

As is the case every year, from all over the United States and from foreign countries as well, many persons distinguished in the sciences, and also in other walks of life, took occasion to visit Field Museum when in Chicago for various purposes. Among the most notable scientists were Professor Erik Asplund, of the Botang Department of the Natural History Museum of Stockholm, Sweden the members of the American Society of Mammalogists, and the members of the American Oriental Society. On March 31, the Hon. Henry A. Wallace, Vice-President of the United States, visited the Museum. Many other notable personalities, too numerous to list here, were also guests of the Museum at various times.

An increase in the business of the Museum Cafeteria is noted meals having been served to 100,740 persons in 1941 as compared to 97,225 in 1940. There was also some increase in the use of the rooms provided for children and others who bring lunches to the Museum, 76,243 persons having taken advantage of these facilitie in 1941 as against 75,738 in the preceding year. The Cafeteria management operates a special lunch counter to supply those using the children's rooms with supplementary provisions such as how beverages, soft drinks, sandwiches, ice cream, etc., but the table and benches in these rooms are available to all visitors whether they make such purchases or not.

The activities of the various Departments and Divisions of the Museum are described in detail in the pages that follow:

DEPARTMENT OF ANTHROPOLOGY

EXPEDITIONS AND RESEARCH

The Field Museum Archaeological Expedition to the Southwest under the leadership of Dr. Paul S. Martin, Chief Curator of Anthropology, spent three and one-half months in New Mexico continuing excavations at the SU site. Permits for work on this site in the Apache National Forest were obtained from the Division of Forestry, United States Department of Agriculture.

The SU site was first briefly explored in 1939 by a Field Museum expedition, and a report was issued in 1940 under the title The SU Site—Excavations at a Mogollon Village, Western New Mexico Details of this work were given also in the Annual Report of the Director for 1939.

Dr. Martin's assistant for the 1941 expedition was Mr. Robert J. Braidwood, who directed excavations. Mr. Braidwood, an instructor in the Department of Anthropology at the University of Chicago.



PIT HOUSE NEAR RESERVE, NEW MEXICO
Excavated by Field Museum Archaeological Expedition to the Southwest, 1941
This house was occupied at or before A.D. 500

MALANTA OF INTINUIS

was a member of the Syrian Expedition of the Oriental Institute. Also assisting in various capacities were Mr. Robert Yule, photographer and cartographer; Miss Jane Darrow, in charge of washing and cataloguing stone and bone implements and pottery; Miss Margaret Ross, in charge of cleaning and preserving skeletal materials, and Mr. Brigham Arnold, of the University of Arizona, who conducted the archaeological survey. Other members of the expedition were Messrs. Clifton Kroeber, Charles De Peso, and Jules Williams, and Mrs. Stanley Dickson.

For their helpful, friendly, and courteous co-operation, the Museum is indebted to Mr. R. B. Ewing, Supervisor of the Apache National Forest, and his associates, Mr. Robert I. Stewart, Assistant Forest Supervisor, and Mr. Benton S. Rogers, District Forest Ranger.

Recapitulating briefly the findings of the 1939 expedition: The SU site was occupied by Indians of the Mogollon culture—a culture discovered only a few years ago. Previously, archaeologists had believed that one civilization produced all the various types of pottery, houses, and tools that were dug up in the Southwest. We now know that this was incorrect. Within the last few years, archaeologists have produced evidence that there were two other Southwest civilizations—Pueblo and Hohokam. The most recently discovered civilization is the Mogollon, toward the knowledge of which Field Museum's Expeditions of 1939 and 1941 have greatly contributed.

During the course of the 1941 excavations, eight more houses were discovered and cleared of débris, and approximately 600 stone and bone tools and 19,000 potsherds were recovered. The Mogollon tools are of a crude early type, unlike those ordinarily associated with Indians. In fact, the stone tools such as choppers, hammerstones, polishing stones, and scrapers, are so primitive that one would ordinarily pass them by without recognizing that they had ever been used by man for any purpose whatsoever; but inasmuch as many such stones were found in all the houses, the investigators were led to note that they fell into distinct patterns and types, and therefore could not be natural, unused stones.

It is of great interest to note that no grooved axes of any kind were found. The absence of these important tools makes a mystery of the means employed by the ancient Mogollon Indians to fell their trees. We know that they used trees at least six inches in diameter for roofing their houses.

The potsherds represent three kinds of undecorated pottery: Alma Plain, a polished brown ware; Alma Rough, an unpolished, rough, brown pottery; and San Francisco Red, a polished, slipped, undecorated ware.

The people who inhabited the SU village lived mostly in pit houses large pits sunk into the earth, and then roofed over with logs, twigs, and sod; but some of these Indians built and occupied surface houses with floors flush with ground level. The walls of the latter consisted of upright poles set eight to fourteen inches apart. Between these poles mud and small sticks were packed, thus forming a good, tight wall. This kind of construction is called "wattle-and-daub," and contrasts with subterranean houses.

Fire pits were not found in any of the houses. It is believed, therefore, that these Indians rarely used fire inside the house for cooking, warmth, or light. Extensive digging likewise failed to reveal any fire pits outside the houses.

Most of the pit houses were equipped with entrance-tunnels, sometimes large, sometimes small. These always face east—why is not known, but probably the orientation was for religious reasons.

The dead were always buried in pits either outside the houses or dug into the house floors. The corpses were wrapped in a doubled-up position. Generally burials were not placed in house pits until after the house had been abandoned. Offerings to the dead were rare. The only objects found with skeletons were tobacco-pipes and sometimes shell bracelets and necklaces. Unbroken pottery was never found.

Very few arrowheads or spearheads were found. Food-grinding tools were brought to light in great abundance from all houses. It is assumed, therefore, that the Mogollon Indians of the SU village lived mostly on berries, roots, herbs, and grasses, and depended little on hunting or agriculture. The people apparently were mostly seed-gatherers rather than farmers. This may be regarded as evidence pointing to the great antiquity of their culture.

The entire complex found at the SU site represents an early period in the Mogollon culture, and the Field Museum Expedition has named it "the Pine Lawn Phase." The characteristic or predominant traits which as a whole distinguish the Pine Lawn Phase from any other phase or period, either earlier or later, will be described in detail in Dr. Martin's report on the 1941 expedition. This report is being prepared and will be finished in 1942.

The age of the Pine Lawn Phase at the SU village is difficult to determine; but by inference, and by cross-dating or comparing the tools now at Field Museum with those from other ruins, the site

can be dated within limits. Thus far, dating by means of tree-rings has been impossible because the rings on the SU logs (fragments of roof beams) do not fit into any known sequence. It is fairly certain, however, that the SU ruin is earlier than A.D. 700 because no decorated pottery was found in it. That is important, because decorated pottery was made in that area only after A.D. 700. Thus an upper limit of A.D. 700 is established. (It would be just as incongruous for the expedition to find decorated pottery in a site which was abandoned before A.D. 700 as it would be for an automobile to appear in a motion picture portraying a Civil War scene.)

Conversely, although the SU village stone tools are similar to those of the San Pedro period (found in southern Arizona by the archaeologists of Gila Pueblo) dating from about 3,000 B.C. to about 500 B.C., the SU village must date *after* that period because the SU villagers made pottery and the San Pedro people did not. A site yielding pottery is generally later than one lacking it.

Therefore, it seems that the SU village must have been founded, occupied, and abandoned some time between 500 B.C. and A.D. 700. Thus it seems safe to conjecture that the Mogollon culture is a new, pure, cultural entity in the Southwest, and that it should be accorded the same relative position of importance as has been given to the Basket Maker-Pueblo and Hohokam cultures.

Mr. Richard A. Martin, Curator of Near Eastern Archaeology, continued cataloguing the many specimens from Kish, an ancient Babylonian city. He also planned and supervised the installation of Harwa, the X-rayed mummy, in Hall J (Egyptian Archaeology), as well as supervising the planning of cases of Etruscan, Egyptian, Roman, Syrian, and Arabian jewelry in H. N. Higinbotham Hall (Hall 31).

Dr. Wilfrid D. Hambly, Curator of African Ethnology, has continued research on craniometry of the Pacific region, and has measured 150 skulls found on Pacific islands. He has begun preparation of a publication on a collection of thirty skulls from Ambrym, New Hebrides. The data should be especially welcome because research has failed to reveal the existence of any prior information on the skulls found on this island.

Dr. Hambly has also taken a large number of measurements on a collection of forty male and female skulls from the island of Malekula, close to the island of Ambrym. These skulls of Malekula, both male and female, are interesting because of deformation resulting from pressure applied to infant skulls. The only data so far published by other writers consist of brief notes printed about the year 1881. Measurements have likewise been made on skulls from New Caledonia and the Solomon Islands. Dr. Hambly's ultimate aim is to make a detailed comparative study of measurements of crania from different parts of Melanesia. Field Museum's collection contains about 350 skulls from this region.

Dr. C. Martin Wilbur, Curator of Chinese Archaeology and Ethnology, completed the manuscript of his book Slavery in China During the Former Han Dynasty. He also devoted considerable time to acquiring and studying archaeological specimens from China for the exhibition and study collections. Basic studies were undertaken aiming toward a fresh presentation of Chinese ethnology, and reinstallation of the collection of paintings.

Dr. Alexander Spoehr, Assistant Curator of North American Ethnology and Archaeology, prepared a report published by Field Museum Press, entitled Camp, Clan, and Kin Among the Cow Creek Seminole of Florida. A report on the Oklahoma Seminole was also completed and is in press. Three other articles on Southeastern social organization were published in various journals. In addition, Dr. Spoehr supervised cleaning and sorting of archaeological specimens from the eastern United States and California.

Under the direction of Chief Curator Martin, Dr. Spoehr has continued the necessary research on plans for the reinstallation of Hall B. American Archaeology, as well as working on details of layouts for the exhibits themselves. Several cases have been installed. Further details about this hall will be found in this Report under Installations and Rearrangements (page 368).

Dr. Henry Field, Curator of Physical Anthropology until his resignation, which became effective October 1, continued his work on Part II of the publication entitled, *The Anthropology of Iraq*.

Mr. Donald Collier joined the staff on August 1 as Curator of Central and South American Ethnology and Archaeology. Shortly thereafter he was dispatched to Ecuador on a joint expedition for Field Museum and the Institute for Andean Research, of New York. His work involves promotion of cultural relations with Latin America as well as investigation of archaeological sites in little-known regions. Mr. Collier expects to return to Field Museum in February, 1942.

Mrs. Rose Miller continued valuable work as a volunteer, studying and arranging the collection of 3,000 rubbings of Chinese historical monuments.

Mr. John Rinaldo, Associate in Southwestern Archaeology, received the degree of Doctor of Philosophy from the University of Chicago upon the completion of his thesis, An Analysis of Prehistoric Anasazi Culture Changes, based on the collections of Field Museum and the work of Museum expeditions. In addition, Dr. Rinaldo wrote articles on southwestern prehistory which were published in various journals, and classified the prehistoric Hopi bahos collected by Charles Owen in 1901. Dr. Rinaldo is now working on Part II of the 1941 report on the SU site. A call to military service caused his absence for several months, and he is subject to recall by the Army early in 1942.

Miss Marjorie Kelly, Associate in Southwestern Archaeology, performed much general clerical work, as well as checking and sorting various archaeological specimens.

Mr. Millard Rogers, volunteer assistant, has been studying Chinese paintings with a view to preparing them for more adequate exhibition.

Miss Jane Darrow, volunteer assistant, has been of great help in many ways. In addition to the many tasks she accomplished for the Expedition to the Southwest, she sorted potsherds, typed manuscripts, catalogued specimens and at the year's end was preparing data for a report on pottery excavated in 1941 in New Mexico.

Miss Florence Parks Rucker, volunteer assistant, has catalogued and stored many southwestern pottery specimens, as well as typing the revised edition of an anthropological leaflet, *Civilization of the Mayas*, by J. Eric Thompson.

ACCESSIONS-ANTHROPOLOGY

The Department of Anthropology listed 33 accessions, comprising nearly 25,000 specimens. Of these, 751 were gifts, 78 were acquired by exchange, 48 were purchased, and approximately 24,000 were acquired by the Field Museum Archaeological Expedition to the Southwest.

Mr. Henry J. Bruman, of State College, Pennsylvania, contributed Huichol Indian ethnological specimens from the State of Jalisco, Mexico. Mr. Donald Collier, of Field Museum's staff, presented a Nazca comb from the south coast of Peru.

Mrs. Frank D. Gamewell, of Philadelphia, presented costumes of women from three primitive tribes living in southwestern China—the "Flowery" Miao, the Lisu, and the Kopu. The Museum previously had possessed no specimens from these interesting but little-

known people. Four Chinese ceramics of the T'ang and Sung periods were presented by Grow and Cuttle, Incorporated, of Chicago.

Colonel Wallis Huidekoper of Twodot, Montana, presented twenty-two superb, well-preserved ethnological specimens from the Plains Indians (Sioux, Crow, Cheyenne, and Arapaho tribes). Although the Museum's Plains Indian collection is among the finest in the world, this gift forms a valuable addition. A shirt which belonged to Chief Plenty Coups, and the dress of the wife of Chief Red Cloud, both received from Colonel Huidekoper, will be placed on exhibition during 1942 in Mary D. Sturges Hall (Hall 5—Indian Tribes of the Great Plains).

Major Oliver S. Picher, of Hubbard Woods, Illinois, presented several Arapaho ethnological specimens as well as material from the Southwest, Hawaii, and China. Mr. Charles Schmid, of Oak Park, Illinois, contributed an Alaskan trap known as a deadfall.

CATALOGUING, INVENTORYING, AND LABELING- ANTHROPOLOGY

During the year, 19 of the 33 new accessions were entered, as well as part of another new accession, and all or part of 20 previous accessions.

The number of catalogue cards prepared during the year totaled 1.081. A total of 1.238 were entered, some of which were held over from 1940. Since the first opening of the inventory books, the total number of catalogue cards entered is 227,733.

For the current year, the distribution of catalogue cards was as follows: North and South American archaeology and ethnology, 218; Chinese, Japanese, Tibetan, and Korean archaeology and ethnology, 452; African ethnology, 4; Near Eastern archaeology, 399; Melanesian and Polynesian ethnology, 5; physical anthropology, 3.

From copy prepared by members of the Department, the Division of Printing issued 344 labels for use in exhibition cases. Distribution was as follows: North and South American archaeology and ethnology, 190; Chinese, Japanese, Tibetan, and Korean archaeology and ethnology, 56; Near Eastern archaeology, 5; Gem Room, 93.

The Division of Printing also supplied 5 maps, 85 storeroom labels, 2,350 catalogue cards, and 3,760 subject index cards.

INSTALLATIONS AND REARRANGEMENTS—ANTHROPOLOGY

H. N. Higinbotham Hall (Hall 31) was opened to the public in June after being closed several months for reconstruction and

reinstallation. On display in this hall are magnificent collections of gems and jewelry installed under the direction of Mr. Henry W. Nichols and Dr. Paul S. Martin, Chief Curators of the Departments of Geology and Anthropology, respectively.

The jewelry installation by the Department of Anthropology illustrates man's use of precious metals and stones as personal adornment. The oldest pieces of gold in this hall, dating back some 5,000 years, are from Kish, an ancient Babylonian city. Egyptian gold on exhibition, made during the Graeco-Roman period, is studded with amethysts, bloodstones, garnets, and other brightly colored stones. Later pieces made by Etrurian craftsmen of the seventh to the fifth centuries B.C. excel in delicate gold workmanship.

The Peruvians were able, about one thousand years later, to work more intricate patterns than earlier goldsmiths, due to the discovery of welding, alloying, casting, and annealing. The Quimbaya of Colombia used gold and an alloy of gold and copper. The exhibited examples of the craftsmanship of both peoples show fine execution of detail with complex patterns.

The more modern jewelers of India and Algeria are noted for a gayer, more brilliant, effect. The former used enamel and gold, and were masters in delicate filigree. Gems, too, were used and according to popular belief certain stones were endowed with "magical properties." The Algerians also made large massive pieces, gayly studded with brightly colored cut glass not unlike costume jewelry of today.

Another new and interesting installation was that of Harwa, the X-rayed mummy. Installed in a small separate room in Hall J (Egyptian Archaeology) are Harwa and the X-ray machine given to the Museum by the General Electric X-ray Corporation of Chicago. Harwa, in his own enclosure in this dimly lighted room, stands in his ancient wrappings with only his head exposed, showing his leathery and withered skin. The X-ray machine may be controlled by visitors. When the button is pushed a plate of lead glass slides before the mummy and after a moment of darkness his X-rayed image appears on the fluoroscopic screen. On busy days automatic operation at 40-second intervals, requiring no use of the button, is provided.

The Department also prepared for Stanley Field Hall a case of Pueblo pottery representative of Anasazi painted ware.

Work continued during the year on the reinstallation of Hall B, which will contain the projected new exhibits pertaining to American archaeology. The purpose of this hall is

to present a graphic outline of the known history of the Indians in the New World up to the time of its discovery by white men. At present there is no hall in the Museum which gives a general picture of the course of American Indian civilization. Anthropologically speaking, North and South America form a single unit, although there are regional differences within them. Formerly Hall B dealt only with North America exclusive of the Southwest, and did not include Middle America. This region will be incorporated into a larger picture, showing North American archaeology in its proper relation to that of other regions of the New World.

Mrs. Anne Harding Spoehr, Artist, was added to the departmental staff in March to work on exhibits for Hall B. Since then she has sketched detailed layouts of exhibits planned by Chief Curator Martin and Curator Alexander Spoehr. She has carried out these plans on large pictorial maps, using well-chosen media to present the basic ideas accurately and adequately. Eight exhibits in the first of the three sections have been completed by Mrs. Spoehr.

Mr. Alfred Lee Rowell, Dioramist, has nearly completed the construction of a diorama depicting Cliff-Dwellers' life, the first of four dioramas planned for Hall B.

Mr. Robert Yule, Assistant, has made all the drawings and tracings to be used in Dr. Martin's report on the Southwest Expedition. Further, he has made a photographic record of jewelry in the Hall of Gems. For the Recorder of the Museum, he lettered the pages of a large book in which will be permanently recorded attendance and other statistics for the period from 1941 to 1954.

The total number of specimens restored and repaired during the year is 270. Mr. John Pletinckx and Mr. Tokumatsu Ito, skilled technicians, restored pottery from different regions of the United States, and Kish, and Pan pipes from South America. They also prepared and cast the mold for diorama shells, and constructed and installed the plaster molding for the doorway to the Hall of Gems.

Mr. Herbert Weeks, Preparator, until the time of his death in May, supervised the installation of the gold and silver specimens now on exhibition in the Gem Room (Hall 31).

Mrs. Myrtle Bright, typist-clerk, has done clerical work for the curators, as well as checking, relabeling, and rearranging specimens in storerooms and in cases of many halls.

Work on the geographical-subject index has been continued by Miss Jane Temple. About 5,000 subject index cards have been completed and checked for typographical errors.

Cases have been readjusted and relabeled where necessary. The labels in Hall K have been mounted. The sculptures by Malvina Hoffman in Chauncey Keep Memorial Hall (Hall 3) were completely relabeled. The Hemis katcinas in Hall 7 were repaired and reinstalled.

DEPARTMENT OF BOTANY

EXPEDITIONS AND RESEARCH

Field Museum's Third Botanical Expedition to Guatemala, begun in 1940, was concluded in 1941 by Mr. Paul C. Standley, Curator of the Herbarium. Mr. Standley conducted the first expedition during six months of 1938–39, and the second was conducted by Dr. Julian A. Steyermark, Assistant Curator of the Herbarium in 1939–40.

Mr. Standley, who left Chicago at the end of September, 1940, returned about the middle of May, 1941. During the seven months of collecting he obtained much additional material for use in preparation of a *Flora of Guatemala*, work upon which is under way.

Mr. Standley collected in almost all of the twenty-two departments of Guatemala except Izabal on the north coast, and the great Department of Petén, accessible with difficulty except by airplane. In most of Guatemala the rains, which are favorable to the development of vegetation, end in October, after which the plants rapidly deteriorate, especially at low elevations. In order, therefore, to take advantage of the continued effects of the rains, work was carried on first in the Oriente, or eastern Guatemala, a region of relatively scant rainfall. Collections were made there at various stations through October, November, and early December, after which time few plants are in good condition for study. The collections from this area were among the best obtained during the whole trip, and rich in new species or in plants unrecorded from Guatemala.

Leaving central Guatemala the day after Christmas, Mr. Standley spent several weeks at Huehuetenango, in northwestern Guatemala. This region which, unlike central and Pacific Guatemala, has no volcanoes, is traversed by the great cordillera that forms the backbone of Mexico and Central America. Previously it was almost unknown botanically. It has recently become accessible by a new automobile road that climbs within a few miles from about 7,000 feet to more than 11,000. At these high elevations there is a truly alpine vegetation, most untropical in appearance and com-

position. Dense and somber forests of pine and Mexican red cedar surround meadows that recall strangely those in the vicinity of Cripple Creek, Colorado, and many of the same groups of plants are represented in these two distantly separated areas. It was strange to find a giant agave or century plant in association with alpine buttercups, dwarf thistles, gentians, and a low gooseberry. The agave seemed quite out of place amid such surroundings.

Much of January, February, and March was devoted to work in the highlands and lower mountains of western and southern Guatemala, where there are infinitely varied forests of pine, fir, and cypress, and even richer ones of mixed broad-leafed trees. Much time was devoted also to collecting along the Pacific plains that lie between the long chain of volcanoes and the sea.

The last month of field work was centered at Cobán in the coffee region of Alta Verapaz, one of the outstanding centers of botanical wealth in all Central America. The flora here is quite different from that of other parts of Guatemala, and is particularly rich in palms, orchids, and many other essentially tropical groups. Some of the most interesting plants collected during the whole season were found near Cobán in sphagnum bogs apparently unvisited previously by botanists, in spite of the proximity of these bogs to one of the oldest roads of Guatemala.

The work of the expedition resulted in assembling some 19,000 distinct collections of plants, represented by twice as many specimens. The small part of the collections thus far studied has revealed substantial additions to the rich flora of this Central American republic.

Like previous expeditions to Guatemala, this one was fortunate in receiving the most cordial and often very substantial support from Guatemalan officials, above all from Don Mariano Pacheco Herrarte, Director General of Agriculture, and from Professor Ulises Rojas, Director of the Botanic Garden of Guatemala. Special appreciation is due also to Dr. John R. Johnston, of the National School of Agriculture at Chimaltenango, whose thorough and sympathetic acquaintance with the country greatly facilitated the expedition's work. Dr. Johnston was a most congenial companion upon several visits to remote places.

A fourth botanical expedition to Guatemala left the Museum at the beginning of December, under the leadership of Assistant Curator Steyermark, who was accompanied by Mr. Albert Vatter, of Chicago, a volunteer assistant. It is expected that this party will remain in the field until the end of the rainy season of 1942, and thus complete the Museum's botanical exploration of the country, preparatory to publication of a Flora of Guatemala.

From about the middle of the summer until nearly the end of the year. Mr. J. Francis Macbride, Associate Curator of the Herbarium, continued work on the Flora of Peru at the herbaria of the University of California. Available there are the complete series of the Goodspeed collections made during recent years in Peru and adjacent countries. Totaling many thousands of specimens, they make this university one of the most important centers for studying the plants of the Andean regions. On this visit Mr. Macbride was able to study only the large family Leguminosae (bean family), this being the group which will next be treated in the Flora. He found the Goodspeed collections supplemented by others, some unique, notably those of Balls and Belshawm. All these materials were placed freely at his disposal by the botanical staff, those directly concerned being Dean C. B. Lipman, Chairman A. R. Davis, Curator, Professor H. L. Mason, and Professor L. Constance. Professor I. H. Goodspeed, Director of the Garden, thoughtfully made available specimens that had not yet been transferred from his jurisdiction to the herbaria. With the fine library facilities which were made available to him without any formal restrictions, Mr. Macbride was able to pursue his research most effectively, and he records this co-operation with gratitude to all concerned.

An expedition to California was made in September and October by Dr. Francis Drouet, Curator of Crytogamic Botany, and Mr. Donald Richards, of the University of Chicago. The primary purpose was to survey the blue-green algal flora of the inland regions of that state to supplement the large collections of the late Dr. N. L. Gardner and of Dr. M. J. Groesbeck represented in the Museum's cryptogamic herbarium. A general collection of other plants, especially bryophytes, was made at the same time. The expedition made short stops in eastern Colorado, Utah, and Nevada and then pursued a course in California from Alturas through Redding, Dunsmuir, Weaverville, Berkeley, Palo Alto, Yosemite, Porterville, Barstow, Needles, Blythe, Palm Springs, Calexico, and San Diego to Los Algae were found in great abundance everywhere. In the volcanic soil of northeastern California, as well as in the sandy cultivated regions of the San Joaquin Valley, soil algae were never well developed; the streams, swales, and irrigation-ditches supported most of this flora. The deserts of the southeast, however, were found to be covered almost continuously in many places, at least wherever soil was present, with mats of algae, apparently the result

of many years of growth. The algae of this desert region are in fact the most abundant of all plants and often the only ones in evidence. It is surprising that they have been neglected in botanical exploration for all these years, especially since they play so important a part in the control of soil-erosion. About 8,000 specimens were collected during this expedition.

By arrangement with the government authorities of Venezuela. preparations were made for a joint Field Museum Venezuelan Government Botanical Expedition to be conducted by Mr. Llewelvn Williams, Curator of Economic Botany, to the upper reaches of Mr. Williams, whose previous explorations of the Venezuelan Guiana render him particularly fitted for this task. left New York by steamer in September for Caracas in order to complete there the organization of his party and equipment. At the present writing he is doubtless on his way southward into the interior. Much of the route Mr. Williams will follow has been made famous by Humboldt and Bonpland, and herbarium specimens, woods, and other economic plant materials will be gathered by him largely in localities made historic by the collections those early explorers sent to Europe. He will cover, likewise, a part of the route of the English botanist Spruce, who approached the southern end of the Venezuelan Guiana from a tributary of the Rio Negro to Rio Cassiquiari, which connects the river systems of the Orinoco and the Amazon.

In eastern Brazil, Dr. Gregorio Bondar made various excursions into the interior of the State of Bahia on behalf of the Museum, resulting in the discovery of new species of palms as well as large numbers of insects mentioned elsewhere.

Publications of the Department of Botany during 1941 were as follows: Botanical Series, Volume 9, No. 6, Studies of the Vegetation of Missouri II: Phanerogamic Flora of the Fresh-Water Springs in the Ozarks of Missouri, by Julian A. Steyermark; Botanical Series, Volume 13, Part 4, No. 1, Flora of Peru, by J. Francis Macbride; Botanical Series, Volume 20, No. 4, Tropical Marine Algae of the Arthur Schott Herbarium, by William Randolph Taylor; Botanical Series, Volume 22, No. 7, Additions to our Knowledge of the American and Hawaiian Floras, by Earl Edward Sherff.

Curator Standley published in *Tropical Woods* a brief account of the forests of Guatemala. Assistant Curator Steyermark published several short papers treating of plants of the United States. Some reviews of foreign publications and abstracts of articles upon tropical

A CASSAVA MILL IN NORTHEASTERN BRAZIL.

A common type of primitive industrial plant for the preparation of tarinba from the tarchy tulors of the namoe or eneaver plant

Small scale dorama in the Hall of Food Plants (Hall 35)

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American botany were contributed to *Tropical Woods*. Manuscript for an addition to the Leaflet Series was prepared by Associate Curator Macbride.

Considerable attention was given in the Department to the execution of the drawings for and the preparation of a manuscript on the Fungi of the Chicago Region by Verne O. Graham. Dr. B. E. Dahlgren, Chief Curator, and the Curator of Cryptogamic Botany spent much time in correcting and editing the manuscript. The illustrations and the manuscript occupied the full time of two artists and a typist of the Work Projects Administration until July. One WPA artist was occupied during the tenure of the project with making illustrations of undescribed Myxophyceae.

Through the year the phanerogamic collections of the Department were consulted by visiting botanists from near and remote regions of the United States and from South America; among such students were Dr. E. P. Killip, of the United States National Museum, and Dr. C. Vargas of the University of Cuzco, Peru, who came especially to examine the Museum's Peruvian collections.

Various workers from other institutions took advantage of the opportunity to study in the collections of cryptogams in 1941. Mr. Donald Richards and Mr. Lawrence J. King, of the University of Chicago, spent considerable time in study of bryophytes and algae respectively. Mr. William A. Daily, of the University of Cincinnati, visited the herbarium in August to complete his work on the Chro-ococcaceae of Ohio, Kentucky, and Indiana. Mr. Richard D. Wood, of Northwestern University, worked at intervals through the year on the collection of Characeae. Dr. Shigeo Yamanouchi, of the Carnegie Foundation, spent several continuous months in his studies on algae of the Orient. Mrs. Netta E. Gray, of the University of Illinois, worked here for a short time on the algae of Arkansas. Dr. Verne O. Graham and Mrs. Cloyd B. Stifler, of Chicago, devoted considerable time to work on the mycological collections.

Many plants were submitted to the Department during the year for study and determination. Numerous local plants were brought to the Museum for naming by residents of the Chicago region, and hundreds of inquiries regarding diverse aspects of botanical science were answered by letter, telephone, and interview.

ACCESSIONS-BOTANY

During 1941 the Department of Botany received 330 accessions, comprising about 80,000 items. The accessions included material

The total of numbered specimens in the botanical collections at the end of 1941 was about 1,100,000. About 33,000 sheets of specimens and photographs were added to the herbaria during the year, as well as a substantial number of typewritten descriptions of plant species prepared in the Department or received in exchange.

Of the total receipts, items for the herbaria amounted to 78,168, consisting of plant specimens and photographs. The largest accession of the year was composed of approximately 38,000 specimens collected in Guatemala by Mr. Standley, as described upon a preceding page. Other material obtained by members of the Department staff included 8,000 specimens collected by Dr. Drouet and Mr. Richards in California; 2,035 Venezuelan plants collected by Mr. Williams; 1,000 Missouri plants gathered by Dr. Steyermark; and 2,000 plants chiefly from Illinois, collected by Mr. Standley and Dr. Steyermark.

Largest and most important gift of material for the phanerogamic herbarium consisted of 1,732 specimens from Mexico, many from historical localities, presented by Dr. Harry Hoogstraal, of the University of Illinois. These were collected by Dr. Hoogstraal and Mr. William C. Leavenworth, in continuation of a similar series begun in previous years and obtained by parties of students from the University of Illinois.

Other important gifts of flowering plants during 1941 were received from Mr. Paul H. Allen, Balboa, Canal Zone; the Arkansas Agricultural and Mechanical College, Monticello; Dr. Hugh Cutler, St. Louis, Missouri; Dr. Delzie Demaree, Monticello, Arkansas; Mrs. D. M. Donaldson, Aligarh, India; Rev. Brother Elias, Caracas, Venezuela: Illinois State Museum, Springfield; Dr. John R. Johnston, Chimaltenango, Guatemala; Museo Nacional de Costa Rica, San José, through Professor Juvenal Valerio Rodríguez; Professor Henry Pittier, Caracas; Professor J. Soukup, Lima, Peru; Rev. Padre Cornelius Vogl, Caracas, and Dr. R. H. Woodworth, Bennington, Vermont. Besides these, there were 105 specimens of palms and economic material together with numerous photographs, obtained by Dr. Dahlgren in the north of Brazil in 1939. Among these are numerous palm specimens and photographs from the collection of Dr. Gregorio Bondar, of Bahia, including type material of that author's recently described species of Cocos and Attalea palms.

The largest of the exchanges of flowering plants consisted of 2,256 Argentinean specimens received from Instituto Miguel Lillo of Tucumán. Other important exchanges were received from the Arnold Arboretum, Jamaica Plain, Massachusetts; Dr. William Bridge Cooke, San Francisco, California; Milwaukee Public Museum; Missouri Botanical Garden, St. Louis; Mr. Robert Runyon, Brownsville, Texas; Texas Agricultural Experiment Station, Temple; Dr. Robert M. Tryon, Jr., Freelandville, Indiana; United States National Museum, Washington; the Herbarium of the University of Michigan, Ann Arbor, and Utah State Agricultural College, at Logan.

To the cryptogamic herbarium 25.019 specimens were added during 1941. About 11.500 of these were gifts from other institutions and individuals. The largest gift consisted of 7,285 fungi from the Department of Botany, University of Chicago. Others came from Mr. Donald Richards, Chicago, Illinois; Dr. Walter Kiener, Lincoln, Nebraska: United States Fisheries Laboratory at Logan, Utah; Dr. M. J. Groesbeck, Porterville, California; Mr. P. W. Wolle, Princess Anne, Maryland; Mr. Lawrence J. King, Chicago, Illinois; Mr. William A. Daily, Cincinnati, Ohio; Dr. V. O. Graham, Chicago, Illinois; Miss Netta E. Gray, Urbana, Illinois; Dr. W. G. Solheim, Laramie, Wyoming; Mr. H. S. Dybas, Chicago, Illinois; the University of California, Berkeley; Academy of Natural Sciences of Philadelphia: Dr. Lee Walp, Marietta, Ohio; Mr. Clyde T. Reed, Gregory, Texas; Dr. Herman Kleerekoper, São Paulo, Brazil; Dr. H. C. Bold, New York; Dr. V. W. Lindauer, Awanui, Far North. New Zealand: Dr. E. S. Deevey, Jr., Houston, Texas; Dr. Angel Maldonado, Lima, Peru; and Dr. G. W. Prescott, Albion, Michigan. The accession of some of the gifts listed above and of many smaller ones not mentioned is owing to the interest and efforts of Mr. Donald Richards and Mr. William A. Daily: through them a number of unique and historic collections of bryophytes and algae has been made available to students in this herbarium.

Specimens of cryptogams received in exchanges numbered 2,927. Because of the present international conditions, these came mainly from the western hemisphere. The one considerable set received from the eastern hemisphere consisted of 212 Myxophyceae collected by Dr. G. T. Velasquez, of the University of the Philippines.

Purchases of cryptogamic specimens included 2,180 algae and mosses, largely of old published European exsiccatae, from the Farlow Herbarium; 190 algae of Montana, from Mr. F. H. Rose; and 50 algae of Iceland, from Mr. William F. Palssen.

Details of all the gifts, exchange, and purchases mentioned here, and others, will be found in the List of Accessions (page 435).

During the past year 46,073 prints from negatives of plant type specimens obtained in European herbaria by Mr. J. Francis Macbride, Associate Curator of the Herbarium, were supplied to botanists of North and South America at cost or in exchange for similar type photographs or for specimens desired by Field Museum.

CATALOGUING, INVENTORYING, AND LABELING- BOTANY

There were distributed in exchange during 1941, to institutions and individuals in North and South America, 84 lots of duplicate material, totaling 40,576 items. Included were herbarium specimens, wood specimens, and photographs. Received on loan, for study and determination, were twenty-three lots of material, comprising more than 1,650 separate items. Eighty-four lots, comprising 9,127 specimens, were lent for determination or for use in monographic studies.

Much of the work involved in the preparation of specimens of cryptogams for exchanges was performed by Mr. Donald Richards, of the University of Chicago. Records of all accessions, loan transactions, and photographs of type specimens supplied to other institutions, as well as the various card catalogues in the Department Library, were accurately kept up to date by Miss Edith M. Vincent, Librarian of the Department. The catalogues of the economic collections and woods were kept by Mr. Joseph Daston, who rendered valuable service also in the care and organization of the Department's files of photographs, of the growing palm collection, and in preparation of exchange material. In some of this work Mr. Daston was assisted by Miss Jeanne Paul, a student at Northwestern University who, because of special interest in botany, offered her volunteer services during vacation periods.

INSTALLATIONS AND REARRANGEMENTS-BOTANY

Some notable additions were made during the year in the exhibition halls of this Department. The most important of these is a habitat group in the form of a large diorama showing the intertidal vegetation of the rocky North Atlantic shore. This has been installed in Martin A, and Carrie Ryerson Hall. Hall 29. Plant Life), immediately to the right of the alpine meadow group which occupies the center of the north end of the hall. The new seaweed group thus adjoins the synoptic exhibit of algae.

Work upon this exhibit has been in active progress for more than a vear. The material and studies on which it is based were obtained by two expeditions to the North Atlantic coast, one in 1939 by Mr. John R. Millar, and one in 1940 by Mr. Emil Sella, Chief Preparator in the Department of Botany. The first was sponsored by Mr. Sewell L. Avery, a Trustee of the Museum. Both expeditions visited the shores of the Bay of Fundy. The first one resulted in a large quantity of material with photographic records and observations which served as a basis for the planning of the general lines of the group. A sketch model was prepared by Mr. Millar (then a member of the Department of Botany staff, now Curator of the N. W. Harris Public School Extension) on his return to the Museum. When other duties later prevented Mr. Millar's further attention to the project, it was taken over by Mr. Sella, who carried the work to its present successful conclusion. From the point of view of museum technique the new diorama is a notable achievement. The usual plastic materials, from plaster of Paris to lucite, have served to produce a realistic replica of the seaweed covering a rocky seashore exposed at ebbtide.

Much of the essentially repetitious mechanical work required for this, as for various other recent exhibits, was performed under Mr. Sella's supervision by handicraft workers furnished by the Work Projects Administration. The background was painted by Staff Artist Arthur G. Rueckert.

Minor exhibits added in their respective places in the same hall were reproductions made in the Museum of a ginger plant grown at the Experimental Station of the Department of Agriculture of Trinidad and Tobago, and of a ripe fruit cluster of Nagal dates grown near Tucson, Arizona. Recent collecting by members of the staff in Brazil, Venezuela, and Guatemala furnished fruits, seeds, and plant products for installation or replacements in the exhibits of plant material in this hall. A large amount of work was also done during the year in preparation for further habitat groups to be installed in the south end of the hall.

A small-scale diorama of a cassava mill was added to the food plant exhibits in Hall 25. Based on observations and photographs made in northeastern Brazil, this was begun several years ago. The many small-scale figures, buildings, trees and other plants of which it is composed, were made by WPA craftsmen and artists under staff supervision. This material, properly adapted, reassembled, and supplied with a painted background, forms a small diorama which

serves to give an excellent idea of the preparation of farina, or farinha, from the tubers of the cassava plant. Known to us chiefly as the source of tapioca, this is one of the most important food plants of tropical America. It was grown by the Indians in pre-Columbian days, was adopted by the white settlers, and is still the chief source of starchy food in large parts of South America, particularly west of the Andes. It is in many places even more important than corn, its only rival among the starchy food plants of the western hemisphere.

In response to the growing popular interest in soybeans, a special exhibit has been installed in the same hall, showing many varieties of the soy, an ancient crop plant of the Far East, which is assuming importance in the United States, especially for fodder and industrial purposes.

The palm exhibits on the north side of the same hall have been enriched by some additions, the most notable being specimens of the leaves and wax of the licury or "ouricury" palm of Bahia, a gift in part of Dr. Gregorio Bondar. Some additions and improvements have also been made in the babassú material presented some years ago by Mr. H. F. Johnson, Jr. This large palm with its heavy clusters of fruit—each containing five to six oleaginous kernels—is found over thousands of square miles in the northern Atlantic states of Brazil, and is of interest and of growing importance as an available source of oil at a time when the copra trade is at a standstill and the African supply of palm oil is becoming inaccessible. The cohune palm exhibit also received some attention, and some additions were made to the ivory nut palm and other installations.

In Charles F. Millspaugh Hall North American Woods – Hall 26) six new colored transparencies were added to those installed during the past few years. These complete the series of North American woodland scenes which occupy the lower part of the window openings. They serve to add interest to the woods displayed, and to modify advantageously the lighting in this hall. A few improvements were made in the exhibits by replacement of various photographs with new, more satisfactory ones obtained mainly from the United States Forest Service, and by the addition of a section of a cypress knee in the southern cypress exhibit. Three western woods – western alder, noble fir, and Sitka spruce—which were lacking from the display of principal North American forest trees in this hall, have finally been secured and await drying and installation.

The Hall of Foreign Woods (Hall 27) has received numerous additions: seven Venezuelan woods received from Señor Joaquin



SEAWEEDS ON THE NORTH ATLANTIC COAST

A new life-size diorama with painted background showing the vegetation, consisting of brown, red, and green algae, covering the rocks of the seashore between tide levels

Martin A. and Carrie Ryerson Hall (Hall 29, Plant Life)

Constructed by Chief Preparator Emil Sella, with assistance of WPA workers

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Avellan, Caracas; and three Peruvian woods, three Central American, two Mexican, three Hawaiian, two Australian, two African, and two European woods, from various donors, including Russel Fortune Inc., Indianapolis; Penrod, Jurden and Clark, Cincinnati; T. H. Smith Veneers, Inc., Chicago; Ichabod J. Williams and Sons, and C. H. Pearson and Sons, New York. To the African woods there was added a large cross section of a trunk of one of the hardest and heaviest woods known—leadwood (also called ironwood or "hardekool") of South Africa—collected by the Vernay—Lang South African Expedition.

By alterations in the arrangement of the offices and laboratories, space was provided for the Department's large wood collection, for the palm herbarium, and for the expansion of the herbarium of cryptogams. Better laboratory and other working space was also thus acquired for the preparation of botanical exhibits.

The work of determining the thousands of collections of Myxophyceae received was continued by Dr. Drouet during 1941. One of the major projects, begun in 1940, was work on the N. L. Gardner herbarium of blue-green algae. A portion of this was prepared during 1941 for filing here and at the University of California, and for distribution in exchanges with other herbaria. With Mr. William A. Daily of the University of Cincinnati, work was continued on a revision of the Chroococcaceae, even though its scope was seriously hampered by the international situation, which prevented the borrowing of historic material from European herbaria. The collection of fungi was carefully surveyed and put in order in new herbarium cases installed in Room 9.

More ample storage space for the wood collection made possible its more orderly rearrangement and the filing of the Museum's large and growing number of authentic wood specimens. Several thousand recently added South American woods were cut into standard sizes for the study collections, several duplicates of each number being provided at the same time for purposes of exchange.

A large amount of bulky palm material in storage was cut and made into box and herbarium specimens, cases for which were provided by the addition last year of a large number of new steel herbarium cases in the general herbarium of flowering plants. About two thousand copies of original descriptions of palms and as many photographs were filed in the palm herbarium.

Three employees of the Work Projects Administration spent all of their time until July 1, when the WPA project was discon-

tinued, in mounting specimens of cryptogams on sheets for filing in the herbarium, and in renovating packets of the older collections accumulated in past years. Thus, at the end of 1941, the entire collections of algae and bryophytes, and most of the lichens, rest in the herbarium in such a condition that portions of the specimens cannot easily be lost or broken.

Work of mounting new collections of vascular plants did not proceed so rapidly as in previous years because of withdrawal of WPA employees, with whose assistance the work had been kept fully up to date in recent years. At the end of 1941 a large quantity of material was still awaiting preparation for distribution into the study collections.

DEPARTMENT OF GEOLOGY

EXPEDITIONS AND RESEARCH

Mr. Bryan Patterson, Assistant Curator of Paleontology, and Mr. James H. Quinn, Chief Preparator in Paleontology, spent three months collecting vertebrate fossils in Colorado, Nebraska, and South Dakota. This expedition enriched the collections of vertebrate fossils by more than 500 specimens from the De Beque formation. It obtained skulls and many bones of the large hoofed mammal, Coruphodon, a partial skull of an early member of the rhinoceros group, and a number of small primates. The careful stratigraphic observations made will permit recognition of several faunal horizons within the early Eocene portion of the De Beque formation. The party also obtained the skeleton of a large Mosasaur in South Dakota, early Pliocene and Pleistocene mammals in Nebraska, and fossil plants from the Green River formation in Colorado.

Mr. Paul O. McGrew, Assistant Curator of Paleontology, left early in November on an expedition to Honduras to collect fossil mammals. An important objective of this expedition is determination of the disputed date of the emergence of the Isthmus of Panama from the sea. This date, upon which paleontologists do not yet agree, is of geological importance. Its determination will solve several mysteries concerning migrations of mammals in the geological past, and help in the solution of other paleontological problems.

Dr. Sharat K. Roy, Curator of Geology, spent two and a half months on an expedition to western and northern New York where he collected exhibition specimens of invertebrate fossils from the Upper and Middle Devonian. The object of the expedition, which was fully accomplished, was to secure material to fill gaps in the exhibited collection before its contemplated reinstallation was undertaken. In addition to exhibition material, many specimens for use in researches leading to future publications were collected.

To facilitate research, Assistant Curator McGrew spent three weeks studying collections in eastern museums. Chief Preparator Quinn also spent two weeks in the east studying improved methods of preparation and installation. A continuous program of research based on vertebrate fossil specimens collected by Museum expeditions was carried on by Assistant Curators Patterson and McGrew. Papers written by Mr. Patterson were: A New Phororhacoid Bird from the Deseado Formation of Patagonia, published in the Geological Series of Field Museum, and Two Tertiary Mammals from Northern South America, now in press, which will appear in the American Museum Novitates. Papers by Mr. McGrew, all of which have appeared in the Geological Series of Field Museum, were Heteromyids from the Miocene and Lower Oligocene; A New Miocene Lagomorph; A New Procyonid from the Miocene of Nebraska; and The Aplodontoidea. A paper by Mr. Grayson E. Meade, A New Erinaceid from the Lower Miocene, describing a type specimen in the Museum collections, and one entitled A New Fossil Alligator from Nebraska, by Mr. Karl P. Schmidt, Chief Curator of the Museum's Department of Zoology, were also published in the Geological Series. In the Museum's Memoirs Series there was published The Upper Ordovician Fauna of Frobisher Bay, Baffin Land, by Dr. Sharat K. Roy, Curator of Geology.

A paper by Dr. D. C. Dapples of Northwestern University, on sands collected by Field Museum Asiatic expeditions, was published in the *Journal of Sedimentary Petrology*.

ACCESSIONS-GEOLOGY

Sixty-three accessions, including 530 specimens, were recorded in the Department of Geology during the year. Of these, 377 classified as gifts, 24 were from exchanges, 115 were from expeditions, 7 were purchased, 5 were transfers from other Departments, and 2 were made in the Department workrooms. These figures omit many of the specimens collected by expeditions, because the unpacking and classification of these, although now under way, have not yet been completed.

The most important gift of the year is a collection of twenty-three gems of fine quality presented by Mrs. Richard T. Crane, Jr., of Chicago. This collection includes a ruby, sapphires, topaz, tourmalines and other choice gems for H. N. Higinbotham Hall (Hall 31).

The gem collection was increased also by the addition of twenty-four miscellaneous gems presented by Dr. Paul Boomer, of Chicago. Four step-cut white beryls of fine quality, weighing more than sixteen carats, were presented by Dr. Benedict Gresky, of Chicago, and make another desirable addition to the Hall of Gems.

The semi-precious and ornamental section of the gem collection was enlarged by the addition of thirty-one specimens of Mexican onyx cabochons and other ornamental shapes) presented by Mr. William E. Menzel and Mr. Steven Gulon, of Chicago, and Mr. O. C. Barnes, of Los Angeles, California, and a thomsonite of exceptional size and quality presented by Mr. O. A. Gentz, of Chicago. Mr. A. H. Becker, of Madison, Wisconsin, presented a large mass of moonstone in the rough from which it is expected fine specimens can be cut.

The mineral collection was increased by gifts of seventy-two specimens from sixteen donors, and twenty obtained by exchange. Most of these are of superior or even semi-precious quality. Especially noteworthy is the gift of thirty-five minerals, mostly of semi-precious quality, from Mrs. John Stuart Coonley, of Chicago. The specimens include amber, lapis lazuli, agate, and other minerals equally esteemed for ornament.

Sixteen minerals obtained by exchange with Mr. Glen H. Hodson, of Elmhurst, Illinois, include the largest slice of iris agate known, and what are believed to be the finest examples of wulfenite, dioptase, caledonite, and aurichalcite in the United States. A gift from Mr. Claron Hogle, of Duluth, Minnesota, added to the mineral exhibit a thomsonite superior in quality to any before exhibited. Mr. O. J. Salo, of Red Lodge, Montana, added to his gifts of former years eight specimens of dahlite. Mr. Willard Bascom, of Golden, Colorado, presented specimens of the rare minerals cerite, allanite, and euxenite, and Mr. John Butrim, also of Golden, Colorado, gave a specimen of rare talctriphyllite. A mass of algae transformed into chalcedony, locally called algal agate, the gift of Mr. Henry E. Lee, of Rapid City, South Dakota, promises to make an unusually attractive specimen when prepared for exhibition.

The meteorite collection was increased by one specimen received as a gift, one obtained by exchange, and seven specimens resulting from purchases. An important addition to the tektite collection was the gift of twelve tektites presented by Dr. R. F. Barton, of Manila, Philippine Islands.

CATALOGUING, INVENTORYING, AND LABELING-GEOLOGY

During 1941, there were 1,825 entries made in the Department's twenty-nine record books. All specimens received during the year were catalogued except such specimens from expeditions as have not yet been sufficiently prepared and classified to permit cataloguing. All specimens of the gem collection were recorded in a new record book, and its classified card catalogue has been checked and the cards reassembled in final order. All classified card catalogues have been kept up to date. In all, 1,565 cards were added to these catalogues.

INSTALLATIONS AND REARRANGEMENTS—GEOLOGY

Reinstallation along the improved lines detailed in the 1940 Report continued through the year. The two most important changes were the complete reinstallation of the gem collection in H. N. Higinbotham Hall (Hall 31), and continuation of the conversion of Ernest R. Graham Hall (Hall 38) into a Hall of Vertebrate Paleontology. With the exception of Higinbotham Hall, which was closed for several months, it has been possible to conduct the work so that only a few exhibits have been withdrawn from display at any one time. After months of study and preparation, the collections of gems and jewels in Higinbotham Hall have been completely reinstalled and are now displayed in surroundings worthy of them, and in a manner that brings out their full beauty of color, luster, and brilliance as never before.

Higinbotham Hall has been completely rebuilt both architecturally and as to style of installation and lighting of exhibits. New cases were designed by the best available talent. The principal collection is placed in eight island cases. These have an exterior of English harewood matching the trim of the hall. The glass is framed in polished bronze, and the interiors are of bird's-eye maple. The gems are illuminated by concealed fluorescent lights which enhance their brilliancy. Seventeen smaller cases in the walls contain the jewelry collection and three special collections. High in the wall opposite the entrance is a stained glass window by Tiffany representing a mermaid rising from the sea. The collection now contains more than 3,000 specimens. The hall was reopened to the public on June 19.

The conversion of Ernest R. Graham Hall (Hall 38) from a hall of general paleontology to a hall of vertebrate paleontology has continued steadily. The extension of vertebrate paleontology to

occupy the entire hall made it possible to adopt a more roomy, as well as a more attractive, arrangement of exhibits. The arrangement in alcoves of uniform extent was abandoned in favor of an alternation of larger and smaller alcoves. A pleasing arrangement was adopted, making the alcoves conform in extent with the Charles R. Knight murals above them. This again was modified by the need for open spaces about the larger exhibits on the floor.

The type of casing adopted for the new arrangement consists of upright cases ten and twelve feet in length and two to four feet in width, with bases only twelve inches in height. These cases provide an exhibition space of six feet vertically, and are lighted by fluorescent tubes. Shelving has been almost entirely dispensed with, and exhibits either stand upon simple bases which cover the entire floor of the cases, or are attached by means of studs or brackets to the back of the cases, or to a screen where cases face two ways. By this arrangement, shadows within each case are almost entirely eliminated, and a freer arrangement of exhibits is made possible.

Two new exhibits were added, and six cases were rearranged. regrouped, improved by the addition of restoration drawings in color, and installed in the new type of upright cases. A skeleton of Procamelus, prepared last year, was added to the camel series, and a skeleton of Oxydactulus, which had formerly occupied a floor case, These two cases, together with an evolutionary was remounted. series, form the basis of an alcove devoted to camels. from the Agate Springs Fossil Quarry was installed in a floor case. The various elephant and mastodon specimens were worked over, and a series of teeth and jaws was selected and grouped in a careful study by Assistant Curator Bryan Patterson and Chief Preparator James H. Quinn. Thus was formed a systematic exhibit illustrating the relationships of these two families. The case was made more attractive by four splendid restoration paintings, prepared by Mr. John Conrad Hansen. The carefully studied arrangement of this case, together with the introduction of restorations in color, set a new standard in the exhibition of fossil vertebrates in this Museum.

A La Brea California Tar Beds exhibit, consisting of a skeleton of the great sloth *Paramylodon* and a saber-tooth tiger *Smilodon*, was constructed and installed by Chief Preparator Quinn; it includes another restoration painting by Mr. Hansen. A case of pig-like mammals and oreodonts, including members of four families, was prepared by Mr. Elmer S. Riggs, Curator of Paleontology, and other members of the staff. An exhibit, Rodents of the Western

Hemisphere, arranged on the background of a chart to illustrate the branching out of various lines of development, was prepared by Assistant Curators Paul O. McGrew and Bryan Patterson. A striking exhibit of skeletons of great flightless birds, including a Moa from New Zealand, and the *Mesembriornis* of Argentina, was prepared by Mr. Quinn under the supervision of Mr. Patterson. An exhibit of skulls of horned titanotheres was prepared by Curator Riggs and Preparator Harold Gilpin. All of these exhibits are accompanied by rather brief descriptive labels and illustrated with restoration paintings.

Duplicate specimens which have been exhibited in the past were brought to the third floor and stored, as were also a number of specimens too large for the cases provided, or undesirable for further exhibition. To receive such exhibits twelve A-type cases and one square case, recently discarded, were brought to Rooms 101 and 103. A large case was built in the storage space of Room 107 to receive and protect the type specimen of the large dinosaur Brachiosaurus.

Preparation of vertebrate fossils for exhibition and study continued throughout the year. At the beginning of the year the regular staff was assisted by a well-trained force of four men from the Work Projects Administration, and one volunteer. Because of the closing of the WPA project, the working force of the laboratories was gradually reduced until by June 1 only the regular staff remained.

Important specimens prepared include two skeletons of the small Miocene camel, *Stenomylus*, two of the primitive deer *Aletomeryx*, and one of a small oreodont. In addition, forty-one skulls of fossil mammals, a similar number of jaws, several hundred odd bones, and three carapaces of fossil turtles were prepared. Much time and labor were expended in remounting old exhibits to adapt them to the new cases in which they are now exhibited. Six of the larger old exhibits were remounted, and the mounts of a number of the smaller exhibits were improved.

The thirty-six cases which contain the invertebrate fossil collections were moved from Ernest R. Graham Hall (Hall 38 to Frederick J. V. Skiff Hall (Hall 37), which is to be the new invertebrate hall. The contents of these cases remain for the present installed in the old style—on shelves or the floors of table cases. Preparation for a thorough revision of this collection and the incorporation of material from Dr. Roy's 1941 expedition is in progress.

The collection of metallic ores which fills the east end of the hall has been left undisturbed until it can be moved to its new position in Hall 36. The entire collection of economic geology which formerly filled Halls 36 and 37 is in process of condensation to occupy Hall 36 only. Thus far, five double cases, with contents corresponding to ten of the old cases, have been installed and placed in the west end of the hall.

Many of the specimens from the old installation required, besides ordinary renovation, additional preparation involving much time and labor before they were ready for reinstallation. Nearly 150 of them were cut to better shape on the stone saw. Hundreds of holes for supports were drilled in rocks, some of them so hard as to require use of the diamond drill. The hundreds of new trays, label holders, supports, and other accessories needed were made in the Department workrooms.

Reinstallation of Clarence Buckingham Hall (Hall 35), which contains the structural and dynamical collections, has been temporarily suspended, partly on account of reinstallation work elsewhere and partly because recent expeditions have provided superior material which requires much preparation before it can be exhibited. The case containing rare gases, invisible until excited by electric current, which had been out of order for some time, was repaired through the courtesy of the Air Reduction Company, and is now again in operation.

The fluorescent lamp which illuminates the exhibit of fluorescent minerals failed after five years' use and has been replaced. No changes were made in the mineral collection which occupies the east end of Hall 34. The meteorite collection which fills the west half of the hall was enlarged by the addition of specimens of nine meteorites not before represented, and twelve tektites.

A beginning was made on the transfer of the mineral study collection from storage space beneath exhibition cases in Hall 34 to a permanent place in Room 116. This work, which was begun by Mr. Bryant Mather, Assistant Curator of Mineralogy, was interrupted by his absence in the service of the nation during the last half of the year.

The transfer of the invertebrate study collections to their permanent place in Room 111 continued. During transfer, all specimens and their labels were checked, data for the classified catalogue entries for the results of this year's expedition were prepared, and gaps in the collection were noted for filling by future expeditions.

NEW TYPE OF EXHIBIT IN PALEONTOLOGY Illustrating elephants, mammoths, and mastodonts, this case is typical of the new method being

used for reinstallations of fossil exhibits Ernest R. Graham Hall of Vertebrate Paleontology (Hall 38) THE LIBBART
OF THE
UNIVERSITY OF ILLINOIS

DEPARTMENT OF ZOOLOGY

EXPEDITIONS AND RESEARCH

The most important of the Museum's zoological expeditions in 1941 was the Leon Mandel Galapagos Expedition which sailed on the yacht Carola from Havana on January 4. This was the fifth Field Museum expedition to be sponsored by Mr. Leon Mandel, of Chicago. Included in the scientific and technical personnel were Dr. Wilfred H. Osgood, Curator Emeritus of Zoology, leader of the scientific party; Mr. Rudyerd Boulton, Curator of Birds; Mr. Melvin A. Traylor, Jr., Associate in Ornithology; Mr. Loren P. Woods, Assistant Curator of Fishes; Mr. Leon L. Walters, Staff Taxidermist; Captain William Gray, and Mr. Ronald Lambert.

The expedition returned to New Orleans on March 12, after visiting and collecting in and about all of the principal islands of the Galapagos archipelago and Cocos Island, visiting the coast of Peru, and collecting on the high seas. Excellent representative collections made by this expedition comprise 440 birds and 1,955 marine fishes. These supplement previous collections made by the Crane Pacific Expedition some years ago. Included in the results of the expedition were materials for a biological exhibit demonstrating speciation in birds, accessories and specimens for a habitat group of Galapagos fishes, and studies and molds of a 13-foot manta or "devil fish" for the new Hall of Fishes (Hall O).

Early in July, Mr. Colin C. Sanborn, Curator of Mammals, returned to Peru to complete his project for studies of tropical bats undertaken under the joint auspices of the John Simon Guggenheim Memorial Foundation and Field Museum in 1939. With the addition of funds from the Museum, Mr. Sanborn will remain in the field well into 1942, completing the survey of type localities of mammals in southern Peru begun on the Magellanic Expedition of 1939–40. He is also collecting for several other divisions of the Museum. At the end of the year he reported sending a shipment of six cases of specimens, including 50 bird skins, 255 specimens of mammals, large numbers of fishes, reptiles, amphibians, and bats in alcohol, and various invertebrates. The most notable segment of his itinerary in 1941 was the trip to the Santo Domingo Mine, where he was entertained by Mr. L. C. Woods. This locality is famous in the history of the zoological exploration of Peru as the "Inca Mines."

Other Museum field work was more strictly limited to the scope of the divisions concerned. During the spring and summer, Mr.

Emmet R. Blake, Assistant Curator of Birds, and Mr. Melvin A. Traylor, Jr., Associate in Ornithology, conducted a field trip in the southwestern and Rocky Mountain states to collect miscellaneous nesting material and accessories for a projected addition to the series of biological exhibits in Hall 21. The present unit, for which a considerable nucleus has been collected, is designed to illustrate the amazing diversity of nest construction, the wide range of habitats utilized for concealment of nests and protection of eggs and young, and other elements of the breeding biology of birds. A total of 422 specimens was collected, including 156 bird skins, 42 skeletons and preserved specimens, 87 nests with habitat accessories and photographic studies, 37 sets of eggs, 81 reptiles, and 19 mammals.

Field work for the Division of Reptiles included several collecting trips by Curator Clifford H. Pope within Illinois, by means of which he was able to familiarize himself with the animal geography of the state. Chief Curator Karl P. Schmidt, accompanied by his son, Mr. John M. Schmidt, and by Mr. C. M. Barber, of Hot Springs, Arkansas, a former member of Field Museum's staff, visited Arkansas and Texas where they collected 245 amphibians and reptiles.

Mr. Pope represented the Museum at the meetings of the American Society of Ichthyologists and Herpetologists at Gainesville, Florida, in April.

Mr. Alfred C. Weed, Curator of Fishes, spent several weeks in August and September at the Marine Station of the United States Commission of Fisheries at Beaufort, North Carolina. He paid especial attention to the collecting of mullets, for his part in the preparation of a general account of North Atlantic coastal marine fishes to be prepared by a co-operating group of ichthyologists. After his return from the Mandel Galapagos Expedition, Assistant Curator Woods took part in four local collecting trips, as part of a general study of the fish fauna of the Chicago region.

A limited amount of local insect collecting was done in the Chicago region by Curator William J. Gerhard and Assistant Curator Rupert Wenzel. In connection with his research on beetles of the family Histeridae and on the insect parasites of bats, Mr. Wenzel spent several weeks in the study of collections in eastern museums. Aided by Mr. Henry Dybas, Mr. Wenzel has made a thorough examination of the alcoholic collections of bats in the Museum, and some of the bird skins, and has obtained some 1,355 specimens of insect parasites. This important collection thus results from the accumulated expeditions of past years.

Dr. Fritz Haas, Curator of Lower Invertebrates, spent two months, April 3 to June 3, on the California coast at the Scripps Institution of Oceanography, La Jolla, and the Hopkins Marine Station, Pacific Grove. At both of these stations he was most cordially received and supplied with facilities for collecting and study. His collections amount to more than 3,000 specimens of mollusks, with much material of other invertebrate groups. Dr. Haas attended the meetings of the American Malacologists' Union in Rockland, Maine, in August, and presented a paper on Habits of Life of Some West Coast Bivalves.

Mr. Frank C. Wonder, Assistant Taxidermist, joined an expedition to Mexico in the summer of 1941, led by Mr. Harry Hoogstraal, of the University of Illinois. Mr. Wonder collected a total of 358 specimens of mammals in the interesting region about Mount Tancitaro, in the state of Michoacan. The birds collected by other members of the party were purchased for the Museum collection, and other collections from this region, made by Mr. Hoogstraal's expedition during the previous year, form a satisfactory nucleus of material for various scientific reports in preparation.

During July and August, Mr. C. J. Albrecht, Staff Taxidermist, visited the whaling station at Eureka, California, to make photographic studies and casts of whales for his series of models for a projected Hall of Whales. A visit to Monterey Bay enabled him to photograph sea otters, rare marine mammals which enjoy complete governmental protection.

The publications in the Museum's Zoological Series reflect a considerable share of the current research in the Department. Volume 27 in this series, devoted to papers on mammalogy, was published as a testimonial of the Museum's appreciation of Curator Emeritus Osgood, various papers being invited from his colleagues in other institutions. Two papers from the Museum staff (listed below), are included, together with appreciations by President Stanley Field and Director Clifford C. Gregg, and a portrait of Dr. Osgood.

Publications by the staff are: Descriptions and Records of Neotropical Bats, by Curator Colin C. Sanborn; Birds from the Yucatan Peninsula, by Associate Melvin A. Traylor, Jr.; Two New Birds from British Guiana, by Assistant Curator Emmet R. Blake; Reptiles and Amphibians from Central Arabia, A New Fossil Alligator from Nebraska, and The Amphibians and Reptiles of British Honduras, by Chief Curator Karl P. Schmidt; The Herpetological Fauna of the

Salama Basin, Baja Verapaz, Guatemala, by Chief Curator Karl P. Schmidt and L. C. Stuart: Copulatory Adjustment in Snakes, by Curator Clifford H. Pope: The Arteries of the Forcarm in Carnivores. by Curator D. Dwight Davis; New and Little Known Neotropical Historidae (Colcoptera by Assistant Curator Rupert L. Wenzel and Henry S. Dybas; and Malacological Notes II and Records of Large Fresh-Water Mussels, by Curator Fritz Haas. Galley proof has been corrected for a volume of the Catalogue of the Birds of the Americas, dealing with game birds, in which Research Associate Boardman Conover is co-author with Dr. Charles E. Hellmayr. Associate Curator of Birds. It is hoped that this may appear early A part of the remaining manuscript, covering various families of water birds, is with Dr. Hellmayr in Geneva, Switzerland, and much concern is felt as to the possibility of obtaining it in 1942. Dr. Hellmayr's manuscript on the hawks and eagles has been received. Due to the large additions necessitated by the Museum's acquisition of the Leslie Wheeler Collection, this part will amount to a separate volume.

Other publications in the Zoological Series include New Termitophilous Diptera from the Neotropics, by Dr. Charles H. Seevers of the YMCA College, Chicago, and A New Subspecies of Sceloporus jarrovii from Mexico, by Hobart M. Smith and Bryce C. Brown. Considerable progress was made on the third and last part of the Bibliography of Birds, by Dr. R. M. Strong.

Numerous minor papers and reviews were published by various members of the staff in technical journals. Chief Curator Schmidt continued as Herpetological Editor of the journal Copeia.

The research activities of the Department are only partly reflected in the list of publications. In the Division of Mammals, Curator Emeritus Osgood has a comprehensive account of the mammals of Chile in an advanced state of preparation; and Curator Sanborn had continued his taxonomic researches on bats, with a revision of the genus *Rhinolophus* nearly finished at the time of his departure for Peru.

In the Division of Birds, Curator Boulton continues his major interest in African birds, especially of Angola, and Assistant Curator Blake has devoted some time to research on the birds of British Guiana. The major part of Mr. Blake's time available for research has been spent on considerable collections of Mexican birds, in which he is joined by Mr. Harold Hanson, of the University of Wisconsin, collector of a part of the material.

In the Division of Reptiles, Curator Pope has begun to set in order the Asiatic collections, while Chief Curator Schmidt continues his interest in the herpetological faunas of upper Central America and of Peru.

In the Division of Fishes, Curator Weed is engaged in studies on mullets for a general account of the Atlantic species. Mr. Woods is engaged in the preparation of an annotated list of the Galapagos and Cocos Island fishes obtained by the Leon Mandel Galapagos Expedition.

The research program of the Division of Anatomy continued to center around the morphology of the bearlike carnivores. Interpretation of the considerable mass of data that has accumulated on the giant panda demands much collateral research, and some of this is so extensive that it must be handled separately in the form of preliminary reports. Two such reports were completed during the year—one, by Dr. Walter Segall, of Rush Medical College, on the structure of the auditory region in Carnivores; the other, by Curator D. Dwight Davis, assisted by Miss Elizabeth Story, on the arteries of the forearm in carnivores. Working under a special research stipend, Dr. Segall is continuing his studies of the auditory region of mammals as time permits. Miss Peggy Collins, of Glen Ellyn, Illinois, volunteered her services as artist for several months, during which she prepared an excellent series of drawings to illustrate Dr. Segall's report. Other similar projects were under way at the end of the year.

The Museum continued its policy of extracting the maximum of scientific value from the animals that die in the zoo of the Chicago Zoological Society. In addition to preparations of material for use in the Museum itself, the brain of a cassowary was prepared and supplied to the University of Toronto, where special studies on brain structure are being conducted, and twenty-five mammal hearts were forwarded to the University of Oklahoma Medical School for use in studies on the aortic arch pattern in mammals. Because of the active interest in the anatomy of the Primates, particularly of the great apes, a fine adult female orang-utan was embalmed, and its circulatory system injected with latex. It is being stored for use as occasion demands.

In the Division of Insects, Curator Gerhard's time has been occupied with planning, labeling, and installing cases of North American and exotic butterflies and moths for exhibition. Assistant

Curator Wenzel continued his active studies on the beetles of the family Historidae and on the various insect parasites of bats.

In the Division of Lower Invertebrates, Curator Haas continued to obtain a by-product in the form of malacological notes from his curatorial work on the collection. The prospect, toward the close of the year, of the acquisition of the large and important Walter F. Webb collection of mollusks means a further period of time in which the permanent arrangement of the collection, in the absence of assistance, will absorb the major part of his time.

ACCESSIONS ZOOLOGY

The total number of accessions for the year is 413, consisting of 73,559 specimens. These comprise 926 mammals, 8,655 birds and 53 eggs, 2,086 amphibians and reptiles, 11,789 fishes, 44,004 insects, and 6,046 lower invertebrates. Included in the above figures are 298 specimens of mammals, birds, and reptiles preserved for anatomical study or as skeletons. Accessions by gift total 19,254 specimens, by exchange 562, by Museum expeditions (or other collecting by the staff, 11,536, and by purchase 42,207.

Notable gifts of mammals include numerous specimens received from the Chicago Zoological Society; a mounted grizzly bear from Mr. F. N. Bard, of Chicago; a mounted head of the Marco Polo wild sheep from Mr. James Simpson, Jr., of Chicago, and a small collection of excellently prepared study skins from Colorado, presented by Mr. John M. Schmidt, of Homewood, Illinois. Fromm Brothers, who operate the well-known fur farm at Hamburg, Wisconsin, presented the Museum with five specimens of foxes representing the typical silver, black, cross, and red foxes familiar as furs. It is intended to prepare an exhibit of these as a separate case, with the addition of the Arctic white and blue foxes.

The principal gifts of birds were 522 specimens from the Mexican State of Oaxaca, presented by Mr. Boardman Conover, and about 1,000 specimens from Dr. Louis B. Bishop, of Pasadena, California. Collections of fishes from the Chicago region, amounting to 8,984 specimens, were presented by Messrs. Robert Haas and Loren P. Woods, of Chicago. Notable gifts of insects were 2,409 specimens from Mr. Emil Liljeblad, of Villa Park, Illinois, former Assistant Curator in the Division of Insects; 970 beetles from Europe and Peru from Professor J. Soukup, of Lima, Peru, and 169 specimens from Dr. Charles H. Seevers, of Chicago.

Noteworthy additions to the collection of skeletons and to the series of specimens preserved especially for anatomical studies came mainly from the Chicago Zoological Society. Valued specimens were received also from the Lincoln Park Zoo.

Exchanges were made during 1940 with the principal American museums of natural history, and with various individuals.

Purchases include noteworthy additions to the reference collections of birds from Bolivia, West Africa, and Australia; a collection of amphibians and reptiles from Mexico, purchased from Dr. Harry Hoogstraal, of Urbana, Illinois; and two large sharks for exhibition models.

Two notable purchases greatly increased the insect collection. One of these is a special collection of beetles of the family Histeridae (on which family Assistant Curator Wenzel is a recognized authority), amounting to about 15,000 specimens. Such collections, built up in the course of their studies by specialists who assemble specimens from all quarters of the world, are of great scientific value and it is important that they should find their way into the permanent collections of the larger museums. The second large purchase of insects represents fresh material, collected by Mr. Henry Dybas in Mexico in the summer of 1941. It is rich in the interesting beetles of the family Ptiliniidae, which includes some of the smallest insects.

CATALOGUING, INVENTORYING, AND LABELING-ZOOLOGY

The entries in the Departmental catalogues number 12,957; of these 895 were for mammals, 5,796 for birds, 2,967 for reptiles, 2,519 for fishes, 26 for anatomy, and 1,654 for lower invertebrates.

During the first six months of the year, with the aid of the WPA, 1,061 sets of eggs were packed and labeled. Much work was involved in the unpacking of the large collections received during the year. The collections of reptiles on the fourth floor (East Gallery) were completely inventoried and labeled by Mr. Pope. Mr. Pope has made much progress in identifying, labeling, and shelving accumulated Asiatic and South American collections. Mr. Woods continued a program of re-labeling the reference collections of fishes. The collection was found to be in need of a change of alcohol, due to deterioration by evaporation and solvent action on oils in specimens. This change is accomplished in an economical way by redistillation of the old alcohol; more than 650 gallons were so reclaimed during the year, from an original 950 gallons changed. Good progress was made in the cataloguing of the more important segments of various

collections accumulated by the Division of Fishes. In the Division of Anatomy (which catalogues its specimens mainly in the catalogues of other Divisions), the card index of such material was kept up to date by a total of 317 entries.

So far as possible all new acquisitions in the Division of Insects were given the attention needed to render the specimens accessible for study and to insure their permanent preservation. Some 6,650 specimens were pinned, 5,000 were pin-labeled, and 3,200 were sorted, labeled, and preserved in alcohol. A limited amount of time was devoted to assembling and determining scarabaeid beetles in order to advance the rearrangement of the collection of North American beetles. At least 2,000 histerid beetles were also pinned, classified, and arranged in new unit-trays that are now being used for certain orders of insects.

In the Division of Lower Invertebrates, about 1,200 numbers of the old shell collection, comprising some 12,000 specimens, have been revised. New material, corresponding to the 1,654 catalogue entries for the Division, has been labeled and placed in the permanent collection.

INSTALLATIONS AND REARRANGEMENTS-ZOOLOGY

Important additions and changes were made in the hall containing the systematic collection of mammals (Hall 15). The exhibit of wild pigs was enlarged to occupy two cases by the addition of a European wild boar, African red river hog, Abyssinian bush pig, Philippine pig, and the remarkable babirusa of Celebes. The specimen last named is a cellulose-acetate reproduction by Staff Taxidermist Leon L. Walters; the others are mounted skins, the work of Staff Taxidermist Julius Friesser. An unsatisfactory mount of a grizzly bear and cub were replaced by the fine specimen collected and presented by Mr. F. N. Bard, of Highland Park, Illinois, which had been mounted by Mr. Friesser. The case containing a llama, alpaca, and vicuña was removed from exhibition.

Exhibition work in progress for the Division of Mammals includes an exhibit of enlarged models of bats by Mr. Walters, aided by Mr. John Erker; two new screens representing the mammals of the Chicago region by Staff Taxidermist W. E. Eigsti, and a series of models for a hall of whales by Staff Taxidermist C. J. Albrecht. The panoramic background for a habitat group of gibbons, painted by Mr. Arthur G. Rueckert, Staff Artist, was finished in December.

Two screens were added to the series of exotic birds in Hall 21, exhibiting many specimens of diverse families that fill gaps in the



HABITAT GROUP OF GREEN PEAFOWL IN INDO-CHINA

The specimens are a gift from Dr. Wilfred H. Osgood, Curator Emeritus of Zoology,
who collected them on an expedition he personally sponsored and conducted

Prepared by John W. Moyer, Frank H. Letl, and Arthur G. Rueckert

Hall of Birds (Hall 20)

THE LIBRARY OF THE

series on exhibition. These mounts are the work of Staff Taxidermist John W. Moyer.

A habitat group of green peafowl was completed and installed in Hall 20 in the series of groups that show the environments and range of ecological conditions under which birds live throughout the world. The specimens, together with accessories, were collected by Dr. Wilfred H. Osgood in Indo-China and presented by him to Field Museum. The group shows a pair of the birds aroused at dawn from their roosting perches in a dead tree overtopping the tropical forest. In the background the early morning mist is lifting from low areas in the terrain and a rosy glow pervades the sky. species of peafowl, less widely distributed and not so well known as the common Indian species, is in a subtle way the more gorgeously colored. The train of the male, shown to advantage in the habitat group, is fully as large and extensive as that of the common species. The plumage of the body and neck is rich, lustrous, bronzy green, each feather delicately laced with an edging of velvety black. The birds in this group were prepared by Staff Taxidermist Moyer; the accessories and installation are by Mr. Frank H. Letl, Preparator of Accessories, and the background is by Staff Artist Rueckert.

The principal additions to Albert W. Harris Hall (Hall 18) consist of an alcove case of enlarged models of tadpoles designed to demonstrate what a tadpole is, and make clear the extraordinary fact that evolution of the tadpole stage proceeds independently of evolution of the adult frogs. Frogs that are apparently very much alike in general appearance may have tadpoles of extremely different types. The models display tadpoles that are adjusted to life in mountain streams, with suction devices for holding to the rocks; surface film feeders with extraordinary flower-like mouths, and bottom feeders of various types. These models are the work of Mr. Letl and Mr. Joe Krstolich, Artist-Preparator, and represent a most important adaptation of modern plastics to the preparation of museum models. The group representing the American crocodile at Lake Ticamaya, Honduras, was moved to its permanent place in Hall 18, with a new background by Mr. Rueckert. Reinstallation, which required remaking of the foreground and a rearrangement of the specimens, occupied Mr. Walters and Mr. Rueckert for some time in the early part of the year.

The entire exhibition series of fishes, removed from Hall 18, was reinstalled in a room now designated as the Hall of Fishes (Hall O) on the ground floor. The old alcove arrangement for the

exhibition of specimens in the "systematic series" has been replaced by built-in wall case. It is now possible for the visitor to get a connected picture of the variation of fishes from the most primitive species, such as the lampreys and their relatives, to the more advanced forms, such as the sea basses, scorpion fishes, trigger fishes, swell fishes, and angler fishes. Old, faded, and otherwise unsuitable specimens have been replaced by newly prepared material, with consequent great improvement in the appearance of the series as a whole. The especially interesting case of sharks, rays, and chimaeras is supplemented by a mounted whale-shark some twenty-five feet long, representing a young specimen of this species collected at Acapulco, Mexico, by Messes, Spencer W. Stewart and Robert J. Sykes, of New York, and presented by them to the Museum. The specimen was mounted by Staff Taxidermist Friesser, aided by Assistant Taxidermist Frank C. Wonder.

Part of the space in Hall O is occupied by habitat groups in which an attempt is made to reproduce some of the natural conditions under which fishes live, and show some of the plants and animals with which they are associated in their daily occupations.

At the west end of the hall is a large colorful group showing conditions at the edge of a Bahaman coral reef when a school of tiger sharks comes dashing along in search of food. The commotion produced by the passage of the sharks drives nearly every small fish to a safe hiding place in the coral. This group results from studies and collections made by the Williamson Field Museum Undersea Expedition of 1929.

Other groups show conditions off the sandy shores of southern Texas and along the rocky coast of Maine. The Texas group shows how oysters build up large rock-like "lumps" on sandy coasts where there is very little opportunity for young shells to attach themselves to rock or other solid substratum.

The Maine group shows rocks below the surface covered by a luxuriant growth of brilliantly colored plants and animals, very different from the barren conditions above the protecting influence of the water. The Maine and Texas coast groups result from Museum expeditions by Mr. Alfred C. Weed, Curator of Fishes, and Mr. L. L. Pray, Staff Taxidermist, in 1924 and 1937.

Specimens are in preparation for a similar group to show conditions as they exist along the lava cliffs of the Galapagos Islands. Brilliantly colored fishes, crabs, and other animals will be shown in their natural environment.

The habitat groups of fishes and the models in the systematic series are largely the work of Staff Taxidermist Pray; the accessories are by the Division of Group Accessories under the direction of Mr. Letl.

Some rearrangement of exhibition cases of skeletons in Hall 19 was necessitated by plans for the development of an alcove installation consisting of four cases to form a general exhibit illustrating animal reproduction. Two of these cases had been installed at the end of the year, and it is planned to complete and open this exhibit early in 1942. The exhibit results from a gift to the Museum made by the late Charles H. Schweppe, of Chicago.

Plans for exhibition cases of insects, to fill the space in Hall 18 vacated by the removal of the fishes to their special hall on the ground floor, are well advanced. Two cases, illustrating North American and exotic butterflies and moths, will be finished early in 1942.

An important improvement in several halls of the Department of Zoology consists in adapting the cases of Hall 18 (Reptiles), Hall 19 (Anatomy), and Hall 13 (Hoofed Mammals) to individual case lighting, with fluorescent lights. The reduced reflections, better lighting of individual specimens, and improved general appearance of the halls are highly gratifying.

N. W. HARRIS PUBLIC SCHOOL EXTENSION

Continued growth in all of its established functions was shown by the Harris Extension in 1941. The number of schools receiving portable Museum cases increased by ten to reach a new high total of 495. Although approximately half a million children are enrolled in the schools served, it is not possible to make a valid estimate as to the proportion of them actually reached through this phase of the school extension services of Field Museum. The methods of using the exhibits vary from school to school, and the collecting of statistical information is thus made impracticable. In some schools the cases are taken to every classroom; in others, a more restricted circulation is the rule. In social settlements, boys' clubs, and similar organizations receiving Harris Extension cases, it would be even more difficult to determine the percentage of children in attendance who pause to examine the exhibits. However, many complimentary letters of appreciation, received from teachers and principals, are testimony to the value of the portable exhibits as aids in the teaching of science in the schools.

Resources in material for the preparation of exhibits, or for lending separately, were increased by gifts, transfers from the scientific departments of the Museum, and some collecting by members of the staff of the Harris Extension. Mrs. Charles B. Cory, of Chicago, gave 142 insects in individual Denton mounts, and 157 mounted pressed plants. Articles pertaining to northern South America, and some Eskimo artifacts, were received from the Department of Anthropology; soy beans and soy bean products were received from the Department of Botany; numerous rock and mineral specimens were received from the Department of Geology, and twenty-eight models of fishes were received from the Department of Zoology. Twenty-nine bird skins, fifteen small mammal skins, and numerous insects were prepared and added to reserve collections by the staff.

Thirty-three new exhibits were prepared, and eight old exhibits were completely reinstalled. Two cases on the subject of coloration in birds were made. One illustrates the seasonal changes in appearance of some common birds, and the other directs attention to the differences in plumage associated with sex. Cases showing the nesting habits of the robin and also the bluebird were made. Fifteen exhibits in the field of geology were completed. These include five cases with models showing the supposed structure of the earth's interior, five with diagrammatic models showing some major features of volcanism, and five with simplified arrangements of igneous rocks and the principal rock-forming minerals.

Exhibits intended to aid in the teaching of those subjects which are now broadly grouped by teachers under the general term "social studies" were augmented by the installation of ten cases of Eskimo material in duplicate series of five cases. Each case of the series deals with a different aspect of Eskimo life. Guatemalan children's clothing, carefully selected and purchased in Guatemala through the courtesy of Miss Elizabeth McM. Hambleton of the Raymond Foundation staff, was installed in four cases. Twenty-two cases are available in what may be called an anthropological series, now added to the botanical, geological, and zoological series which have been long-established subdivisions of subject matter in Harris Extension cases.

Seventeen pairs of cases were delivered to each of the schools and other Chicago institutions receiving the Museum service for the entire year. In addition, sixty-four requests for specific cases or materials were filled. This number is larger than reported in

previous years, and analysis of the kinds of material requested has some significance. Of the sixty-four special loans, ten were for standard cases only. But of the ten loans, six, involving forty-four cases, were made to organizations which used the cases for display or to provide a general atmosphere of interest to children. Only four special loans, comprising nine cases, should be considered as having been used directly for teaching purposes.

By contrast, fifty-four loans of study collections of objects which could be handled by children, were made to schools through teachers or pupils who called in person at the Museum to secure the material. In these instances, the borrowers were given individual attention and help in the selection of illustrative material for particular units of study. Bird study-skins were most in demand, pressed plant specimens next, while insects, and rocks and minerals ranked third, equal numbers of loans being made in each of the last two classifications. The actual figures are in the ratio of 2 to 1.4 to 1.

Since units of study in science tend to be seasonal, it is not expected that lending study collections will more than partially solve the problem of providing teachers with visual aids in the form of Museum materials at times when they will be most useful. If all of the schools simultaneously were to require from the Harris Extension such visual aids (which are now available only to a limited extent), the demand could not be met with present resources or with any reasonably planned increase possible in the future.

The two Museum trucks traveled a total of 11,996 miles without mishap or delay in the circulation of exhibits. An interesting observation which may be made with respect to truck mileage is that the growth in the number of schools reached over a period of fifteen years has not appreciably increased the amount of driving necessary to serve them. In 1926, when 371 schools were receiving cases—124 less than now—the reported annual mileage was 11,734 for a period of service seven school days less than in 1941. The explanation for this apparent anomaly is fairly obvious. Once truck routes embracing the whole city have been established, punctuating those routes with additional stops does not add to the distance traveled.

All necessary work to keep the trucks in good mechanical condition and preserve their appearance was done as the need arose, particularly during the non-operating period of the summer vacation of the schools.

The amount of damage to cases directly due to accident, or careless handling in any particular school, was not great and manifests no discernible trend. Less glass and fewer sliding label frames were broken, but there was more injury to case woodwork. The total number of cases damaged in schools was fifty-eight, or nearly six per cent of the number of cases in circulation. During the year, however, mechanical repairs were made on 399 cases, or nearly one-third of the entire inventory of Harris Extension cases.

New bottoms were fitted to sixty-six cases, hanger strips were added to seventy-three cases, and auxiliary label guides to 108 cases. Entire new back assemblies were made for eleven cases. Among other kinds of repairs made, the biggest item was sliding label frames, of which 268 needed attention. Much of the repair work required was not the result of one season of circulation, but must be attributed to accumulated wear over a period of years. Twenty-one exhibits, which had not been in active use for several years, were retired, and reconditioning of the cases was begun.

A circular saw and a drill press were added to the equipment of the Department to facilitate the performance of many mechanical operations which were formerly done by hand.

During the first six months of the year, Work Projects Administration employees provided clerical assistance in the organization and indexing of reserve collections, as well as manual assistance in reconditioning old portable cases for further use, and in the production of numerous parts for various models scheduled for completion in the future. A WPA artist painted backgrounds for the reinstallation of six cases of the habitat type.

THE JAMES NELSON AND ANNA LOUISE RAYMOND FOUNDATION FOR PUBLIC SCHOOL AND CHILDREN'S LECTURES

The Raymond Foundation in 1941 conducted its customary activities, which evoked a notable response from school authorities, teachers, and children. The various types of programs which have proved successful in past years as entertainment and as supplementary education were continued both in the schools and at the Museum. These included the regular spring, summer, and autumn series of free motion picture programs for children, presented in the James Simpson Theatre, and also two special patriotic programs; guide-lecture tours in the exhibition halls; seven series of special

science programs; six radio follow-up programs, and extension lectures given in the classrooms and auditoriums of schools.

The Foundation staff has again made a special effort to take care of the greatest possible number of the requests received for lectures and tours in the Museum. These reach their peak during the months of April, May, June, October, and November because the weather in those months encourages many groups to travel even hundreds of miles to visit Field Museum and other cultural institutions. During the period from early December to the end of March, when the Museum is less accessible to many groups, the staff lays greater stress upon the extension service in which lecturers go out to the schools. Beginning in September, 1941, each Chicago school, public and private, was offered one lecture. After all requests covering the school year 1941–42 are filled, second lecture requests will be granted if time permits.

ENTERTAINMENTS FOR CHILDREN—RAYMOND FOUNDATION

Three series of motion picture entertainments and two special patriotic programs were arranged for the young people of the community. The programs were as follows:

Spring Course

- March 1—"Cloudy and Colder—Probably Snow" (The story of weather). Cartoon—"Fun on Ice."
- March 8—"Four Feet and Fur" (Animals tamed and untamed). Cartoon—"Busy Beavers."
- March 15—"Nature on the Wing" (Birds and bugs). Cartoon—"A Little Bird Told Me."
- March 22—"The Song of China" (A picture produced in China with Chinese cast).
- March 29—"Animal Life of the Swamps" (Insects, birds, and mammals).

 Cartoon—"Night."
- April 5—"The Forest" (A picture in celebration of Arbor Day). Cartoon—"Springtime Serenade."
- April 12—"Balancing Nature's Budget" (A story of conservation).
- April 19—"Sudan" (Life in the heart of Africa).
- April 26—"A Day at Brookfield Zoo." Cartoon—"Along Came a Duck."

SUMMER COURSE

- July 10—"The Adventures of Chico" (Story of a Mexican Boy).
- July 17—"Exploring and Collecting in Forest, Field and Stream" (Narration by William Hassler, with colored motion pictures).
- July 24—"Summer Time in the North Woods" (Animals and birds).
 Also a cartoon.
- July 31—"To the South Seas with Zane Grey."
 Also a cartoon.
- August 7—"A Western Vacation in the Ranch Country" (Yosemite National Park and the Grand Canyon—Courtesy of Santa Fe Railroad).

 Also a cartoon.
- August 14—"Tundra" (An Arctic adventure).

AUTUMS COURSE

October 4 "Indian Lore, Life and Culture" (Narration by Charles Eagle Plume; illustrated with dancing and costumes).

October 11 "The Spirit of the Plains" A story of the region west of the Mississippi).

Also a cartoon.

October 18 "Adventures in the Far North" (Birds, animals, and people).

October 25-"South America" (Things used daily in our country-rubber, coffee, chocolate, etc.).

November 1--"Mexico, Our Southern Neighbor."
Also a cartoon.

November 8-"Life in Our Southwestern Desert." Also a cartoon.

November 15 "Wild Animals" Narration by Sam Campbell courtesy of the Chicago and North Western Railway Company).

November 22- "Canada, Our Northern Neighbor." Also a cartoon.

November 29 "The River Nile, Egypt's Life Line" (From the time of the mummies to the present).

The following two special patriotic programs were offered in addition to the aforementioned series of entertainments:

February 12—Abraham Lincoln Program. February 22—George Washington Program.

In all, twenty-six motion picture programs were given in the James Simpson Theatre. Of these, twenty were repeated at a second showing, which brings the total of programs given to forty-six. Combined attendance at these numbered 28,798 children. Of this number, 9,425 attended the spring course, 5,239 the summer course, 11,151 the autumn series, and 2,983 the special patriotic programs.

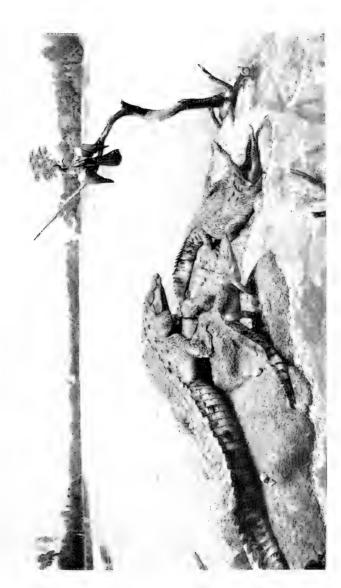
The programs were given publicity in the Chicago Daily News, Chicago Tribune, Chicago Herald-American, Chicago Daily Times, and Downtown Shopping News, as well as in many neighborhood and suburban papers.

FIELD MUSEUM STORIES- RAYMOND FOUNDATION

Two new series of Field Museum Stories for Children, written by members of the Raymond Foundation staff, were published. Line drawings and photographs were used to illustrate the stories. Subjects of the stories and the pictures correlated with films shown on the programs, or were chosen for their seasonal interest. Following are the titles of the stories in each series:

Series XXXVI Snow, a Blanket for the Earth; The Skunk and Its Habits; Woodpeckers; China Moves Along; Life of the Mayily; Arbor Day; The Redwood Trees; A Day with the Pygmies of Africa; Primitive Snakes; Boas and Pythons.

Series XXXVII - Wigwams of the Woodland Indians: The American Bison of Buffalo: Arctic Giants Polar Bears: Rubber from America; Mexican Magueys: The Horned Lizard; The White-tailed Deer; Cod-fishing off Canada; Egypt and the Nile.



A GROUP OF AMERICAN CROCODILES SUNNING ON A ROCKY REEF Scene at Lake Ticamaya, Honduras

Taxidermy by Leon L. Walters; background by Arthur G. Rueckert

Albert W. Harris Hall (Hall 18)

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A total of 25,000 copies of *Museum Stories* was distributed to the children who attended the Saturday morning programs.

LECTURE TOURS FOR CHILDREN—RAYMOND FOUNDATION

The use of exhibition halls for classroom work was extended to the following groups by means of conducted tours:

or contacted today.	
Tours for children of Chicago schools:	Attendance
Chicago public schools 325	13,658
Chicago parochial schools	1,108
Chicago private schools	245
Tours for children of suburban schools:	
Suburban public schools 397	13,310
Suburban parochial schools	323
Suburban private schools 8	131
Tours for special groups of children:	
Children's clubs	352
Special science programs	5,815
Miscellaneous	4,864

Guide lecture service was thus given to 1,000 children's groups, and the aggregate attendance was 39,806.

Several of the schools and groups receiving this service were also given illustrated talks and discussions in the lecture hall in advance of the tours in the exhibition halls. The background for a better understanding of the exhibits was provided by these talks and the accompanying pictures. There were 56 such lectures given, with an attendance of 6,157.

As in past years, many groups came from outside Chicago and Illinois. Especially during the months of April, May, June, September, October, and November these groups from out of the Chicago metropolitan area make use of the Museum. Tours were given for 377 such groups, comprising 11,164 persons. One group of eighth grade pupils from Detroit was of unusual interest. A greater part of their year's course of study had been based upon materials and facilities provided in this and certain other institutions. They spent several days in Chicago. During the months prior to coming here, preparation had been made by adjusting the course of study to co-ordinate with this plan. Leaflets on certain Field Museum exhibits and post cards had been obtained in advance and used in classroom work. Participation in the trip was voluntary, and each pupil in the party had been required to earn at least one-half of his total expenses. The purpose of the trip was to present an

introduction to various new phases of life, and to offer the children opportunity to begin trying the solution of problems away from home.

On December 2 and 4 the Museum was host to parties of some 900 boys and 700 girls from among the delegates to the National Congress of 4-H Clubs. An introductory lecture was given for them in the Theatre, after which they explored the Museum in accordance with their own interests, aided in finding the exhibits they sought by Museum staff guides and special mimeographed floor plans.

SCIENCE PROGRAMS -- RAYMOND FOUNDATION

Again Field Museum offered special science lectures, tours, and supplementary materials to the schools because of the emphasis placed on science in the school curriculum. The programs offered are as follows:

April and May:

Conservation—The conservation of natural wild life, with emphasis on that of the Chicago region (for 6th grade),

Bird Migration - The story of migration of birds told with pictures and Museum exhibits (for 5th grade).

Bird Study A general survey of the habits of birds with emphasis on those of the Chicago region (for 5th grade).

Wild Flowers of the Chicago Region—A survey of the wild flowers of the forest preserves, dunes, swamps, prairies and roadsides (for 4th and 6th grades).

October and November:

Living Trees (for 5th and 6th grades).

America the Beautiful (for 7th and 8th grades).

Stories of Rocks (for 5th and 6th grades).

Illustrated lectures in the Museum Lecture Hall and Theatre, followed by directed study in the exhibition halls, were the chief features of these programs. The students were provided with sheets of questions and suggestions, and were assigned to the task of finding the answers from the exhibits. The Raymond Foundation staff assisted them in the work.

Gratifying success was achieved by these programs, and, in answer to demands for more than the twenty-two programs originally offered, it became necessary to give ten additional ones. Groups from 102 schools came to the Museum to participate in the programs. Included were eighty-five Chicago public, eleven Chicago parochial, and six suburban public schools. The total attendance at the thirty-two lectures was 5,327; of this number, 5,293 were divided into 120 groups for supervised study and work with the exhibits and question sheets.

An additional unannounced lecture on museum organization was given by request to seven audiences aggregating 522 persons. These students were then divided into twelve groups for work in the exhibition halls. Thus there were, in all, thirty-nine science lectures, attended by 5,849 persons, and 132 follow-up tours participated in by 5,815 persons.

RADIO FOLLOW-UP PROGRAMS—RAYMOND FOUNDATION

Co-operation was again extended by the staff of the Raymond Foundation to the Chicago Public School Broadcasting Council. Two series of programs were presented as follow-ups to radio broadcasts given by the Council. Museum exhibits which correlated with the subjects of the broadcasts were featured in these programs. Stereopticon slides were shown, and objects were made available for the students to handle, at meetings held in the Lecture Hall. Mimeographed information sheets were distributed, and questions were answered in the course of informal discussion. The meetings were followed by tours in the exhibition halls. The subjects were as follows:

Chicago Birds; Hunters and Fishers of the Northlands; Swallow-tail butterflies; Forest Products; Farmers, Shepherds and Acorn Eaters; How Forests Are Formed

Total attendance was 529.

EXTENSION LECTURES—RAYMOND FOUNDATION

Extension lectures, illustrated with slides, were given in class-rooms, laboratories and assemblies of Chicago public and private schools. When time permitted, open discussions followed in which teachers and students were invited to participate with questions and ideas. The following subjects were offered to high school groups:

Botany: Plant Life of the Chicago Region; Plant Formations of Different Kinds of Places; Plants as Barometers of Environmental Conditions; One Plant Society Follows Another in a Region (causes and order of plant successions); Plants as Conservationists; Plants Are of Economic Value to Man; The Origin, Development and Structure of Plants.

Zoology: Animals—From Amoeba to Man; Environment Affects Animal Life; Distribution and Adaptative Radiation of Animal Life; Animals of Economic Importance; Animal Life of the Chicago Region; The Birds of the Chicago Region; Insects Affect the Welfare of Man; Wildlife Conservation.

GEOLOGY: A Rock May Be a Treasure Chest; Minerals of Economic Value; The Changing Earth; The Story of Soil; The Geography of the Chicago Region; The Relief Features of the Earth; The Fossil Story of Prehistoric Life.

Anthropology: The Story of Prehistoric Man; Ancient Civilizations of the Old World; Ancient Civilizations of the New World; Contemporary Primitive Peoples; North American Indians.

MISCELLANEOUS: The Work of Field Museum; The Conservation of Natural Resources.

The following subjects were offered to elementary school groups:

Caribbean Lands; South America, The Egyptian, The Story of Africa; Prehistoric Peoples. The Story of Clothing, North American Indians; Indians of the Woodlands and Plains; Nature in City Yards and Parks; China and Her People; Migre, The Indian Lad, Our Outdoor Friends; Exploring the Woods in Autumn, Winter in the Woods, Signes of Spring in the Forests and Meadows; Summer Comes to the Countryside; Trees of the Chicago Region; Flowers of the Chicago Region, Birds of the Chicago Region, Mammals of the Chicago Region; Geography of the Chicago Region; Insects Friends and Enemies; Animals of the World at Home; The Changing Earth; The Work of Wind and Water; A Reck May Be a Treasure Chest; Plants and Animals of Long Ago; The Adventures of a Great Museum; What Will the Great Out-of-Doors Be Like 100 Years from Now; The Navajo and Pueblo Indians; Mexico, Land of the Feathered Serpent.

The extension lectures given by the staff of the Raymond Foundation totaled 441, and the aggregate attendance was 154,562. This service was given as follows:

service was given as innova-	Number of	Attendance
Chicago elementary schools	382	132,201
Chicago high schools	46	21,860
Chicago private schools	**	155
Other organizations	11	346

TELEVISION PROGRAM— RAYMOND FOUNDATION

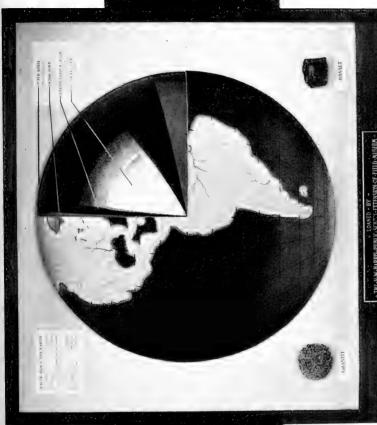
Field Museum again participated in an experimental television program. By invitation of the manager of Station W9XBK, the Raymond Foundation staff was enabled to place Field Museum both aurally and visually "on the air." The program featured Mr. Bryan Patterson, Assistant Curator of Paleontology, who assisted the Foundation in presenting the story of prehistoric animals.

ACCESSIONS - RAYMOND FOUNDATION

For use in the Theatre, Lecture Hall, and in extension lectures, the Raymond Foundation acquired 18 slides by purchase from the American Museum of Natural History; 9 slides by purchase from the National Geographic Society; and 391 slides made by the Division of Photography. Of these standard size slides, 260 were colored by the Museum Illustrator. The collection of 2 x 2 inch slides is also being built up, 324 slides of color photographs having been purchased. Gifts received include 16 color photographs from Mr. Robert Yule, of the Department of Anthropology, and 47 from Mr. John W. Moyer, Staff Taxidermist.

LECTURE TOURS AND MEETINGS FOR ADULTS RAYMOND FOUNDATION

Guide-lecture service was made available, without charge, to special parties from colleges, clubs, and other organizations, in addition to the regular service provided for the general public.



What is inside the earth? Is it hot or cold, flood or solid? The answers to these difficult questions can only be learned from that which can be seen or

expenenced on the surface. Careful scudy of all

known facts has led to certain trial conclusions a the nature of the earth's interior

THE INTERIOR OF THE EARTH

From the behavior of earthquake shocks transmitted around and through the earth, it is behaved that the earth is a soild mass made up of three puncipal layers or shells. Because the asserage dens-

y of surface rooks in one half the density of the errh as a whole, deep-ceated materials must be much easier to make up the average for the entire globbe. It appears that in the count of time, earth mater rials have separated like cream in a milk bottle, the

staff flusting to the outside

THE INTERIOR OF THE EARTH
The externment shell of the stark in made up of
reposaline reak about 2 miles that for my of
undern in compouting Generic rooks from the

- THE HWY-RARRIG-PUBLIK SYROOL-ENTENSON OF FIELD MUSEUM -

Prepared by the N. W. Harris Public School Extension of Field Museum One-sixth actual size

PORTABLE NATURAL HISTORY EXHIBIT FOR CHICAGO SCHOOLS

HUNGERSOLDS OF HITCHIS

The regular public tours were continued on week days (except Saturdays) at 2 p.m. as in past years; and during July and August additional tours were given at 11 A.M. The monthly schedules of these tours are printed and distributed at the entrances of the Museum. The tours given for the public numbered 280, and the total attendance was 4,299 persons. Special tours were given for fifty-four college groups composed of 1,643 persons; and for forty-six other organizations with attendance of 1,593, making a total of 380 tours for adults with an aggregate attendance of 7,535.

The Raymond Foundation assisted in program details for the commencement exercises held on June 19 for 1,163 foreign-born adults who had completed special courses in the public schools of Chicago. The James Simpson Theatre was made available to the Board of Education for this purpose.

SUMMARY OF ATTENDANCE AT ENTERTAINMENTS, LECTURES, ETC.— RAYMOND FOUNDATION

Including both intra-mural and extra-mural activities of all the types conducted by the Raymond Foundation, a total of 1,969 groups, composed of 244,399 persons, was reached with education and entertainment in one form or another.

LECTURES FOR ADULTS

The Museum's seventy-fifth and seventy-sixth courses of free lectures for adults were presented in the James Simpson Theatre on Saturday afternoons during the spring and autumn months. As in past years they were illustrated with motion pictures and stereopticon slides. Following are the programs of both series:

SEVENTY-FIFTH FREE LECTURE COURSE

March 1—Headhunters Still Live. Douglas Oliver.

March 8-Blue-green Water.

Wesley Mueller.
March 15—Malay-Utan.

Joseph Tilton.

March 22—The Leopard of the Air. Captain C. W. R. Knight.

March 29—Northwest Passage Patrol. Richard Finnie.

April 5—Birds and Animals of the Rockies. Edgar Hoff.

April 12—Ancient America's Most Civilized People.
J. Eric Thompson.

April 19—Life in a Tropical Rain-Forest.

Dr. Ralph Buchsbaum. April 26—An Alaskan Adventure. Bradford Washburn.

SEVENTY-SINTH FREE LECTURE COURSE

October 4 The Netherlands East Indies.

Dillon Ripley.

October 11 American Holiday with Wild Life. Dr. Gustay Grahn.

October 18 Along Alaska Trails. A. Milotte.

October 25-Hunting for Walrus in the Ice Floes. Carl Dreutzer.

November 1 -- From Seashore to Glacier, Karl Maslowski.

November 8.-New Worlds Undersea. Vincent Palmer.

November 15 Florakeys. James B. Pond.

November 22 - Pan American Highway. James Sawders.

November 29 - Through the Rainbow, Stuart D. Noble.

The total attendance at these eighteen lectures was 17,224, of whom 8,685 attended the spring series and 8,539 the fall series. Included in these audiences were 2,140 Members of the Museum who, by their memberships, are entitled to reserved seats for themselves and a companion.

LAYMAN LECTURES

The novel Sunday afternoon lectures presented in the Museum since 1937 by Mr. Paul G. Dallwig, The Layman Lecturer, were continued in 1941, and attracted greater attendance than in any previous year. Mr. Dallwig gave thirty regular lectures for the general public, and one for a special group (members of the American Gem Society who came shortly after the reopening of H. N. Higinbotham Hall of Gems and Jewels. At these thirty-one lectures the aggregate attendance was 3,261, an increase of more than 400 over the number composing the audiences of the preceding year. The size of the groups on these lectures has to be rigidly limited because of practical considerations in conducting the parties through the exhibition halls which Mr. Dallwig uses to illustrate his lectures. Therefore, as in the past, the Museum has had to require persons wishing to participate to make reservations in advance. Usually such reservations were necessary several weeks in advance, and even so it was found imperative to modify the limitations on the size of the parties, so that the average group each Sunday numbered 105 hearers. The physical limitations imposed by the conditions attendant on presentation of this type of lecture made it impossible at first to meet more than about one-half of the demands for

reservations, but by presenting parts of the lectures in the lecture hall, and by temporarily shifting exhibits in some halls to provide more space for listeners, about 75 per cent have been accommodated.

Mr. Dallwig's lectures have proved to have a special appeal to audiences composed for the most part of very discriminating types of people. The records show that those who have attended are predominantly drawn from such classes as business executives, educators, students, journalists and other writers, physicians, lawyers, men and women engaged in a variety of professions, and others with a natural leaning toward interest in cultural subjects.

The unique feature of Mr. Dallwig's lectures, which distinguishes them from most similar presentations, is the manner in which he dramatizes his subjects while at the same time interpreting science with complete accuracy based upon thorough research. Mr. Dallwig engages in this activity purely as a hobby and as a contribution to the promotion of scientific knowledge. He receives no compensation either from the Museum or from his audiences. The popularity he has attained, increasing each year, is notable, and in addition to serving the public his activity has proved to be a large factor in publicizing the Museum as an institution, and drawing attention to its activities in general. Since Mr. Dallwig's first lectures at the Museum in October, 1937, he has spoken before audiences totaling 12,265 persons.

During the seven months of 1941 in which Mr. Dallwig made his lecture appearances at the Museum, his subjects were as follows:

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January (four Sundays)—Digging Up the Cave Man's Past.
February (four Sundays)—Nature's "March of Time."
March (five Sundays)—Gems, Jewels, and "Junk."
April (four Sundays)—The Romance of Diamonds.
May (four Sundays)—The Parade of the Races.
November (five Sundays)—Gems, Jewels, and "Junk."
December (four Sundays)—Mysterious "Night-Riders" of the Sky.
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SUMMARY OF ATTENDANCE AT LECTURES, ETC.

Instruction, entertainment, or similar services were made available by the Museum during 1941 to a total of 2,018 groups comprising an aggregate attendance of 264,887 individuals. Included in these figures are all those reached through the varied activities of the James Nelson and Anna Louise Raymond Foundation (1,969 groups, 244,399 individuals); the 17,224 persons who attended the eighteen Saturday afternoon lectures for adults in the James Simpson Theatre, and the 3,264 persons who participated in the thirty-one Sunday groups before whom the Layman Lecturer appeared.

LIBRARY

The Library's new reading room, more conveniently located than the old one, with improved lighting, more efficient arrangement, and other facilities adding to its usefulness and to the comfort of readers, was completed in 1941. Plans for this improvement have been under consideration for several years, and actual construction was begun in the latter part of 1940.

The change was accomplished by reconstructing and refurnishing the former stack room as a reading room, and moving the book stacks into the former reading room. During the months this work was in progress, there was no interruption to the Library's services to scientists and to the public in general—a fact in which considerable pride is taken, as its accomplishment presented many difficulties due to the magnitude of the operation.

The new reading room is easily reached by visitors arriving at the third floor as the entrance is close to the passenger elevator landing. Effective and agreeable lighting for readers has been provided by installation of an entirely new system of fluorescent illumination from coves around a new lowered ceiling. This type of lighting is a distinct innovation which, it is believed, will be found of interest by other libraries. The new drop ceiling improves the general appearance of the room, as well as providing needed insulation. New service counters, new office space for the librarians, and a new rubber tile floor covering in a color harmonizing with the furnishings, all help to make the new reading room attractive and quiet, and add to the efficiency of the service provided by the Library personnel.

Revision of the arrangement of the Library's rooms provided opportunity also to replace the wooden book stacks with modern steel ones. Those in the reading room were grained and stained to resemble mahogany. Much-needed additions also were made to the shelving space. The finding of books and pamphlets in the stack room has been facilitated by installation of fluorescent lights. The new map cases have been placed in a conspicuous position in the stack room and thus made more accessible for use.

For those unacquainted with its facilities, it may be well to call attention to the fact that the Library of Field Museum, which now contains approximately 124,000 books and pamphlets on anthropology, botany, geology, zoology, and related subjects, offers the largest reference collection in its special fields in Chicago. It is particularly rich in anthropological and ornithological works, with

LIBRARY 413

collections that rank among the foremost in the world. Invaluable for research are the extensive series on its shelves of the proceedings, transactions and publications of learned societies, academies, and universities all over the world.

Strictly a reference library, the reading room is maintained to make the Library's resources available for the use of scientists, students, teachers, and others engaged in research work. These facilities are extended, on application, to laymen with problems requiring reference to the works in a scientific library. Amateur naturalists, and persons with hobbies involving the natural sciences, will find much of value in the Museum Library. The Library is open week days from 9 A.M. to 4 P.M., except Saturdays, when it closes at noon; it is closed all day on Sundays and holidays.

Another great improvement in the Library, long needed and much desired, has been the opportunity to bind an accumulation of periodicals that had been gathering for many years. This had become imperative for the proper preservation of the files. Begun in April, this activity has required much time throughout the rest of the year. The number of volumes bound is 6,413.

During the early part of the year the Library had the help of several WPA workers who were of real assistance in much of the detail work. Due partly to their help, 17,070 cards were written and filed in the catalogues during the year.

As in previous years, efforts were made to complete some partial files of periodicals. One of the latest acquisitions is the long-desired first thirty-two volumes of *Petermann's Mitteilungen* and Numbers 1–84 of the *Ergänzungsheft*. These are beautifully bound, and contain important maps, mounted on linen. Volumes 19–26 of the *Journal of Egyptian Archaeology* were secured, thus completing the early part of the file. The file of the journal *Iraq* has also been completed to date. The set of the *Scientific Survey of Porto Rico and the Virgin Islands*, formerly incomplete, now includes all parts thus far issued. The *Biological Bulletin* file has also been completed. Subscriptions were entered for a few new periodicals, among them the new *Malayan Nature Magazine*.

President Field, Director Gregg, and some of the members of the staff have generously presented current periodicals to the Library. They have also given a number of significant books.

Mr. Boardman Conover, a Trustee of the Museum, presented a much appreciated copy of Agassiz, *Nomenclator Zoologicus*, and five volumes of desirable works on the birds of Europe and Asia.

Mr. Karl P. Schmidt, Chief Curator of the Department of Zoology, presented some old books, difficult to obtain, as well as a copy of Field Book of the Snakes of the United States and Canada, which he wrote in collaboration with Mr. D. Dwight Davis, Curator of Anatomy and Osteology.

Mr. Henry W. Nichols, Chief Curator of the Department of Geology, presented several volumes of Fortune. Mr. Elmer S. Riggs, Curator of Paleontology, made additions to the collection of paleontological publications.

Mr. William J. Gerhard. Curator of Insects, presented many entomological pamphlets. Mr. Emil Liljeblad, former Assistant Curator of Insects, had a fine collection of books and separates on Coleoptera from which, as an addition to the 175 he presented in 1940, he gave 150 more in 1941—a valuable and much appreciated acquisition. Mr. Rupert L. Wenzel, Assistant Curator of Insects, also is the donor of many entomological pamphlets.

Dr. Henry Field presented several important foreign periodicals. The publication of the Paleontographical Society of London, an unusual periodical, has been especially welcome, as are also publications on comparative morphology and ancient man. From the late Mr. Carl F. Gronemann, formerly Staff Illustrator, the Library received Kurr's Das Mineralreich im Bildern.

Mrs. Stanley Field gave a set of the Naturalist's Miscellany, a much appreciated gift. Mrs. Malcolm Farley, of Chicago, added valuable numbers to the Chinese material in the Library. Mr. Peter Gerhard, of Winnetka, Illinois, presented approximately 100 maps of various parts of the world. Mr. Stanley Charles Nott, of Palm Beach, Florida, presented several more of his publications on Chinese jade. Mrs. Robert Sonnenschein, of Chicago, is the donor of seven volumes on Egyptian mythology and archaeology. Mr. Walter Necker gave the Library some numbers of the Bulletin of the Boston Society of Natural History which hitherto had been impossible to obtain. Miss Ruth Marshall, of Wisconsin Dells, gave twenty-eight publications on water mites.

Dr. Gregorio Bondar, of Bahia, Brazil, has most kindly sent interesting publications on palms as well as helpful material on entomological subjects.

The volumes necessary to complete Field Museum's set of Publications of the Egyptian Department of the Metropolitan Museum of Art. New York, were received as a gift from that institution. These are invaluable in the field of Egyptian archaeology. The

LIBRARY 415

Carnegie Institution of Washington has continued the gift of the noteworthy publications it issues. The Conoco Travel Bureau, Chicago, presented an up-to-date set of its road maps, which have been found very useful.

The Library has been fortunate in making some purchases of important books, among which the following are outstanding: Boerschmann, Chinesische Architektur; Creswell, Muslim Architecture; Encyclopaedia of the Social Sciences (8 vols.); Herzfeld, Iran in the Ancient East; Pope, Survey of Persian Art (6 vols.); Index Londinensis (Supplement 1921–35); Migula, Kryptogamenflora von Deutschland; Grabau and Shimer, North American Index Fossils: Invertebrates; Biological Symposia (5 vols.); Chenu, Bibliothèque Conchyliologique (ser. 1, 4 vols.); Fabricius, Systema Eleutheratorum, Systema Piezatorum, Systema Antliatorum, and Systema Glossatorum; Holbrook, North American Herpetology (edition 1, 5 vols.); Marseul, Monographie sur la Famille des Histérides (and supplement); and Muséum d'Histoire Naturelle de Paris, Nouvelles Archives (ser. 1, vols. 1–10).

The number of exchanges has not been increased as much as in other years because so many foreign countries have been entirely cut off by the war. Many of the institutions with which exchanges of publications have been made for years, have not been heard from at all; from others only a few publications have reached this country. Several foreign publications have come with remarkable regularity, however, and some important purchases also have arrived safely.

On this side of the water there have been some good additions to the list of institutions making exchanges, and their publications will be very helpful. Included are institutions in both North and South America. The Museum's gratitude is due to the scientists and scientific institutions who have sent their publications to the Library, both as exchanges and as gifts.

Service of the Library has included granting requests for permission to photograph illustrations and pages of the text of rare books. These requests have come from many distant as well as local correspondents. In many cases this was the only way in which access could be had to certain books, as other copies are not available in this country.

The Library has been greatly assisted in its work by loans of books from various other libraries, and acknowledges this courtesy with deep appreciation. The Library of Congress has been, as always, especially helpful. Among others which have co-operated notably are the John Crerar Library, Chicago; the Libraries of the University of Chicago and the Oriental Institute; Harvard University, and its Libraries. Peabody Museum, and the Museum of Comparative Zoology; Columbia University Library; the United States Department of Agriculture, and the Missouri Botanical Garden.

Field Museum has reciprocated by sending its books on loan to libraries all over the country. The number of books thus sent out has been increasing from year to year. This service of libraries to each other constitutes a movement constantly growing in importance and value. The Library of Congress is doing much to promote these relations by making information about each library's resources available through its Union Catalogue.

PUBLICATIONS AND PRINTING

The distribution of publications by the Museum during 1941 differed from the sendings of other years in that shipments for about two-thirds of the foreign exchanges were withheld due to the war. Of the publications issued during the year, 6,248 copies destined for existing foreign exchanges have been held for later shipment. Many have been prepared in addressed packets, and others have been wrapped with the open stock that is available for future sales and other distribution.

The Museum did send 11,687 scientific publications, 1,744 leaflets, and 830 miscellaneous publications and pamphlets on exchange account to domestic and certain foreign institutions, and to individuals engaged in scientific work.

The books for distribution abroad were sent to the Smithsonian Institution in Washington, D.C., which forwarded them through its international exchange bureau. Acknowledgment of receipt has come from libraries in many far distant parts of the world. Grateful acknowledgment is made to the Smithsonian Institution for its courtesy and helpfulness in effecting such deliveries.

The Museum also sent 3,794 complimentary copies of the Annual Report of the Director for 1940 to its Members.

Sales during the year totaled 2,625 publications, 6,819 leaflets, and 13,011 miscellaneous pamphlets such as Guides, Handbooks, and Memoirs.

Twenty-two new exchange arrangements were established with institutions and scientists during the year, which undoubtedly will prove of mutual benefit. Interest in the living races and in prehistoric man again was manifested by the numerous purchases of copies of *The Races of Mankind* and *Prehistoric Man* leaflets, of which more than 1,200 were sold during the year. At the end of December a third edition of the latter was issued, and a fourth edition of *The Races of Mankind* is scheduled to appear early in the spring of 1942. Since the first printings of these two leaflets in the summer of 1933, more than 18,900 copies have been sold.

New editions of three other leaflets—Archaeology of South America, A Forest of the Coal Age, and Meteorites—were required in 1941.

An important volume published for the Geology Memoirs Series, *The Upper Ordovician Fauna of Frobisher Bay, Baffin Land*, by Dr. Sharat Kumar Roy, Curator of Geology, was given wide exchange distribution. It contains a narrative of the Rawson–MacMillan Expedition of Field Museum to Labrador and Baffin Land during the seasons of 1927 and 1928, with notes on the coastal geology of that region, and descriptions of the fossils collected.

The total number of post cards sold during 1941 was 84,226, of which 9,206 were grouped into 500 sets. Reprints of sixty-five individual post card views totaled 85,000 copies, and there were 200 packaged sets reissued of the thirty cards comprising a representative collection of views of the Malvina Hoffman bronzes of the races of mankind.

Production of the Division of Printing during the year included twenty-five new numbers in the regular publication series of the These comprised 1,600 pages of type composition. In subject matter, there were one anthropological, four botanical, seven geological, and twelve zoological publications; also included was the Annual Report of the Director for 1940. These twenty-five publications were printed by Field Museum Press in editions totaling 26,771 copies. Three reprints from Volume XIII of the Botanical Series, Flora of Peru, consisting of 58 pages (262 copies), and eleven reprints from Volume 27 of the Zoological Series, Papers on Mammalogy, consisting of 370 pages (1,141 copies), also were printed. Three leaflets, one in the anthropological series and two geological ones, were reprinted; likewise, a third edition of one anthropological leaflet was printed. The number of pages in these four leaflets was 256, and the copies totaled 6,655. A twenty-first edition and a reprint of the General Guide, each consisting of 56 pages and ten illustrations, were issued, the two printings totaling 11,377 copies;

also printed were a tenth edition of the *Handbook of Field Museum*, containing 78 pages (2,555 copies), and a Geological Memoir, consisting of 212 pages (909 copies). The total number of pages printed in all books was 2,686, and the total of copies issued was 49,670.

A large part of the time of the printers was consumed in miscellaneous job work. Printing of the twelve issues of *Field Museum News* (eight pages per issue, with an average of 5,200 copies a month, was one of the Division's major tasks. The number of exhibition labels printed for all Departments exceeded that of any previous year, totaling 6,350. Other printing, including Museum stationery, posters, lecture schedules, post cards, pin labels, etc., brought the total for the year to 995,357 impressions.

A detailed list of publications follows:

Publication Series

- 488. Zoological Series, Vol. 24, No. 16. Reptiles and Amphibians from Central Arabia. By Karl P. Schmidt. January 31, 1941. 6 pages, 2 textfigures. Edition 900.
- 489. Zoological Series, Vol. 24, No. 17. Malacological Notes—H. By Fritz Haas. January 31, 1941. 8 pages, 2 plates (1 colored). Edition 924.
- Zoelogical Series, Vol. 24, No. 18. New Termitophilous Diptera from the Neotropics. By Charles H. Seevers. January 31, 1941. 20 pages, 1 text-figure. Edition 832.
- 491 Botanical Series, Vol. IX, No. 6. Studies of the Vegetation of Missouri—II. Phaserogamic Flora of the Fresh-Water Springs in the Ozarks of Missouri. By Julian A. Steyermark. February 28, 1941. 142 pages, 24 plates, 21 text-figures. Edition 821.
- Zoological Series, Vol. XXII, No. 7. New and Little Known Neotropical Historidae. By Rupert L. Wenzel and Henry S. Dybas. February 28, 1941. 42 pages, 4 plates. Edition 832.
- Zoological Series, Vol. 24, No. 19. Birds from the Yucatan Peninsula. By Melvin A. Traylor, Jr. February 28, 1941. 32 pages, 1 text-figure. Edition 807.
- 494 Geological Series, Vol. 8, No. 4. A New Fossil Alligator from Nebraska. By Karl P. Schmidt. March 15, 1941. 6 pages, 2 text-figures. Edition 927.
- 495 Zoological Series, Vol. 24, No. 20. Two New Birds from British Guiana. By Emmet R. Blake. March 15, 1941. 6 pages. Edition 827.
 - 196.- Botanical Series, Vol. XIII, Part IV, No. 1. Flora of Peru. By J. Francis Macbride. June 30, 1941. 566 pages. Edition 834.
 - 497.—Report Series, Vol. 12, No. 2. Annual Report of the Director for the Year 1940. January, 1941. 156 pages, 10 plates. Edition 5,688.
 - 498. Anthropological Series, Vol. 33, No. 1. Camp, Clan, and Kin among the Cow Creek Seminole of Florida. By Alexander Spoehr. August 2, 1941. 28 pages, 1 text-figure. Edition 802.
 - Z. ological Series, Vel. 24, No. 21. The Herpetological Fauna of the Salama Basin, Baya Verapaz, Guatemala. By Karl P. Schmidt and L. C. Stuart. August 30, 1941. 16 pages, 2 text-figures. Edition 897.
 - Zoological Series, Vol. 24, No. 22. Copulatory Adjustment in Snakes. By Clifford H. Pope. August 30, 1941. 4 pages, 1 text-figure. Edition 830.

- 501.—Zoological Series, Vol. 24, No. 23. A New Subspecies of Sceloporus jarrovii from Mexico. By Hobart M. Smith and Bryce C. Brown. August 30, 1941. 6 pages, 1 text-figure. Edition 810.
- 502.—Geological Series, Vol. 8, No. 5. A New Procyonid from the Miocene of Nebraska. By Paul O. McGrew. September 20, 1941. 4 pages, 2 textfigures. Edition 935.
- 503.—Geological Series, Vol. 8, No. 6. A New Miocene Lagomorph. By Paul O. McGrew. September 20, 1941. 6 pages, 1 text-figure. Edition 943.
- 504.—Geological Series, Vol. 8, No. 7. A New Erinaceid from the Lower Miocene. By Grayson E. Meade. September 30, 1941. 6 pages, 1 text-figure. Edition 909.
- 505.—Zoological Series, Vol. 24, No. 24. Records of Large Fresh-Water Mussels. By Fritz Haas. October 30, 1941. 12 pages. Edition 850.
- 506.—Botanical Series, Vol. 22, No. 7. Additions to Our Knowledge of the American and Hawaiian Floras. By Earl Edward Sherff. October 31, 1941. 38 pages. Edition 836.
- 507.—Geological Series, Vol. 8, No. 8. A New Phororhacoid Bird from the Deseado Formation of Patagonia. By Bryan Patterson. October 31, 1941. 6 pages, 1 text-figure. Edition 904.
- 508.—Geological Series, Vol. 8, No. 9. Heteromyids from the Miocene and Lower Oligocene. By Paul O. McGrew. October 31, 1941. 4 pages, 1 text-figure. Edition 938.
- 509.—Botanical Series, Vol. 20, No. 4. Tropical Marine Algae of the Arthur Schott Herbarium. By William Randolph Taylor. November 29, 1941. 24 pages, 2 plates. Edition 1,084.
- 510.—Geological Series, Vol. 9, No. 1. The Aplodontoidea. By Paul O. McGrew. December 5, 1941. 30 pages, 13 text-figures. Edition 972.
- 511.—Zoological Series, Vol. 27. Papers on Mammalogy. Published in honor of Wilfred Hudson Osgood. December 8, 1941. 396 pages, 12 plates, 57 text-figures. Edition 782.
- 512.—Zoological Series, Vol. XXII, No. 8. The Amphibians and Reptiles of British Honduras. By Karl P. Schmidt. December 30, 1941. 38 pages, 1 text-figure. Edition 887.

Reprinted from Botanical Series, Vol. XIII, Flora of Peru

- Botanical Series, Vol. XIII, Part IV, No. 1, pp. 181–202. Begoniaceae. By Lyman B. Smith and Bernice G. Schubert. June 30, 1941. 24 pages. Edition 212.
- Botanical Series, Vol. XIII, Part IV, No. 1, pp. 52-56. Lacistemaceae. By Charles Baehni. June 30, 1941. 6 pages. Edition 25.
- Botanical Series, Vol. XIII, Part IV, No. 1, pp. 56-82. Violaceae. By Charles Baehni and R. Weibel. June 30, 1941. 28 pages. Edition 25.

Reprinted from Zoological Series, Vol. 27, Papers on Mammalogy

- Zoological Series, Vol. 27, pp. 17-36. Pygmy Sperm Whale in the Atlantic. By Glover M. Allen. December 8, 1941. 20 pages, 4 text-figures. Edition 76.
- Zoological Series, Vol. 27, pp. 37-124. Mammals Collected by the Vernay-Cutting Burma Expedition. By H. E. Anthony. December 8, 1941. 86 pages, 4 plates, 1 text-figure. Edition 102.
- Zoological Series, Vol. 27, pp. 125-136. Cranial and Dental Characters of Some South American Cervidae. By Angel Cabrera. December 8, 1941. 12 pages, 5 text-figures. Edition 76.
- Zoological Series, Vol. 27, pp. 137-228. The Arteries of the Forearm in Carnivores. By D. Dwight Davis. December 8, 1941. 92 pages, 34 text-figures. Edition 76.

- Zoological Series, Vol. 27, pp. 229-232. A Pleistocene Otter from Iowa. By Edward A. Goldman. December S, 1941. 4 pages, 1 text-figure. Edition 76.
- Zoological Series, Vol. 27, pp. 233-278. Revision of the Rodent Genus Microdipodops. By E. Raymond Hall. December 8, 1941. 46 pages, 8 text-figures. Edition 303.
- Zoological Series, Vol. 27, pp. 279–292. The Femoral Trochanters. By A. Brazier Howell. December 8, 1941. 14 pages, 2 text-figures. Edition 76.
- Zoelegical Series, Vol. 27, pp. 293-312. On the Identity of the Porpoise
 Sagmatias amblodon. By Remington Kellogg. December 8, 1941.
 20 pages, 7 plates. Edition 102.
- Zoological Series, Vol. 27, pp. 313-318. Incisor Tips of Young Rodents. By Barbara Lawrence. December 8, 1941. 6 pages, 2 text-figures. Edition 76.
- Zoelogical Series, Vol. 27, pp. 319-370. The Races of the Ocelot and the Margay. By R. I. Pocock. December 8, 1941. 52 pages. Edition 76.
- Zoological Series, Vol. 27, pp. 371–388. Descriptions and Records of Neotropical Bats. By Colin Campbell Sanborn. December 8, 1941. 18 pages. Edition 102.

MEMOIRS SERIES

Geology Memoirs, Vol. 2. The Upper Ordovician Fauna of Frobisher Bay, Bathn Land. By Sharat Kumar Roy. September 30, 1941. 212 pages, 146 text-figures. Edition 909.

LEAFLET SERIES

- Anthropology, No. 33. Archaeology of South America. By J. Eric Thompson. 160 pages, 12 plates, 1 map, 18 text-figures. Reprint. March, 1941. Edition 554.
- Anthropology, No. 31. Prehistoric Man. Hall of the Stone Age of the Old World. By Henry Field, with a preface by Berthold Laufer. 44 pages, 8 plates, 1 map, 1 cover design. Third edition. December, 1941. Edition 3,000.
- Geology, No. 14. A Forest of the Coal Age. By B. E. Dahlgren. 40 pages, 2 plates, 21 text-figures, 3 maps, 1 cover design. Reprint. March, 1941. Edition 1,101.
- Geology, No. 4. Meteorites. By Oliver C. Farrington. 12 pages, 4 plates. Reprint. December, 1941. Edition 2,000.

HANDBOOK SERIES

Handbook. General information concerning the Museum, its history, building, exhibits, expeditions, and activities. Tenth edition. July, 1941. 78 pages, 8 plates, 1 cover design. Edition 2,555.

GUIDE SERIES

- General Guide to Field Museum of Natural History Exhibits. Twenty-first edition. 1941. 56 pages, 6 plates, 3 text-figures, 1 cover design. Edition 9,300.
- General Guide to Field Museum of Natural History Exhibits. Twenty-first edition. 1941. Reprint. 56 pages, 6 plates, 3 text-figures, 1 cover design. Edition 2,077.

PHOTOGRAPHY AND ILLUSTRATION

The Division of Photography reports for 1941 a total production of 25,373 items. This figure includes negatives, prints, bromide

enlargements, lantern slides, transparencies, etc. Although a few hundred of these were made for sales, fulfilling orders received from other institutions, publishers, and the public, the great majority were necessary to meet the various requirements of the Departments and Divisions of the Museum.

The Museum staff Photographer and his assistant were responsible for the production of 11,778 items; the remainder, consisting chiefly of the making of prints of routine character, was produced by workers assigned by the federal Work Projects Administration during the period preceding July 1, at which time this project ceased. Included in the WPA production was a great number of prints of type specimens of plants for the herbarium as a result of the negatives collected in Europe through the efforts of the Department of Botany over a period of more than ten years prior to the beginning of the war.

More than 100,000 negatives are now included in the photographic files of the Museum, making available pictures for various uses covering an enormous number of subjects in every one of the institution's Departments. In order that this material may be used to full advantage an elaborate system of classifying, indexing, and numbering negatives and prints has become necessary, and is being carried on with skill and speed as has been the case in several years past. This work during 1941 involved more than 62,000 items handled or operations performed.

The Museum Collotyper produced a total of 723,600 prints during 1941. These included illustrations for publications and leaflets, covers for books and pamphlets, picture post cards, headings for lecture posters, and miscellaneous items.

The Museum Illustrator produced 142 drawings, the majority of which were used for publication purposes; the remainder for exhibitions, experimental work, etc. Besides scientific drawings, there were graphs, charts, transparencies, diagrams, lettered plates, mimeograph stencil drawings, and an oil painting. The drawing, lettering, and coloring of 79 maps was a major item, as was also the retouching, etching, and opaquing of 501 photographic negatives. Photographs retouched, lettered, and tinted numbered 69, and stereopticon slides colored were 266 in number. Other miscellaneous work included the tooling of 51 cuts, and the correcting, retouching, and lettering of 50 drawings made by outside illustrators and submitted for Museum publications. Assistance in the designing of a poster publicizing Harwa, the X-rayed mummy, was given to the

Division of Public Relations. A three-colored poster and a three-colored folder announcing activities of the Raymond Foundation were also designed.

MAINTENANCE AND CONSTRUCTION

An important improvement for the comfort and convenience of the public was the construction, in the north center portion of the ground floor, of new lavatories with an adjacent lobby and rest room, replacing former facilities. The new arrangement practically doubles capacity and provides a waiting room where men, women, and children all may meet. Facilities for smoking are also provided. Separate from the public rooms is a rest room to care for cases of emergency illness or accident.

The fixtures and fittings from the old rooms were disposed of, and the east room is being converted into additional exhibition area for Hall B (New World Archaeology), while the west room is being reconstructed as an enlargement of the children's lunch room. Three smaller lavatories were also built for employees' use: one adjoining the guards' rooms; one adjacent to the Cafeteria employees' dressing rooms, and one on the fourth floor near the paint shop.

A large amount of exterior repair work was done during the year. All four elevations were given attention as to tuck pointing and painting of woodwork. All exterior sashes were painted, including those in light courts on the second and third floors. White paint, which gives better protection and appearance than the former black finish, was applied to sashes, frames, and screens of the light courts.

The parapet walls on the north side of the building at the third floor level were removed and rebuilt to correct an outward "lean." Expansion joints were built in at proper intervals to prevent a recurrence of this condition.

The main roof skylight above Stanley Field Hall was a source of considerable trouble during a rather wet autumn, and it became necessary to recondition it. This work was begun late in the year under a time-and-material contract calling for completion in 1942.

Fifty-five casement sashes and frames were replaced by double hung sashes of white pine with frames of tidewater cypress, completing all sash replacement on the fourth floor.

The roof slabs of the boiler room and shipping room, which form part of the terrace floor, were caulked and painted to prevent leaks. The weeds growing in the terrace walk were eliminated with a special acid, and the edges of the lawn were trimmed straight.

When the United States entered the war, equipment was purchased to repair, replace, and increase fire-fighting apparatus throughout the building. Windows in the night guards' rooms, and the boiler and pump rooms, were prepared for possible "blackouts." Sashes at each end of the second floor exhibition halls on the east side of the building were rehung to give the maintenance and guard forces better access to the roofs of each light court. This was essential because in the exhibition halls dioramas or transparencies bar most of the windows which would normally be used.

To identify the building for strangers in its vicinity, four new signs were made and placed in remodeled standards at the north and south entrances. Several other signs were purchased and hung in the exhibition halls. The Museum's carpenters also made a number of boxes and crates required for various Departments and Divisions. A special ladder was built for the Staff Artist, and a stationery cabinet was made for the Division of Public Relations. A large stationery and clothes cabinet was constructed and installed in the Raymond Foundation office to replace a miscellaneous assortment of old furniture. Two bulletin boards were made and hung on the third floor. A great deal of time was spent on repair and maintenance of door checks, window screens, fire extinguishers, etc.

The areas under and near the south steps on the ground floor, and the entire shipping room, were cleaned. Old cases were dismantled, and usable material was salvaged for future use.

A large amount of wall washing and painting was done during the year. A new safety steel scaffold was purchased and used in washing and starching the walls and statuary in Stanley Field Hall. Rooms 14, 15, 49, 79, 82, 84, 85, 86, and 89 were washed and painted. The north corridor on the ground floor, leading to the new rest rooms and Cafeteria, was redecorated. The shaft of the passenger elevator was washed and painted. A new rubber tile floor was installed in the Registrar's office, and the room was completely redecorated.

The janitorial force was fitted out with new uniforms under a system whereby the laundry cleans the uniforms and the Museum pays only the laundry charges on each soiled garment.

A special room was constructed on the ground floor for the Department of Anthropology, to house the X-ray and fluoroscope equipment used in the new exhibit of the mummy Harwa.

Light boxes were installed over the cases in Edward E. and Emma B. Ayer Hall (Hall 2—Archaeology of Etruria and Rome).

A large portion of the construction work required in the remodeling of Hall B. New World Archaeology was done. Nineteen new "built-in" cases were completed, except for the final coat of paint; two floor cases were remodeled, and five new cases were purchased. Work in this hall will continue in 1942. A new storage room was completed at the south end of the third floor.

In the working quarters of the Department of Botany, steel door storage cases from Rooms 14 and 15 were reinstalled in Room 17, thus permitting the other two rooms to be equipped and redecorated for office use. Two 8-door herbarium cases were set up in Room 9. Steel racks were assembled in Room 61 for storage of metal cans containing specimens. The case for the Atlantic intertidal vegetation diorama in Martin A. and Carrie Ryerson Hall Hall 29—Plant Life) was glazed and trimmed.

The work of reconstructing H. N. Higinbotham Hall of Gems and Jewels Hall 31), begun in 1940, was completed in time for a public opening in June. Construction was begun on four cases for the Department of Geology for use in Hall 36. Additional bookshelving was added to the Department's library, and a 12-door metal storage case was set up in Room 116 after rearranging the laboratory sink and equipment.

The remodeling and building of cases for the Division of Paleon-tology was continued, and only nine cases remain to be remodeled. Twenty "open base" cases were moved from Ernest R. Graham Hall 'Hall 38' to Frederick J. V. Skiff Hall (Hall 37), and twenty old cases in the latter were dismantled. A number of bases for mounting specimens were constructed, and two large discarded cases were remodeled to house a study collection in Room 107.

Four cases were prepared for an exhibit illustrating embryology which is to be installed in Hall 19 (Anatomy and Osteology). The location chosen for this exhibit made it necessary to make extensive shifts of other exhibits in the hall. Three wall-suspended cases were constructed for the Department of Zoology.

Eight new cases were purchased for the west end of Albert W. Harris Hall [Hall 18] to house new insect exhibits in preparation. Two of the pyramid screens needed for these were made.

Light boxes were installed on the cases in George M. Pullman Hall Hall 13. Albert W. Harris Hall (Hall 18., and Hall 19 (Anatomy and Osteology). It was necessary thoroughly to clean the glass on the inside of the cases in Halls 13 and 18, a task which required removal of many exhibits, but a marked improvement was thus achieved.



A GLIMPSE OF PART OF THE NEW HALL OF GEMS AND JEWELS

The full brilliance and color of the magnificent collection is brought out, as never before, by new modern types of exhibition cases equipped with fluorescent lighting. A Tiffany glass window enhances the beauty of the room H. N. Higinbotham Hall (Hall 31) THE LIBERTY
OF THE
ORIVERSITY OF TAXABLE

The "built-in" case for the crocodile group at the east end of Harris Hall was glazed and trimmed, as was the case for the new peacock habitat group in Hall 20. Preparations were made for the accommodation of a habitat group of Galapagos fishes in Hall O. Partitions with doors were built at the west end and center of the Hall of Fishes (Hall O) to separate it from the service area.

About ninety lineal feet of counter, two research tables, and a wall cabinet were built and installed in Room 86 (Division of Insects). The interior wooden racks of three steel storage cases in this room were remodeled so as to make the trays of adjoining cases interchangeable with them.

A base was built for a mammal group to be placed in Hall 15. Four benches were constructed for mounting new electric power tools used by preparators in Room 99 of the Department of Zoology. Shelves in the metal storage cases on the west side of the fourth floor were shifted, and additional shelves added for the Division of Herpetology.

Expedition equipment, including two glass-bottomed buckets for under-water studies, were made for the Division of Fishes. Three racks on casters, to fit metal specimen tanks and alcohol drums, were also made. Metal ends were made and fitted to shelving in the storage cases on the east side of the fourth floor for the Division of Lower Invertebrates.

Construction was begun on three work rooms for taxidermists and preparators at the north end of the east side of the fourth floor. Steel beams and floor to form a mezzanine for future storage cases were erected, and completion is scheduled for early in 1942.

The N. W. Harris Public School Extension delivery trucks were fitted with new shelves. New shades were purchased and installed in the photographer's operating room.

The relocation and reconstruction of the Library and stack room (begun in 1940) was completed. Two book trucks were made for the Library.

All four boilers were thoroughly cleaned. New baffle tiles were installed where necessary, a total of 750 tube tiles being used; 160 arch tiles were used in repairs on one of the boilers; a new circulating tube was installed in another. The stokers were repaired wherever necessary.

The coal conveyor was overhauled; several new buckets and eighteen feet of worm screw were installed. New hopper chutes were made for the ash conveyor. Soot blowers were removed and

repaired, 125 feet of new pipe being used. The smoke stack was relined with asbestos blocks. A new shaft was installed on the bilge pump in the boiler room. A new steam boiler feed pump was installed by the engine room crew, along with a new electric boiler feed unit.

A new six-inch water main was run into the building from the Thirteenth Street main to provide against emergency shutdowns in the regular service. Valves and check valves were installed in the lines in compliance with Board of Health regulations.

Vacuum pumps were overhauled and repacked. The hydraulic elevator at the shipping and receiving room entrance was repacked and necessary repairs made.

Under contracts of several years' standing the Museum furnished 11,805,214 pounds of steam to the John G. Shedd Aquarium, 5,931,362 pounds to Soldier Field, and 8,063,705 pounds to the Chicago Park District Administration Building.

Fluorescent lighting was extended to Halls 2, 13, 18, and 19 under the program for improvement of illumination inaugurated in 1939. Some fluorescent lighting was installed also in the Library, and in Rooms 48, 56, 75, 85, 89, and 107.

The new exhibition cases in H. N. Higinbotham Hall of Gems and Jewels (Hall 31) were provided with fluorescent lights and ventilating fans. In the Hall of Chinese Jades (Hall 30) the lights were replaced with larger lamps which greatly improved illumination. Additional lights were installed in Halls 29 and 38, and in the egg storage room on the third floor. Altogether, 1,036 new light units were installed.

New feeder cable was run from the switch room to supply current for the new lavatories and the X-rayed mummy case in Hall J. Water and drain lines were also supplied to meet requirements for operation of the X-ray machine.

An alarm system was developed and installed in the Hall of Gems. A microphone was purchased and a public address system set up in the James Simpson Theatre, using the existent sound equipment.

All the lavatories on the third floor were checked over and equipment was replaced where necessary. A new lavatory was installed in Room 14.

All cases in Halls 13, 15, 16, 17, 22, and C were poisoned to protect their contents against damage by insects, etc.

PUBLIC RELATIONS

Despite the ever-increasing demands made upon their space by news of the war and other critical events, the newspapers of Chicago and of the nation continued to give their columns generously to information for the public released through Field Museum's press bureau. Of prime importance to the Museum, of course, is publicity in the local metropolitan dailies, and deep appreciation is due to the Chicago Daily News, Chicago Tribune, Chicago Daily Times, Chicago Herald-American, and Chicago Journal of Commerce, all of which have been co-operating with the Museum for years, and also to a newcomer, the Chicago Sun, which began publication toward In addition to the large dailies, the Museum the end of 1941. directed its publicity efforts to hundreds of papers each of which reaches special groups of readers, such as the community newspapers and the foreign language papers circulated among the populations of distinct neighborhoods within Chicago, and the principal dailies and weeklies published in the city's suburbs and in other parts of Illinois and neighboring states. Much desirable publicity was obtained also in the pages of various special newspapers and periodicals, such as This Week in Chicago, Downtown Shopping News, National Corporation Reporter, and Daily Law Bulletin.

In other cities throughout the nation, and to some extent internationally, the attention of prospective visitors to Chicago was directed to Field Museum through news releases carried in the wire and mail services of such agencies as the Associated Press, United Press, International News Service, and Science Service. Leading newspapers in New York, Boston, Los Angeles, and other cities receive, at their own request, news direct from Field Museum's press bureau so that they may have a more complete coverage than can be afforded by the national news services. Stories about the Museum appeared frequently also in the news-magazine Time, in the $Illustrated\ London\ News$, and other important magazines in this country and abroad.

Nearly 300 news releases were prepared by the Public Relations Counsel and distributed through all of the above-mentioned channels, in many cases accompanied by photographs. In addition supplementary material was furnished constantly to reporters and photographers sent to the Museum on special assignments. As has occurred in past years, news from the Museum occasionally also was followed up by the appearance of an editorial on the subject of the institution's releases.

As a result of the reopening of the newly installed Hall of Gems and Jewels (Hall 31, H. N. Higinbotham Hall), and the opening of the entirely new Hall of Fishes (Hall O), the Museum received especially lavish publicity, with several pictorial "spreads," including a page in full colors in the Chicago Sunday Tribune. The Sunday Tribune, on its own initiative, also published late in the year a comprehensive illustrated article on the Museum's purposes and accomplishments.

Special attention was devoted to the release of articles relating the Museum exhibits to current topics of the day, as, for example, featuring the institution's exhibits from Pacific islands when public interest was focused upon that area due to the attacks on Hawaii, the Philippines, the Dutch East Indies, and Malaya. The Museum co-operated in a number of instances with other civic agencies in joint publicity. As usual, a constant flow of releases was maintained about all current activities such as expeditions, research, new exhibits, lectures, children's programs, etc.

To maintain constant and intimate contact with the several thousand persons who contribute to the Museum's support through membership subscriptions, the monthly bulletin Field Museum News was continued in publication, completing its twelfth volume and year. Distributed to all Members promptly at the beginning of each month, this bulletin kept them informed of the institution's activities, and brought them illustrated articles on scientific subjects of popular interest. Besides providing a service to the membership, Field Museum News operates as an exchange medium in the Museum's relationships with other similar institutions, and also as the source of much additional publicity many of its articles are reprinted or quoted in the daily press and in a wide variety of periodicals, including magazines both for the general reader and those addressed to specialized classes, such as trade and technical journals.

Radio stations and networks continued to co-operate in the Museum's publicity by carrying news from the institution, and by presenting special programs devoted to Museum activities or featuring members of the staff as speakers. Especially notable were programs about the work of the Museum presented in the series "A World of Interest" by Mrs. Clifton (Frane) Utley, well-known radio personality, on station WBBM and the network of the Columbia Broadcasting System.

The Museum continued to benefit from advertising facilities made available by the Chicago Rapid Transit Lines, the Chicago,

Aurora and Elgin Railroad, the Chicago, North Shore and Milwaukee Railroad, the Chicago and North Western Railway, the Illinois Central System, and the Chicago Surface Lines. Through the co-operation of the Illinois Art Project of the federal Work Projects Administration the Museum was enabled to issue a number of attractive posters for use in the stations and cars of the above named transportation companies, and in libraries, travel bureaus, schools, office buildings, department stores, hotels, and elsewhere. As has been the practice for years past, many thousands of descriptive folders advertising the Museum were distributed through these various agencies, and also thousands of folders announcing the Sunday afternoon lectures presented at the Museum by Mr. Paul G. Dallwig, The Layman Lecturer. Likewise, thousands of folders were provided for delegates attending the many conventions held in Chicago.

Valuable contacts for the promotion of the Museum's press and radio relations were maintained through its representation, by the Public Relations Counsel, in the Publicity Club of Chicago and the Chicago Conference on Association Publicity.

DIVISION OF MEMBERSHIPS

Although the demands of taxes and contributions necessary for national defense produced varied and unusual drains on the resources of all citizens during the past year, it is indeed encouraging to be able to report a net increase of 89 in the number of Museum Members on record in 1941. This is an improvement in number and in rate of increase compared with 1940. The total of new Members enrolled in 1941 was 451, against a loss of 362 incurred through transfers, cancellations and deaths. The total number of memberships as of December 31, 1941, was 4,313.

Field Museum is greatly indebted to the many Members who have associated themselves with its activities, and the administration of this institution wishes to express its gratitude and appreciation for their loyal support. Such public-spirited co-operation and support constitutes a most important factor in making possible the successful continuation of the educational and cultural program of the Museum. An expression of deep appreciation is due also to those Members who found it necessary to discontinue their memberships, and it is hoped when conditions are more favorable that they will again enroll as Members of this institution.

430 FIELD MUSEUM OF NATURAL HISTORY REPORTS, Vol. 12

The following tabulation shows the number of names on the list of each membership classification at the end of 1941:

Benefactors								23
Honorary Members						,		12
Patrons								
Corresponding Members								7
Contributors								127
Corporate Members								
Life Members								241
Non-Resident Life Members								12
Associate Members								
Non-Resident Associate Members								8
Sustaining Members								
Annual Members								
Total Memberships								4 313

The names of all persons listed as Members during 1941 will be found on the pages at the end of this Report.

In the pages which follow are submitted the Museum's financial statements, lists of accessions, et cetera.

CLIFFORD C. GREGG, Director

BEQUESTS

Bequests to Field Museum of Natural History may be made in securities, money, books or collections. They may, if desired, take the form of a memorial to a person or cause, to be named by the giver. For those desirous of making bequests to the Museum, the following form is suggested:

FORM OF BEQUEST

I	do h	ereby	give	and	bequ	ıeath	to	Field	Mus	eum	of	Nat	ural
Histor	ry of	the (City of	Chie	cago,	State	e of	Illino	is,				
						-	_	-					

Contributions made within the taxable year to Field Museum of Natural History to an amount not in excess of 15 per cent of the taxpayer's net income are allowable as deductions in computing net income for federal income tax purposes.

Endowments may be made to the Museum with the provision that an annuity be paid to the patron during his or her lifetime. These annuities are guaranteed against fluctuation in amount and may reduce federal income taxes.

COMPARATIVE ATTENDANCE STATISTICS AND DOOR RECEIPTS

FOR YEARS 1940 AND 1941

	1941		1940
Total attendance	1,358,147		1,450,685
Paid attendance	86,531		80,888
Free admissions on pay days:			
Students	88,276		76,722
School children	77,710		85,249
Teachers	3,022		3,181
Members	817		1,039
United States Service Men	891		1.1
Admissions on free days			
Thursdays (51)	175,872	(52)	252,867
Saturdays (52)		(52)	
Sundays (52)	585,575		
Highest attendance on any day (May 27)	47,998	(June 4)	51.247
Lowest attendance on any day (January 7)	*		
Highest paid attendance (September 1)		(September 2)	
Average daily admissions (363 days)	3,741		3,963
Average paid admissions (208 days)	416	(210 days)	385
Number of guides sold	11.943		10,002
Number of articles checked	00.001		23,616
Number of picture post cards sold	84,226		83,050
Sales of publications, leaflets, handbook.			
portfolios, and photographs	\$5,018.42		\$5,504.33

COMPARATIVE FINANCIAL STATEMENTS

FOR YEARS 1940 AND 1941

INCOME	1941		1940	
Endowment Funds	\$196,442.74	\$	203,608.49	
Funds held under annuity agree-				
ments	22,533.33		27,807.92	
Life Membership Fund	10,713.74		11,530.05	
Associate Membership Fund	12,288.74		12,927.91	
Chicago Park District	129,498.70		58,130.33	
Annual and Sustaining Member-	10.770.00		19 005 00	
ships	12,770.00		12,085.00	
Admissions	21,632.75		20,222.00	
Sundry receipts	16,912.14		17,835.43	
Contributions, general purposes	22.00		1,015.00	
Contributions, special purposes	22.00		1,015.00	
(expended per contra)	16,059.69		28,061.45	
Special Funds—part expended	10,000.00		20,001.40	
this year for purposes				
designated (included per				
contra)	14,449.56		11,822.93	
		\$453,323,39		\$405,046.51
		4.00,020,0		4 ,
_				
Expenditures				
Collections	\$ 17,650.52	\$	26,490.19	
Collections		\$	•	
Collections	49,936.12	\$	41,701.84	
Collections	49,936.12 13,888.32	\$	41,701.84 9,983.95	
Collections	49,936.12	\$	41,701.84	
Collections	49,936.12 13,888.32 21,900.91	\$	41,701.84 9,983.95 69,666.12	
Collections	49,936.12 13,888.32 21,900.91 3,384.89	\$	41,701.84 9,983.95 69,666.12 7,645.21	
Collections	49,936.12 13,888.32 21,900.91 3,384.89 52,452.46	\$	41,701.84 9,983.95 69,666.12 7,645.21 43,078.64	
Collections	49,936.12 13,888.32 21,900.91 3,384.89 52,452.46 46,112.71		41,701.84 9,983.95 69,666.12 7,645.21 43,078.64 40,994.29	
Collections	49,936.12 13,888.32 21,900.91 3,384.89 52,452.46 46,112.71 311,377.97		41,701.84 9,983.95 69,666.12 7,645.21 43,078.64 40,994.29 319,212.39	
Collections	49,936.12 13,888.32 21,900.91 3,384.89 52,452.46 46,112.71 311,377.97 100,704.53		41,701.84 9,983.95 69,666.12 7,645.21 43,078.64 40,994.29 319,212.39 66,328.76	
Collections	49,936.12 13,888.32 21,900.91 3,384.89 52,452.46 46,112.71 311,377.97		41,701.84 9,983.95 69,666.12 7,645.21 43,078.64 40,994.29 319,212.39	
Collections	49,936.12 13,888.32 21,900.91 3,384.89 52,452.46 46,112.71 311,377.97 100,704.53 26,271.86		41,701.84 9,983.95 69,666.12 7,645.21 43,078.64 40,994.29 319,212.39 66,328.76 29,870.60	
Collections	49,936.12 13,888.32 21,900.91 3,384.89 52,452.46 46,112.71 311,377.97 100,704.53		41,701.84 9,983.95 69,666.12 7,645.21 43,078.64 40,994.29 319,212.39 66,328.76	\$689 971 99
Collections	49,936.12 13,888.32 21,900.91 3,384.89 52,452.46 46,112.71 311,377.97 100,704.53 26,271.86 35,000.00	\$678,680.29	41,701.84 9,983.95 69,666.12 7,645.21 43,078.64 40,994.29 319,212.39 66,328.76 29,870.60	\$689,971.99
Collections	49,936.12 13,888.32 21,900.91 3,384.89 52,452.46 46,112.71 311,377.97 100,704.53 26,271.86 35,000.00	\$678,680.29 \$225,356.90	41,701.84 9,983.95 69,666.12 7,645.21 43,078.64 40,994.29 319,212.39 66,328.76 29,870.60	\$284,925.48
Collections	49,936.12 13,888.32 21,900.91 3,384.89 52,452.46 46,112.71 311,377.97 100,704.53 26,271.86 35,000.00	\$678,680.29 \$225,356.90	41,701.84 9,983.95 69,666.12 7,645.21 43,078.64 40,994.29 319,212.39 66,328.76 29,870.60 35,000.00	

THE N. W. HARRIS PUBLIC SCHOOL EXTENSION

	1941	1940
Income from endowment	\$20,220.32	\$20,376.62
Operating expenses	19,063.11	17,205.21
Balance	\$ 1,157.21	\$ 3,171.41

LIST OF ACCESSIONS

DEPARTMENT OF ANTHROPOLOGY

BARGER, THOMAS C., Linton, North Dakota: 190 pottery sherds -Saudi Arabia (gift).

BORTH, E. C., Chicago: 2 Arat cloths (appliquéd North Africa and Arabia (gift).

Bruman, Henry J., State College, Pennsylvania: 51 Huichol Indian ethnological specimens—Jalisco, Mexico (gift).

CHAIT, RALPH, New York: group of six small Ordos bronzes—North China (purchase).

COLLIER, DONALD, Chicago: 1 Nazca comb—south coast of Peru (gift).

CRANE, MRS. RICHARD T., Chicago: 2 Pomo Indian baskets—California (gift).

DENVER ART MUSEUM, Denver, Colorado: 8 Choctaw and Chitimacha baskets-southeastern United States (exchange).

FARLEY, MRS. MALCOLM, Minneapolis, Minnesota: Chinese and Greek pottery sherds (gift).

FIELD, DR. HENRY, Washington, D.C.: 2 head-covering holders—Hilla, Arabia; 9 photographic prints (gift).

FIELD MUSEUM OF NATURAL HISTORY: Collected by Dr. Paul S. Martin (Field Museum Archaeological Expedition to the Southwest, 1941): approximately 24,000 specimens, including stone and bone tools, pottery sherds, and skeletal material.

FRANK, MRS. MORTIMER, Chicago: 1 painted figurine head—San Juan, Teotihuacan, Mexico (gift).

GAMEWELL, MRS. FRANK D., Philadelphia, Pennsylvania: 3 tribal costumes—Yunnan Province, China (gift).

GROW AND CUTTLE, INC., Chicago: 4 Chinese ceramics—T'ang and Sung periods, China (gift); 26 ceramic specimens—China (purchase).

HESTER, E. D., Manila, Philippine Islands: about 200 ceramic fragments— Manzaza, Tagbilaran, Bohol, Philippine Islands (gift).

HUIDEKOPER, COLONEL WALLIS, Twodot, Montana: 22 ethnological specimens from Sioux, Crow, Cheyenne, and Arapaho tribes (gift). HURT, WESLEY R., JR., Albuquerque, New Mexico: 2 Navajo pottery bowls from Canyon de Chelly, Arizona (gift).

JAMES, F. G., Cleveland, Ohio: 1 stained glass window of Tiffany manufacture (gift).

LARWILL, J. W., Grain Valley, Missouri: 2 stone scrapers and 1 stone graver prehistoric Indians of Kansas gift.

LUCKENBILL, MRS. FLORENCE P., Florida: 1 black pot Costa Rica (gift).

Morris, Earl H., Boulder, Colorado: 11 pieces of Basket Maker pottery— La Plata Valley, Colorado (exchange).

NELSON, WILLIAM ROCKHILL, GAL-LERY OF ART, Kansas City, Missouri: 1 pottery ritual vessel and 8 small bronzes —Anyang, Honan, China (purchase).

PICHER, MAJOR OLIVER S., Hubbard Woods, Illinois: 9 ethnological specimens—Southwest, Arapaho, Hawaii, and China (gift).

RAY, DANIEL A., Chicago: 1 dagger — Micronesia (gift).

SCHMID, CHARLES, Oak Park, Illinois: 1 deadfall (trap)—Alaska (gift).

STANLEY, CHARLES A., Cheeloo University, Tsinan, China: 11 sherds—Anyang, Honan, China; 4 sherds and 1 stone implement—Ch'eng tzu yai, Shantung, China (gift); 21 pottery vessels, Shang and Chou dates, 2 pottery figurines, Wei period, 1 bronze weapon, early Chou period (purchase).

UNIVERSITY OF CHICAGO, Chicago: 3 pieces of pottery, 22 sherds, 11 stone artifacts and 1 specimen of wattle-and-daub Kincaid Site, Illinois (exchange).

UNIVERSITY OF MICHIGAN (Ceramic Repository), Ann Arbor, Michigan: 1 pot and 7 sherds northern Florida exchange.

University of Pennsylvania (University Museum, Philadelphia, Pennsylvania: 11 scrapers and broken parts of Folsom points; 11 casts of Folsom and Yuma points—Clovis, New Mexico (exchange).

WILSON, SAMUEL E., Chicago: 1 Chinese manuscript—Tunhuang, Kansu, China (purchase).

DEPARTMENT OF BOTANY—ACCESSIONS

ACADEMY OF NATURAL SCIENCES, Philadelphia, Pennsylvania: 50 specimens of algae (gift); 13 plant specimens. 38 cryptogamic specimens (exchange).

ADCOCK, CAPTAIN THOMAS A., College Station, Texas: 12 wood specimens (gift).

ALLEN, PAUL H., Balboa, Canal Zone: 223 specimens of Panama plants (gift).

ARCHER-DANIELS MIDLAND COM-PANY, Chicago: 42 samples of soybean products (gift).

ARKANSAS AGRICULTURAL AND ME-CHANICAL COLLEGE (Department of Botany), Monticello, Arkansas: 576 specimens of Arkansas plants (gift).

ARNOLD ARBORETUM, Jamaica Plain, Massachusetts: 752 plant specimens (exchange).

ARTAMANOFF, MR. and MRS. GEORGE, Philadelphia, Pennsylvania: 33 wood specimens (gift).

BANGHAM, WALTER N., Ashmont, Massachusetts: 1 plant specimen (gift).

BAUER, BILL, Webster Groves, Missouri: 22 specimens of Missouri plants (gift).

BLAKE, EMMET R., Chicago: 1 plant specimen (gift).

BLOMQUIST, DR. HUGO L., Durham, North Carolina: 2 cryptogamic specimens (gift).

BOLD, DR. HAROLD C., New York: 43 specimens of algae (gift); 20 specimens of algae (exchange).

BONDAR, DR. GREGORIO, Bahia, Brazil: 6 palm specimens, 7 economic specimens, 20 photographs, 5 publications (gift).

BOULTON, RUDYERD, Chicago: 12 plant specimens (gift).

Bracelin, Mrs. H. P., Berkeley, California: 4 plant specimens (gift).

BRIGHAM YOUNG UNIVERSITY (Department of Botany), Provo, Utah: 11 plant specimens (gift).

BROMUND, DR. E. F., Mount Pleasant, Michigan: 1 plant specimen (gift).

BROOKLYN BOTANIC GARDEN, Brooklyn, New York: 1 plant specimen (exchange).

BUTCHER, DEVEREUX, Washington, D.C.: 20 cryptogamic specimens (gift).

BYRNES, SISTER MARY LEO, Atlantic City, New Jersey: 1 cryptogamic specimen (gift).

California Academy of Sciences. San Francisco, California: 2 plant specimens (gift); 243 plant specimens (exchange).

CARNEGIE INSTITUTION OF WASH-INGTON (Division of Plant Biology), Stanford University, California: 121 plant specimens (gift).

CAYLOR, DR. R. L., Cleveland, Mississippi: 6 specimens of algae (gift).

CHANDLER, A. C., Kirkwood, Missouri: 2 specimens of ferns (gift).

CLARK, DR. H. WALTON. San Francisco, California: 1 plant specimen (gift).

CLEMENS, MRS. MARY S., Lae, Morobe, New Guinea: 1 plant specimen (gift).

CLOVER. DR. ELZADA U., Ann Arbor, Michigan: 20 specimens of algae (gift).

CONARD, DR. HENRY C., Grinnell, Iowa: 30 specimens of hepaticae (gift).

COOKE, DR. WILLIAM BRIDGE, San Francisco, California: 4 specimens of algae (gift); 197 specimens of California plants (exchange).

COOPER, I. C. G., Westerleigh, Staten Island, New York: 2 specimens of algae (gift).

CORY, V. L., Sonora, Texas: 4 plant specimens (gift).

COVINGTON, D. M., La Grande, Washington: 1 log, 2 boards of alder (gift).

CROSBY, MISS GRACE, Providence. Rhode Island: 1 plant specimen (gift).

CUTLER, DR. HUGH, St. Louis. Missouri: 193 plant specimens (gift).

DAHLGREN, DR. B. E., Chicago: 4 ivory nut carvings; a collection of palms and economic specimens (gift).

DAILY, WILLIAM A., Cincinnati, Ohio: 143 specimens of algae (gift).

DASTON, JOSEPH, Chicago: 2 specimens of cacti (gift).

DAVIS, PROFESSOR RAY J., Pocatello, Idaho: 49 specimens of Idaho plants (gift).

DEAM, CHARLES C., Bluffton, Indiana: 10 plant specimens (gift).

DEEVEY, E. S., Jr., Houston, Texas: 40 specimens of algae (gift).

DEMAREE, DR. DELZIE, Monticello, Arkansas: 204 specimens of Arkansas plants (gift).

Driverent, Mrs. A. C., Chicago: I head made of Kauri gum (gift).

Donaldson, Mrs. D. M., Aligarh, United Provinces, India: 162 plant specimens, 41 specimens of drug materials (gift).

DREW, DR. WILLIAM B., Columbia, Missouri: 1 cryptogamic specimen (gift).

DROUET, DR. FRANCIS, Chicago: 848 specimens of cryptogams (gift).

DUKE UNIVERSITY (Department of Botany), Durham, North Carolina: 12 plant specimens (exchange).

Dybas, Henry S., Chicago: 73 specimens of cryptogams (gift).

ELIAS, REV. BROTHER, Caracas, Venezuela: 398 specimens of Vene-

zuelan plants (gift).

ESCUELA NACIONAL DE AGRICULTURA,
Chimaltenango, Guatemala: 54 specimens of Guatemalan plants (gift).

FERREIRA, PROFESSOR RAMON, Lima, Peru: 1 plant specimen (gift).

FIELD, DR. HENRY, Washington, D.C.: 25 specimens of cryptogams (gift).

FIELD MUSEUM OF NATURAL HISTORY: Collected by Francis Drouet, Donald Richards and others (Field Museum Cryptogamic Expedition to California, 1941): about 8,000 specimens of cryptogams from Colorado, Utah, Nevada and California.

Collected by Leon Mandel Galapagos Expedition: 2 plant specimens.

Collected by Dr. Francis W. Pennell (Marshall Field Fund, South American Expedition, 1925: 120 specimens of plants from Peru, Bolivia and Chile.

Collected by Paul C. Standley (Botanical Expedition to Guatemala, 1940-41): 38,000 specimens of Guatemalan plants.

Collected by Dr. Julian A. Steyermark: 1,000 specimens of Missouri plants.

Collected by Professor Juvenal Valerio R.: 249 specimens of Costa Rican plants.

Collected by Llewelyn Williams: 2,035 specimens of plants from Venezuela.

Transferred from Department of Geology: 7 fossilized wood specimens.

Purchases: 2,420 cryptogamic specimens: 38 plant specimens, 13 photographs—Brazil: 375 plant specimens - British Honduras and Mexico; 1,216 plant specimens Costa Rica; 1,416 plant specimens—Mexico; 33 plant specimens Panama.

FIGRISTS' PUBLISHING COMPANY, Chicago: 2 plant specimens (gift).

Fox, Dr. Lauretta B., Natchitoches, Louisiana: 3 specimens of algae (gift).

FRYE, DR. THEODORE C., Seattle, W. a. heigt in: 12 specimens of bryophytes (exchange).

GARRETT, PROFESSOR ARTHUR O., Salt Lake City, Utah: 100 specimens of Utah plants (gift).

GERDEMANN, JAMES, Warrenton, Missouri: 7 plant specimens (gift).

GLIDDEN COMPANY, THE (Soya Products Division), Chicago: 10 specimens of soybean products (gift).

GOSHORN, H., Hillside, Illinois: 1 specimen of fungus (gift).

GOULD, FRANK W., St. George, Utah: 100 specimens of Pacific coast plants (exchange).

GRAHAM, DR. V. O., Chicago: 102 specimens of fungi (gift).

GRAY, MISS NETTA E., Urbana, Illinois: 100 specimens of algae (gift).

GRAY HERBARIUM, Cambridge, Massachusetts: 18 photographs, 261 plant specimens (exchange).

GREENBERG, ALBERT, Tampa, Florida: 1 plant specimen (gift).

GREGG, MAJOR CLIFFORD C., Chicago: 6 cryptogamic specimens (gift).

GRIFFIN, DR. LAWRENCE E., Portland, Oregon: 12 cryptogamic specimens (gift).

GROESBECK, DR. M. J., Porterville, California: 189 specimens of algae (gift).

HANNA, DR. LEO, Centralia, Washington: 1 plant specimen (gift).

Harper, Dr. Roland M., University, Alabama: 64 specimens of Alabama plants (gift).

HERBARIO NACIONAL DE VENEZUELA, Caracas, Venezuela: 4 plant specimens (gift).

HERMANN, DR. FREDERICK J., Washington, D.C.: 45 plant specimens (exchange).

HERFERS, HENRY, Short Hills, New Jersey: 1 cryptogamic specimen (gift).

Hollenberg, Dr. George J., Redlands, California: 104 specimens of algae (exchange).

HOOGSTRAAL, DR. HARRY, Urbana, Illinois: 1,732 specimens of Mexican plants (gift).

Hunnewell, Francis W., Wellesley, Massachusetts: 3 plant specimens (gift).

ILLINOIS STATE MUSEUM, Springfield, Illinois: 437 specimens of Illinois plants (gift).

INSTITUT BOTANIQUE, UNIVERSITÉ DE MONTRÉAL, Montreal, Canada: 70 specimens of cryptogams (exchange).

INSTITUTO DE CIENCIAS NATURALES, Bogotá, Colombia: 2 plant specimens (gift).

INSTITUTO DEL MUSEO (Department of Botany), La Plata, Argentina: 61 specimens of Argentinean plants (gift); 57 specimens of Argentinean plants (exchange).

INSTITUTO MIGUEL LILLO, Tucumán, Argentina: 2,256 specimens of Argentinean plants (exchange).

JOHNSTON, DR. JOHN R., Chimaltenango, Guatemala: 102 specimens of Guatemalan plants (gift).

JUNGE, DR. CARLOS, Concepción, Chile: 30 plant specimens (gift).

KAHL, EDWARD, Chicago: 4 specimens of soybean products (gift).

Kenoyer, Professor Leslie A., Kalamazoo, Michigan: 21 specimens of Mexican plants (gift).

KIENER, DR. WALTER, Lincoln, Nebraska: 447 specimens of algae (gift).

KING, LAWRENCE J., Chicago: 150 specimens of algae (gift).

KLEEREKOPER, DR. HERMAN, São Paulo, Brazil: 45 specimens of algae (gift).

Koch, Herbert L., Princeton, Missouri: 2 plant specimens (gift).

KRUKOFF, BORIS A., New York: 1,146 wood specimens (exchange).

Langlois, A. C., Nassau, Bahamas: 4 plant specimens, 59 photographs (gift).

LANKESTER, C. H., Cartago, Costa Rica: 1 plant specimen (gift).

LANOUETTE, MLLE CECILE, Montreal, Canada: 2 specimens of algae (gift).

LAWRANCE, ALEXANDER E., Barinas, Venezuela: 1 plant specimen (gift).

LIGGETT, WILLIAM E., University City, Missouri: 7 plant specimens (gift).

LINDAUER, DR. V. W., Awanui, Far North, New Zealand: 43 specimens of algae (gift).

LUMMIS, PRIVATE S. B., Camp Blanding, Florida: 1 plant specimen (gift).

McBryde, Dr. F. Webster, Berkeley, California: 29 specimens of Mexican plants (gift).

McFarlin, James B., Sebring, Florida: 4 plant specimens (gift).

MADDOX, R. S., Jefferson City, Missouri: 1 plant specimen (gift).

MALDONADO, PROFESSOR ANGEL, Lima, Peru: 76 cryptogamic specimens (gift).

MEYER, PROFESSOR TEODORO, Tucumán, Argentina: 16 plant specimens (gift).

MILWAUKEE PUBLIC MUSEUM, Milwaukee, Wisconsin: 225 specimens of Wisconsin plants (exchange).

MISSOURI BOTANICAL GARDEN, St. Louis, Missouri: 47 specimens of cryptogams, 270 specimens of plants from Panama (exchange).

MONTANA STATE UNIVERSITY (Herbarium), Missoula, Montana: 5 specimens of algae (exchange).

Moore, George, Sullivan, Missouri: 20 plant specimens (gift).

Moore, Harold H., Notre Dame, Indiana: 1 plant specimen (gift).

MORGAN, REV. MICHAEL, St. Bernard, Alabama: 4 plant specimens (gift).

MUSEO NACIONAL, San José, Costa Rica: 649 specimens of Costa Rican plants (gift).

NEW YORK BOTANICAL GARDEN, New York: 758 specimens of cryptogams (exchange).

NORTHROP KING AND COMPANY, Minneapolis, Minnesota: 9 ears of hybrid corn (gift).

OSORIO TAFALL, B. F., Mexico City, Mexico: 1 cryptogamic specimen (gift).

PACHECO H., MARIANO, Guatemala City, Guatemala: 59 photographic prints (gift).

PALMER, DR. C. MERVIN, Indianapolis, Indiana: 23 specimens of algae (gift).

PEARSALL, GORDON, Chicago: 16 plant specimens (gift).

PEGGS, DR. A. DEANS, Nassau, Bahamas: 2 plant specimens (gift).

PIERCE, Dr. E. Lowe, Welaka, Florida: 7 specimens of algae (gift).

PITTIER, PROFESSOR HENRY, Caracas, Venezuela: 133 specimens of Venezuelan plants (gift).

PONCE, JOSÉ M., Mexico City, Mexico: 37 specimens of Mexican plants (gift).

PRESCOTT, DR. G. W., Albion, Michigan: 32 specimens of algae (gift).

PURDUE UNIVERSITY (Department of Botany), Lafayette, Indiana: 6 plant specimens (gift).

REED, CLYDE T., Gregory, Texas: 49 specimens of cryptogams (gift); 85 specimens of cryptogams (exchange).

REINHARD, DR. E. G., Washington, D.C.: 4 specimens of algae (gift).

RICHARDS, DONALD, Chicago: 981 specimens of cryptogams (gift).

RODGERS, MRS. CHARLES, Highland Park, Illinois: 1 plant specimen (gift).

Rosengurtt, Professor Bernardo, Montevideo, Uruguay: 15 plant specimens (gift).

RUNK, DR. B. F. D., Charlottesville, Virginia: 195 specimens of algae (exchange).

RUNYON, ROBERT, Brownsville, Texas: 209 specimens of Texas plants (exchange).

RUTGERS COLLEGE (Department of Botany), New Brunswick, New Jersey: 83 specimens of Costa Rican plants (gift).

SCHMIDT, ERICH F., Chicago: 37 specimens of plants from Iran (gift).

SCHMIDT, KARL P., Homewood, Illinois: 2 cryptogamic specimens (gift).

SCHNEIDER, RICHARD A., Kankakee, Illinois: 16 specimens of Illinois plants (gift).

SCIENTIFIC OIL COMPOUNDING COM-PANY, INC., Chicago: 2 specimens of vegetable oils (gift).

SELLA, EMIL, Chicago: 5 plant specimens (gift).

SHERFF, DR. EARL E., Chicago: 113 plant specimens (gift).

SMITH, DR. GILBERT M., Stanford University, California: 1 cryptogamic specimen (gift).

Solheim, Dr. W. G., University of Wyoming, Laramie, and William A. Daily, Cincinnati, Ohio: 96 specimens of algae—Wyoming (gift).

SOUKUP, PROFESSOR J., Lima, Peru: 135 specimens of Peruvian plants (gift).

Souza-Novello, DR. Narciso, Mérida, Yucatán, Mexico: 34 specimens of Yucatán plants (gift).

Soy-Bean Products Company, Chicago: 13 samples of soybean food products (gift).

STALEY MANUFACTURING COMPANY, A. E., Chicago: 1 sample of soy sauce (gift).

STANDLEY, PAUL C., Chicago: 8 plant specimens (gift).

STANDLEY, PAUL C., Chicago, and DR. JULIAN A. STEYERMARK, Barrington, Illinois: 2,000 plant specimens (gift).

STEVENS, DR. ORIN A., Fargo, North Dakota: 1 plant specimen (gift).

STEYERMARK, DR. and MRS. JULIAN A., Barrington, Illinois: 2 specimens of algae (gift).

STRICKLAND, J. C., Charlottesville, Virginia: 115 specimens of algae (exchange).

TAFT, DR. CLABENCE E., Columbus, Ohio: 1 cryptogamic specimen (gift).

TAYLOR, DR. WILLIAM R., Ann Arbor, Michigan: 12 specimens of algae (gift).

TENAS AGRICULTURAL EXPERIMENT STATION, Temple, Texas: 329 specimens of Texas and Arizona plants (exchange).

TRESSLER, DR. WILLIS L., College Park, Maryland: 7 specimens of algae (gift).

TRYON, DR. ROBERT M., JR., Freelandville, Indiana: 400 specimens of Indiana plants (exchange).

TURNQUIST, DONALD, Cedar Lake, Indiana: 1 wood specimen (gift).

UNITED STATES DEPARTMENT OF AGRICULTURE National Arboretum), Washington, D.C.: 263 plant specimens exchange.

UNITED STATES DEPARTMENT OF AGRICULTURE (Forest Products Laboratory), Madison, Wisconsin: 1 plant specimen (gift).

UNITED STATES FISHERIES LABORATORY, Logan, Utah: 220 specimens of algae rgift.

United States National Museum, Washington, D.C.: 57 cryptogamic specimens (gift): 50 cryptogamic specimens, 150 photographic prints, 325 specimens of Central and South American plants (exchange).

UNIVERSITY OF CALIFORNIA (Department of Botany), Berkeley, California: 5 plant specimens, 55 cryptogamic

specimens (gift); 842 cryptogamic specimens (exchange).

UNIVERSITY OF CHICAGO (Department of Botany), Chicago: 7,285 specimens of fungi (gift).

UNIVERSITY OF ILLINOIS (Department of Botany), Urbana, Illinois: 1 plant specimen (gift).

UNIVERSITY OF KENTUCKY (Department of Botany), Lexington, Kentucky: 1 plant specimen (gift).

UNIVERSITY OF MICHIGAN (Herbarium), Ann Arbor, Michigan: 335 specimens of cryptogams, 620 plant specimens (exchange).

UNIVERSITY OF PENNSYLVANIA (Department of Botany), Philadelphia, Pennsylvania: 116 specimens of plants (exchange).

UNIVERSITY OF THE PHILIPPINES, Department of Botany), Manila, Philippine Islands: 212 specimens of algae (exchange).

UTAH STATE AGRICULTURAL COL-LEGE, Logan, Utah: 153 photographic prints of asters (exchange).

Vargas G., Dr. Cesar, Cuzco, Peru: 64 plant specimens, 15 ears of Peruvian corn (gift).

VATTER, ALBERT, Glenview, Illinois: 7 plant specimens (gift).

VAUGHAN'S SEED STORE, Chicago: 1 plant specimen (gift).

Vogl., Rev. Padre Cornelius, Caracas, Venezuela: 633 specimens of Venezuelan plants (gift).

WALP, DR. LEE, Marietta, Ohio: 68 specimens of algae (gift).

WANGER, KENNETH A., O'Neals, California: 2 plant specimens (gift).

WELCH, DR. W. B., Carbondale, Illinois: 6 cryptogamic specimens (gift).

WELCH, DR. WINONA H., Greencastle, Indiana: 51 specimens of mosses (exchange).

Welsh, J. L., Laclede, Missouri: 5 plant specimens (gift).

WEYERHAEUSER TIMBER COMPANY, Longview, Washington: 3 specimens of Sitka spruce (gift).

WHEELER, DR. LOUIS C., Philadelphia, Pennsylvania: 1 cryptogamic specimen (gift).

WHITE RIVER LUMBER COMPANY, Enumclaw, Washington: 1 log section, 1 flitch (gift).

WILLIAMS, LLEWELYN, Chicago: 1 specimen of Ceroxylon wax, 6 plant specimens (gift).

WINDSOR, A. S., Chicago: 1 plant specimen (gift).

WOLF, REV. BROTHER WOLFGANG, St. Bernard, Alabama: 1 plant specimen (gift).

WOLLE, PHILIP W., Princess Anne, Maryland, and Dr. Francis Drouet, Chicago: 164 specimens of cryptogams (gift).

Wood, Carroll E., Jr., Philadelphia, Pennsylvania: 1 cryptogamic specimen (gift).

WOOD-MOSAIC COMPANY, Louisville, Kentucky: 2 specimens of Claro walnut (gift).

Woodworth, Dr. R. H., Bennington, Vermont: 274 specimens of plants from the Virgin Islands (gift).

Woytkowski, Felix, Lima, Peru: 38 specimens of Peruvian plants (gift).

YALE UNIVERSITY (School of Forestry), New Haven, Connecticut: 4 plant specimens (gift); 905 wood specimens (exchange).

YUNCKER, PROFESSOR TRUMAN G., Greencastle, Indiana: 3 plant specimens (gift).

ZETEK, JAMES, Balboa, Canal Zone: 22 specimens of Panama plants (gift).

DEPARTMENT OF GEOLOGY—ACCESSIONS

ADLE, MARSHALL J., Mishawaka, Indiana: 1 specimen of halloysite var. indianite—Lawrence County, Indiana (gift).

Barber, C. M., Hot Springs, Arkansas: 9 specimens of fossil vertebrates—Arkansas (gift).

BARNES, O. C., Los Angeles, California: 1 Mexican onyx cross—Death Valley, California (gift).

Barton, Dr. R. F., Manila, Philippine Islands: 12 specimens of tektites—Batabolani, Camarines Norte, Philippine Islands (gift).

BASCOM, WILLARD, Golden, Colorado: 2 specimens of rare minerals—Colorado (gift).

BECKER, A. H., Madison, Wisconsin: 6 specimens of anorthoclase moonstone
—Wausau, Wisconsin (gift).

BOOMER, DR. PAUL C., Chicago: 24 gems various localities (gift).

BUTRIM, JOHN, Golden, Colorado: 1 specimen of talctriphyllite Canon City, Colorado (gift).

CALVERT, EARL L., San Gabriel, California: 3 specimens of minerals Mexico (exchange).

CHAPMAN, FRANCIS B., Los Angeles, California: 1 specimen of molybdenite ore, 1 specimen of beryllium oxide San Diego County, California (gift).

Coonley, Mrs. John Stuart, Chicago: 35 mineral specimens, 1 invertebrate fossil -various localities (gift).

CRANE, MRS. RICHARD T., JR., Chicago: collection of gems various localities (gift).

DEMPSTER, MRS. MARY GILLETTE, Chicago: 4 geological specimens—various localities (gift).

FABER, EDWIN B., Grand Junction, Colorado: 3 specimens of fossil shark and ray in matrix--Hotchkiss, Colorado (gift).

FIELD MUSEUM OF NATURAL HISTORY: Collected by Dr. Sharat K. Roy and Henry Herpers (Field Museum Geological Expedition to Eastern United States, 1940): 1 specimen of muscovite in pegmatite Portland, Connecticut.

Collected by Bryan Patterson, James H. Quinn, Edwin Galbreath and Robert Schmidt (Field Museum Paleontological Expeditions to Colorado, 1939 and 1941: 103 specimens of fossil plants and invertebrate fossils. Colorado.

Collected by Paul O. McGrew (Field Museum Paleontological Expedition to South Dakota, 1940): 2 composite skeletons of Alctonerys, miscellaneous quarry material consisting of various skeletal bones—Gordon, Nebraska.

Collected by Ronald Lambert Leon Mandel Galapagos Expedition: 7 specimens of lava—Galapagos Islands.

Transferred from the Department of Anthropology: skull and jaws of Eporcodon major.

Transferred from the Department of Zoology: 4 mammal skulls.

Made in Vertebrate Paleontological Laboratory: 2 casts from dentition of Didymictis protenus and Oxygena.

Purchases: 7 specimens of meteorites—United States: skeleton of Tylosaurus—Kennebec, South Dakota. FRIEDMAN, MRS. ARE, Rapid City, South Dakota: 2 specimens of calcite crystals near Rapid City, South Dakota (gift).

GABRIEL, Dos., Detroit, Michigan: 1 specimen of brown fluorite and celestite Clay Center, Ohio (exchange).

GALBREATH, EDWIN C., Ashmore, Illinois: 3 specimens of vertebrate fossils vicinity of Ashmore, Illinois (gift).

GENERAL REFRACTORIES COMPANY, Chicago: 10 refractories (gift).

GENTZ, O. A., Chicago: 1 specimen of thomsonite near Duluth, Minnesota (gift).

GLEASON, CEDRIC M., Washington, D.C.: 2 turquois specimens Lynch Station, Virginia (gift).

GRESKY, DR. BENEDICT, Chicago: 4 step-cut white beryls (gift).

GULON, STEVEN, Chicago: I Mexican onyx heart—San Rafael, Argentina (gift).

HARTFORD-EMPIRE COMPANY, Hartford, Connecticut: 1 pseudo-meteorite (gift).

Hodson, Glen H., Elmhurst, Illinois: 16 mineral specimens—various localities (exchange).

Hogle, Claron, Duluth, Minnesota: 1 specimen of thomsonite—Lake Superior (gift).

HOLT, EDWARD L., Grand Junction, Colorado: 110 fossil shells Grand Junction, Colorado (gift); 2 mineral specimens—Utah (gift).

JACKLEY, A. M., Pierre, South Dakota: 1 physical geology specimen— Cheyenne River, South Dakota (gift).

JENNINGS, JOHN W., Eureka Springs, Arkansas: 2 mineral specimens Eureka Springs, Arkansas (gift).

Konsberg, A. V., Chicago: 1 chert boulder near Austin, Texas (gift).

LEE, HENRY E., Rapid City, South Dakota: 1 specimen of algal agate— Black Hills, South Dakota (gift).

MATHER, BRYANT, JR., Chicago: 2 specimens of orthoclase—Virginia and North Carolina (gift).

MEADE, GRAYSON, Austin, Texas: type specimen of species of erinaceid— Marshland, Nebraska (exchange).

MENZEL, WILLIAM E., Chicago: 29 onyx marble cabochons various localities (gift).

MORONEY, JOHN J., AND COMPANY, Chicago: 19 specimens of refractories (gift).

NICHOLS, HENRY W., Chicago: 6 specimens illustrating uses of fluorite and nitrates (gift).

NININGER, DR. H. H., Denver, Colorado: 1 polished slice of Wiley meteorite—Wiley, Colorado (exchange).

Puccetti, S. C., Chicago: 1 quartz-filled chalcedony geode—Cuba, Illinois (gift).

QUINN, MRS. CLAYTON, Ainsworth, Nebraska: 1 tooth of fossil elephant, Stegomastodon primitivus—Ainsworth, Nebraska (exchange).

QUINN, JAMES H., Chicago: skeleton of fossil rhinoceros, *Teleoceras*—Ainsworth, Nebraska (gift).

RICHMAN, A. G., La Crosse, Wisconsin: 1 insect in copal—Africa (gift).

RIES, REV. MICHAEL M., Chicago: 5 geodes and parts of geodes—Iowa (gift).

RINEHART, WILLIAM G., Batesville, Arkansas: 5 mineral specimens—Batesville, Arkansas (gift).

RYLAND, CHARLES S., Golden, Colorado: 3 mineral specimens—New Mexico (gift).

SALO, O. J., Red Lodge, Montana: 8 specimens of dahlite—Lovell, Wyoming (gift).

SARGENT, E. H., AND COMPANY, Chicago: 7 specimens of refractories (gift).

SIMMONS, CORBETT, Elberton, Georgia: 1 specimen of meteorite, 1 specimen of meteorite shale—Smithsonia, Georgia (gift).

SKELLY, JOHN, South Milwaukee, Wisconsin: 4 specimens of nickel ore—Ontario, Canada (gift).

UNITED STATES GYPSUM COMPANY, Chicago: 8 specimens of sheet rock (gift).

UNIVERSITY OF CHICAGO, Chicago: skull and jaws of *Eporeodon*—Hat Creek Basin, Wyoming (gift); 1 mountable skeleton of *Pareiosaurus*—South Africa (exchange).

THACKER, MRS. CLARICE, Woodstock, Illinois: 6 specimens of *Equus*—Woodstock, Illinois (gift).

WAGNER, MISS SHERRY, Northfield, Illinois: 1 specimen of pyrite and marcasite—Northfield, Illinois (gift).

DEPARTMENT OF ZOOLOGY—ACCESSIONS

ACADEMY OF NATURAL SCIENCES, Philadelphia, Pennsylvania: 1 coral snake—Peru (exchange).

AMERICAN MUSEUM OF NATURAL HISTORY, New York: 2 lots of tadpoles—China (gift); 2 rodents, 3 bird skins, 5 alligators—various localities (exchange).

Anderson, Arthur C., Chesterton, Indiana: 1 massasauga—Indiana (gift).

Armour, P. D., Lake Bluff, Illinois: 1 snake—Lake Bluff, Illinois (gift).

ARMSTRONG, URSEL S., Berkeley, California: 26 insects—Arabia (gift).

BAERG, DR. W. J., Fayetteville, Arkansas: 2 scorpions—Mexico (gift).

BARBER, C. M., Hot Springs, Arkansas: 45 salamanders, 4 lizards, 7 snakes, 2 box turtles, 1 tortoise skeleton—Arkansas (gift).

BARD, F. N., Chicago: 1 mounted bear—British Columbia (gift).

BARGER, DR. J. D., Linton, North Dakota: 1 wildcat skin—Arabia (gift).

Bascom, Mrs. Erika, Evanston, Illinois: 5 lizards—Morelos, Mexico (gift).

BECKER, ROBERT H., Chicago: 1 albino crow—Richmond, Illinois (gift).

BEECHER, WILLIAM J., Chicago: 5 fishes, 204 insects—Chicago region (gift).

BESSOM, LEONARD C., Los Angeles, California: 20 beetles—Ellsworth, Kansas (gift).

BEST, MISS ELIZABETH, Glencoe, Illinois: 1 pseudoscorpion—Glencoe, Illinois (gift).

BEST, MRS. E. O., Glencoe, Illinois: 1 camel cricket—Glencoe, Illinois (gift).

BISHOP, DR. LOUIS B., Pasadena, California: 1,180 bird skins—North America (gift).

BISHOP, DR. SHERMAN C., Rochester, New York: 40 salamanders—various localities (exchange).

Braidwood, Robert J., Chicago: 94 shells—Syria (exchange).

BREDER, CHARLES, New York: 60 fishes—Lee County, Florida (gift).

BRISCOE, M. S., Harpers Ferry, West Virginia: 4 beetles—Harpers Ferry, West Virginia (gift).

BROMUND, E. FRED, Mount Pleasant, Michigan: 48 land and fresh-water shells Cheboygan, Michigan (gift).

Brown, Mrs. A. W., Port Isabel, Texas: 6 marine shells, 1 marine worm Port Isabel, Texas (gift).

Brown, Mr. and Mrs. L. F., Naples, Florida: 1 manatee skull, 4 duck skins, 1 fish, 1 spider Florida (gift).

Brown, Bryce C., Austin, Texas: 1 coral snake- Texas (gift).

Brown, Lawrence F., Naples, Florida: 60 tree-snails southern Florida (gift).

Burton, Robert A., Evanston, Illinois: 38 salamanders, 20 frogs, 14 snakes, 2 turtles—Iowa (gift).

CAMPBELL, GEORGE R., Rio Piedras, Puerto Rico: 1 lot of tadpoles, 2 frog embryos, 1 frog, 47 lizards, 3 snakes Puerto Rico (gift).

Carlson, Misses Ruth and Ellen, Glen Ellyn, Illinois: 1 pedigreed Manx cat (gift).

CARNEGIE MUSEUM, Pittsburgh, Pennsylvania: 2 sharp-tailed sparrows South Carolina and Florida (exchange).

CHICAGO ACADEMY OF SCIENCES, Chicago: 1 water snake-- Texas; 10 batfleas-- various localities (gift).

CHICAGO ZOOLOGICAL SOCIETY, Brookfield, Illinois: 23 mammals, 148 birds, 1 lizard, 15 snakes, 1 turtle—various localities (gift).

CHRISTENSEN, REGNAR BANG, New York: 1 European swallow--western Greenland (gift).

CIESLAK, EDWIN S., Chicago: 234 garter snake skins - Illinois and Washington (gift).

CLARK, MISS EMILY A., Wushishi, Nigeria: 1 moth cocoon—Nigeria (gift).

CLARK, P. J. and R. INGER, South Haven, Michigan: 1 snake--Georgia (gift).

CLARK, DR. W. G., Minneapolis, Minnesota: 2 toads—Santiago, Cuba (gift).

COLE, LAMONTE C., Chicago: 4 land shells—Illinois (gift).

COLORADO MUSEUM OF NATURAL HISTORY, Denver, Colorado: 1 lizard—Bahama Islands (gift).

COLTON, MRS. THERON, Chicago: 1 marsh hawk—Chicago (gift).

CONOVER, BOARDMAN, Chicago: 1 bat skin and skull, 554 bird skins, 1 bird sternum various localities (gift).

CORY, CHARLES BARNEY, Homewood, Illinois: 1 sora rail—Homewood, Illinois (gift).

Cowen, Dr. Jack P., Chicago: 1 brown creeper - Chicago (gift).

CRANDALL, ROBERT H., Tueson, Arizona: 48 insects—various localities (exchange).

CRESSMAN, HARRY, St. Charles, South Dakota: 3 lizards, 1 snake—South Dakota (gift).

CURTIS, KENSETH, Chicago: 11 fishes Guaymas, Mexico (gift).

DAVIS, DR. DAVID, Rio de Janeiro, Brazil: 4 birds—British Guiana (gift).

DAVIS, W. B., College Station, Texas: 43 birds - Mexico (exchange).

DEMAREE, DR. DELZIE, Monticello, Arkansas: 16 snakes—Arkansas (gift).

DRENDEL, MISS MARY, Naperville, Illinois: 1 bull snake Illinois (gift).

Dybas, Henry S., Chicago: 627 insects and allies—various localities (gift).

Dybas, Mrs. Milada, Chicago: 2

birds-Chicago (gift).

EASTER, GEORGE, Chicago: 12 weevils

Illinois (gift).

EDGERLEY, HATTON, De Beque, Colorado: 6 insects—Colorado (gift).

EIGSTI, W. E., Chicago Heights, Illinois: 1 rat, 1 beetle, 5 parasitical roundworms Chicago Heights, Illinois (gift).

EMERSON, DR. ALFRED E., Chicago: 1 snake--Florida (gift).

FIELD, DR. HENRY, Washington, D.C. 1 Fowler's toad, 281 insects and allies, 5 jelly fishes, 1 land shell—various localities (gift).

FIELD MUSEUM OF NATURAL HISTORY: Collected by Emmet R. Blake: 3 young grebes—Illinois.

Collected by Emmet R. Blake and Melvin A. Traylor, Jr. (Southwest Zoological Expedition: 19 mammals, 177 birds, 50 sets of birds' eggs, 85 bird nests, 35 bird skeletons, 3 salamanders, 40 frogs, 32 lizards, 6 snakes—various localities.

Collected by Dr. Francis Drouet (Field Museum Expedition to Sonora and Southwestern United States, 1939–40): 159 marine and fresh-water shells—southwestern United States and northern Mexico.

Collected by Henry S. Dybas: 103 insects and close allies—Illinois.

Collected by W. E. Eigsti: 24 mammals—Illinois.

Collected by Albert J. Franzen and W. E. Eigsti: 2 mammals—Illinois.

Collected by William J. Gerhard and Rupert L. Wenzel: 165 bird lice—various localities.

Collected by Dr. Fritz Haas (Pacific Coast Zoological Expedition): 1 lizard, 15 fishes, 3,000 marine invertebrates—coast of California.

Collected by Dr. Wilfred H. Osgood, Rudyerd Boulton, Loren P. Woods, Leon L. Walters, Melvin Traylor, Jr. and Ronald Lambert (Leon Mandel Galapagos Expedition): 19 mammal skins and skulls, 8 separate mammal skulls, 429 bird skins, 3 sets of eggs, 3 bird nests, 3 bird skeletons, 3 lots of birds in alcohol, 1 toad, 138 lizards, 5 snakes, 1 turtle, 1,955 fishes, 280 insects and allies, 400 miscellaneous invertebrates—various localities.

Collected by Bryan Patterson and James H. Quinn (Field Museum Paleontological Expedition to Western Colorado): 73 insects, 36 land shells—Colorado.

Collected by Bryan Patterson and John M. Schmidt (Field Museum Paleontological Expedition to Western Colorado): 14 lizards, 10 snakes— Colorado.

Collected by Clifford H. Pope and family: 5 snakes—Illinois.

Collected by Karl P. Schmidt: 12 tongue worms—various localities.

Collected by Karl P. Schmidt and John M. Schmidt (field trip to Arkansas and Texas): 33 salamanders, 59 frogs, 56 lizards, 68 snakes, 29 turtles, 181 insects and allies—southwest; 35 land shells—Texas.

Collected by Karl P. Schmidt and Colin C. Sanborn (Field Museum Magellanic Expedition): 7 fishes—Colombia.

Collected by Paul C. Standley (Stanley Field Botanical Expedition to Guatemala, 1940-41): 35 insects, 22 land and fresh-water shells—Guatemala. Collected by Alfred C. Weed: 826 fishes, 15 beetles, 48 marine invertebrates—Beaufort, North Carolina.

Collected by Rupert L. Wenzel: 1,281 insects and allies—Chicago region.

Collected by Rupert L. Wenzel and Henry S. Dybas: 867 insects and allies—various localities.

Collected by Frank C. Wonder (Fourth Hoogstraal Mexican Expedition): 251 mammal skins and skulls, 69 mammals in alcohol, 38 mammal skeletons, 1 rattlesnake skull—Mexico.

Purchases: 394 birds—Australia; 67 mammal skins with 58 skulls and 2 skeletons, 4,787 bird skins—Bolivia; 37 mammals, 354 bird skins, 776 beetles—Brazil; 23 lizards—California; 3 puma skins and skulls—Chile; 71 hawks and owls—Colombia; 90 hawks and owls—Ecuador; 745 insects, 5 millipedes, 8 snakes, 2 sharks—Florida; 67 hawks and owls—India; 1 red fox skin and skull—Indiana; 6 alligator snapping turtles and 6 hatchlings—Louisiana; 26 mammal skulls—Maine; 18 hawks and owls—Manchukuo; 15 mammal skins and 14 skulls, 232 birds, 6 frogs, 26 lizards, 226 snakes—Mexico; 50 bird skins—Paraguay; 115 bats in alcohol, 8 tadpoles, 237 frogs, 6 snakes—Peru; 58 hawks and owls—Somaliland and India; 21 snakes—Texas; 17,448 insects and allies—United States and Mexico; 1 mute swan; 101 bird skins, 50 amphibians, 14 lizards, 26 snakes, 9 turtles—various localities; 15,000 beetles—various parts of the world; 1,049 bird skins—West Africa; 2 wolf skeletons—Wisconsin.

Franzen, Albert J., Chicago: 4 flies—Chicago (gift).

FRIESSER, JULIUS, Chicago: 1 flat-fish—Florida; 4 louse-flies, 1 fresh-water bryozoan—Illinois (gift).

FRIZZELL, MRS. H. E., Negritos, Peru: 1 lizard, 2 snakes—Puira, Peru (gift).

FROMM BROTHERS, Hamburg, Wisconsin: 5 foxes—Hamburg, Wisconsin (gift).

GEMMILL, MRS. EUNICE, Glen Ellyn, Illinois: 1 screech owl—Glen Ellyn, Illinois (gift).

General Biological Supply House, Chicago: 3 injected dogs and cats, 3 injected cat heads; 3 lizards, 18 snakes, 1 crocodilian—South America; 2 beetles, 2 tadpole shrimps—Nevada (gift).

GERHARD, WILLIAM J., Chicago: 51 insects various localities (gift)

GREENE, W. E., Chicago: 1 lizard, 6 snakes, 1 turtle Kinston, Alabama (gift).

GREGG, MAJOR CLIFFORD C., Chicago: 1 dog tick- Indiana (gift).

GREY, MRS. MERIAM, Evanston, Illinois: 66 fishes, 31 marine invertebrates Maryland (gift).

GROSJEAN, MRS. R. O., Fort Wayne, Indiana: 2 mammals - Angola, Indiana

(gift).

GUERET, MRS. E. N., Chicago: 4 osteological specimens, 1 horned toad skeleton (gift).

GUNTER, GORDON, Rockport, Texas: 93 fishes Texas (gift :

HAAS, ERNST B., Chicago: 3 fresh-water snails- Forest Lake, Wisconsin (gift).

HAAS, DR. FRITZ, Chicago: 853 marine invertebrates - Maine (gift). HAAS, DR. GEORG, Jerusalem, Pales-

tine: 1 chameleon - Palestine (gift).

HAAS, ROBERT, Chicago: 6,236 fishes -- McHenry County, Illinois (gift).

HANSON, HAROLD, Chicago: 1 meadow mouse-Wisconsin (gift)

HARTNACK EXTERMINATING SERVICE. INC., Chicago: 14 insects-Chicago (gift).

HERTIG, DR. MARSHALL, Lima, Peru: 2 lizards, 1 snake Peru (gift).

HILDEBRAND, MAJOR R. D., Fort Worth, Texas: 3 duck skeletons Marion County, Texas (gift).

HOOGSTRAAL, DR. HARRY, Urbana. Illinois: 1 larval salamander—Illinois; 1 snake Florida; 2 beetles—Maine (gift); 40 insects-Cuba and Mexico exchange).

HUBRICHT, LESLIE, St. Louis, Missouri: 6 cave salamanders Missouri; 4 salamanders, 1 frog, 9 lizards various localities; 936 fresh-water snails Ozark Mountains, Missouri and Arkansas (gift).

HUFF, DR. CLAY G., Chicago: 2 blue grouse skins-Montana (gift).

HUNLEY, CABLTON, Thomasville, Georgia: 2 frogs, 1 toad, 1 snake, 1 young turtle Georgia gift .

HUNTER, REV. ELLWOOD BRUCE, Pacific Grove, California: 1 chiton-Monterey Peninsula, California (gift).

ILLINOIS DEPARTMENT OF CONSER-VATION, Springfield, Illinois: 3 snakes-Illinois (gift).

ILLINOIS STATE NATURAL HISTORY SURVEY, Urbana, Illinois: 2 chalcidflies Illinois (gift).

INGER, ROBERT, University City, Missouri: 1 gecko-Hawaii (gift).

Instituto Butantan, São Paulo, Brazil: 21 coral snakes--Brazil (gift).

IRELAND, MRS. W. A., Chicago: 10 ticks- Chicago (gift).

JANACEK, JOHN J., Berwyn, Illinois: 27 insects-Chicago (gift).

JELLISON, W. L., Hamilton, Montana: 1 flea-Alaska (gift).

JENNINGS, J. F., Chicago: 1 mountain lion skull-Utah (gift).

JOHNSON, J. E., JR., Waco, Texas: 11 snakes—Texas (gift).

JOHNSON, DR. MURRAY L., Balti-more, Maryland: 2 salamanders Washington gift .

KAUFFELD, CARL F., Staten Island, New York: 2 timber rattlesnakeseastern United States; 4 slides of snake tongue scarfs (gift).

KANAK, E. W., Chicago: 1 hairworm -- Chicago (gift).

KELLOGG, ROBERT, Milton Township, Illinois: 12 salamanders, 4 frogs, 1 lizard, 13 snakes—Canada (gift).

KRAHL, REV. ADOLPH M., Yuma, Arizona: 2 rattlesnakes, 3 scorpions— Arizona and California (gift).

KRAMER, THOMAS, Harvey, Illinois: 1 fox squirrel-Homewood, Illinois (exchange).

KURFESS, JOHN, Hinsdale, Illinois: 9 snakes-various localities (gift).

LABONTE, JOHN, Chicago: 1 horned grebe skin Indiana; 1 beetle Chicago -gift .

LAMBERT, RONALD J., Zion, Illinois: 1 spider—Zion, Illinois (gift).

LILJEBLAD, EMIL, Villa Park, Illinois: 2,409 insects California (gift).

LINCOLN PARK Zoo, Chicago: 2 mammals, 1 bird skeleton, 2 skinks, 1 frog, 3 snakes, 1 tortoise, 20 turtle eggs, 1 crocodile various localities (gift).

LINCOLN SCHOOL, Highland Park, Illinois: 1 wren, 2 bird skeletons-Highland Park, Illinois (gift .

LIV. HENRY and DELZIE DEMAREE. Hot Springs, Arkansas: 5 snakes, 1 box-turtle - Ashley County, Arkansas (gift).

LUETH, F. X., Springfield, Illinois: 1 fox snake -- Illinois (gift).

McElvare, Rowland R., Long Island, New York: 10 beetles—California (gift).

MALDONADO, PROFESSOR ANGEL, Lima, Peru: 31 fresh-water snails, 49 fairy shrimps-western Peru (gift).

MARIA, BROTHER NICÉFORO, Bogotá, Colombia: 7 bats, skins and skulls, 65 bats in alcohol—Colombia (exchange).

MARTIN, RICHARD A., Wheatfield, Indiana: 1 bull snake—Wheatfield, Indiana (gift).

MARVIN, HORACE M., Madison, Wisconsin: 1 garter snake-Wisconsin (gift).

MATHER, BRYANT, Chicago: 1 snapping turtle-Illinois (gift).

MEADE, GRAYSON, Austin, Texas: 14 lizards, 1 snake—Texas (gift).

MILLER, GEORGE T., South Bend, Indiana: 5 insects—Wyoming (gift).

MOORE, PROFESSOR G. A., Stillwater, Oklahoma: 12 salamanders-Oklahoma (gift).

MOYER, JOHN W., Chicago: 3 birds— Illinois (gift).

MUSEUM OF COMPARATIVE ZOOLOGY Cambridge, Massachusetts: 2 mammal skins and skeletons, 3 mammal skeletons, 1 lemur in alcohol-various localities; 3 frogs-Peru (exchange).

MUSSELMAN, DR. T. E., Quincy, Illinois: 2 albino English sparrows-Illinois (gift).

NEEDHAM, DR. JAMES G., Ithaca, New York: 131 insects—various localities (exchange).

OLALLA, A. M., São Paulo, Brazil: 43 birds—São Paulo, Brazil (exchange).

OWENS, DAVID W., Flossmoor, Illinois: 4 frogs, 1 box-turtle-Illinois (gift).

PATTERSON, BRYAN, Chicago: 1 red bat—Chicago; 31 fleas—Colorado (gift).

PERKINS, C. B., San Diego, California: 5 garter snakes-California (gift).

PLATH, KARL, Chicago: 1 rifle bird-Australia (exchange).

POND, ALONZO W., Blue Mounds, Wisconsin: 3 vials of springtails-Blue Mounds, Wisconsin (gift).

POPE, ALEXANDER, Winnetka, Illinois: 1 queen snake—Wisconsin (gift).

POPE, CLIFFORD H. and FAMILY, Winnetka, Illinois: 18 frogs, 14 lizards, 6 snakes, 19 turtles-Illinois and Indiana (gift).

POULTER, DR. THOMAS, Chicago: 1 penguin, 4 penguin skeletons—Antarctica (gift); 1 ringed penguin-Antarctica (exchange).

RAHN, DR. HERMANN, Laramie, Wyoming: 2 prairie rattlesnakes-Wyoming (gift).

RAMSTADT, HENRY, Chicago: 28 insects—Wisconsin and Florida (gift).

REED, CLYDE T., Gregory, Texas: 153 fishes—Texas (gift).

ROCKEFELLER FOUNDATION, Washington, D.C.: 11 birds—Brazil (gift).

RUECKERT, ARTHUR G., Chicago: 1 lovebird-Africa (gift).

Rueckert, Mrs. Arthur G., Chicago: 2 grasshoppers—Florida (gift).

SCHMIDT, JOHN M., Homewood, Illinois: 29 mammal skins and 34 skulls, 4 mammal skeletons, 2 bats in alcohol, 2 garter snakes—Colorado (gift).

SCHMIDT, KARL P., Homewood, Illinois: 13 bats, 2 bat skeletons, 1 armadillo skull—Texas; 1 marmot skin and skull—Colorado; 2 snakes—Florida; 21 insects—various localities (gift).

SCHMIDT, KARL P., Homewood, Illinois, and D. DWIGHT DAVIS, Naperville, Illinois: 8 snakes, 1 turtle-various localities (gift).

SCHREIBER, JACK, Chicago: 53 bird lice-various localities (gift).

SEEVERS, DR. CHARLES H., Chicago: 169 insects—various localities (gift).

SHAW, DONALD, Homewood, Illinois: 1 fox snake—Illinois (gift).

SHEDD AQUARIUM, JOHN G., Chicago: 2 turtles, 178 fishes—various localities (gift).

SIGISMUND OF PRUSSIA, PRINCESS, Barranca, Costa Rica: 1 bat in alcohol, 1 gecko, 6 snakes—Costa Rica (gift).

SILVANUS, RAYMOND J., Libertyville, Illinois: 1 chimney swift—Libertyville, Illinois (gift).

SIMPSON, JAMES, JR., Chicago: 1 mounted wild sheep head-central Asia (gift).

SMITH, DR. C. S., San Marcos, Texas: 4 snakes—Texas (gift).

SMITH, DONALD M., Chicago: 205 insects—northwestern United States (gift).

SORENSEN, ANDREW, Pacific Grove, California: 3 marine shells-California Soukur, Professor J., Lima, Peru: 970 insects Europe and Peru (gift).

SPRINGER, STEWART, Islamorada, Florida: 1 coral snake—Florida (gift).

SPUBLING, M. B., Chicago: 4 beetles Chicago (gift).

STANDLEY, PAUL C., Chicago: 23 marine shells - Florida; 13 fresh-water shells - Illinois (gift).

STANFORD UNIVERSITY, California: 4 marine bivalves including 2 paratypes California (exchange).

STATE PARK BOARD OF MISSOURI, Sullivan, Missouri: 1 pine mouse— Missouri (gift).

STEYERMARK, DR. JULIAN A., Barrington, Illinois: 37 fishes—various localities (gift).

STOPFORD, WILLIAM, COMPANY, Beverly, Massachusetts: 1 mackerel jaw-bone (gift).

STROHECKER, DR. H. F., Gambier, Ohio: 1 salamander—Gambier, Ohio (gift).

TEXAS CO-OPERATIVE WILD LIFE RESEARCH UNIT, College Station, Texas: 30 small mammals—Mexico (exchange).

TRENKER, FRANK, Chicago: abnormal pig skull and leg bones (gift).

ULRICH, GLENN, Western Springs, Illinois: 2 snakes—Illinois and Louisiana (gift). UNITED STATES NATIONAL MUSEUM, Washington, D.C.: 20 lizards—Mexico exchange.

University of California Museum of Vertebrate Zoology, Berkeley, California: 4 kangaroo mice— Nevada (gift).

VATTER, ALBERT, Glenview, Illinois: 1 snake Glenview, Illinois (gift).

WALTERS, LEON L., Chicago: 1 silverhaired bat-Homewood, Illinois (gift).

WEED, ALFRED C., Chicago: 2 trout skeletons, 7 spiders, 12 shells—various localities (gift).

WENCEL, DR. P., Peru, Illinois: 1 gray fox skin and skull Illinois (exchange).

WENZEL, RUPERT L., Chicago: 1,147 insects and allies various localities egifts.

WILLIM, PEDRO, Paraguay: 2 bird skins—Paraguay (gift).

WOLCOTT, ALBERT B., Downers Grove, Illinois: 7 beetles—Downers Grove, Illinois (gift).

Woods, Loren P., Chicago: 2,174 fishes—Illinois (gift).

WYATT, ALEX K., Chicago: 6 insects—various localities (gift).

ZARATE, ADOLFO ORTIZ DE, Najera, Spain: 67 land shells, 4 anatomical preparations, 2 microscope slides—Spain (gift).

RAYMOND FOUNDATION-ACCESSIONS

AMERICAN MUSEUM OF NATURAL HISTORY, New York: 18 slides (purchase).

FIELD MUSEUM OF NATURAL HISTORY: Made by Division of Photography: 391 slides.

Purchase: 324 slides of color photographs.

MOYER, JOHN W., Chicago: 47 slides of color photographs (gift).

NATIONAL GEOGRAPHIC SOCIETY: 9 slides (purchase).

YULE, ROBERT, Chicago: 16 slides of color photographs (gift).

DIVISION OF PHOTOGRAPHY—ACCESSIONS

FIELD MUSEUM OF NATURAL HISTORY: Made by Division of Photography: 8,290 prints, 2,748 negatives, 445 lantern slides, 228 enlargements, 32 transparent labels, 11 transparencies.

Made by Emmet R. Blake and Karl P. Schmidt: 77 negatives of general views and landscapes in Guatemala.

Made by Dr. Paul S. Martin: 76 negatives of general views photographed at SU site excavations in New Mexico.

Made by Dr. Wilfred H. Osgood: 92 negatives of general views and landscapes in Chile.

MILLAR, JOHN R., Chicago: A negative of the Agate slab of fossils in matrix, from Agate Springs, Nebraska (gift).

NICHOLS, HENRY W., Chicago: 5 negatives of views of geological features of Wisconsin Dells, Wisconsin, and 3 negatives of an ice rampart on the north shore of Fox Lake, Lake County, Illinois (gift).

LIBRARY—ACCESSIONS

List of Donors of Books

INSTITUTIONS

Abendpost, Chicago.

American Meteorological Society, Milton, Massachusetts.

American Museum of Health, New York.

American Petroleum Institute, New York.

Americana Corporation, New York.

Antiquities Service and Museums,

Khartoum, Anglo-Egyptian Sudan. Army and Navy Y.M.C.A., Waukegan, Illinois.

Booth Felt Company, New York.

Bucks County Historical Society, Doylestown, Pennsylvania.

Carnegie Institution, Washington, D.C. Chester Company Mushroom Laboratories, West Chester, Pennsylvania.

Chilean Bibliographic News Service, Santiago, Chile.

Colegio Berchmans, Cali, Colombia. Columbia Broadcasting System, New York.

Conoco Travel Bureau, Chicago.

Excavators' Club, Cambridge, Massa-chusetts.

Instituto Tecnico Henequeno, Merida, Yucatan, Mexico.

Madras Government Botanic Gardens Ootacamund, Madras, India.

Massachusetts Archaeological Society, Cambridge, Massachusetts.

Mentholatum Company, Wilmington, Delaware.

 ${\bf Metropolitan\ Museum\ of\ Art,\ New\ York.}$

National Association of Manufacturers, New York.

New York Municipal Airport, Long Island, New York.

Park Naturalists' Conference, Washington, D.C.

Pemez Travel Club, Mexico City, Mexico.

Pioneer Valley Association, Northampton, Massachusetts.

United States Rubber Company, New York.

INDIVIDUALS

Acosta Solis, M., Quito, Ecuador. Arento, George, New York.

Baerg, W. J., Fayetteville, Arkansas. Bondar, Dr. Gregorio, Bahia, Brazil.

Born, W., St. Louis, Missouri. Brand, Charles J., Washington, D.C. Bucher, Walter H., Cincinnati, Ohio. Buffo, Guido, Buenos Aires, Argentina.

Cawston, F., Durban, Natal, Union of South Africa.

Coleman, Miss Dorothy G., Victoria, Australia.

Comas, Juan, Mexico City, Mexico. Conover, Boardman, Chicago.

Davis, D. Dwight, Naperville, Illinois. Deiss, Charles, Missoula, Montana.

Dillon, Lawrence S., Reading, Pennsylvania.

Duncan, Wilbur H., Athens, Georgia.

Eichler, Dr. Philip, New York.

Fairbank, Mrs. John King, Cambridge, Massachusetts.

Farley, Mrs. Malcolm, Chicago. Field, Dr. Henry, Washington, D.C.

Field, Stanley, Lake Forest, Illinois.

Field, Mrs. Stanley, Lake Forest, Illinois.

Garcia Mendez, Erasmo, São Paulo, Brazil.

Geiser, S. W., Dallas, Texas.

Gerhard, Peter, Winnetka, Illinois.

Gerhard, William J., Chicago.

Gladstone, Sir Hugh, Dumfriesshire, England.

Gleason, F. Gilbert, New York.

Gloyd, H. K., Chicago.

Gregg, Major Clifford C., Chicago.

Gronemann, Carl F., Elgin, Illinois.

Gunter, Gordon, Rockport, Texas.

Gurney, Ashley Buell, Washington, D.C.

448 FIELD MUSEUM OF NATURAL HISTORY REPORTS, Vol. 12

Haas, Dr. Fritz, Chicago.

Haas, Dr. Otto, New York.

Hachisuka, Marquess, Tokyo, Japan.

Hack, John T., Hempstead, New York. Hambly, Dr. Wilfrid D., Chicago.

Harper, Dr. Francis, Swarthmore, Pennsylvania.

Hawley, Miss Florence, Chicago,

Hermanson, Miss Helen, Chicago.

Herpers, Lieutenant Henry, Short Hills, New Jersey.

Hoffman, A. C., Bloemfontein, South Africa.

Hovavitz, William, Pasadena, California.

Howell, John Thomas, San Francisco, California.

Hubbard, J. R., Topeka, Kansas. Hyland, Fay, Orono, Maine.

Kearney, T. H., Washington, D.C. Kelso, Leon, Washington, D.C.

Leuth, Francis, Springfield, Illinois. Liljeblad, Emil, Villa Park, Illinois. Littell, J. McGregor, Mount Arlington, New Jersey.

McCauley, Robert Henry, Jr., Plainfield, Vermont.

Marelli, Dr. Carlos A., LaPlata, Argentina.

Marshall, Miss Ruth, Wisconsin Dells, Wisconsin.

Mather, Bryant, Chicago.

Millar, John R., Chicago.

Moyer, John W., Chicago.

Necker, Walter, Chicago. Nichols, Henry W., Chicago.

Nobre, Augusto, Oporto, Portugal.

Norris, H. W., Grinnell, Iowa. Nott, Stanley Charles, Palm Beach,

Florida.

Oliverio Pinto, Oliverio M. de, São Paulo, Brazil.

Osgood, Dr. Wilfred Hudson, Chicago,

Phelps, W. J., Caracas, Venezuela. Pope, Clifford H., Chicago,

Reed, H. S., Berkeley, California. Riggs, Elmer S., Chicago.

Schmidt, Karl P., Homewood, Illinois. Schultes, Richard Evans, Cambridge, Massachusetts.

Seevers, Dr. Charles H., Chicago.

Sonnenschein, Mrs. Robert, Chicago. Standley, Paul C., Chicago.

Standley, Faul C., Unicago.

Steyermark, Dr. Julian A., Barrington, Illinois.

Stiles, Karl A., Cedar Rapids, Iowa.Switzer, George, New Haven, Connecticut.

Tamayo, Francisco, Caracas, Venezuela.

Uribe, Lorenzo, Bogotá, Colombia.

Van Cott, Kenneth I., New York. Vargas, Dr. Luis, Mexico City, Mexico. Vasquez, Alfredo Barrera, Merida, Yucatan, Mexico.

Wenzel, Rupert L., Chicago.

Wilbur, Dr. C. Martin, Chicago.

Willis, Bailey, Stanford University, California.

Wolcott, Albert B., Chicago.

Wood, Miss Miriam, Chicago.

Woods, Loren P., Chicago.

Wyatt, Alexander K., Chicago.

Zamenhof, Dr. Stephen, New York.

ARTICLES OF INCORPORATION

STATE OF ILLINOIS

DEPARTMENT OF STATE

WILLIAM H. HINRICHSEN, Secretary of State

To All to Whom These Presents Shall Come, Greeting:

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

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

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

W. H. HINRICHSEN.

[SEAL]

Secretary of State.

TO HON. WILLIAM H. HINRICHSEN,

SECRETARY OF STATE:

SIR:

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

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

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

The management of the aforesaid museum shall be vested in a Board of

FIFTEEN (15) TRUSTEES, five of whom are to be elected every year.

4. The following named persons are hereby selected as the Trustees for the

first year of its corporate existence:

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

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

(Signed)

George E. Adams, C. B. Farwell, Sidney C. Eastman, F. W. Putnam, Robert McCurdy, Andrew Peterson, L. J. Gage, Charles L. Hutchinson, Ebenezer Buckingham, Andrew McNally, Edward E. Ayer, John M. Clark, Herman H. Kohlsaat, George Schneider, Henry H. Getty, William R. Harper, Franklin H. Head, E. G. Keith, J. Irving Pearce, Azel F. Hatch, Henry Wade Rogers,

450 FIELD MUSEUM OF NATURAL HISTORY REPORTS, Vol. 12

Thomas B Bryan, L Z. Leiter, A. C. Bartlett, A. A. Sprague, A. C. McClurg, James W. Scott, Geo. F. Bissell, John R. Walch, Char. Fitzsimmons, John A. Roche, E. B. McCagg, Owen F. Aldis, Ferdinand W. Peck, James H. Dole, Joseph Stockton, Edward B. Butler, John McConnell, R. A. Waller, H. C. Chatfield-Taylor, A. Crawford, Wm. Sooy Smith, P. S. Peterson, John C. Black, Jno. J. Mitchell, C. F. Gunther, George R. Davis, Stephen A. Forbes, Robert W. Patterson, Jr., M. C. Bullock, Edwin Walker, George M. Pullman, William E. Curtis, James W. Ellsworth, William E. Hale, Wm. T. Baker, Martin A. Ryerson, Huntington W. Jackson, N. B. Ream, Norman Williams, Melville E. Stone, Bryan Lathrop, Eliphalet W. Blatchford, Philip D. Armour, State of Illinois.

COOK COUNTY

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

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

G. R. MITCHELL,

[SEAL]

NOTARY PUBLIC, COOK COUNTY, ILL.

CHANGE OF NAME

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

CHANGE OF NAME

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

CHANGE IN ARTICLE 3

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

AMENDED BY-LAWS

DECEMBER, 1941

ARTICLE I

MEMBERS

SECTION 1. Members shall be of twelve classes, Corporate Members, Honorary Members, Patrons, Corresponding Members, Benefactors, Contributors, Life Members, Non-Resident Life Members, Associate Members, Non-Resident Associate Members, Sustaining Members, and Annual Members.

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

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

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

SECTION 5. Any person contributing or devising the sum of One Hundred Thousand Dollars (\$100,000.00) in cash, or securities, or property to the funds of the Museum, may be elected a Benefactor of the Museum.

SECTION 6. Corresponding Members shall be chosen by the Board from among scientists or patrons of science residing in foreign countries, who render important service to the Museum. They shall be elected by the Board of Trustees at any of its meetings. They shall be exempt from all dues and shall enjoy all courtesies of the Museum.

SECTION 7. Any person contributing to the Museum One Thousand Dollars (\$1,000.00) or more in cash, securities, or material, may be elected a Contributor of the Museum. Contributors shall be exempt from all dues and shall enjoy all courtesies of the Museum.

SECTION 8. Any person paying into the treasury the sum of Five Hundred Dollars (\$500.00) at any one time, shall, upon the unanimous vote of the Board, become a Life Member. Life Members shall be exempt from all dues, and shall enjoy all the privileges and courtesies of the Museum that are accorded to members of the Board of Trustees. Any person residing fifty miles or more from the city of Chicago, paying into the treasury the sum of One Hundred Dollars (\$100.00) at any one time, shall, upon the unanimous vote of the Board, become a Non-Resident Life Member. Non-Resident Life Members shall be exempt from all dues, and shall enjoy all the privileges and courtesies of the Museum that are accorded to members of the Board of Trustees.

SECTION 9. Any person paying into the treasury of the Museum the sum of One Hundred Dollars (\$100.00) at any one time, shall, upon the vote of the Board, become an Associate Member. Associate Members shall be exempt from all dues, and shall be entitled to tickets admitting Member and members of family, including non-resident home guests; all publications of the Museum issued during the period of their membership, if so desired; reserved seats for all lectures and enter-

tare ment, under the ampices of the Museum, provided reservation is requested in advance, and admission of holder of member hip and accompanying party to all special exhibits and Museum functions day or evening. Any person residing fifty miles or more from the city of Chicago, paying into the treasury the sum of Fifty Dollar. \$50.00 at any one time, shall, upon the unanimous vote of the Board, become a Non-Resident Associate Member. Non-Resident Associate Members shall be exempt from all dues, and shall enjoy all the privileges and courtesies of the Museum that are accorded to Associate Members.

SECTION 10. Sustaining Members shall consist of such persons as are selected from time to time by the Board of Trustees at any of its meetings, and who shall pay an annual fee of Twenty-five Dollars (\$25.00), payable within thirty days after notice of election and within thirty days after each recurring annual date. This Sustaining Membership entitles the member to free admission for the Member and family to the Museum on any day, the Annual Report and such other Museum documents or publications issued during the period of their membership as may be requested in writing. When a Sustaining Member has paid the annual fee of \$25.00 for six years, such Member shall be entitled to become an Associate Member.

SECTION 11. Annual Members shall consist of such persons as are selected from time to time by the Board of Trustees at any of its meetings, and who shall pay an annual fee of Ten Dollars. \$10,00°, payable within thirty days after each recurring annual date. An Annual Membership shall entitle the Member to a card of admission for the Member and family during all hours when the Museum is open to the public, and free admission for the Member and family to all Museum lectures or entertainments. This membership will also entitle the holder to the courtesies of the membership privileges of every Museum of note in the United States and Canada, so long as the existing system of co-operative interchange of membership tickets shall be maintained, including tickets for any lectures given under the auspices of any of the Museums during a visit to the cities in which the co-operative museums are located.

SECTION 12. All membership fees, excepting Sustaining and Annual, shall hereafter be applied to a permanent Membership Endowment Fund, the interest only of which shall be applied for the use of the Museum as the Board of Trustees may order.

ARTICLE II BOARD OF TRUSTEES

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

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

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

ARTICLE III HONORARY TRUSTEES

SECTION 1. As a mark of respect, and in appreciation of services performed for the Institution, any Trustee who by reason of inability, on account of change of residence, or for other cause or from indisposition to serve longer in such capacity shall resign his place upon the Board, may be elected, by a majority of those present at any regular meeting of the Board, an Honorary Trustee for life. Such Honorary Trustee will receive notice of all meetings of the Board of Trustees, whether regular or special, and will be expected to be present at all such meetings

and participate in the deliberations thereof, but an Honorary Trustee shall not have the right to vote.

ARTICLE IV

OFFICERS

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

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

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

ARTICLE V THE TREASURER

Section 1. The Treasurer shall be custodian of the funds of the Corporation except as hereinafter provided. He shall make disbursements only upon warrants drawn by the Director and countersigned by the President. In the absence or inability of the Director, warrants may be signed by the Chairman of the Finance Committee, and in the absence or inability of the President, may be countersigned by one of the Vice-Presidents, or any member of the Finance Committee.

Section 2. The securities and muniments of title belonging to the corporation shall be placed in the custody of some Trust Company of Chicago to be designated by the Board of Trustees, which Trust Company shall collect the income and principal of said securities as the same become due, and pay same to the Treasurer, except as hereinafter provided. Said Trust Company shall allow access to and deliver any or all securities or muniments of title to the joint order of the following officers, namely: the President or one of the Vice-Presidents, jointly with the Chairman, or one of the Vice-Chairmen, of the Finance Committee of the Museum. The President or any one of the Vice-Presidents, jointly with either the Chairman or any one of the other members of the Finance Committee, are authorized and empowered (a) to sell, assign and transfer as a whole or in part the securities owned by or registered in the name of Field Museum of Natural History, and, for that purpose, to endorse certificates in blank or to a named person, appoint one or more attorneys, and execute such other instruments as may be necessary, and (b) to cause any securities belonging to this Corporation now, or acquired in the future, to be held or registered in the name or names of a nominee or nominees designated by them.

SECTION 3. The Treasurer shall give bond in such amount, and with such

sureties as shall be approved by the Board of Trustees.

SECTION 4. The Harris Trust & Savings Bank of Chicago shall be Custodian of "The N. W. Harris Public School Extension of Field Museum" fund. The bank shall make disbursements only upon warrants drawn by the Director and countersigned by the President. In the absence or inability of the Director, warrants may be signed by the Chairman of the Finance Committee, and in the absence or inability of the President, may be countersigned by one of the Vice-Presidents, or any member of the Finance Committee.

ARTICLE VI

SECTION 1. The Board of Trustees shall elect a Director of the Museum, who shall remain in office until his successor shall be elected. He shall have im-

mediate charge and supervision of the Museum, and shall control the operations of the Ir statuture, subject to the authority of the Board of Trustees and its Committees. The Director shall be the official medium of communication between the Board, or its Committees, and the scientific staff and maintenance force,

SECTION 2. There shall be four vertile Departments of the Museum Authropology, Botany, Goology, and Z. Jogy, each under the charge of a Chief Curator, subject to the authority of the Director. The Chief Curators shall be appointed by the Board upon the resimmer dation of the Director, and shall serve during the pleasure of the Board Substitute taff officers in the scientific Department. shall be appointed and remove its the Director upon the recommendation of the Chief Curators of the respective Departments. The Director shall have authority to employ and remove all other employees of the Museum.

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

in such number as the Board may direct.

ARTICLE VII THE AUDITOR

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

ARTICLE VIII COMMITTEES

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

SECTION 2. The Finance Committee shall consist of six members, the Auditing and Person Committee shall each on 1st of three members, and the Building Committee shall consist of five members. All members of these four Committees shall be elected by ball it by the Board at the Annual Meeting, and shall hold office for one year, and until their successors are elected and quali-In electing the member of the e Committees, the Board shall designate the Chairman and Vice-Chairman by the order in which the members are named in the respective Committee, the first member named shall be Chairman, the second named the Vice-Chairman, and the third named, Second Vice-Chairman, succession to the Chairmanship being in this order in the event of the absence or disability of the Chairman.

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

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

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

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

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

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

have taken place.

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

SECTION 10. The Chairman of each Committee shall report the acts and

proceedings thereof at the next ensuing regular meeting of the Board.

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

ARTICLE IX

NOMINATING COMMITTEE

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

ARTICLE X

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

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

FOUNDER

Marshall Field.

BENEFACTORS

Those who have contributed \$100,000 or more to the Museum

Ayer, Edward E.*

Buckingham, Miss Kate S.*

Crane, Cornelius Crane, R. T., Jr.

Field, Joseph N.* Field, Marshall Field, Stanley

Graham, Ernest R.*

* []ECRASED

Harris, Albert W. Harris, Norman W.* Higinbotham, Harlow N.*

Kelley, William V.

Pullman, George M.*

Raymond, Mrs. Anna Louise Raymond, James Nelson* Ryerson, Martin A.* Ryerson, Mrs. Martin A.*

Simpson, James'
Smith, Mrs. Frances
Gaylord'
Smith, George T.'
Sturges, Mrs. Mary D.'
Suarez, Mrs. Diego

HONORARY MEMBERS

Those who have rendered eminent service to Science

Cutting, C. Suydam

Field, Marshall Field, Stanley

Harris, Albert W.

Ludwig, H. R. H. Gustaf Adolf, Crown Prince of

Sweden

McCormick, Stanley

Roosevelt, Kermit

Roosevelt, Theodore

Sargent, Homer E. Sprague, Albert A. Suarez, Mrs. Diego

Vernay, Arthur S.

PATRONS

Those who have rendered eminent service to the Museum

Calderini, Charles J. Chadbourne, Mrs. Emily Crane

Chancellor, Philip M. Cherrie, George K.

Collins, Alfred M. Conover, Boardman

Cutting, C. Suydam Day, Lee Garnett Ellsworth, Duncan S.

Field, Mrs. Stanley

Hack, Frederick C. Hancock, G. Allan

Kennedy, Vernon Shaw Knight, Charles R.

Moore, Mrs. William H.

Probst, Edward

Roosevelt, Kermit Roosevelt, Theodore

Sargent, Homer E. Sprague, Albert A. Straus, Mrs. Oscar Strawn, Silas H. Suarez, Mrs. Diego

Vernay, Arthur S. White, Harold A.

DECEMBED, 1941

Armour, Allison V.

Wegeforth, Dr. Harry M.

CORRESPONDING MEMBERS

Scientists or patrons of science, residing in foreign countries, who have rendered eminent service to the Museum

Breuil, Abbé Henri Christensen, Dr. Carl Diels, Dr. Ludwig

Hochreutiner, Dr. B. P. Georges Humbert, Professor Henri Keissler, Dr. Karl Keith, Professor Sir Arthur

CONTRIBUTORS

Those who have contributed \$1,000 to \$100,000 to the Museum in money or materials

\$75,000 to \$100,000

Chancellor, Philip M.

\$50,000 to \$75,000

Keep, Chauncey*

Rosenwald, Mrs. Augusta N.*

\$25,000 to \$50,000

Adams, Mrs. Edith Almy*

Blackstone, Mrs. Timothy B.*

Coats, John* Crane, Charles R.* Crane, Mrs. R. T., Jr.

Field, Mrs. Stanley

Jones, Arthur B.*

Murphy, Walter P.

Porter, George F.*
Rosenwald, Julius*

Vernay, Arthur S.

White, Harold A.

\$10,000 to \$25,000

Armour, Allison V.* Armour, P. D.*

Chadbourne, Mrs. Emily Crane Chalmers, William J.* Conover, Boardman Cummings, R. F.* Cutting, C. Suydam

* DECEASED

Everard, R. T.*

Gunsaulus, Dr. F. W.*

Insull, Samuel*

Laufer, Dr. Berthold* Lufkin, Wallace W.

Mandel, Leon McCormick, Cyrus (Estate) McCormick, Stanley Mitchell, John J.*

Reese, Lewis*
Robb, Mrs. George W.
Rockefeller Foundation,
The

Sargent, Homer E. Schweppe, Mrs. Charles H.* Straus, Mrs. Oscar Strong, Walter A.*

Wrigley, William, Jr.*

\$5,000 to \$10,000

Adams, George E.* Adams, Milward* American Friends of China Avery, Sewell L.

Bartlett, A. C.* Bishop, Heber (Estate) Borland, Mrs. John Jay*

Crane, R. T.*

Doane, J. W.*

Field, Dr. Henry Fuller, William A.*

Graves, George Coe, II*

Harris, Hayden B. Harris, Norman Dwight Harris, Mrs. Norman W.* Hutchinson, C. L.*

Keith, Edson*

Langtry, J. C.

MacLean, Mrs. M. Haddon Moore, Mrs. William H.

Payne, John Barton* Pearsons, D. K.* Porter, H. H.*

Ream, Norman B.* Revell, Alexander H.*

Salie, Prince M. U. M. Sprague, A. A.* Storey, William Benson* Strawn, Silas H.

Thorne, Bruce Tree, Lambert*

\$1,000 to \$5,000

Avery, Miss Clara A.* Ayer, Mrs. Edward E.*

Barrett, Samuel E.* Bensabott, R., Inc. Bishop, Dr. Louis B. Blair, Watson F.* Blaschke, Stanley Field

Block, Mrs. Helen M.* Borden, John

Chalmers, Mrs.
William J.*
Chicago Zoological
Society, The

458 FIELD MUSEUM OF NATURAL HISTORY REPORTS, Vol. 12

Crocker, Templeton Cummings, Mrs. Robert F.*

Doering, O. C.

Fish, Mrs. Frederick S.

Graves, Henry, Jr. Gunsaulus, Miss Helen

Hibbard, W. G.*
Higginson, Mrs.
Charles M.*
Hill, James J.*
Hixon, Frank P.*
Hoffman, Miss Malvina
Hughes, Thomas S.

Jackson, Huntington W.*
James, F. G.
James, S. L.

· DECEASED

Knickerbocker, Charles K.*

Lee Ling Yun Lerner, Michael Look, Alfred A.

Mandel, Fred L., Jr.
Manierre, George*
Martin, Alfred T.*
McCormick, Cyrus H.*
McCormick, Mrs. Cyrus*
Mitchell, Clarence B.

Ogden, Mrs. Frances E. Osgood, Dr. Wilfred H.

Palmer, Potter Patten, Henry J. Prentice, Mrs. Clarence C. Rauchfuss, Charles F.* Raymond, Charles E.* Reynolds, Earle H. Rumely, William N.*

Schwab, Martin C. Schweppe, Charles H.* Shaw, William W. Sherff, Dr. Earl E. Smith, Byron L.* Sprague, Albert A.

Thompson, E. H.*
Thorne, Mrs. Louise E.

VanValzah, Dr. Robert VonFrantzius, Fritz*

Wheeler, Leslie* Willis, L. M.

CORPORATE MEMBERS

Armour, Lester Avery, Sewell L.

Blair, W. McCormick Block, Leopold E. Borden, John

Calderini, Charles J.
Chadbourne, Mrs. Emily
Crane
Chancellor, Philip M.
Chatfield-Taylor, H. C.
Cherrie, George K.
Collins, Alfred M.
Conover, Boardman
Cummings, Walter J.
Cutting, C. Suydam

Day, Lee Garnett Dick, Albert B., Jr.

Armour, Allison V.

Ellsworth, Duncan S.

Fenton, Howard W. Field, Joseph N. Field, Marshall Field, Stanley Field, Mrs. Stanley

Hack, Frederick C. Hancock, G. Allan Harris, Albert W.

Insull, Samuel, Jr.

Kennedy, Vernon Shaw Knight, Charles R.

McCulloch, Charles A. Mitchell, William H. Moore, Mrs. William H.

DECEASED, 1941 Byram, Harry E. Probst, Edward

Richardson, George A. Roosevelt, Kermit Roosevelt, Theodore

Sargent, Homer E. Smith, Solomon A. Sprague, Albert A. Straus, Mrs. Oscar Strawn, Silas H. Suarez, Mrs. Diego

Vernay, Arthur S.

Wetten, Albert H. White, Harold A. Wilson, John P.

Wegeforth, Dr. Harry M.

LIFE MEMBERS

Those who have contributed \$500 to the Museum

Abbott, John Jay Adler, Max Allerton, Robert H. Ames, James C. Armour, A. Watson Armour, Lester Armour, Mrs. Ogden Ascoli, Mrs. Max Asher, Louis E. Avery, Sewell L.

Babson, Henry B.
Bacon, Edward
Richardsen, Jr.
Banks, Alexander F.
Barnhart, Miss
Gracia M. F.

Barrett, Mrs. A. D.
Barrett, Robert L.
Bartlett, Miss Florence
Dibell
Baur, Mrs. Jacob
Bendix, Vincent
Bensabott, R.
Bermingham, Edward J.

Blaine, Mrs. Emmons

Blair, Chauncey B.
Block, Leopold E.
Block, Philip D.
Booth, W. Vernon
Borden, John
Borland, Chauncey B.
Brassert, Herman A.
Brewster, Walter S.
Brown, Charles
Edward

Browne, Aldis J. Buchanan, D. W. Budd, Britton I. Burnham, John Burt, William G. Butler, Julius W. Butler, Rush C.

Carpenter, Augustus A. Carpenter, Mrs. Hubbard Carpenter, Mrs. John Alden

Carr, George R.
Carr, Robert F.
Carr, Walter S.
Casalis, Mrs. Maurice
Chatfield-Taylor, Wayne
Clark, Eugene B.
Clegg, William G.
Clegg, Mrs. William G.
Clow, William E.
Collins, William M.
Conover, Boardman
Cook, Mrs.

Daphne Field
Corley, F. D.
Cramer, Corwith
Crossett, Edward C.
Crossley, Lady Josephine
Crossley, Sir Kenneth
Crowell, H. P.
Cudahy, Edward A., Jr.
Cudahy, Joseph M.
Cummings, Walter J.
Cunningham, James D.
Cushing, Charles G.

Dawes, Charles G.
Dawes, Henry M.
Decker, Alfred
Delano, Frederic A.
Dick, Albert B., Jr.
Dierssen, Ferdinand W.
Dixon, Homer L.
Donnelley, Thomas E.
Doyle, Edward J.
Drake, John B.
Durand, Scott S.

Edmunds, Philip S. Ely, Mrs. C. Morse Epstein, Max Ewing, Charles Hull

Farnum, Henry W.
Farr, Newton Camp
Farr, Miss Shirley
Farwell, Arthur L.
Farwell, John V.
Farwell, Walter
Fay, C. N.
Fenton, Howard W.
Fentress, Calvin
Fernald, Charles
Field, Joseph N.
Field, Marshall
Field, Mrs. Norman
Field, Mrs. Norman
Field, Stanley
Field, Mrs. Stanley

Gardner, Robert A. Gartz, A. F., Jr. Gary, Mrs. John W. Gilbert, Huntly H. Glore, Charles F. Goodspeed, Charles B. Gowing, J. Parker

Hack, Frederick C.
Hamill, Alfred E.
Hamill, Mrs. Ernest A.
Harris, Albert W.
Harris, Norman W.
Hastings, Samuel M.
Hayes, William F.
Hecht, Frank A., Jr.
Heineman, Oscar
Hemmens, Mrs.

Walter P.
Hibbard, Frank
Hickox, Mrs. Charles V.
Hill, Louis W.
Hinde, Thomas W.
Hixon, Robert
Hopkins, J. M.
Hopkins, L. J.
Horowitz, L. J.
Hoyt, N. Landon
Hughes, Thomas S.
Hutchins, James C.

Insull, Martin J. Insull, Samuel, Jr.

Jarnagin, William N. Jelke, John F., Jr. Joiner, Theodore E. Jones, Miss Gwethalyn

Kelley, Russell P. Kidston, William H. King, Charles Garfield King, James G. Kirk, Walter Radcliffe Ladd, John
Lamont, Robert P.
Lehmann, E. J.
Leonard, Clifford M.
Leopold, Mrs. Harold E.
Levy, Mrs. David M.
Linn, Mrs. Dorothy C.
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460 Field Museum of Natural History Reports, Vol. 12

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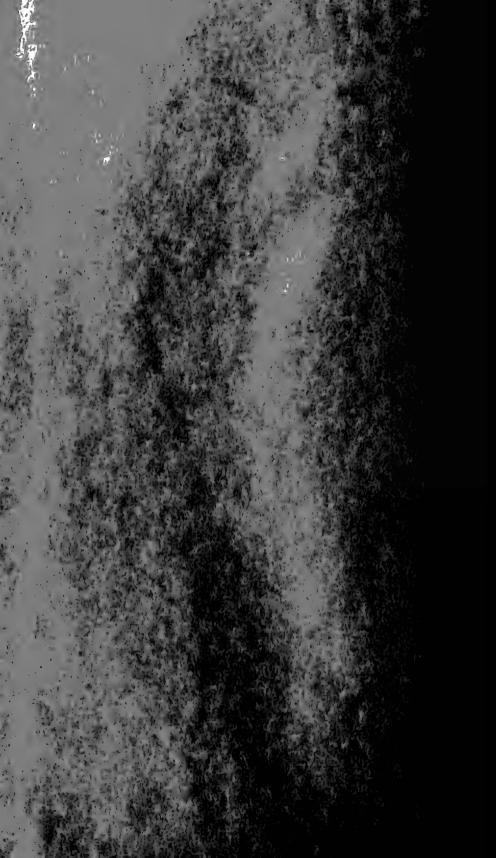
Reuss, Mrs. Henry H.

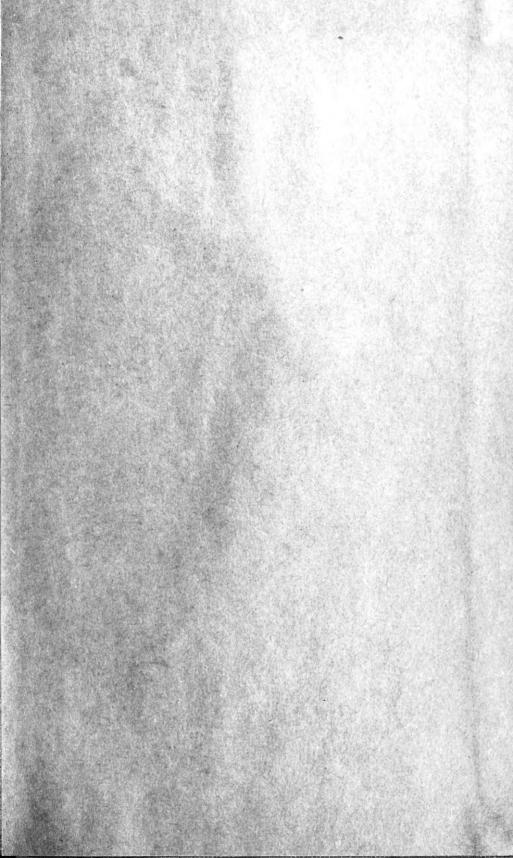
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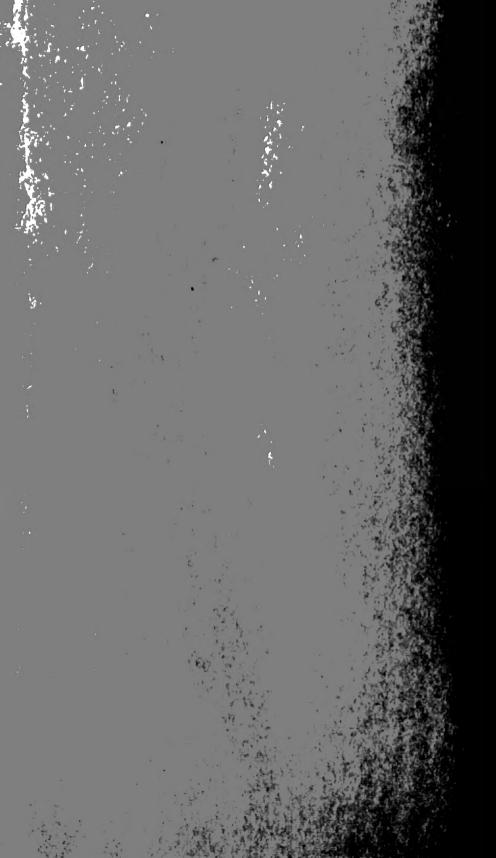
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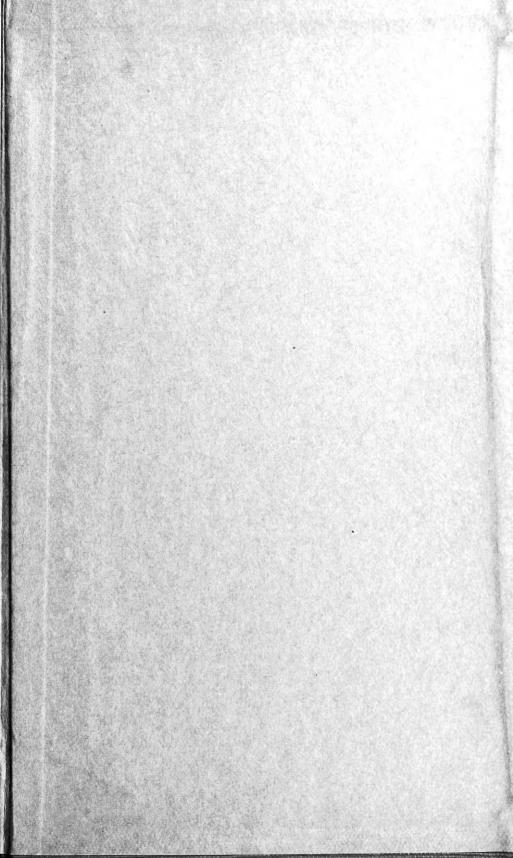












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