NEW YORK STATE MUSEUM
CHARLES C. ADAMS, Director

TWENTY-SEVENTH REPORT OF THE DIRECTOR OF THE DIVISION OF SCIENCE AND THE STATE MUSEUM

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ALBANY
THE UNIVERSITY OF THE STATE OF NEW YORK
1934

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1943 Thomas J. Mangan M.A., LL.D., Vice Chancellor Binghamton
1945 William J. Wallin M.A., LL.D. - - - - - Yonkers
1941 Robert W. Higbie M.A., LL.D. - - - - - Jamaica
1938 Roland B. Woodward M.A., LL.D. - - - - Rochester
1937 Mrs Herbert Lee Pratt L.H.D. - - - - New York
1939 Wm Leland Thompson B.A., LL.D. - - - - Troy
1936 John Lord O'Brien B.A., LL.B., LL.D. - - Buffalo
1940 Grant C. Madill M.D., LL.D. - - - - Ogdensburg
1942 George Hopkins Bond Ph.M., LL.B., LL.D. - Syracuse

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Professional Licensure, Charles B. Heisler, B.A.

Rehabilitation, Riley M. Little B.S., B.D.

Rural Education, Ray P. Snyder

School Buildings and Grounds, Joseph H. Hixson M.A.

Teacher Training,

Visual Instruction, Alfred W. Abrams Ph.B.
New York State Education Department

The New York State Museum, March 6, 1933

The Honorable Frank P. Graves,
President of the University and
Commissioner of Education

Sir: I beg to submit herewith the report of the Director of the New York State Museum for the period from July 1, 1931, to June 30, 1932.

Very respectfully

Charles C. Adams
Director
# NEW YORK STATE MUSEUM

CHARLES C. ADAMS, Director

# TWENTY-SEVENTH REPORT OF THE DIRECTOR OF THE DIVISION OF SCIENCE AND THE STATE MUSEUM

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THE UNIVERSITY OF THE STATE OF NEW YORK

1934
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All scientific specimens and collections, works of art, objects of historic interest and similar property appropriate to a general museum, if owned by the State and not placed in other custody by a specific law, shall constitute the State Museum. [Education Law, § 54.]

The Librarian of any library owned by the State, or the officer in charge of any state department, bureau, board, commission or other office may, with the approval of the Regents, transfer to the permanent custody of the State Library or Museum any books, papers, maps, manuscripts, specimens or other articles which, because of being duplicates or for other reasons, will in his judgment be more useful to the State in the State Library or Museum than if retained in his keeping. [Education Law, § 1115.]

THE FUNCTIONS OF THE STATE MUSEUM

"The Museum is the natural scientific center of the State government; it is the natural depository of all the material brought together by the state surveys; it is the natural custodian of all purely scientific state records; it is the natural center of the study of the resources of the State as a political unit; it must maintain its capacity for productiveness in pure scientific research—pure science has been the justification of the State Museum from the beginning of its history. *** In brief, the distinctive sphere and scope of the State Museum corresponds with the scientific interests and welfare of the people within the geographic boundaries of the State.

The truest measure of civilization and of intelligence in the government of a state is the support of its institutions of science, for the science of our time in its truest sense is not the opinions or prejudices, the strength or weakness of its votaries, it is the sum of our knowledge of nature with its infinite applications to State welfare, to State progress and to the distribution of human happiness."—Henry Fairfield Osborn, an address delivered at the dedication of the New York State Education Building, October 15, 1912.

THE FUNCTIONS OF A MUSEUM

"A museum is an institution for the preservation of those objects which best illustrate the phenomena of nature and the works of man, and the utilization of these for the increase of knowledge and for the culture and enlightenment of the people.

In addition to local accessories, the opportunity for exploration and field work are equally essential, not only because of considerations connected with the efficiency of the staff *** but in behalf of the general welfare of the institution. Other things being equal, exploration can be carried on more advantageously by the museum than by any other institution of learning, and there is no other field or research which it can pursue to better advantage.

To aid the occasional inquirer, be he a laboring man, schoolboy, journalist, public speaker, or savant, to obtain, without cost, exact information upon any subject related to the specialties of the institution; serving thus as a "bureau of information."

A museum to be useful and reputable must be constantly engaged in aggressive work either in education or investigation, or in both.

A museum which is not aggressive in policy and constantly improving can not retain in its service a competent staff and will surely fall into decay.

A finished museum is a dead museum, and a dead museum is a useless museum."—G. Brown Goode, formerly assistant secretary, Smithsonian Institution.
THE VALUE OF RESEARCH

"In the eyes of the world today the reputation of a country does not depend alone on the size of her armaments, the size of her empire or volume of her trade so much as upon the contribution she can make to the progress and happiness of mankind in art, in literature and in science. "The development of industry depends more or less on the application of new ideas and discoveries in pure science. Successful industrial research is ultimately dependent on the prosecution of research in pure science with the object of adding to our knowledge of the processes of nature, and generally without regard to the practical applications."—Stanley Baldwin, Lord President of the Council, Opening the Mond Laboratory at Cambridge, England. From the New York Times of February 19, 1933.

Museum Committee of the Board of Regents

Wm Leland Thompson, Chairman
John Lord O'Brian
William Bondy

State Museum Council

Orange L. Van Horne
Benjamin Walworth Arnold
Thomas D. Thachier
Owen D. Young
Pierrepont B. Noyes

State Museum Staff

Charles C. Adams Ph.D., D.Sc. .......... Director of the Museum
Alvin G. Whitney A.B. ................. Assistant Director
Rudolf Ruedemann Ph.D. ............... State Paleontologist
David H. Newland B.A. ............... State Geologist
Robert D. Glasgow Ph.D. ............... State Entomologist
Homer D. House Ph.D. ............... State Botanist
Chris A. Hartnagel M.A. ........ Assistant State Geologist
Winifred Goldring M.A. ......... Associate Paleontologist

Kenyon F. Chamberlain .......... Assistant State Entomologist
Elsie G. Whitney M.A. .......... Assistant State Botanist
Noah T. Clarke ............... Archeologist
Edwin J. Stein .......... Technical Assistant
Walter J. Schoonmaker .......... Technical Assistant
Arthur Paladin .......... Technical Assistant
Clinton F. Kilfoyle .......... Technical Assistant
Honorary Curators

William L. Bryant..................Honorary Curator of Fossil Fishes
Benjamin W. Arnold.................Honorary Curator of Ornithology
Harry S. Peck......................Honorary Curator of Minerals

Collaborators

Professor George H. Hudson
Dr Ephraim Porter Felt
Dr Albert P. Brigham*

Temporary Scientific Appointments

Nelson C. Dale Ph.D..................Temporary Geologist
Medora L. Hooper M.A.................Temporary Geologist
L. W. Ploger M.S......................Temporary Geologist
Tracey H. Gillette..................Temporary Geologist
Aretas A. Saunders Ph.B...............Temporary Zoologist
Charles Brewer jr A.B................Temporary Geologist
Lawrence E. Hicks M.Sc................Temporary Botanist
Edwin C. Eckel C.E..................Consulting Mineral Economist
W. L. Lassiter M.A..................Assistant Curator of History

*Deceased March 31, 1932.
Figure 1  The New York State Education Building. On the upper floors is located the New York State Museum.
TWENTY-SEVENTH REPORT OF THE DIRECTOR OF THE DIVISION OF SCIENCE AND THE STATE MUSEUM

By Charles C. Adams, Director
New York State Museum

FOREWORD

The Division of Science and the State Museum is primarily a fact-finding or central research agency devoted to the intensive study of natural resources of the State in relation to man. Its work is not limited to the sciences, because history and art of the State are included by law within its field.

In addition, the State Museum diffuses its information by means of Museum exhibits, publications—both popular and technical—by an extensive correspondence and by conferences and cooperation, as the Museum has long been considered a bureau of information.

This report covers the fiscal year July 1, 1931, to June 30, 1932.

A SUMMARY OF THE YEAR'S WORK

The outstanding achievements of the past year have been the continuation of the scientific, economic and educational state-wide surveys and studies of the natural resources of the State, and important additions to the historical and industrial collections of the State Museum. In spite of the economic depression, no curtailment has yet been made in the availability of the exhibition halls to the general public.

Studies of mineral and geological resources have been continued on the geological and economic surveys of the following 12 quadrangles: Russell, Thirteenth Lake, Schunemunk, Morrisville, Oswegatchie, Skaneateles, Randolph, Cattaraugus, Berne, Catskill, Clyde and Sodus Bay. The regular annual compilation of the mining and quarry statistics has been continued in cooperation with the United States Bureau of Census and the United States Bureau of Mines. Museum Bulletin 295, summarizing the statistics for 1927 and 1929, has been published, with special reports on recent developments of oil and gas in the State.

The biological survey of the plants of the State has been continued in the vicinity of Oneida Lake, and particularly in the Allegany State
Park; and a handbook on the ferns and their allies is well under way. The popular handbook on mushrooms and allied fungi is in proof.

The biological survey of the animals of the Allegany State Park has been continued by an intensive study of the birds, and a handbook has been completed on the butterflies of the park. Local studies about Albany have been continued on the mammals, giving special attention to the woodchuck.

Cooperative entomological studies have been conducted with the State Department of Agriculture and Markets; the State Conservation Department, the Westchester County Park Commission, the General Electric Research Laboratories, Schenectady, N. Y., with three narcissus bulb growers on Long Island, and with the State Department of Health at the Hospital for Incipient Tuberculosis at Ray Brook in the Adirondacks, in the control of black and other blood-sucking flies. The extensive studies of the black and other biting flies of the Adirondacks, made with the cooperation of many residents of the region, resulted in the publication of Museum Bulletin 289 and Circular 5.

In the section of archeology and history, field studies have been continued of private local Indian collections. The renovation of the six Iroquois Indian exhibition groups has long been needed and was well done. Valuable additions were made to the Medical History collection and to the Shaker Industrial collections.

The usual attendance of the Museum is about 200,000 annually, but the general economic depression has reduced the June and July number of summer tourist visitors about 10,000 or 12,000.

The proposal for the State Memorial Museum has been held in abeyance, although the unemployment situation may yet lead to a policy of public construction which might well include this proposal.

COOPERATION WITH STATE AND OTHER ORGANIZATIONS

The ramifications of society are so complex that cooperation between public and private agencies is constantly becoming more necessary. During the past year the State Museum has cooperated with the following agencies or individuals:

1 United States Bureau of Mines and the United States Bureau of Census, Washington, D. C. The Museum has continued the long standing cooperative policy of collecting the statistics of mineral production from the mines and quarries of the State.
2 New York State Department of Agriculture and Markets. Cooperative entomological studies of a subtropical cockroach greenhouse pest, the narcissus bulb pests, insect pests of ornamental trees and shrubs, and the European pine shoot moth.

3 New York State Conservation Department. The Director is a member of the State Council of Parks. The geologists of the Museum staff advise the Conservation Department on the purchase of lands when mineral resources are involved. The State Entomologist has made studies of the weevils of Scotch pine and studies of the European pine shoot moth, the latter with the added cooperation of the Westchester County Park Commission. The Allegany School of Natural History is conducted in the Allegany State Park, and the State Museum has conducted scientific studies of park problems.

4 The State Department of Health has cooperated with the State Entomologist of the Museum staff in the control of the blood-sucking flies on the grounds of the Ray Brook hospital.

5 New York State Department of Law, Office of the Attorney General. Cooperation with the Office of Land Titles on the purchase of mineral lands in the Adirondacks and on other legal problems.

6 Buffalo Society of Natural Sciences, Buffalo, N. Y. Cooperation in conducting the Allegany School of Natural History in the Allegany State Park. The Director of the State Museum is responsible for its educational policy, and the school has cooperated in local scientific surveys. There is active cooperation with the Allegany State Park Commission.

7 The University of Buffalo, Buffalo, N. Y. Affiliated with the Allegany School of Natural History.

8 Colgate University, Department of Geology and Geography, Hamilton, N. Y. Cooperation on a geological survey of the Morrisville quadrangle.

9 Princeton University, Princeton, N. J. Cooperation on a geological survey of the Potsdam and Rosendale quadrangles.

10 The University of Rochester, Department of Geology. Cooperation on a geological survey of the Clyde and Sodus Bay quadrangles.

11 Cooperation within the State Education Department: State Library, conducting exchanges of Museum publications; Archives and History Division; Department Editor, on the publication of Bird and Arbor Day numbers of the Bulletin to the Schools.
12 Dr Rudolf Ruedemann, State Paleontologist, has cooperated with more than 30 geologists in the preparation of a two-volume general Geology of North America.

13 Dana Natural History Society, Albany, N. Y. Cooperation on a lecture on birds to Albany school children on Bird Day, April 8th, by Dr John B. May.

14 Several Long Island narcissus bulb growers have actively cooperated financially with the State Entomologist of the Museum staff on methods of controlling narcissus pests (see also no. 2).


16 General Electric Research Laboratories, Dr W. R. Whitney, director, and Dr W. D. Coolidge, associate director. Various experiments for the control of insect bulb pests and other scientific problems with the State Entomologist.

17 The American Humane Association, Albany, N. Y., has been conducting a prize competition in order to secure a more humane trap for catching animals. In this worthy endeavor the State Museum has cooperated with its zoologists on the staff acting as judges. This work has been under way for four years.


STATE COUNCIL OF PARKS

The function of the State Council of Parks, in the Conservation Department, is to be a “central advisory agency for all parks and parkways, and all places of historic, scientific and scenic interest.” The Director of the State Museum is a member of the council, and has attended the monthly meetings and inspection trips as regularly as other duties would permit. Another phase of cooperation with the parks is in the conducting of the Allegany School of Natural History in the Allegany State Park, and the scientific surveys which have long been under way in this park. These have resulted in a variety of publications on the scientific, economic and educational problems of the park. More has been published on such studies in this park than has been done for other similar parks.
Recently the oil and gas problem of the Allegany State Park became an important administrative problem, and as a phase of the geological work already under way at the park, a special study was made of this problem and the report is completed for publication.

ALLEGANY SCHOOL OF NATURAL HISTORY

(Figure 2)

"Future educational systems of the States will undoubtedly offer increasing possibilities for intellectual and spiritual growth of adults. In this connection, the wide field of nature will be recognized as a major asset, furnishing inspiring original materials teaching their own lessons. A well-developed State Park system, closely articulated to the educational program of the State, may be an extremely important instrument for use in ways of which we are as yet scarcely aware."—John C. Merriam, President, Carnegie Institution of Washington, 1932.

The fifth session of the Allegany School of Natural History began July 8, and closed August 27, 1931. The school is under the direction of Dr Robert E. Coker and is conducted by the Buffalo Society of Natural Sciences in cooperation with the State Museum, and in affiliation with the University of Buffalo, and with the hearty cooperation of the Commissioners of the Allegany State Park. This is the only school of the kind conducted in a New York State Park, of college grade and giving special attention to the natural history sciences. The State Museum is responsible for the general educational policy of the School. Various temporary members of the State Museum staff use the school as the field base for their local scientific and economic studies. During the session of 1931 a local study was made of the oil and gas of the park, a problem that had become of immediate practical importance in the administration of the park. The mapping of the vegetation of the park was continued and further intensive studies were made of the birds.

These local studies contribute to the general scientific surveys of the State. The various studies in this park have included studies of economic, administrative and educational problems, which also contribute to the general scientific surveys of the State.

In the opinion of Doctor Coker, this was the most successful session of the school since its inception. The abstract of his annual report on the conduct of the School has been published (71st Ann. Rep't., Buffalo Soc. Nat. Sci. for 1931-32, p. 21-22).
Figure 2 Representative mature forest visited by the students of the Allegany School of Natural History. Heart's Content Forest, Pa. Photograph by M. G. Schneckenburger
RELATION OF THE MUSEUM TO SCHOOLS AND COLLEGES

A large number of teachers and pupils from the public and private schools, and from several colleges and universities, visit the State Museum exhibits more or less regularly, as a part of their school programs. One group of boys came 150 miles, and spent one hour and a half visiting the Museum. Classes came from the following 28 counties: Albany, Rensselaer, Schenectady, Saratoga, Greene, Washington, Fulton, Dutchess, Otsego, Sullivan, Schoharie, Lewis, Columbia, Rockland, Cayuga, Clinton, New York, Montgomery, Ulster, Essex, Cortland, Chenango, Westchester, Oneida, Broome, Delaware, Herkimer and Warren. In addition there were three classes from Vermont, two from Massachusetts and one from Connecticut. The number of classes from New York State was 253, slightly fewer than the number the previous year, no doubt due to economic conditions. The number of pupils was 6726, a marked decline below that of the previous year. The largest attendance was in the spring and early summer, with a maximum in June of more than 1800 pupils. The largest fall attendance was in October.

The publications of the Museum reach a large number of teachers and pupils from the elementary grades to the university. The members of the Museum staff and others assist the Department Editor in the preparation of Bird and Arbor Day numbers of the Department's Bulletin to the Schools. The custom has continued of cooperating with the Dana Natural History Society of Albany in giving an illustrated public lecture on birds to the local school children. This was given on April 8, 1932, by Dr. John B. May, State Ornithologist of the Massachusetts Department of Agriculture, on the protection of birds.

Rather frequent requests come from schools seeking assistance in the care of their local school collections and museums, also for the loan of specimens and similar assistance, but unfortunately only limited help of this character can be furnished.

MUSEUM ATTENDANCE

Under normal economic conditions the Museum attendance, on the basis of accurate count and estimate, is about 200,000. The only visitors that can be counted are those that come as classes, and the Sunday attendance. The total class attendance was 6726, and for 30 Sundays 43,579, or a Sunday average of more than 1400. The maximum Sunday attendance was recorded in November and reached
a total for the month of 9667. After January 1, 1932, Sunday rail-
way excursions from New York City brought many additional
visitors, so that the total was the largest in the past five years. It
was particularly noteworthy that these New York City visitors took
a more active interest in the exhibits than the usual local visitors.
With so many museums in New York City, it was surprising that
so many of these visitors showed such keen interest in the exhibits,
even resulting in correspondence after their return home.

The August attendance was estimated at 40,000, the maximum for
any month, but the annual total showed a marked decline, to about
188,000. This appears to be due largely to the reduction of summer
tourist visitors from a distance during June and July.

INFORMATION AND PUBLICITY

A rather extensive correspondence is conducted within and with-
out the State, and covers every phase of activity of the State
Museum. Members of the staff gave 24 lectures or talks; 23 within
the State, and one outside. A public of about 1800 was thus
reached. These talks were given in the following nine counties:
Albany, Broome, Columbia, Kings, Montgomery, New York,
Onondaga, Rensselaer and Saratoga. Limited traveling funds and
the lack of official automobiles discourage this phase of public
service.

Releases to the press are given whenever possible. The publications
of the Museum reach an extensive audience in public libraries,
schools and colleges. The Announcement of the Allegany School
of Natural History, and the advertisements for the school, call the
attention of the public to the work of the Museum. Members of
the Museum staff act on various committees and attend conferences,
which are equivalent to public talks or lectures.

CONDITION OF EXHIBITION HALLS, EXHIBITS AND
STUDY COLLECTIONS

Constant watchfulness and care are required to protect the exhibits
from damage caused by difficulties with the main skylight. The
State Relief Map was provided with a new border of linoleum, so
that it is now in excellent condition. This map is of very great
interest to the general public, particularly the summer tourists. The
various marine paleontological groups were also repaired.

The Iroquois Indian Groups had not been systematically renovated
since their installation in 1914. A donation from a friend of the
Museum made these repairs possible. Fortunately this was accomplished through the friendly supervision of the artist, David C. Lithgow, who was primarily responsible for the preparation and the original construction of these exhibits. Under his direction Arthur D. Young went over all six exhibits, dusted, cleaned and repaired them during July 1931. This was a much needed improvement and helps very materially to maintain the unusually high quality of this exhibit.

The additions to the study collections are best shown in the List of Accessions, which likewise indicates their source. Much material is acquired in the course of the regular activities of the staff. Considerable material has been added to the Historic Collection. The temporary Shaker Collection was closed March 5, 1932, because the room was needed for the temporary storage of large recent additions to the Shaker Collection.

The general study collections are in as good condition as their overcrowded quarters will permit. The problem of storage space is becoming almost desperate.

**PRINTING AND PUBLICATIONS**

"After all it is the written word that lives."—Dr W. M. Beauchamp.

The Annual Bibliography which accompanies this report indicates the activity of the staff, and in addition includes publications which are based, at least in part, on the collections of the State Museum, or are the product of some form of cooperation with it.

Publication is one of the most important obligations of the Museum to the State, as by this method and the public exhibits the Museum reaches directly its largest public. The indirect influence of such publications is impossible to estimate, because these publications are distributed world-wide in libraries.

The inventory of the older stock of publications progresses very slowly, and is halted completely for months at a time because of the limited help available. Until this inventory is reasonably complete it is unwise to permit distribution of this stock, because when once out of print, there is no present prospect of reprinting.

**PHOTOGRAPHY AND DRAFTING**

As a method of taking field notes, photographs have increased greatly in all scientific surveys and field studies. These serve a double purpose, as a visual record and for published reports. In practice it has been found the safest procedure to take a relatively
large number of field photographs, and select those needed for immediate publication, the remainder being kept in reserve for future needs. Often the field worker must conduct his studies under such unfavorable conditions that his photographs are not so successful as those made under carefully controlled conditions. With the field worker the photographs must be more or less secondary to his major purpose, and even a relatively poor photograph of something of importance in his study is much more valuable than none at all. A geologist may secure a rather poor photograph of an exposure, made while a road is under construction, that will be destroyed a few hours or a few days later. It is, however, his only chance. The same problems confront the student of plants and animals.

Additional facilities for the photographic and drafting laboratory have aided materially in increasing both the amount and the quality of the work done. A mercury-vapor M-tube has been added to the dark room, and a metal cabinet has been provided for the large albums intended for filing a set of all photographic prints.

The photographer and draftsman estimates that he has made about 850 negatives, 1600 prints, some enlargements and lantern slides; and he also made 165 line drawings for publications.

HISTORICAL COLLECTIONS AND ALLIED MATTERS

(Figures 3-7)

"I warmly sympathize with the ambition expressed in your annual report to have this Museum more than a mere zoologic or scientific museum. It should be a museum of arts and letters as well as a museum of natural history. There should be here a representation of all our colonial and revolutionary life. There should be in this museum for the instruction and inspiration of our people, a full representation of American history since the time when New York cast off its provincial character and became an integral portion of the American republic."—Theodore Roosevelt's address at the opening of the New York State Museum, December 29, 1916.

The historical collections continue to grow and demand more storage room. It does not seem wise to advise the public that the State Museum refuses all such gifts because of the lack of proper storage space. We do not believe that the people of the State will be satisfied with such a decision, and that they desire valuable historic collections to be destroyed or sent out of the State, for the lack of adequate storage, while awaiting a new modern State Museum building.

Through the active interest of Dr James N. Vander Veer, of Albany, the collection illustrating the medical history of New York State was augmented by the donation of old surgical sets, dental
Figure 3 Characteristic types of Shaker buildings at the Watervliet Shakers, near Albany, N. Y.
Figure 4 The Church Family, Mount Lebanon, N. Y., in the early 1870's. Showing types of buildings
Figure 5  Straw hat (a) formerly made by Shakers, and wooden form (b) over which felt hats were made.
Figure 6 A series of turnkeys, used by early dentists for extracting teeth, a and b presented by Dr C. D. Van Alstine; c, by Dr C. E. Allen, and d, by Dr L. S. Blatner. In the Museum Collection of Medical History.
Figure 7  Powder horn made at Crown Point, November 4, 1761, by Samuel Whittaker
tools and medical diplomas. At the present rate of growth it will soon warrant a special temporary exhibit.

The Shaker Collection likewise continues to increase in interest and value. A valuable collection was received from Dr. and Mrs. Edward D. Andrews, of Pittsfield, Mass., who have become leading experts in the history of the Shakers. They have given much attention to the Mount Lebanon Shakers, and the materials secured from them supplements that of the State Museum to an important degree. Another valuable series was secured from the Hancock Shakers near Pittsfield, Mass., through the generous cooperation of the Hancock Family, and the intelligent and enthusiastic support of Sister Alice Smith. This collection is particularly valuable because of the detailed notes on the objects carefully compiled by Sister Alice.

A third important collection came from the North Family of Shakers at Mount Lebanon, through Eldresses Sarah Burger and Ella Winship, with the assistance of Sisters Jennie Wells and Rosetta A. Stevens.

The State Museum was particularly fortunate in securing a collection of photographs, negatives and prints made between 1861 and 1868, by the late James Irving, Troy, N. Y. These were secured from his son, Frank P. Irving. The collection is important in two respects: first, because it includes a remarkably fine series of interesting photographs and negatives of New York Shakers, and secondly because it illustrates several stages in the history of photography in this State by an early skilled leader in this industry. It is hoped that about this nucleus will grow an important collection illustrating the history of photography in this State.

These historical and industrial materials, illustrating the varied industries of the Shakers, have now reached the stage where they represent the best collection of the kind in any museum. The cataloging, labeling and storing of this collection has been continued during July and August 1931, by William L. Lassiter, who has now devoted several summers to this undertaking. There is yet much that remains to be cataloged.

It is of interest to note that the vacuum pan used by the Church Family of the Mount Lebanon Shakers, and acquired in recent years from them by the Borden Company, has been donated to the United States National Museum at Washington (Report U. S. Nat. Mus. 1932, p. 88). This vacuum pan was used by the Shakers in the manufacture of medicines. It was used in 1853 by Gail Borden in making the first evaporated milk.
The Museum Handbook 15, on the Community Industries of the Shakers, by Dr Edward D. Andrews, Temporary Curator of History, is in galley proof. This study was based largely on the Mount Lebanon Shakers and the State Museum Shaker Collection. We anticipate much interest in this handbook, as it is the first history of the kind to be made.

A valuable accession to the Historic Collection is a manuscript "Catalogue of a Collection of Powder Horns Embracing the World," by Rufus A. Grider, Canajoharie, N. Y. This catalog contains much information on old New York State powder horns. The State Museum has only a few of these. (Figure 7.) Frequent inquiries are received about them, and therefore this catalog is very useful. The author prepared an interesting series of drawings of powder horns seen by him, and these drawings are in the collection of the New York Historical Society, 170 Central Park West, New York City, which also has a copy of the catalog. Alexander J. Wall has published an excellent illustrated account of this catalog; with extracts, illustrations and references to the most important literature on this subject. (Powder Horns, their History and Use. Quart. Bul., N. Y. Hist. Soc., vol. 25, p. 1–24, April 1931.)

SCIENTIFIC STAFF AND ITS ACTIVITIES

(Figures 8-12)

"It is essential that this Museum should command the service of many different men for work in many different fields, and that its work should be so closely related to work of the same kind elsewhere that it shall all represent a coordinated whole. This is true of all departments of the work, but especially so of those departments which have a direct utilitarian bearing.

"This Museum, like every other institution of the type, should do everything to develop large classes of workers of this kind. And yet, friends, we must never forget that the greatest need, the need most difficult to meet, is the need to develop great leaders and to give full play to their activities. In the entirely proper effort to develop numbers of individual workers there must be no forgetfulness of this prime need of individual leadership if American achievement in the scientific field is to be really noteworthy. Yet in scientific as well as in historical associations and academies, this fact is often forgotten.

"The really great works must be produced by some individual great man who is able to use to the utmost advantage the indispensable preliminary work of a multitude of other observers and investigators. He will be the first to recognize his debt to these other observers and investigators. If he does not do so he will show himself a poor creature. On the other hand, if they are worth their salt they will be proud to have the great architect use all the results of their praiseworthy and laborious and necessary labor in constructing the building which is to crown it."—Theodore Roosevelt's address at the opening of the New York State Museum, December 29, 1916.

The varied functions of the State Museum, scientific, economic, educational and curatorial, call for a variety of ability and experience on the part of the staff. In addition to the general routine of the
Figure 8 The cliffs of the Helderbergs, Ferncliff ledge, John Boyd Thacher State Park
Figure 9 A flagstone quarry at Reidsville, in the Helderbergs. A declining industry.
Figure 10. Ferns have a wide appeal because of their attractive foliage. 
a Bulblet bladder fern, and b Common polypody fern. Photographs by 
Elsie G. Whitney
Figure 11 Powder duster for applying insect poisons in research experiments in the Westchester county parks. A cooperative project between the Bureau of Forest Pest Control, State Conservation Department; Bureau of Plant Industry, State Department of Agriculture and Markets, the Westchester County Park Commission and the State Museum.
Figure 12. Spraying outfit for applying liquid insect poisons to trees in Westchester county parks. Another cooperative experiment between the State Conservation Department, State Department of Agriculture and Markets, the Westchester Park Commission and the State Museum.
various offices, administrative, curatorial and educational, the outstanding scientific and scholarly results of the staff may be summarized as follows:

**Geology.** Dr Rudolf Ruedemann, State Paleontologist, has continued the preparation of his exhaustive monograph on the Graptolites of North America. He has made a special study of the Oklahoma graptolites with Dr Charles E. Decker, of the University of Oklahoma, on which a joint report will be published. His supervision of the general two-volume treatise on the Geology of North America is about two-thirds completed. He has completed a bulletin on the Paleozoic Plankton of North America.

Winifred Goldring, Associate Paleontologist, has completed her bulletin on the geology of the Berne quadrangle. She has continued her studies of the correlation of Devonian stratigraphy, and has been reading proof on her handbook on the Indian Ladder region of the John Boyd Thacher State Park (figures 8, 9). Additional Gilboa and Crinoid fossils have received special study. Special mention should be made of the printing of Part 2 of the Handbook of Paleontology for Beginners and Amateurs, as the completion of this handbook meets a need that has been felt by the general public as well as in professional circles.

Doctor Ruedemann and Miss Goldring have made some progress in their study of the evolution of coral reefs, giving special attention to the famous Cryptozoon reefs.

Dr A. C. Tester has continued the preparation of a report on the geology of the Randolph quadrangle within the Allegany State Park.

Dr Burnett Smith has completed his report on the geology of the Skaneateles quadrangle.

Professor L. W. Ploger has continued his field and laboratory work on the Cattaraugus quadrangle report.

Dr R. J. Colony is extending his intensive studies of the Schuinemunk quadrangle at his own expense.

Professor N. C. Dale has completed his field work on the Oswegatchie quadrangle and is revising the report on the Russell quadrangle.

Dr G. Arthur Cooper reports progress on his paper on the Hamilton formation, and on his special report of the fossils of the Allegany State Park.

Mrs Medora Hooper Krieger has completed her field work and her report on the Thirteenth Lake quadrangle in an interesting region at the edge of the Adirondacks.
Professor H. D. Whitnall has continued his work on the Morrisville quadrangle.

Tracy Gillette has begun a study of the geology of the Clyde and Sodus Bay quadrangles.

The pressure of other work has not permitted further progress on the combined report and relief and geological map of the State. There is much need for such an up-to-date map by the staff.

David H. Newland, State Geologist, and Chris A. Hartnagel, Assistant State Geologist, have continued the statistical studies in cooperation with the United States Bureau of Census and the United States Bureau of Mines, and Bulletin No. 295 has been published covering this work, including a special chapter on recent oil and gas developments, and also Circular 7 on the same subject. These studies give a valuable periodic, economic inventory.

Mr Newland, as chairman of the State Museum committee for the 16th International Geological Congress, which will meet in June 1933, has supervised the preparation of a geological guide book for the official excursion throughout this State. This guide will be published by the United States Geological Survey. Other members of the Museum staff contributed to the writing of this guide, as well as other geologists. Mr Newland has continued his study of the limestones of the State.

After a long delay the report by Dr W. L. Russell on oil recovery processes in southwestern New York has been completed for publication as Circular 8.

Charles Brewer jr made an intensive study of the oil and gas in the Allegany State Park, where this had become an economic and park administrative problem calling for careful study.

Dr Albert P. Brigham, Collaborator, published a paper on his latest glacial studies in the Mohawk valley.

Edwin C. Eckel, formerly of the staff, began a special study of the industrial history of New York State, with special reference to the mineral industries. This is the first general study of this character made of this State and promises to be of much value.

Plants. Dr House, State Botanist, has practically completed his report on the flora of the Township of Newcomb, Essex county. With the completion of the photographs by the author, this report will be ready for publication. He spent a few days in the Oneida Lake region. Continued revision of the Annotated List of Plants (Bulletin 254), is a routine office procedure. Additional cooperative studies of fungi were combined with Dr John Dearness. No further work was done on the Lake Ontario vegetation.
Mrs Elsie G. Whitney, Assistant State Botanist, has continued her preparation of the handbook on the ferns and their allies of the State, and has secured a number of photographs for this purpose (figure 10). In connection with this the collections at the Gray Herbarium at Harvard University were consulted.

Lawrence E. Hicks continued the field work on the survey of the vegetation of the Allegany State Park, which has been in progress for several seasons. With one more field season this mapping will be completed.

**Insects.** Dr Robert D. Glasgow, State Entomologist, has continued his studies of the black flies and other biting flies in the Adirondacks, both independently and in cooperation with the State Hospital for Incipient Tuberculosis at Ray Brook, with Dr H. A. Bray, Superintendent of the Sanitorium, and Professor J. P. Porter of Cornell University. At Doctor Glasgow's suggestion and under his general supervision, some important improvements have been made at this sanatorium that have bettered the outdoor conditions for the patients and reduced the discomfort caused by these pests.

Studies of the narcissus bulb pests of Long Island have been continued in cooperation with the bulb growers A. Frylinck & Sons, Stumpp and Walter and F. Rynweld & Sons, as well as with the State Agriculture and Markets Department. There has also been generous cooperation by the General Electric Research Laboratory, in various experiments connected with the bulb studies.

The weevil pests of Scotch pine and the European pine shoot moth, have been investigated in cooperation with the State Conservation Department, the State Agriculture and Markets Department, and the Westchester County Park Commission. The greenhouse cockroach experiments have been continued in cooperation with the State Agriculture and Markets Department and F. R. Pierson.

All these insect studies have involved cooperative field studies, laboratory studies and field experiments by many persons. Not only have the cooperators contributed time, materials, funds and facilities, but also a total of man power roughly equivalent to the full time of one man for nearly 500 working days. This substantial assistance is greatly appreciated.

Dr Ephraim Porter Felt, Collaborator with K. F. Chamberlain, Assistant State Entomologist, is completing a study of the influence of wind on insects, begun several years ago.

Mr Chamberlain has been able to devote only a limited amount of time to his study of the lupine and yellow locust insects.
Aretas A. Saunders, working at the Allegany School of Natural History, completed his popular guide to the butterflies of the Park, which will form Handbook 13.

**Animals.** The position of Zoologist has remained vacant. Dr S. C. Bishop, former Zoologist, but now of the University of Rochester, is completing reports which he had in preparation as a member of the staff, when he resigned from the State Museum. These reports include papers on the reptiles and amphibians of the State, the life history of the salamanders, and a general report on the spiders of the State.

Walter J. Schoonmaker has nearly completed his report on the woodchuck, to which he has devoted most of his time recently.

Mr Saunders has completed his field studies of the birds of the Allegany State Park in relation to the local, physical and biological conditions.

The Director has been a member of the Wild Life Committee of the National Research Council, which has been making a special study of research and education in relation to wild life.

**Archeology and History.** Noah T. Clarke, State Archeologist, has continued his survey of private collections of New York State Indian collections, and has filed a record of the information secured on 65 collections. He has continued his systematic examination of the duplicate material in the Museum collection. Mr Clarke has also completed a report on the history of the preparation of the Iroquois groups.

Reference has been made elsewhere to the historic collection. The most important additions have been made to the medical, industrial and Shaker collections. Dr Edward D. Andrews’ handbook on the community industries of the Shakers is in proof. The Director has found it necessary to give considerable time to the historical collections, and he has been assisted during the summer months by William L. Lassiter, who has been engaged in cataloging and storing these.

**MUSEUM COLLABORATORS**

(Figure 13)

In order to encourage cooperation between scientists and scholars of the State and the State Museum, the Regents on April 18, 1929, authorized the Director of the Museum to appoint Collaborators. Dr George H. Hudson was the first to be appointed for the three-year period. His second period expires in June 1934. Dr Ephraim
Figure 13 Dr Albert Perry Brigham, Museum Collaborator. Died March 31, 1932
Porter Felt, former State Entomologist of the Museum staff, was appointed. He is completing a paper on the influence of the wind in the dispersal of insects, with Kenyon F. Chamberlain, Assistant State Entomologist. This work was begun when Doctor Felt was State Entomologist.

Dr Albert P. Brigham, of Colgate University, whose second term of appointment as Collaborator was to expire September 1934, died on March 31, 1932 in Washington, D. C., where he was consultant in geography at the Library of Congress. He was emeritus professor of geography at Colgate University, and was a member of the General Geography Committee of the United States Commission for the Celebration of the Two Hundredth Anniversary of the Birth of George Washington. His last published paper, made as Collaborator with the State Museum, was Glacial Problems in Central New York (Annals of the Assoc. of Amer. Geographers, vol. 21, no. 4, p. 179-206. 1931). The last extensive study made by Doctor Brigham for the State Museum was Museum Bulletin 280, Glacial Geology and Geographic Conditions of the Lower Mohawk Valley (A Survey of the Amsterdam, Fonda, Gloversville and Broadalbin quadrangles.) Doctor Brigham was a successful college teacher of geology and geography, the author of several successful textbooks and other books, an able geologist and geographer, and was particularly gifted in the cordiality of his relations with other scientists. The recognition of this side of his nature was shown by his colleagues, in the American Association of American Geographers, who devoted a special number of the Annals to expressions of their appreciation (1930, vol. 20, p. 55-104, including a bibliography of his work as a teacher and leader in geography and geology).

The loss of such a capable scientist and a man of such outstanding personal charm is deeply regretted by the State Museum.

MUSEUM COUNCIL

The State Museum Council is an advisory body appointed by the Board of Regents to advance the welfare of the State Museum. A meeting of the Council was called for December 10, 1931, but was postponed because of conflicting appointments of the members.

GENERAL ADMINISTRATIVE PROBLEMS

Serial Publications. The extensive series of scientific publications of the State Museum over a long period of time has built up an exchange and donation list of publications from all parts of the
world. These are deposited periodically in the State Library and have added greatly to its value. With the cooperation of the State Library, the Assistant Director has formulated a procedure that will assist greatly in maintaining order and responsibility, and the State Library has welcomed this improvement.

The Centenary of April 15, 1936. On April 15, 1836, the New York Legislature authorized the establishment of the State Geological Survey, which later led to the present organization of the New York State Museum. This was one of the first geological and natural history surveys in the United States, and was a very early recognition that the State Government needed scientific, technical and educational guidance in dealing with its natural resources. The need is even greater today, so that it would be appropriate to commemorate this anniversary in 1936, and to emphasize what has been accomplished and plan for the Museum's future development.

Personnel Matters. The application of modern Civil Service to the personnel problem of tax-supported museums, has not received much attention in the literature of museums. For this reason the Director prepared a short paper bringing together, in compact form, some of the most important studies applying to New York and the Federal Government. This forms a brief paper—“The Interest of Tax-supported Public Museums in Civil Service Efficiency” (Museum News, vol. 10, p. 6-7, 1933).

ANNUAL FINANCIAL AND STATISTICAL SUMMARY

THE MUSEUM BUDGET

The following budget does not include the cost of heat, light, janitor service, orderlies (watchmen), carpenters, painters and elevator men. Certain other items also are furnished by the Education Department, such as postage, stationery, express, drayage in part, telegraph and telephone, and are therefore not included in the budget. The traveling expenses have been budgeted so that each member of the scientific staff is able to plan his work to the best advantage. As rapidly as possible it is hoped to extend this system to all expenditures.

Gifts of funds and facilities derived from cooperative projects are indicated, in addition to those from the State appropriation. It is impossible to estimate the amount of these funds precisely, since they include the federal franking privilege, cooperation with many individuals, with organizations and with other state departments. Labor, supplies, expert services, use of automobiles etc. have been
provided by cooperation. Such financial assistance is of the greatest value; but the funds do not pass through the Museum.

The annual and statistical summary for the fiscal year July 1, 1931, to June 30, 1932, follows:

**APPROPRIATIONS AND FUNDS FOR FISCAL YEAR**

(July 1, 1931 to June 30, 1932)

**APPROPRIATIONS**

<table>
<thead>
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<th>Appropriations</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Salaries:</td>
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<tr>
<td>Administrative staff</td>
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<td>Permanent scientific staff</td>
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<td>Temporary expert services</td>
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<td>Scientific assistants</td>
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<td>Clerical, labor etc</td>
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<tr>
<td><strong>Total salaries</strong></td>
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<tr>
<td>Equipment and supplies</td>
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<tr>
<td>Traveling (of which not to exceed $200 is available for out-of-state travel)</td>
<td>$3,300.00</td>
</tr>
<tr>
<td>Printing</td>
<td>$10,000.00</td>
</tr>
<tr>
<td><strong>Special fund for Sunday opening</strong></td>
<td><strong>$1,020.00</strong></td>
</tr>
<tr>
<td><strong>Total budget</strong></td>
<td><strong>$80,190.00</strong></td>
</tr>
</tbody>
</table>

**GIFT FUNDS AND COOPERATION**

1. Repairs to the six Iroquois Indian Groups $150.00
2. Funds supplied by cooperators which can not be estimated accurately

**Total State Museum expenditures from budget and gifts, exclusive of the assistance of cooperators** $80,340.00

**DIRECTORY DATA**

*Name of Museum:* New York State Museum.
*Location:* Albany, New York, U. S. A.
*Name of Director:* Charles C. Adams.
*Name of Assistant Director:* Alvin G. Whitney.
*Date of founding:* The Museum is the outgrowth of state surveys begun in 1836; formal organization of the Museum was effected in 1843.
*Open to the public:* Open week days from 9 a.m. to 5 p.m., and Sundays from 2 to 5 p.m. (October 4, 1931 to April 24, 1932). Closed on all legal holidays except Labor Day.
*Total number of hours open to the public for the year:* about 2500

**Staff:**

<table>
<thead>
<tr>
<th>Staff Description</th>
<th>Number</th>
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<tbody>
<tr>
<td>Administrative officers</td>
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<tr>
<td>Permanent scientific staff</td>
<td>10</td>
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<tr>
<td>Technical and clerical assistants etc.</td>
<td>12</td>
</tr>
<tr>
<td>Part-time employees (expert service)</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total staff</strong></td>
<td><strong>32</strong></td>
</tr>
</tbody>
</table>
Salary schedules, 1930-31:

- Administrative .............................................. $3000 to $6000
- Scientific professional staff ................................... $1720 to $4500
- Technical assistants (nonprofessional grade) ............... $1000 to $2000

Hours and vacation:

- Hours of work a week: 36½.
- Vacation allowance: 24 working days of 6½ hours each, and all legal holidays.

NEEDS OF THE STATE MUSEUM

THE FINANCIAL PROBLEM

During the present period of extreme economic stress, it may seem inappropriate to discuss the scientific and educational needs of the State Museum. It is during just such times, however, that the essentials for the conduct of such work should be emphasized. The State Museum went through the recent so-called period of "prosperity" without sharing in the normal development that should have accompanied the expansion of those activities and industries which are most closely related to the various natural resources, and to whose study the State Museum has given so many years of active work.

The State Museum moved into its present quarters on the top floors of the State Education Building in 1912. It has therefore been 20 years in its present location, and a general comparison of its status at intervals during these years, and as of June 30, 1932, will furnish a background for a discussion of its present needs.

1 The total amount paid on regular salaries in 1912 was $35,340, and in 1932 $60,870, an increase of $25,530 in 20 years. During this interval there have been extreme fluctuations in the cost of living and in the purchasing power of the dollar, and scientific and educational institutions, including museums, have undergone one of the greatest periods of expansion in their history, just previous to the slump in 1929. The number of persons on the staff in 1917 was 28, and in 1932 it is 24.

2 Equipment and supplies, traveling expenses and temporary scientific expert services were not segregated from 1912 to 1916, and remained at $10,000. At present the allotment for equipment and supplies is $5000; that for traveling, $3300; and for temporary expert services, $3000. This is an increase of only $1300 in 16 years. During this period the transition has been made from the horse to the automobile, and in spite of the obligation to conduct statewide scientific, economic and educational surveys, no automobile has been provided, which makes an excessive drain on the very
limited allotment of $3300 for traveling expenses. Other state
departments with similar statewide field work have large numbers of
automobiles.

Between 1918 and 1920 the allotment for equipment and supplies
was $5000, and for traveling expenses $2000, except in 1920, when
this was increased to $2300. At this time also, the appropriation
for temporary scientific services remained at $3000, since 1917, or
for 15 years. From 1918 to 1932, 14 years, there has been no
increase in funds for equipment and supplies.

3 In order to keep the Museum open on Sunday, from 1912 to
1916, the staff worked without pay, but in 1916 the sum of $2500
was appropriated for payment for this extra service. This amount
remained stationary for ten years, until 1926, when it was increased
$1000. Of the total, $1020 was allotted to the Museum staff for
these services, and the remainder was used for the compensation
of other members of the Department concerned with the Sunday
opening. There has never been adequate Sunday supervision.

4 The printing allotment in 1926 was $8000. This amount has
been insufficient to print all manuscripts. The maximum for printing
in recent years was $10,000.

The financial summary for the past fiscal year shows that the
State Museum budget was about $80,200, to which have been added
gifts or donations of funds, $150. Unfortunately the financial value
of cooperating agencies cannot be estimated.

In the previous Annual Report attention was called to the fact
that, considering the broad policy laid down by the law, providing
for the State Museum to conduct scientific surveys of the minerals,
plants, animals and natural resources of the State, and including as
well the history, industries and arts of the State, the budget which
has been provided for the past 20 years is wholly inadequate. When
we recall that the neighboring state of Pennsylvania spends on its
geological survey alone about $67,500 annually, Illinois $125,000,
and California about $63,000, we realize that the leading industrial
and financial State of the Union has not provided adequately for the
much more comprehensive obligations of the State Museum.

At present the State Museum budget is about $80,000 less than
that which any prosperous city of 100,000 might well provide for the
support of a municipal museum. Until the State Museum budget
reaches $250,000, it can not function adequately and meet the public
needs in any adequate fashion.
SCIENTIFIC AND HISTORIC RESERVATIONS

No satisfactory policy has been put in practice for the care of state scientific and historic reservations. The present situation is not satisfactory and important opportunities have been and are slipping away. Too often the public looks upon such reservations merely as a passive exhibit and not as an active scientific and educational agency contributing positively to our knowledge and to public education. The State Council of Parks has recommended that these state reservations be transferred to the Education Department for administration.

The present passive state policy regarding scientific reservations raises the question as to whether or not this is the best or only method of administering these reservations. Probably several methods should be used. The Director believes that the present method must further be supplemented by privately endowed reservations. In the 24th Report of the Director (Mus. Bul. 288, p. 51–56, 1931) a system of reservations for the State Museum was urged. There should be a limited number of these in various parts of the State, so carefully selected as to be worthy of a permanent staff devoted exclusively to local scientific studies that can be advantageously made at such locations. Some of these reservations might well be permanent bases for a variety of scientific work, particularly in the biological sciences. State parks will be suitable for certain kinds of studies, but their aims are so different that they can not be expected to be a substitute for the scientific reservations. These parks have their own scientific problems that require special study.

Some of these reservations could be made to serve as important agencies in the encouragement of local scientific work by providing camps and laboratories, similar to that of the Allegany School of Natural History in the Allegany State Park, and by encouraging mature naturalists, teachers and scientists to make them bases for year-round or summer research and constructive work. There are many city laboratories, seaside laboratories and similar facilities for indoor studies, but none whatever for year-round inland, outdoor or field study or research. Such a reservation would not be a school in any sense of the word, but a field base, camp or workshop where productive scientific field work could be conducted advantageously.

RESEARCH FELLOWSHIPS

Cooperative research with various industries has been found to be mutually advantageous. Such cooperation may be conducted by
several methods. A method that deserves particular commendation is by the establishment of research fellowships. By this method the cooperating agency finances the work of a capable research assistant or fellow, who works under the direction of a member of the State Museum staff on a problem in which the cooperator is particularly interested. The results of such studies are published by the State Museum and are thus made public. In 1929 a fellowship of this kind was initiated with the narcissus bulb growers on Long Island, working under the direction of the State Entomologist. This is a method that could be considerably expanded to advantage.

GROUND WATERS RESEARCH

As the population of the State increases, the demand for underground waters for public and private supplies, as well as for industrial use, increases very rapidly. One-half of the public waterworks of the State obtain all or part of their supplies from ground waters. The mode of occurrence, the quality and the quantity of the water are thus of great importance, as was particularly realized during the severe droughts of recent years. Millions of dollars are invested in public water supply plants, and the delivery or sale of water to the consumer makes it one of the most important mineral resources of the State. The products of the mines and quarries for a single year amount to more than $100,000,000 worth of raw materials, and it is not unlikely that the ground waters are worth considerably more than half that amount. Although the State Museum has collected observations and records on this subject for many years, it has never had the funds, men and equipment to make an adequate statewide study of this vital problem.

NEW STATE MUSEUM MEMORIAL BUILDING

For many years the crowded condition of the State Museum has been regularly emphasized in the Annual Reports. In the 25th Report (Mus. Bul. 293, p. 81–97) a rather full summary was presented of the various proposals which have been made for a new Memorial State Museum building. With the economic depression those plans have been allowed to rest, but at any time that a state program for extensive public works is undertaken to relieve the unemployment situation, the proposed Memorial State Museum building should be included. In anticipation of such a possibility the provisional plans already made should be completed and made ready for utilization.
TEMPORARY STORAGE SPACE

Pending the construction of a new State Museum Memorial building the problem of temporary storage for collections is becoming more acute every year. The hallways or corridors have been utilized for storage because there was no adequate provision made for storage when the Education Building was planned, yet this has been discouraged for various reasons. The crowded condition of the storerooms is a menace to the collections and the materials can not be consulted and used.

DONATIONS TO THE MUSEUM

In spite of the preceding statement as to the need of storage space for the Museum collections, it is desirable to inform the public that the State Museum welcomes donations of:

1. Scientific collections of natural history materials, minerals, fossils, rocks, and specimens of plants and animals, particularly when accompanied by scientific data.

2. Historical collections of objects illustrating the history of New York, Indian materials from New York, objects of the Colonial period and the Revolutionary period, household and industrial equipment and tools. Materials illustrating the history of the professions are particularly desired, such as illustrate the history of medicine and surgery, dentistry, engineering in its various aspects, and the tools and equipment used in the various trades.

Historic objects related to the various wars in which New York has taken an active part are heartily welcomed.

In all cases it should be borne in mind that it is primarily New York State material that is sought, because first of all this is a New York State Museum, and also because space is lacking for other materials. Persons contemplating such donations should call at the Museum or write in advance about such proposed donations.

The State Museum has no desire to monopolize all such materials, but at present in many localities there are no local organizations able to care properly for such collections; and the State should give reasonable assistance in preserving them and making them available.

ENDOWMENT AND TRUST FUNDS

The preceding discussion of the urgent needs of the State Museum reveals the fact that, while the State has done much for the State Museum, it has not fully met the needs of the Museum. Just as the citizens of the State have in the past generously donated much
valuable material to the Museum, the public should be informed in what ways it may continue to assist.

Many persons do not realize that the State Museum, like the universities and other research institutions devoted to advanced learning, have in reserve many important problems that would require more money than the Museum budget provides. It is hoped that private citizens will assist in financing such worthy projects. To make this more definite certain methods of assistance will be listed:

1 Donations of funds to be devoted to special scientific, educational or economic studies. A list of these can be furnished to any seriously interested person.

2 A donation of funds, the income alone of which is to be used to conduct special studies. This kind of a fund would give a fluidity which is particularly lacking under the present budget system. Such funds would enable the Museum to take up certain studies in advance of general public interest and legislative appreciation.

3 The donation of carefully selected tracts of land, suitable for scientific field stations, or for scientific reservations, or important historic sites. Each tract should be provided with an endowment of maintenance. Such tracts could be made of the greatest scientific and educational importance under proper supervision.

In this connection attention should be called to the fact that gifts up to 15 per cent of net income, and that all bequests to the Board of Regents of The University of the State of New York in trust for the State Museum, are exempt from federal taxation, under the Federal Revenue Act of 1918.

**FORM OF BEQUEST**

I do hereby give and bequeath to the Board of Regents of The University of the State of New York, in trust for the New York State Museum:
ANNUAL BIBLIOGRAPHY OF THE STATE MUSEUM

Publications by the Museum staff for the fiscal year ending June 30, 1932, or based, at least in part, on the Museum collections, or made in cooperation with the State Museum, follow:

Adams, Charles C.
1931 State Museum. 27th Ann. Rep't of the New York State Education Department, v. 1, p. 227-31
1932a The Proposals for a New State Museum Building. N. Y. State Mus. Bul., 293:81-96

Brigham, Albert P.

Clarke, Noah T.
1931 The Wampum Belt Collection of the New York State Museum. N. Y. State Mus. Bul., 288:85-121

Glasgow, R. D.

Goldring, Winifred

Hannan, W. E. & Lambert, June
1932 The Development of the New York State Museum as Provided by the Laws of New York State, 1836 to 1931. N. Y. State Bul., 293:59-80

Hotchkiss, Neil

House, H. D.
1932 Let Wild Flowers Grow. Hobbies, 12:188-93

Hudson, G. H.

Hudson, G. H. & Cushing, H. P.

Metcalf, C. L.

Metcalf, C. L. & Sanderson, W. E.
1932 Control of Biting Flies in the Adirondacks. N. Y. State Mus. Bul., 289:59-78
Newland, D. H.

Newland, D. H. & Hartnagel, C. A
1932 The Mining and Quarry Industries of New York State for 1927 to 1929. N. Y. State Mus. Bul., 295:3-99
1932a Review of the Natural Gas and Petroleum Developments in New York State. N. Y. State Mus. Bul., 295:101-84
1932b Recent Natural Gas Developments in South-Central New York. N. Y. State Mus. Cir., 7:1-20

Ruedemann, Rudolf

Ruedemann, Rudolf, & Goldring, Winifred
1931 Some Museum Methods Developed in the New York State Museum. N. Y. State Mus. Bul., 288:71-83

Schoonmaker, W. J.
1932a Pond Dwellers. Trails, 1, no. 2:11-12

Smith, Burnett

Ulrich, E. O. & Ruedemann, R.

von Engeln, O. D.

Whitney, Elsie G.
MUSEUM ACCESSIONS FOR THE YEAR

Accessions are new additions to the Museum. These are classified into the following groups:

1. By donation: objects presented to the Museum
2. By exchange: for other Museum materials etc.
3. By purchase: payment from the Museum budget
4. By the staff: collected by the staff during official duties of any kind
5. By transfer, from other state departments or other divisions of the State Government, as provided by law.

Gifts to scientific and educational institutions are listed at the end of this section.

BY DONATION

Allen, Dr Charles E., Albany, N. Y.
Old dentist turnkey

Andrews, Buel C., Albany, N. Y.
Plains Indian-tanned Buffalo robe bearing colored picturegraphs

Baker and Williams Company, New York, N. Y.
Specimens of cigarette beetle, Lasioderma serricorne Fab., New York, N. Y.

Banker, Dr S. J., Fort Edward, N. Y.
Fee lists

Barber, Dr Annetta E., Glens Falls, N. Y.
Certificate of membership
License of Dr Leonard Spraye
Old lancet in paper case

Blatner, Dr Leroy S., Albany, N. Y.
Dentist turnkey

Bosworth, William L., Coleman Station, N. Y.
Specimen of caterpillar of imperial moth, Basilona imperialis Dru., Coleman Station, N. Y.

Boyce, W. H., Bronxville, N. Y.
Specimens of willow borer, Cryptorrhynchus lapathi L., Bronxville, N. Y.

Braasch, George E., Mount Vernon, N. Y.
Specimens of blister beetle, Epicauta marginata Fab., Mount Vernon, N. Y.

Bradt, Gay, Highland, N. Y.
Fragment of inscribed slate, Highland, N. Y.

Britton, Dr Knox, Spencerport, N. Y.
16 surgical instruments

Buckley, Mrs Horton, Wassaic, N. Y.
Specimens of sycamore lace bug, Corythuca ciliata Say, Wassaic, N. Y.

Cady, Dr George, Nichols, N. Y.
Large stone Indian mortar, Nichols, N. Y.

Cadwallader, Wayne, New York, N. Y.
Specimens of larvae of Box leaf miner, Sea Bright, N. J.

Cameron, Byron A., Upper Saranac, N. Y.
Plant lice (family Aphididae) in spruce, Upper Saranac, N. Y.

Clark, D. C., Malverne, N. Y.
Specimen of egg-mass of praying mantid, Paratenodera sinensis Sauss., Malverne, N. Y.
Colburn, William B., Rensselaerville, N. Y.
   Photograph of Cherokee Indian burial at Elizabethton, Tenn.
   21 mineral specimens
Cole, Mrs Frank, Coxsackie, N. Y.
   Specimens of locust bug, *Locusta migratoria* Uhler, Coxsackie, N. Y.
Combs, Charles D., Monroe, N. Y.
   Grooved ax, Monroe, N. Y.
Cook, David B., Albany, N. Y.
   Specimens of powder post beetle, *Lycus opaculus*, Lec., Stephentown, N. Y.
   2 specimens of spruces from Herkimer County, N. Y.
Cross, C. B., Larchmont, N. Y.
   Specimen of *Prionus laticollis* Dr., Larchmont, N. Y.
Dake, Mrs Frank W., Watervliet, N. Y.
   Loom of weaver
   Account book of weaver
Davis, Mrs Edward E., Norwich, N. Y.
   10 flint implements; 1 arrowpoint; 42 flint fragments, Chenango Lake, N. Y.
   3 scrapers and 26 rejects, Canadarago Lake, N. Y.
   4 arrowpoints, Chenango County, N. Y.
   2 flint drills, 3 spearpoints, 9 arrowpoints, N. W. Oregon
   5 arrowpoints and stone knife from vicinity of Smyrna and Earlville, N. Y.
   3 arrowpoints, 3 rejects, Smyrna, N. Y.
   A large collection of fossils collected by Edward E. Davis, and many scientific books
Davis, Edward E., Norwich, N. Y.
   185 specimens of plants, Chenango County, N. Y.
Dederick, P. K., Loudonville, N. Y.
   Specimens of termites, *Reticulitermes flavipes* Koll., Loudonville, N. Y.
Dobbin, Frank, Shushan, N. Y.
   200 specimens of plants, mostly from Washington county, N. Y.
Dorn, David R., Cooperstown, N. Y.
   Worked black bear metapodial, Ephratah, N. Y.
Eaton, E. H., Geneva, N. Y.
   2 specimens of plants from western New York
Fairbanks, Mrs L. B., Bainbridge, N. Y.
   55 specimens of plants from Chenango county, N. Y.
Felt, Dr E. P., Stamford, Conn.
   Specimens of bark beetle, *Xyleborus germanus* Blandf., Oyster Bay, N. Y.
Fifield, P. T., Berlin, N. Y.
   Specimens of white grub (*Phyllophaga*) infested with Cordiceps fungus, Berlin, N. Y.
Foerste, Dr A. F., Dayton, Ohio
   2 specimens of *Pterygometopus carleyi*, Cincinnati, Ohio
Follett, Louis E., Saratoga Springs, N. Y.
   2 hammerstones; 6 scrapers; 1 ceremonial stone; 5 arrowpoints; 3 blades;
   1 drill; 1 worked stone, Fish Creek, N. Y.
Foote, Margaret, Norwich, N. Y.
   Sample of flax
Frederick, J. H., Schenectady, N. Y.
   Specimens of fruit bark beetle, *Scolytus rugulosus* Ratz., Schenectady, N. Y.
Fuller, A. F., Schenectady, N. Y.
   Brachiopods, Schoharie Valley, N. Y.
Gabriel, Fred C., Malta, Mont.
   60 flat netsinkers; 4 grooved netsinkers; 16 hammerstones; 3 celts; 2 stone pestles; 5 fragments of stone pestles; 23 pitted stones, 3 mullers,
   Glen Eldridge, Seneca Lake, N. Y.
Gilbert, L. A., Hempstead, N. Y.
Specimens of Japanese garden beetle, *Aserica castanea* Arrow, Garden City, L. I., N. Y.

Graves, George S., Newport, N. Y.
Specimen of *Serapis helleborine*, Herkimer county, N. Y.

Griffin, Evelyn M., Hancock, Mass.
Shaker sampler

Grover, Mrs W. A., Armonk, N. Y.
Specimen of rhubarb curculio, *Lixus concavus* Say, Armonk, N. Y.

Hallock, Helen E., Flanders, N. Y.
Specimens of bean weevil, *Mylabris obtecta* Say, Flanders, N. Y.

Hampshire, John, Rensselaer, N. Y.
Specimens of spotted grapevine beetle, *Pelidnota punctata* L., Rensselaer, N. Y.

Harper, Lawrence, Albany, N. Y.
Specimen of *Favosites*, Helderberg Mountains, N. Y.

Harrington, A. V., Argyle, N. Y.
Specimen of click beetle, *Hemicrepidius decoloratus* Say, Argyle, N. Y.

Hassard, Mrs B. J., Albany, N. Y.
Specimens of larvae of Leconte's sawfly, *Neodiprion lecontei* Fitch, Albany, N. Y.

Henry, Mrs Isabel, Woodstock, Vt.
Medical diploma of S. W. Watts
Pocket surgical knife
Family receipt book

Hicks, L. E., Columbus Ohio
11 specimens of plants, Allegany State Park, N. Y.
8 specimens of stoneware pottery

Hooker, A. H., Lewiston, N. Y.
6 osteological specimens from ossuary two miles east of Lewiston, N. Y.

Horton, Theodore, Albany, N. Y.
Pocket surgical case and tools

Kellogg, F. B., Northport, N. Y.
Specimens of lilac branches showing work of European hornet, *Vespa crabro* L., Northport, N. Y.

Korchak, Paul, Binghamton, N. Y.
Coins from Czechoslovakia

Lassiter, William L., Albany, N. Y.
52 specimens of plants, Long Island, N. Y.
10 Shaker photographs

Latham, Roy, Orient, N. Y.
6 specimens of *Dermestes nidum* Arrow, Orient, N. Y.
65 specimens of miscellaneous beetles, Orient, N. Y.
Specimen of *Chlaenius tomentosus* Say, Orient, N. Y.

Littlefield, E. W., Albany, N. Y.
3 specimens of plants, Albany, N. Y.

Love, H. D., West Winfield, N. Y.
Specimens of blister beetle, *Pomphopoea sayi* Lec., West Winfield, N. Y.

Specimen of *Polytropis* from Michigan

Lynch, Dr Leo F., Saratoga Springs, N. Y.
24 specimens of miscellaneous insects, Saratoga Springs, N. Y.

McCabe, Dr Charles, Greenville, N. Y.
5 old surgical instruments

McDonald, Mrs Hartwell, Corinth, N. Y.
Specimens of butterflies, *Vanessa cardui* L., Corinth, N. Y.
Miller, Elihu S., Wading River, N. Y.
   2 flints from flintlock gun
Mott, D. B., Great Neck, N. Y.
   Specimens of elm leaf beetle, Galerucella luteola Mull., Great Neck, N. Y.
Neale, Sister Emma, Mount Lebanon, N. Y.
   Copy Harper's New Monthly, 1857
Neale, Sister Sadie, Mount Lebanon, N. Y.
   36 Shaker articles
Perkins, Dr Anne E., Gowanda, N. Y.
   42 specimens of plants from western New York
Phelps, Oliver, Canandaigua, N. Y.
   Old wooden bath tub
Phelps, Mrs Orra P., Wilton, N. Y.
   2 specimens of plants from the Adirondack mountains
Ralyea, L. J., Alexander, N. Y.
   Specimen of owl beetle, Alaus oculatus L., Alexander, N. Y.
Resser, Dr Charles E., Washington, D. C.
   7 specimens of Billingsella pepina, Grand Teton, Wyoming-Idaho State Line
Rood, C. A., Poughkeepsie, N. Y.
   Specimens of elm lace bug, Corythuca ulmi Dr. and Osb., Poughkeepsie, N. Y.
Sanford, Dr J., Rochester, N. Y.
   Sponge, Eighteen Mile Creek, N. Y.
Schamer, Frederick, Rensselaer, N. Y.
   Specimens of Cecropia moth, Samia cecropia L., Rensselaer, N. Y.
Schoonmaker, W. J., Rensselaer, N. Y.
   Collection of birds and small mammals, Rensselaer and Columbia counties, N. Y.
   Collection of skulls, including eight deer skulls and six deer hoofs from the Adirondack mountains
Shattuck, Myra L., Norwich, N. Y.
   Sample old homespun woolen blanket
   Old umbrella, formerly property of John S. Shattuck
Sherman, Frank, Schenectady, N. Y.
   Flatiron holder
   Wooden homemade clothespin
Sherwood, Warren G., Highlands, N. Y.
   81 specimens illustrating early American home industry
Shields, J. S., Albany, N. Y.
   Specimens of Chironomid midge, Clinton, N. Y.
Siebrecht, H. A., New Rochelle, N. Y.
   Specimens of Mexican bean beetle, Epilachna corrupta Muls., New Rochelle, N. Y.
Smith, Sister Alice, Pittsfield, Mass.
   7 Shaker articles
Smith, Florence, Lake Placid, N. Y.
   Specimens of burrower bugs, Schinus cinctus P. de Beauv., Lake Placid, N. Y.
Smith, Frank W., Saranac Lake, N. Y.
   Specimens of Sciaphilus muricatus Fab., Saranac Lake, N. Y.
Smith, Silas, Glens Falls, N. Y.
   Front seat to sleigh
   Ox-team and tongue
   Old fireplace screen
   Wagon seat with folding back
Spaulding, Perley, Amherst, Mass.
   Specimen of wood-inhabiting fungus, Amherst, Mass.
Stickney, Sister Prudence, Sabbathday Lake, Me.
   3 Shaker articles
Sweet, Dr W. H., Petersburg, N. Y.
   Specimens of squash bug, Anasa tristis DeG., Petersburg, N. Y.
Van Alstine, Dr Chauncey D., Weedsport, N. Y.
Collection of dental tools

Van Campen, M. S., Schenectady, N. Y.
Specimen of dogbane leaf beetle, Chrysochue auratus Fab., Schenectady, N. Y.

Vander Veer, Dr James N., Albany, N. Y.
3 old dental instruments
Framed photograph of executive committee of General Medical Board

Van Horn, Cornelius F., through Mrs William H. Brown, Albany, N. Y.
Old stoneware salt jar

Van Slyke, Dr A. W., Coxsackie, N. Y.
Arrowpoint and scraper, West Coxsackie, N. Y.
3 Algonquin potsherds from Howland's Island Game Refuge, Cayuga county, N. Y.

Vesper, J. P., Fort Bliss, Texas
9 mineral specimens

Vink, Miss Gertrude, Kings Park, N. Y.
Specimens of European willow gall midge and work of same, Rhabdophaga salicis Schrk., Kings Park, N. Y.

Virklar, S. F., Castorland, N. Y.
Specimens of spider beetle, Ptinus fur L., Castorland, N. Y.

Volz, Mrs L. E., Massena, N. Y.
8 specimens of plants from St Lawrence county, N. Y.

Wardell, Miss Beatrice, Northfield, Minn.
Specimens of vagabond poplar gall, Mordwilkoja vagabundus Walsh, Northfield, Minn.

Watervliet Shakers, Watervliet, N. Y.
List of garden seeds

Wells, Sister Jennie, Mount Lebanon, N. Y.
5 Shaker articles

Whitbeck, George, Albany, N. Y.
Specimens of lantern-fly, Ormenis pruinosa Say, Albany, N. Y.

Williams, George W., Silver Bay, N. Y.
Specimens of strawberry crown girdler, Brachyrinus ovatus L., Silver Bay, N. Y.

Winnie, Dr Charles, Albany, N. Y.
Menu of Banquet of Medical Society

Winter, W. F., Schenectady, N. Y.
Shaker chair catalogue

Herb preparation boxes from Shakers, Mount Lebanon, N. Y.

Wood, Harry C., Schenectady, N. Y.
Specimen of sawyer beetle, Monochamus notatus Dru., Schenectady, N. Y.

Zenkert, C. A., Buffalo, N. Y.
15 specimens of plants from western New York

Zimmer, C. H., New York, N. Y.
Specimens of blister beetle, Epicauta marginata Fab., New York, N. Y.

Zodiac, Peter, Peekskill, N. Y.
2 specimens of molybdene from Roa Hook near Peekskill, N. Y.

BY EXCHANGE

Bureau of Plant Industry, Washington, D. C.
93 specimens of fungi

Muenscher, W. C., Ithaca, N. Y.
150 specimens of plants from northern New York

New York Botanical Garden, Bronx Park, New York City
1865 specimens of plants from E. P. Bicknell herbarium

Reinholt, O. H., Oneonta, N. Y.
2 Eurypterids, Kenwood, N. Y.
BY PURCHASE

75 Shaker articles
Clark, Mrs. Emery, Buskirk, N. Y.
Portable furnace
Cowdery, W. H., Nederland, Colo.
5 ferberite crystals from the "Sunday" mine situated at the southern edge of the tungsten belt of Boulder county, Colo., from a depth of 80 feet
Crofut, Ferris, Albany, N. Y.
Steatite pipe, Van Wie's Point, N. Y.
Ehrmann, Martin L., Hartsdale, N. Y.
Figured vase, carved from rose quartz, Bedford, N. Y.
North Family Shakers, Mount Lebanon, N. Y.
24 Shaker articles
Phelps, Mrs. Orra Parker, Gansevoort, N. Y.
2 specimens of Edrioaster saratogensis, Saratoga county, N. Y.
Pittsfield Shakers, Pittsfield, Mass.
227 Shaker articles
Reinhard, E., Buffalo, N. Y.
17 fossils, Buffalo, N. Y.
Blastoid, Athol Springs, N. Y.
Smith, Sister Alice, Pittsfield, Mass.
25 Shaker articles
Turrell, Luella, Red Wood Falls, Minn.
4 old family articles
Ward's Natural Science Establishment, Rochester, N. Y.
4 cystids, Lake Adolphus, B. C.
Cystid, Millard county, Utah

BY MUSEUM STAFF

Adams, Charles C., Albany, N. Y.
Fragment of spearpoint from Sharpe's grove, North Greenbush, N. Y.
Specimens of rhinoceros beetle, Xyloryctes satyrus Fab., Long Island, N. Y.
Adams, Charles C. and Glasgow, R. D., Albany, N. Y.
4 hickory saplings heavily infested by the hickory snout beetle, Magdalis olyra, which had been closely worked over by woodpeckers
Adams, Charles C. and Sanderson, W. E., Albany, N. Y.
70 potsherds; 8 fragments of animal bones; 4 fragments of mussel shells;
8 stone chips, Ephratah, N. Y.
Arnold, Dr. Benjamin Walworth, Albany, N. Y.
Collection of Echinoderms
Casey, John L., Albany, N. Y.
Specimen of crane-fly, Albany, N. Y.
Chamberlain, K. F., Albany, N. Y.
82 specimens of miscellaneous insects, Wemple Station, N. Y.
Specimens of pine bark beetle, Dendroctonus valens Lec., Albany, N. Y.
198 specimens of Scotch pine anomala, Ballston Spa, N. Y.
Specimens of larvae of Pales weevil, Hylobius pales Boh., Ballston Spa, N. Y.
Specimens of fungus gnats, Albany, N. Y.
12 specimens of carabid beetles, Round Lake, N. Y.
Specimens of dogbane leaf beetle, Chrysochus auratus Fab., Albany, N. Y.
Specimens of click beetle, Ballston Spa, N. Y.
Specimens of miscellaneous insects, Ballston Spa, N. Y.
Specimens of round-headed apple borer, Saperda candida Fab., Feura Bush, N. Y.
134 specimens of miscellaneous insects affecting black locust, Albany, N. Y.
Clarke, Noah T., Albany, N. Y.
Male Indian skeleton containing embedded arrowpoint in the third lumbar vertebra, Coxsackie, N. Y.
7 arrowpoints; 5 scrapers; stone hoe; semilunar knife; 12 flint fragments, and hammerstone from near Grangerville, Saratoga county, N. Y.
Net sinker; 2 deer bones; 2 flint scrapers; 4 arrowpoints; 36 flint implements, and drill fragment from Howland’s Island Game Refuge, Cayuga county, N. Y.

Glasgow, R. D., Albany, N. Y.
Many thousands of black fly larvae, pupae and adults, (Simulium), Chub Hill, Franklin Falls, Keene, Lake Placid, North Elba, Stony Wold, Wilmington and Witherbee, N. Y.
Many thousands of larvae, pupae, adults, eggs and representative specimens of injury by European larch case bearer, Coleophora laricella Hbn., Bloomingdale, Chub Hill, Duane Center, Mount Vernon, North Elba, Saranac Lake, Scarsdale, Warrensburg, and Wilmington, N. Y.
Many specimens, larvae, pupae, adults and characteristic injury by European birch leaf mining sawfly, Phyllotoma memorata Fallen, North Elba, N. Y.
Many hundreds of specimens of larvae, pupae, adults, and injury by European pine shoot moth, Rhyacicion buoliana Hubner, from Westchester county, N. Y.
Numerous specimens of maple and oak twig pruner and its work, Westbury, N. Y.
Many specimens of the juniper webworm, larvae, pupae, and work, Garden City, N. Y.
Many specimens of round Goldenrod gall, Eurosta solidaginis Fitch, John Boyd Thacher State Park

Goldring, Winifred, and Ruedemann, Rudolf, Albany, N. Y.
20 corals from Onondaga county, N. Y.

Hartnagel, Albany, N. Y.
5 specimens of garnetiferous gneiss and associated dike rock, Yosts, N. Y.
Specimen of chatter marks on glaciated Potsdam sandstone, near Plessis, N. Y.
6 specimens of igneous dike specimens from dikes in limestone, at quarry operated by Plattsburg Limestone Company, one mile north of Plattsburg, N. Y.
6 specimens of anthracite from New York State quarry, Canajoharie, N. Y.
10 specimens of anorthosite and related rocks from new highway cuts between Elizabethtown and Keeseville, N. Y.
30 specimens of garnet with associated rocks from Barton garnet mine near North River, N. Y.
6 specimens of “black marble” from Glens Falls limestone, Glens Falls, N. Y.
2 specimens of gabbro and feldspar from large roadside exposure between Lake George and Warrensburg, N. Y.

House, Homer D., Albany, N. Y.
Specimen of grasshopper, Pardalophora apiculata Harr., Malta, N. Y.
Specimen of Prasocus obliquata Lec., from blossoms of Ranunculus delphinifolius, Wemple Station, N. Y.
Specimens of miscellaneous insects, New Salem, N. Y.
1019 specimens of ferns and flowering plants; 84 specimens of fungi; 36 specimens of mosses and lichens collected in New York State

Newland, D. H., Albany, N. Y.
Rutile in chloritic schist near Pylesville, Md.

Ruedemann, Rudolf, Albany, N. Y.
Specimen showing Little Falls-Lowville contact, Newport, N. Y.
Brachiopods, Middleville, N. Y.
3 gastropods, Tribes Hill, N. Y.
Specimen of Lowville limestone, Newport, N. Y.
5 specimens of Tribes Hill limestone, Fort Hunter, N. Y.
Schoonmaker, W. J., Albany, N. Y.
Specimens of water beetle, *Hydrous triangularis* Say, Defreestville, N. Y.
Whitney, Elsie G., Albany, N. Y.
950 plant specimens from 12 counties in New York State

**BY TRANSFER**

New York State Library, through Dr J. I. Wyer, Albany, N. Y.
3 photographs of cephalopods

**GIFTS TO INSTITUTIONS**

Schenectady High School, Schenectady, N. Y.
Collection of rocks, minerals and fossils
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