NEW YORK STATE MUSEUM

CHARLES C. ADAMS Ph.D., Director

ONE HUNDRED SEVENTH ANNUAL REPORT OF THE NEW YORK STATE MUSEUM

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ALBANY

THE UNIVERSITY OF THE STATE OF NEW YORK

1944
The New York State Education Department
The New York State Museum, June 17, 1943

The Honorable George D. Stoddard
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, 1942, to March 31, 1943.

Very respectfully

CHARLES C. ADAMS

Director
ONE HUNDRED SEVENTH ANNUAL REPORT
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ALBANY
THE UNIVERSITY OF THE STATE OF NEW YORK
1944
THE UNIVERSITY OF THE STATE OF NEW YORK

Regents of the University

With years when terms expire

1955 Thomas J. Mangan M.A., LL.D., Chancellor - - - - Binghamton
1945 William J. Wallin M.A., LL.D., Vice Chancellor - - - - Yonkers
1950 Roland B. Woodward M.A., LL.D. - - - - - Rochester
1951 Wm Leland Thompson B.A., LL.D. - - - - - Troy
1948 John Lord O'Brian B.A., LL.B., LL.D. - - - - Buffalo
1954 George Hopkins Bond Ph.M., LL.B., LL.D. - - - - Syracuse
1949 Susan Brandeis B.A., J.D. - - - - - New York
1947 C. C. Mollenhauer LL.D. - - - - - Brooklyn
1953 W. Kingsland Macy B.A. - - - - - Islip
1952 John P. Myers B.A. - - - - - Plattsburg
1956 Stanley Brady B.A., M.D. - - - - - New York

President of the University and Commissioner of Education
George D. Stoddard Ph.D., LL.D., Litt.D., L.H.D.

Deputy and Associate Commissioner (Finance, Administration, Vocational Education)
Lewis A. Wilson D.Sc., LL.D.

Associate Commissioner (Instructional Supervision)

Associate Commissioner (Higher and Professional Education)
J. Hillis Miller M.A., Ph.D., Litt.D.

Counsel
Charles A. Brind Jr B.A., LL.B., LL.D.

Assistant Commissioner for Research
J. Cayce Morrison M.A., Ph.D., LL.D.

Assistant Commissioner for Teacher Education
Hermann Cooper M.A., Ph.D., LL.D.

Assistant Commissioner for Personnel and Public Relations
Lloyd L. Cheney B.A., Pd.D.

Assistant Commissioner for Finance
Arthur W. Schmidt M.A., Ph.D.

Assistant Commissioner for Instructional Supervision
Edwin R. Van Kleeck M.A., Ph.D.

Assistant Commissioner for Professional Education
Irwin A. Conroe M.A., LL.D., L.H.D.

Assistant Commissioner for Vocational Education
Oakley Furney B.A., Pd.M.

State Librarian

Director of State Museum
Carl E. Guthe M.A., Ph.D.

State Historian
Albert B. Corey M.A., Ph.D.

Directors of Divisions
Adult Education and Library Extension, Frank L. Tolman Ph.B., Pd.D.
Elementary Education, William E. Young M.A., Ph.D.
Examinations and Testing, Harold G. Thompson M.A., LL.D.
Higher Education, John S. Allen M.A., Ph.D.
Law, Joseph Lipsky LL.B.
Motion Picture, Irwin Esmond Ph.B., LL.B.
Research, Warren W. Coxe B.S., Ph.D.
School Buildings and Grounds, Don L. Essex M.A., Ph.D.
Secondary Education, Warren W. Knox M.A., Ph.D.
Vocational Rehabilitation, G. Samuel Bohlin B.S.
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THE LEGAL STATUS OF THE NEW YORK STATE MUSEUM

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 of 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 cannot 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.

RESEARCH AND EDUCATION

"The future of America is in the hands of two men—the investigator and the interpreter. We shall never lack for the administrator, the third man needed to complete this trinity of social servants. And we have an ample supply of investigators, but there is a shortage of readable and responsible interpreters, men who can effectively play mediator between specialist and layman. The practical value of every social invention or material discovery depends upon its being adequately interpreted to the masses. Science owes its effective ministry as much to the interpretative mind as to the creative mind. The knowledge of mankind is advanced by the investigator, but the investigator is not always the best interpreter of his discoveries. Rarely, in fact, do the genius for exploration and the genius for exposition meet in the same mind . . . . The interpreter stands between the layman, whose knowledge of all things is indefinite, and the investigator whose knowledge of one thing is authoritative. The investigator advances knowledge. The interpreter advances progress. History affords abundant evidence that civilization has advanced in direct ratio to the efficiency with which the thought of the thinkers has been translated into the language of the workers. Democracy of politics depends upon democracy of thought. 'When the interval between intellectual classes and the practical classes is too great,' says Buckle, 'the former will possess no influence, the latter will reap no benefit.' A dozen fields of thought are today congested with knowledge that the physical and social sciences have unearthed, and the whole tone and temper of American life can be lifted by putting this knowledge into general circulation. But where are the interpreters with the training and the willingness to think their way through this knowledge and translate it into the language of the street? 'I raise the recruiting trumpet for the interpreters.'

—Glenn Frank.

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:
State Museum Council

Orange L. Van Horne
William Otis Hotchkiss
Sanford L. Cluett
Waldemar B. Kaempffert
Lewis K. Sillcox

State Museum Staff

Charles C. Adams Ph.D., D.Sc. . . . . Director of State Museum
Alvin G. Whitney A.B. . . . . . . . . Assistant Director of State Museum
Chris A. Hartnagel M.A. . . . . . . . . State Geologist
Robert D. Glasgow Ph.D. . . . . . . . . State Entomologist
Homer D. House Ph.D. . . . . . . . . . . State Botanist
Dayton Stoner Ph.D. . . . . . . . . . . . . . . . . . . . . State Zoologist
John G. Broughton Ph.D. . . . . . . . . Assistant State Geologist
Noah F. Chamberlain . . . . . . . . . . . . . . . . . . . . . Assistant State Entomologist
Walter J. Schoonmaker . . . . . . . . . . . . . . . . . . . . Assistant State Zoologist
Louis J. Koster . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Museum Technical Assistant (Taxidermy)
Clinton F. Kilfoyle . . . . . . . . . . . . . . . . . . . . . . . . . Museum Technical Assistant (Paleontology)
John L. Casey . . . . . . . . . . . . . . . . . . . . . . . . . State Museum Guide

Honorary Curators

William L. Bryant . . . . . . . . . . . . . . . . . . . . . . . . . Honorary Curator of Fossil Fishes

Collaborator

Ephraim P. Felt

Temporary Scientific Appointments

A. F. Buddington Ph.D. . . . . . . . . . . . . . . . . . . . . . . . . . Temporary Geologist
William L. Lassiter M.A. . . . . . . . . . . . . . . . . . . . . . . . . . Temporary Curator of History
Elizabeth McCausland M.A. . . . . . . . . . . . . . . . . . . . . . . . . . Temporary Expert
Royal E. Shanks Ph.D. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Temporary Plant Ecologist (Botany)
Figure 1  New York State Education Building. The upper floors are devoted to the offices, laboratories and exhibits of the New York State Museum.
ONE HUNDRED SEVENTH ANNUAL REPORT
OF THE NEW YORK STATE MUSEUM

By Charles C. Adams Ph.D., Director
New York State Museum

ACCOMPLISHMENTS OF THE YEAR

This report covers the new fiscal year which began July 1, 1942, and ended March 31, 1943. This new fiscal year thus covers a period of nine rather than the usual 12 months of the earlier annual reports.

Although this is the 107th year of the State Museum and its antecedents, it is yet necessary to state that its primary duties throughout this period have been primarily those of a research agency, conducting scientific surveys and making special studies of the natural and human resources of the State, in relation to the economic, social and educational welfare of the people of the State. A summary sketch for the year follows:

1 Field and laboratory studies of the mineral and other geological resources of the State have been continued, with special reference to those related to war industries, particularly iron ore and other strategic materials, such as oil and gas, as well as field and laboratory work on certain quadrangles and paleontological studies. Cooperation has been continued with federal and state agencies as well as with individuals and the industries. The war has greatly intensified interest in this particular field.

2 Important field and laboratory studies have been continued in botany, zoology and entomology, although field work has been considerably restricted on account of the transportation situation and because an effort was made to concentrate on urgent problems. The important ecological study of the vegetation of Monroe county, in relation to land use, has been completed; the entomological work on blackflies and mosquitoes has been continued with important results and has been extended to war problems; local studies of birds and mammals have been continued which have an educational bearing.

3 The collections of history, art and Indian archeology have continued to grow and increase in value. The report on the Stetson-Wells, E. L. Henry Art Collection has been completed and the report has been sent to the printer. The exhibition of the E. L. Henry Collection is about completed, like that of the Hall of New York
History, and it should soon be open to the public. A special effort has been made not to overcrowd these two halls, and special attention has been given to legible explanatory labels.

4 The attendance of school classes has continued to decline, due to war conditions. For 1942-43 there were only 52 classes and 1083 students from nine counties. The total attendance for the period was estimated at 85,000. There were no funds for Sunday and holiday opening of the exhibition halls.

**COOPERATION WITH STATE AND OTHER ORGANIZATIONS**

During the past year the State Museum has cooperated with the following agencies or individuals:

1 New York State Department of Agriculture and Markets. Cooperative entomological studies of the European pine shoot moth and of other insect pests of ornamental trees and shrubs have been continued.

2 New York State Conservation Department. The Director of the State Museum 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 continued his studies of the Pales weevil and related weevils injurious to Scotch and other pines, and of the European pine shoot moth. The Division of Fish and Game has cooperated with the State Entomologist on the relation of mosquito control to wild life.

3 The State Department of Health has cooperated with the State Entomologist of the Museum staff on problems relating to the control of blood-sucking flies on the grounds of the State Tuberculosis Hospital at Ray Brook and on the relation of mosquito control to wild life on Long Island.


5 State Executive Department, Division of State Planning. The State Museum has cooperated with the Division of Planning.

6 Cooperation within the Education Department: State Library, conducting exchanges of Museum publications; Bureau of Publications, on the publication of Bird and Arbor Day numbers of the Bulletin to the Schools.

8 United States Department of Agriculture, Bureau of Entomology and Plant Quarantine, has cooperated on plans for scientific studies to determine the relation of mosquito control operations to wild life conservation. This cooperation is a continuation of the work begun as a state branch of the Federal Civil Works Administration (C.W.A.) mosquito control relief program, and has been extended to include cooperation with the Fish and Wild Life Service on the same series of studies and with neighboring states.

9 The National Association of Audubon Societies has cooperated with the State Entomologist on the relation of mosquito control to wild life.

10 National Research Council, Committee on the Preservation of Natural Conditions, Washington, D.C. The Director is a member of this committee, which has been studying the facilities devoted to the preservation of natural conditions.

11 The Federal Fish and Wild Life Service cooperated in furnishing bands for the bird-banding studies of the State Zoologist, and has cooperated with the State Entomologist on plans for a study to determine the relation of mosquito control work to wild life conservation.

12 City Health Department of New York City. The State Entomologist has cooperated with this department on the control of mosquitoes and on their relation to wild life.

13 Suffolk County Mosquito Extermination Commission has cooperated with the State Entomologist on methods of controlling mosquitoes in relation to wild life conservation.

14 The Nassau County Mosquito Extermination Commission has cooperated with the State Entomologist on studies of mosquitoes and their relation to wild life.

15 Eastern Association of Official Mosquito Control Workers. The State Entomologist has participated in the organization and activities of this interstate association.

16 Monroe County, Division of Regional Planning. The State Museum has cooperated on an ecological vegetational survey of the county, in relation to land use.
STATE AND COUNTY PLANNING

As the State Museum has always been devoted to the study of the mineral, plant and animal resources of the State, its work has a fundamental relation to all programs for the proper use of these resources. The publications and files of the State Museum are the main reservoir of information on these resources. Wise public policies and planning can not ignore this kind of information. The needs for such information have increased, however, much more rapidly than the facilities for the acquisition of such information. Some phases of these problems have been discussed in former Annual Reports (St. Mus. Bul., 310, p. 121-41; Bul. 306, p. 87-96).

A local study is complete on the relation of a vegetation to land use in Monroe county, in cooperation with the local Division of Regional Planning.

In general, local planning boards can not be expected to conduct the essential scientific surveys needed, and these should be made in cooperation with the State Museum. In general also, it is only when such studies reach the engineering stage that scientific aid is no longer necessary.

STATE COUNCIL OF PARKS

The State Council of Parks, in the Department of Conservation, is the "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 regularly the monthly meetings and inspection trips through the parks and parkways.

RELATION OF MUSEUM EXHIBITS TO SCHOOLS AND COLLEGES

With the present fiscal year of nine months, the spring attendance of classes is of course not included, but with the war restrictions on travel attendance was very limited. The number of classes from nine counties was 52, with an attendance of 1083, and class average of 21. The only counties represented were: Albany, Columbia, Delaware, Franklin, Montgomery, Rensselaer, Rockland, Saratoga and Schenectady. There were no classes from other states, as has been customary. The maximum class attendance was in 1936-37, with 402 classes and 12,444 students; for 1939-40 it declined to 361 classes and 10,474 students; for 1941-42 to 245 classes and 6500 students.
The attendance for the past 16 years, as recorded by the State Museum guide, follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>No. classes</th>
<th>No. students</th>
<th>No. counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>1927-28</td>
<td>200</td>
<td>3,500</td>
<td>13</td>
</tr>
<tr>
<td>1928-29</td>
<td>175</td>
<td>4,750</td>
<td>21</td>
</tr>
<tr>
<td>1929-30</td>
<td>235</td>
<td>6,308</td>
<td>25</td>
</tr>
<tr>
<td>1930-31</td>
<td>264</td>
<td>7,128</td>
<td>30</td>
</tr>
<tr>
<td>1931-32</td>
<td>253</td>
<td>6,726</td>
<td>28</td>
</tr>
<tr>
<td>1932-33</td>
<td>309</td>
<td>7,981</td>
<td>31</td>
</tr>
<tr>
<td>1933-34</td>
<td>301</td>
<td>8,769</td>
<td>28</td>
</tr>
<tr>
<td>1934-35</td>
<td>333</td>
<td>8,364</td>
<td>36</td>
</tr>
<tr>
<td>1935-36</td>
<td>445</td>
<td>12,315</td>
<td>39</td>
</tr>
<tr>
<td>1936-37</td>
<td>402</td>
<td>12,444</td>
<td>38</td>
</tr>
<tr>
<td>1937-38</td>
<td>387</td>
<td>11,697</td>
<td>41</td>
</tr>
<tr>
<td>1938-39</td>
<td>402</td>
<td>10,912</td>
<td>36</td>
</tr>
<tr>
<td>1939-40</td>
<td>361</td>
<td>10,474</td>
<td>47</td>
</tr>
<tr>
<td>1940-41</td>
<td>377</td>
<td>10,453</td>
<td>31</td>
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<tr>
<td>1941-42</td>
<td>245</td>
<td>6,500</td>
<td>33</td>
</tr>
<tr>
<td>1942-43 (9 months)</td>
<td>52</td>
<td>1,083</td>
<td>9</td>
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</tbody>
</table>

Monthly Class Attendance 1942-43

<table>
<thead>
<tr>
<th></th>
<th>1940-41</th>
<th>1941-42</th>
<th>1942-43</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classes—Attendance</td>
<td>Classes—Attendance</td>
<td>Classes—Attendance</td>
<td></td>
</tr>
<tr>
<td>October</td>
<td>58 1,569</td>
<td>31 914</td>
<td>11 256</td>
</tr>
<tr>
<td>November</td>
<td>24 529</td>
<td>34 867</td>
<td>12 242</td>
</tr>
<tr>
<td>December</td>
<td>12 239</td>
<td>11 297</td>
<td>5 146</td>
</tr>
<tr>
<td>January</td>
<td>14 334</td>
<td>11 242</td>
<td>8 112</td>
</tr>
<tr>
<td>February</td>
<td>17 401</td>
<td>7 119</td>
<td>5 118</td>
</tr>
<tr>
<td>March</td>
<td>35 1,221</td>
<td>27 654</td>
<td>11 209</td>
</tr>
<tr>
<td></td>
<td>52 1,083</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Classification of Visiting Groups

<table>
<thead>
<tr>
<th></th>
<th>1940-41</th>
<th>1941-42</th>
<th>1942-43</th>
</tr>
</thead>
<tbody>
<tr>
<td>City high schools</td>
<td>24</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td>Rural high schools</td>
<td>42</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>City junior high schools</td>
<td>15</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>Rural junior high schools</td>
<td>22</td>
<td>14</td>
<td>1</td>
</tr>
</tbody>
</table>

For the duration of the war we can not expect a return to normal school attendance, although we may expect an increased local attendance.
ANNUAL ATTENDANCE TO EXHIBITION HALLS

The annual attendance to the exhibition halls is estimated because an actual count is not possible, except in the case of school classes. No funds were provided for opening the halls on Sundays and holidays. During normal times the annual attendance is estimated at about 200,000. In 1940–41 it had dropped to about 170,000, in 1941–42 to 150,000, and for the current year to about 85,000.

INFORMATION AND PUBLICITY

Museums as research and educational institutions are devoted both to the discovery of new facts and relations and to the diffusion of these. The exhibition halls provide one of these methods of diffusion; Museum publications, which have been distributed to libraries over the State and elsewhere, constitute another method for reaching an extensive public, with an influence extending over long periods of time. It is not at all unusual to find that publications printed 25 or even 50 years ago are still in frequent use. At present we have no satisfactory method of measuring the full diffusion value of important publications.

As exhibits are only a small part of the Museum's collections, many visitors call at the offices to consult the study or stored materials, just as they consult the books from the stacks of a library, or they may come for a conference with members of the staff.

Press releases are a means also of keeping the public informed of the results and functions of the State Museum.

Requests are made for public lectures, but with limited travel funds, and without official automobiles, only a few lectures are given. During the past period only about 500 were reached.

PRINTING AND PUBLICATION

"If you would not be forgotten as soon as you are dead and rotten, either write Things worth reading or do Things worth the writing."—Benjamin Franklin

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

Printing during the period of this report has been particularly slow, with the result that not a single serial publication has appeared during this interval, although several important publications are in process of printing. The printing of lithographic geological maps has been delayed by war conditions.

Accompanying this report on pages 67–68 is given the Annual Museum Bibliography of papers by the staff, and papers which at least
in part are based on the Museum collections or are the result of some form of cooperation with it. Years of experience have emphati-
cally indicated that a satisfactory printing and sale policy for State
Museum publications is not likely to be developed until a careful, com-
prehensive, technical study is made of the whole subject. The printing
of donated manuscripts and the acceptance of printing funds are
phases of the problem that merit careful study.

CONDITION OF THE EXHIBITION HALLS AND
EXHIBITS
(Figures 2-20)

The renovation of the floors and walls of the State Museum is still
in process. During the past season very important work has been
done in repainting and cleaning the cases and exhibits in the Halls
of Geology and Paleontology. During the late spring and summer
of 1942, the installation of the Lithgow historic murals depicting the
history of New York State was completed in the Hall of New York
History, and in the wall cases from the World’s Fair are displayed
objects intended to indicate the history and the life of the people of the
State. This exhibition includes materials related to the French,
Dutch (figure 4), the French and Indian War, the Revolution, Civil
and Spanish Wars (figure 5). In order not to overemphasize political
and military history, much of the other exhibits were devoted to
industrial and cultural materials, such as household equipment (figure
6), tools of various kinds, precision instruments, as scales, callipers,
thermometers, quadrants—for the clipper ships and whalers (figure
7), medical history (figure 8), costumes (figures 9-10), coverlets
(figure 11), stoneware (figure 12), glass (figure 13), pewter, silver
(figure 14), and the evolution of lighting from the candle to the
electric light (figure 15). A special exhibit is devoted to Joseph
Henry, including Flanagan’s statue of Henry, whose birthplace is
Albany, as shown by a photograph (figure 16), with examples of
some of his original equipment used in his discovery of the induction
of electric currents, even including the original little bell that was first
rung by electricity, and thus paved the way for all telephone bells.
Without question Henry is the most important man ever born in this
part of the world and deserves real emphasis. As stated on the
label for this exhibit, the work of Henry in America and Faraday in
England laid the foundation for the modern electrical industry.

Another aspect of Joseph Henry’s contribution to society has not
received much emphasis, but is a phase of increasing importance—his
application of the methods of science to governmental problems, so well expressed by Crowther, as indicated in the label, which reads:

ESTIMATE OF JOSEPH HENRY'S WORK

"In total achievement Henry was the equal of Faraday, Helmholtz, Kelvin, Maxwell, and the other great scientists of the nineteenth century. He did not discover so many important new facts and theories as Faraday, but he contributed vastly more to the organization of scientific research. As G. B. Goode has explained, Henry 'did much toward establishing the profession of scientific administration—a profession which in the complexity of modern civilization is becoming more and more essential to scientific progress.' This is an important remark. The creation of methods of organization is even more urgent, in the conditions of modern civilization, than the discovery of such a profound phenomenon as electromagnetic induction. Society is being disrupted by the scientific forces which have been released within it."

J. G. CROWTHER
"Famous American Men of Science" p. 162. 1937.

"In the same way consider the importance of the founding of the Royal Institution, where Faraday did his work on electromagnetic induction; and of the Albany Academy, where Joseph Henry made his great contributions in this same field. Our whole electrical industry is based on the work of these two men."

Dr. WILLIAM D. COOLIDGE
Schenectady, N. Y.

It should also be noted that the telegraph invented by S. F. B. Morse was developed as an outgrowth of the induced current of electricity (figure 16). The telegraphic instruments shown call this to mind, and as well a portrait of Morse, an autograph, a pen and an ink drawing by him, recall that he was also an artist.

The telephone, invented by Alexander Graham Bell, indicates that he also used the induced electrical currents (figure 16) to transmit messages, and finally radio outfits are a later extension of these same current developments. The striking statue of Joseph Henry by John Flanagan calls emphatic attention to the exhibit and helps to reinforce this exhibit which is probably the most important objective exhibit in this New York History Hall.

Six cases are devoted to the work of New York artists, such as Van Zandt, Charles H. Moore, Worthington Whittredge, Thomas Pope, Will H. Lowe, Daniel Chester French, Edmund J. Sawyer and M. Arthur Cohn (figure 17).

In the Temporary Exhibition Hall an exhibition from the Stetson-Wells, E. L. Henry Art Collection was installed in September 1942. A careful study of the Henry Collection was made by Elizabeth McCausland in connection with her study of the life and work of
Henry, as well as a preliminary plan for its exhibition. With the able volunteered assistance of Wilfred Thomas and Frank M. Thomas this exhibit was installed.

The accompanying photographs (figures 18–19) indicate the general character of the E. L. Henry exhibit. The arrangement is in general in chronological order, giving examples of his early, intermediate and later work, accompanied by sketch book drawings, studies and completed work or photographs of the final painting. The exhibition is an outline or sketch of the life work of the artist and contains drawings of considerable historic interest (the Civil War scenes) in addition to their artistic merit.

With the additional storage space on Central avenue it was possible to locate and examine historic material that had been boxed for so many years that it had become unknown to the staff. This consisted of a large donation of French and Indian and Revolutionary war material donated in 1911 by Silas H. Paine of Lake George. This furnished very valuable materials for the Ticonderoga and Saratoga exhibits.

CONDITION OF THE STORAGE FACILITIES

The additional storage space at 95 Central avenue has proved, as mentioned above, very valuable, but it is inadequate to care for all the material needing proper storage space. The geological and historical materials now in the abandoned St Agnes School, remain exposed to vandals and the risk of fire. Actually there was a fire in the building during the past season. The valuable collections in this building and a considerable amount cluttering up the offices and hallways in the Education Building should be removed in the near future.

PHOTOGRAPHY AND DRAFTING

The position of photographer and draftsman has not been filled since January 7, 1938, with the result that every phase of the work of the State Museum has been seriously impeded. This is particularly true because of the difficulty of using the Museum files of negatives, slides and photographs to the best advantage; and of securing maps, drawings, labels and photographs promptly when needed. The State Museum needs urgently not only a full-time photographer, a full-time draftsman, but a full-time scientific artist. The unsatisfactory status of the Museum dark room continues to interfere with photographic work.
In addition to the technical work there is a vast amount of clerical work of indexing and filing the negatives, photographs and drawings, for which there has never been any adequate provision, and the effect of such a policy is unfortunately cumulative, and will require considerable extra work, at some future time, to restore the collections to order.

Two very welcome recent donations are fine examples in plaster of Houdon’s sculpture. These portraits, slightly larger than life, of George Washington and Benjamin Franklin, are superb examples of Houdon portraiture. The Washington bust was donated by Judson S. Landon, and the Franklin bust by the Deaconesses of Maple Hill, Upper Red Hook. As in the case of many others, these gifts came through the friendly services of Wilfred Thomas.

MUSEUM COLLABORATORS

The only Museum Collaborator presently engaged under the April 18, 1929, authorization of the Board of Regents, is Dr. E. P. Felt.

STATE MUSEUM COUNCIL

The State Museum Council is an advisory group appointed by the Board of Regents to advance the general welfare of the Museum. There was no meeting of the Council called this year.

THE HISTORIC AND ART COLLECTION

(Figures 2-20)

“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.

With the termination of the W.P.A. on May 15, 1942, work on the History and Art Collection slowed down, except the installation of the E. L. Henry exhibit in the Temporary Exhibition Hall, and in the Hall of New York History, the initial stages of which were discussed in the preceding Annual Report.

The method of installation of the E. L. Henry exhibit is shown in figures 18–19, and in the Hall of New York History in figures 2–16. Attention has been called to the recovery of the valuable Silas H.
Figure 2 General view of the east end of the Hall of New York History
Figure 3 Exit from the E. L. Henry exhibit to the Hall of New York History; statue of Joseph Henry on right
Figure 4 Stained glass window of Ian Baptit Van Renssilar, and cannon cast at Amsterdam, Holland, 1630
Figure 5 Photographs of the Battleship "Maine," Admiral Charles D. Sigsbee and Admiral William Parker Potter, of the Spanish War
Figure 6 Household equipment
Figure 7 The conquest of the sea: navigation, the quadrant, clipper ships and the whalers
Figure 8 Medical history and equipment
Figure 9  Woman's costume of about 1835 in New York City
Figure 10 Lace of about 1860
Figure 11  Coverlet of 1843
Figure 12  New York State stoneware
Figure 13  Old glass and china
Figure 14  Old pewter and silver
Figure 15 From the candle to the electric light
Figure 16 Joseph Henry’s laboratory equipment; the telegraph, the telephone and the radio
Figure 17 Water colors of birds by Edmund J. Sawyer, and silk screen by M. Arthur Cohn
Figure 18 European studies by Edward L. Henry

[39]
Figure 19 Portrait of Edward L. Henry by C. C. Curran N.A., and memorabilia of Henry
Figure 20 "Fighting Peacocks," Anna Hyatt Huntington, sculptor
Paine collection, which was found when the new storage space made it possible to locate this collection and to use it.

A very notable addition to the Art Collection was the donation of two bronzes by the artist, Mrs Anna Hyatt Huntington, of "Fighting Peacocks" and "Domestic Trouble." The former is shown in figure 20.

EXHIBIT OF SILK SCREEN PRINTS

Accidentally, reference to the temporary exhibit of silk screen prints was omitted from the 105th Annual Report (State Mus. Bul. 333), and is therefore inserted here to make the record complete. This exhibit was assembled through the generous assistance of Elizabeth McCausland, of New York City, to whom and to the artists we are very grateful and to whom also we express apologies. The following statement by William L. Lassiter, who displayed the exhibit, is from the press notice he prepared:

The New York State Museum will exhibit during July and August 1940, in the Museum rotunda, the first general exhibit of silk screen prints ever held upstate.

The silk screen process, a new graphic art medium, is a kind of stencil process that has been used for about 30 years in the commercial field, but only within the past two years has it been adopted in the realm of the fine arts. The process of producing prints, which preserve the personal element of the artist, even though the quantity may vary from a few to a thousand copies, is not a complicated one and the expense of production is low.

In announcing the exhibit, it was explained that the silk screen process as a fine art medium owes its popularity to Anthony Velonis, who set up a silk screen unit in the New York City W.P.A. Art Project. He saw its possibilities as a method of making inexpensive prints. The United American Artists and the Public Use of Arts Committee supported this project in the New York City W.P.A. Art Project, and Elizabeth Mc Clausland, art critic and author, of New York City, gave aid in its development. Miss Mc Clausland assembled the exhibit for the State Museum.

SUMMARY OF THE ACTIVITIES OF THE STAFF

(Figures 21-26)

"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 the 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 this 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 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 of 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.

From an administrative point of view a summary of the activities of the technical staff is as follows:

History, art and archeology. The installation of the Hall of New York History has been the major undertaking of the season with the assistance of William L. Lassiter, and as a volunteer adviser and assistant, Wilfred Thomas. Valuable assistance has also been received from Roger Stonehouse for the lettering of large labels, and to W. J. Schoonmaker and Louis J. Koster. Valuable cooperation has been received from Carl Hanson of the State Architect's office. Mr Schoonmaker has assisted, particularly in the labeling of the E. L. Henry exhibit.

Elizabeth McCausland has completed her report on the life and work of E. L. Henry, and it is with the printer.

Noah T. Clarke, State Archeologist, reports that he has continued the examination and classification of the study collection of Indian archeological material. A fresh supply of braided corn has permitted the repairs of the Mohawk Harvest Group.

Elsewhere in this report (p. 22) mention has been made of the exhibits in the Hall of New York History.

Botany. Dr Homer D. House, State Botanist, with the restrictions on travel for field work, has devoted himself to routine office work and the collections have occupied most of his attention (figures 21-23).
Figure 21 *Polyporus Berkeleyi* Fries. A rare fungus, parasitic on roots of the oak, found in 1942 near Grafton, Rensselaer county, by Dr John A. Sampson. Photograph by J. A. Glenn
Figure 22 Lake Sanford, Essex county. Sketch published in Harper's New Monthly Magazine, p. 457, 1859
Figure 23 Lake Sanford, Essex county. A region of unusual botanical interest, site of the Old Adirondack Iron mines, and now the site of a new development for the titanium found in the iron ore. Photograph by H. D. House, July 20, 1925.
Figure 24  A family of young Belted Kingfishers near Oneida Lake. Photograph by Dayton Stoner
Figure 25 Scales, notebook and other field equipment used in growth studies on birds. Two mourning dove eggs rest on the pan of the balances. Photograph by Dayton Stoner
Figure 26 Work of yellow-bellied sapsucker on hemlock tree at Cleveland, N. Y. Photograph by Dayton Stoner.
Dr Royal E. Shanks, Temporary Ecological Botanist, has completed his report on the cooperative survey of the vegetation of Monroe county in cooperation with J. Franklin Bonner, director of the Division of Regional Planning of Monroe county. Doctor Shanks has also cooperated with Dr R. H. Goodwin of the University of Rochester in a paper, Notes on the Flora of Monroe County, New York (Proc. Rochester Acad. Sci., v. 8, no. 5–6, 1943).

**Entomology.** Dr Robert D. Glasgow, State Entomologist, has continued his field and laboratory investigations of the blackflies and mosquitoes. Federal agencies in the Treasury Department and Department of Agriculture have called upon him for assistance on insect problems. He has worked out control methods for blackflies which have been approved by the Department of Conservation as not being injurious to fish. These measures may be applicable to war efforts in certain regions. At the request of the Department of Conservation he attended mosquito control meetings to aid in preventing unnecessary injury to wild life. He has continued the study of an insect-borne disease of the pig, which merits careful study.

Kenyon F. Chamberlain, Assistant State Entomologist, has continued his skilful work transferring the insect collections from the old boxes to the new steel cabinets. When once this transfer is completed the collection will not only be more accessible but will be relatively free from pests.

**Geology.** Chris A. Hartnagel, State Geologist, has continued his economic studies of oil and gas. As their annual value is $15,000,000, it exceeds that of any other mineral in the State. A summary of the natural gas developments awaits the maps needed before the report can be published.

Robert C. Stephenson, Temporary Geologist, has completed his report on the titaniferous iron ores of the Tahawus region.

Dr Tracy Gillette, Temporary Geologist, had completed his report on The Clinton of Western and Central New York just before his unfortunate death. This paper was intended as a part of his State Museum Bulletin 320, but was delayed.

Dr John G. Broughton, was appointed Assistant State Geologist December 1, 1942, and has been engaged in looking into mineral problems of the Adirondack region, giving special attention to talc and the dolomite limestones bordering the St Lawrence river.

Dr A. F. Buddington, Temporary Geologist, reports the war situation prevented field work in the Saranac Lake quadrangle.
Mrs Medora H. Krieger, Temporary Geologist, has about completed her report on the Indian Lake quadrangle.

Dr Earl T. Apfel, Temporary Geologist, reports war conditions have delayed the completion of his glacial geology report. Dr Chauncey D. Holmes, Temporary Geologist, has been cooperating with him.

Paleontology. Dr Winifred Goldring, State Paleontologist, has given much attention to the routine work of the office and to the renovation of the exhibits of fossils and allied work. The report on the Coxsackie quadrangle is in process of printing. Doctor Ruedemann, retired, is nearing completion of his monograph on the Graptolites.

Dr Rousseau H. Flower, Temporary Geologist, has completed his report on Devonian cephalopods.

Clinton F. Kilfoyle, Technical Assistant, has continued his work on the cataloging of type specimens, the arrangement of the study collections and in the renovation of the exhibits of fossils.

Dr G. Marshall Kay, Temporary Geologist, has completed his report on the Utica quadrangle.

Colleagues in the Department of Geology, Columbia University, of the late Dr R. J. Colony, Temporary Geologist, are completing the report on the complex geology of the Schunemunk quadrangle. Kurt E. Lowe has made good progress on this report.

Zoology. Dr Dayton Stoner, State Zoologist, has continued his study of the banding of the swallows of the Oneida Lake region, and the birds of Lincoln Park, Albany (figures 24—26).

Walter J. Schoonmaker, Assistant State Zoologist, has devoted some time to the completion of his report on the woodchuck, and has continued field work on the Rensselaer county mammals. He has also assisted in the installation and the lettering of labels for the Hall of History and the E. L. Henry exhibit.

Louis J. Koster, Technical Assistant (Taxidermy), began his duties August 17, 1942. He comes very well recommended and has had excellent experience. He has materially aided in the installation and labeling of the Hall of New York History, and has made many improvements of the zoological exhibits and collections.

The report on birds' nests by Edmund J. Sawyer, Temporary Ornithologist, has been sent to the printer.
ANNUAL FINANCIAL AND STATISTICAL SUMMARY

THE STATE 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.

Facilities provided by cooperative projects supplement to an important degree 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 this cooperation. Such financial assistance is of the greatest value, but the funds do not pass through the Museum. The annual statistical summary for the fiscal year July 1, 1942, to March 31, 1943, follows:

**APPROPRIATIONS AND FUNDS FOR FISCAL YEAR**

(July 1, 1942 to March 31, 1943)

<table>
<thead>
<tr>
<th>Appropriations and Allocations</th>
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<tr>
<td>Salaries:</td>
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<td>Administrative staff</td>
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<tr>
<td>Scientific staff</td>
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<tr>
<td>Temporary expert service</td>
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<td>Scientific assistants</td>
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<tr>
<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 $100 for out-of-state)</td>
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<tr>
<td>Printing</td>
</tr>
<tr>
<td><strong>Total budget</strong></td>
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</tbody>
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**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. (See State Museum Bul. 313, p. 85–121, 1937, for historical sketch.)  
*Open to the Public:* Open week days from 9 a.m. to 5 p.m. Closed on Sundays and legal holidays. The total number of days open to the public for fiscal year of 9 months, is 226; total hours, 1808.
Status of the State Museum. The present Director assumed his duties May 1, 1926, and retired July 31, 1943, an interval of about 17 years. A few observations on the major activities of the State Museum during this period may be instructive as well as interesting. Perhaps nothing outstanding has taken place, but this sketch may nevertheless aid in understanding the general situation. A new State Museum building, needed for many years, has not materialized; salaries of the staff, which were excessively low, have improved somewhat but are not yet up to standard for comparable skill in the better museums and universities. The meager staff has declined rather than increased in number. Before the world-wide economic crash occurred, the Education Department underwent its greatest period of expansion, but this did not extend to the State Museum. Interested friends even suggested that the State Museum should be taken out of the Education Department, and have its own trustees, like the state colleges, in order to have a group devoted to its interests who would concentrate solely on the welfare of the State Museum. During this same period the museums of this country and the various research institutions have expanded at an unprecedented rate.

The functions of the State Museum, as determined by law and by precedent, have been fundamentally those of a research institution, conducting geological and natural history surveys and studies of the State along scientific, economic and education lines, and during the past 50 years gradually expanding its field to include the history and the art of this State. The exhibits—sometimes erroneously called "the Museum"—are a natural outgrowth of the scientific and educational work, but an adequate staff of technicians has never been provided to develop properly the educational phase of the work. The metropolitan museums, which have an unusual opportunity for making conspicuous displays appealing strongly to wealthy donors, have been more successful in securing funds for such exhibits than have the tax-supported museums. Although the Board of Regents has authority to administer trust funds, trust funds have not been forthcoming, as they have for large semipublic museums. Fluid funds of this character would be of great value for initiating work in advance of public support. There are, of course, disadvantages in this system. Gift funds are commonly not given where most needed, but conform to the wishes of the donor, who rarely comprehends the situation or cares to be told how to spend his money, with the result that funds are often spent lavishly for some projects while others, even more
important, starve. As a result there is a lack of balanced or symmetri-
cal growth.

Fortunately the New York State Museum differs from most other
state museums in that it conducts the state scientific surveys of geo-
logical and natural history and includes also within its field both
history and art. Commonly a state museum is merely an exhibition
museum, and does not conduct scientific work, and often it is not a
general museum, but is restricted in some way. The New York State
Museum is, however, a comprehensive state agency. This is not
generally understood by state officials or the general public. With its
broad functions and with its connection with the Education Depart-
ment and other State Departments, the State Museum should really
become the central general scientific and cultural agency of the State
Government. For this, understanding of its potentialities and adequate
support are needed.

Educational emphasis. All previous Directors of the State
Museum have been geologists. The present Director is by training
a zoologist and ecologist, with an interest in geography and geology.
In making the appointment of a Director with a background different
from that of his predecessors, the Regents gave him to understand
that it was desirable for him to balance the functions of the State
Museum and to stress its educational aspect more than it had been
in the past. In harmony with this advice two proposals emphasizing
the educational approach were made to the Regents in June 1926; one
was a plan of cooperation with the schools in the development of
school museums, and the second was a proposal to cooperate in the
conduct of an outdoor school of natural history in the Allegany State
Park. The Regents approved only the plan for the outdoor school.
This school was intended to indicate how the educational system could
make greater use of the extensive and unique park system of the State
for educational as well as for recreational purposes. For about a
decade this work prospered. Several hundred teachers and students
were trained at this school, and other schools have adopted its methods.

The conduct of this school provided the facilities and environment
for intensive, scientific and educational studies of the natural history
of the Allegany State Park, and the State Museum handbooks were
largely an outgrowth of this work. These popular handbooks were
prepared by competent naturalists who made first-hand investigations
and wrote from immediate experience. Previously only a few of the
publications of the State Museum were popular in character. These
handbooks were made pocket size, freely illustrated, and contained
original material or were a summary of the knowledge on the subjects treated. Many of these handbooks were used as textbooks at the Allegany School of Natural History and by teachers in general, as well by the general public, with the result that some were soon out of print. No other state park has been so carefully studied and the results made available in popular form. These handbooks are thus all that remains of the educational program, and once more this emphasizes Dr William M. Beauchamp's remark that "After all it is the written word that lives," and further confirms the importance of publications in a program of educational work.

History and the industrial arts. A short time after the Director began his duties at the State Museum and attempted to orient its functions, it became evident that the weakest and most neglected phase of its work was in relation to history and the arts, in spite of the fact that the law provided for both. The visiting public sensed that there was an overemphasis on the natural sciences, particularly of geology, which occupied half of the exhibition space.

Here was the State Museum located in Albany, which was an old Dutch colonial community, at the confluence of the Hudson and Mohawk valleys, whose strategic position was the goal of Burgoyne's campaign, which served as the turning point in the American Revolution; the terminal of the Erie and Barge canals and all that this implies for the development of the interior of the continent; the birthplace of Joseph Henry, the most important scientist born in this region, and finally the seat of the State Government concerned with about one-tenth of the population of the United States. In such a setting should history, industry and art be ignored in an educational program of the State Education Department, as far as the State Museum was concerned?

The burning of several Shaker buildings at Watervliet, a few miles away, called attention in an emphatic manner to the rapid destruction of important historic materials. Clearly something should be done about it. The Shakers came to America in 1774, settled near Albany and became the most successful experiment in communistic living ever made in America. This religious society, whose leader was Ann Lee (figure 27), contributed much to the industrial and social life, not only of this region, but as well of several other states. The Shakers originated the seed package business, did an extensive herb business, prepared dried vegetables and fruits, made chairs, and on account of their large communal families developed mass production methods that were readily expanded to a large business conducted in many states.
Figure 27 Alleged portrait of Ann Lee, founder of the Shakers (From W. Oxley, *Modern Messiahs*, Landon, 1889)
Since the sect was declining rapidly and antiques were in demand, the objects of historic interest were becoming scattered and destroyed. Here was an important phase of the industrial history of the State that was worthy of preservation, irrespective of other considerations.

Accordingly a program of acquisition and preservation of significant Shaker material was inaugurated which has resulted in the best collection of its kind in any museum, although there is today no exhibition of this material in the State Museum.

It is important to note, however, that the Historic Collection has not been limited to Shaker materials. Many years ago my immediate predecessor, Dr John M. Clarke, had expanded the agricultural collection, and valuable donations of household and other significant material, including stoneware, glass, textiles and silver have been made. There are in addition special collections such as the Admiral Charles D. Sigsbee Collection, the Catharine Eights Boies Potter Collection, the Cosman-Gardner Collection, the Frederick C. Hirons Architectural Collection and the Silas H. Paine Historical Collection, which cover a wide range of material in the industrial and other arts. The earliest phase of history to receive emphasis in the State Museum was the life of the New York Indians, probably due to the influence of Lewis H. Morgan and W. M. Beauchamp. The Iroquois Indian Groups and the ethnological exhibits have continued this interest.

Only a beginning has thus been made in this general historical field, and much remains to be done, but additional exhibition and storage space must be provided, as well as a curator, before any important advance can be expected.

The fine arts. As there is no sharp distinction between history, industrial history and the fine arts, a number of fine arts materials were included in the Historic Collection, such as paintings, etchings, medals, pewter, silver, architectural drawings, photographs and some sculpture. Some of the Shaker materials, originally secured for their historic value, were recognized as having artistic significance as well, and later on leading art museums and artists also recognized their merit.

With the Work Projects Administration assistance the collections of history and art were greatly expanded, particularly the industrial materials and the photographs and architectural drawings of the Shaker culture, which supplemented the original William Winter photographs already in the collection. Finally, the independent donation of the superb Winter "Shaker Portfolio" completed this series.
As these collections expanded it became more and more evident that there was a real need for an upstate public fine arts center, where materials bearing on the history of the fine arts should be preserved, and that at least a representative collection of the fine arts should be assembled and made available to the public.

It has not been customary for the art museums to collect the models, sketches, sketchbooks, photographs and memorabilia of artists. This may be due to the belief that this field belongs to the historic museums or societies, and to the fact that art museums are primarily concerned with the finished work and not with the process of creating art. Sculptors' attics, garages and cellars are often crowded with models, some of which are very worthy of preservation, for at times a model may even be superior to the finished work, just as an inspired sketch may surpass the final product. There should be some public repository where such material of merit could be preserved since it is of great value to students as well as to cultural historians. The State Museum's broad functions make it possible for it to include not only the finished work of artists but also the evidences of their development.

**History and art exhibits.** Valuable historic collections have been accumulating in the State Museum storerooms for more than a generation, and visitors interested in history have been surprised to learn that the State Museum had a historic collection, because they saw none on exhibition. The installation of even small temporary exhibits aroused interest and evoked requests for more historic exhibits. After the World's Fair in 1940 the Fair Commission and the Budget Director transferred to the State Museum the four David C. Lithgow murals, portraying the history of New York State, and a series of display cases, on condition that a Hall of New York History be installed in the State Museum. With the crust of inertia thus broken, materials were taken from the storerooms, offices and hallways and installed in the wall cases. The Hall of History thus consists of a representative exhibit of small objects from the collections, which are adapted to the shallow wall cases, and a few large objects. The general character of this exhibit has been mentioned elsewhere in this report (p. 19) and is shown in figures 2-17.

**The E. L. Henry Exhibit.** With the opening of the Hall of New York History, an adjacent hall was available for temporary exhibits, and this made it possible to make a selection from the Stetson-Wells, E. L. Henry Collection of the sketches, sketchbooks, studies and paintings of E. L. Henry N. A., and display them with
The preceding emphasis on education, history and art has not been to discredit or disparage the work of the State Museum in the field of the natural sciences, but rather to call attention to its incompleteness, in the hope that an improved functional balance may ultimately advance all phases of the work of the State Museum by providing a broader and sounder basis in public service and public support.

With inadequate funds for all kinds of work it seemed best to concentrate geological work on quadrangles near Albany and to make the quadrangle reports more generally useful by including not less of the technical details but more that could be used by the average citizen.

An outstanding geological problem in the State is the geology of the Adirondack region. This region is important from several points of view: scientific, educational, recreational, conservational, industrial and economic. With the possible development of cheap electric power from the St Lawrence, northern New York with its mineral wealth would be transformed from a region of marginal agriculture to one of industry. It has therefore not been by accident but by studious deliberation that the geological reports on the quadrangles of the Adirondack region have been pushed for many years as rapidly as possible. The soundness of this policy will probably be revealed within the next generation. Shorter-ranged current problems, such as gas, oil, limestone, gypsum, salt, sand and gravel, have not been neglected.
Probably the weakest point in the above practice has been the relative lack of attention to the broad aspects of public policies regarding the wise use of these resources. Rafter’s famous report (1905) on hydrology of the State was in his day an outstanding contribution toward a water resources policy. We need similar, up-to-date, broad policies regarding oil, gas, water and the strategic minerals. It seems rather strange that after more than 100 years of geological work the formulation of public policies has not made more progress.

The unique role which the Geological and Natural History Survey, the ancestor of the New York State Museum, played in the history of American geology has long been recognized. The outstanding geological historian, Dr George P. Merrill, in 1924, stated of this early Survey, “This led to an organization which has left a more lasting impression upon American geology than any that has followed or had preceded it.” It has not always been clearly grasped, however, how the geographic position and geological history of the State influenced this unique contribution. It seems to have been because the geological history of New England and of the northern Atlantic seaboard was too incomplete and too complicated to permit the ready determination of the historical sequence. Because of erosion, metamorphism of the rocks, which destroyed the inclosed fossils, and their complicated structure, the age sequence of the Paleozoic formations in these regions could not be readily determined. The geologists of the New York State Survey, working where the fossil records were well preserved, as in the Helderbergs, Catskills and around the borders of the Adirondacks and the Mohawk valley, not only determined the age sequence for this State but for much of eastern North America. For this reason the names of the New York localities, such as Potsdam, Catskill, Beekmantown, Trenton, Salina, Manlius, Esopus, Schoharie, Onondaga, Cayuga, Hamilton and Niagara, have become the common language of geology in America. Since that pioneer work no similar outstanding geological discoveries of equal magnitude have been made. In the meantime the times have changed, and all geological work needs now to be oriented with regard to the present and proximate future. The present prospects point toward a greater emphasis on broad economic public policies. In order to protect public interests in these matters, we shall need superior leaders in order that the public may be made to realize the important role which geology has played and should play in the welfare of the people of this State.

Something of the role that geology has played in the State has been indicated in the preceding remarks. A similar situation exists with
regard to the field of botany in the State Museum. In the past the botanical work has been devoted largely to an inventory of the plants of the State. This involved a large amount of intensive and strenuous work of fundamental importance, and such work is never completed. At the same time it is today also necessary to know the relation of plants to their local environment and to the welfare of man in his broader relations, such as to agriculture, to forestry, to land use and to public land policies. As in other fields, the methods of study have become greatly refined and broadened and botanists have new objectives and a greater sense of public responsibility. Botany must also develop a broad educational approach and reveal the important role which plants play in the life of the modern world.

The special ecological vegetational surveys that have been made, as in the Allegany State Park, in Cattaraugus county and in Monroe county, the floral studies in Columbia county and the general floristic botanical field work elsewhere have all been a part of this general program. There is great need of increasing these ecological vegetational surveys if botanical work is to be able to contribute to public land policies in a practical manner. Plant inventories and floral lists do not go far enough to be utilizable by those engaged in land use problems and similar public policies. Each has its place but the work should not be considered complete until, as has been said, results can be used and coordinated with the needs of forestry, agriculture and other land use policies.

In the field of general zoology the problems often run parallel to those of plant study. The inventories and classifications must first be conducted, but animals are so much more numerous in kinds than plants, and are often more difficult to study, so that the field has been broken up into several special fields.

Attention has been given to inventories, classifications and life histories, to phases of bird behavior, as their songs and habits as revealed by banding, and extensive field studies have been made of their population in various habitats, as a foundation for understanding their relation to land policies and management. Many of the animal problems, like those of plants, will have to be studied on a regional basis before the results can be made available for correlation and integration with other public policies. Generally speaking precedence should be given to problems of immediate public or practical interest. Here also, an educational problem is involved in showing the public the role of animal life in relation to human affairs, and the best methods of conserving and utilizing it.
Entomology has expanded, on the basis of its practical, economic and health relations, until it has become an immense field. This phase of the State Museum work has always been closely related to practical affairs of the garden, field, forest and waters, as well as to health. This has involved intensive field, laboratory and experimental studies under a considerable variety of conditions in the fields and forests. The mosquito control problem became, during the depression, an important public employment relief project. An important advance has also been made in the control of the black fly. In addition to the individual problems concerned with insects, there are many that are best administered as community activities, and thus at once they involve public policy. Many signs of the times indicate that one of the great advances in entomology will be in relating and formulating its work to public policies, such as to health, land use and conservation. Even during the depression and the war, there has been no slackening of the demand for information within this field; indeed, it really increased.

In concluding these remarks on the balancing process, let us recall the varied natural advantages of this State, due to its geographic position, with the finest harbor leading to the interior of the greatest food-producing area in the temperate zone, and within its own borders possessing great physical and biological diversity, including all degrees of conditions from the seashore to the top of Mount Marcy, the ocean, the Great Lakes, brooks, rivers, lakes and ponds, fields, forests and varied mineral wealth. These indicate its great and varied resources in terms of opportunity for important scientific study in relation to public welfare and stress the urgency of a balanced program.

A large, diverse population devoted to agriculture, forestry and a great variety of industries, forms of commerce and finance, constitutes one of the most complex political units in the world. What a field for the application of the methods of science and scholarship to the problems of living under these conditions!

Within this expanding field the State Museum staff should be able to find ample scope for the application of their methods of work. Is it not their opportunity and obligation to investigate and report on the problems that have significant bearing on the welfare of the people?

With all this emphasis on public policy let it be clearly understood that this begins first of all with a fairly clear-cut understanding of the functions and policy for the State Museum itself, its role in the Education Department, its relation to other Departments, to other state officials, and finally to the general public.
There are a number of important functions within the field of the State Museum for which the Education Department has no well-defined policies. These need study and clarification, as do also certain state policies, particularly with regard to mineral and biological resources. Policies need to be determined also in regard to the preservation of natural scenic and scientific features, certain historical, industrial, artistic, and other similar important cultural resources, in order that they may be utilized to best advantage. The general public naturally turns to the State Education Department for guidance in such matters and it should not be disappointed.

The postwar period. The preceding discussion, with its emphasis on the functions of the State Museum, its inadequate support and lack of balance, is not intended to belittle in any degree the value of the substantial work already done, but does note its incompleteness, stresses its public interest and its relation to public welfare. Today public support requires a broad foundation and a strong appeal to a large public.

Unless the signs of the times are incorrectly read, the postwar period will be a period of great adjustments, and scientific, educational and cultural agencies will share in this transformation. Some students fear that scientific and cultural agencies will be thrust aside by a wave of technical pressure, but I doubt that this will be more than a temporary stage, because it seems probable that when some of the economic tension and pressure is released there will be an even stronger wave of interest toward scientific, cultural, educational and recreational interests. This is a possibility that should be kept in mind and planned for. There will thus be both the economic and cultural aspect of this transitional period. Much of the work will probably fall to the younger generation who are less influenced by the older ideas and conditions.

In concluding this general review of the work of the State Museum attention should be called to a considerable number of studies and activities which in the aggregate are very important, but which are more or less special, isolated, or incomplete and therefore have not fallen into line with the major current or drift of this summary, such as special taxonomic studies of plants and animals, the various work relief programs, the Allegany School and similar activities and investigations.

It may appear that undue emphasis has been given to public policies. This has been deliberately stressed because of its importance and its relative neglect in the past. Public officials themselves do not always understand the role of research or fact-finding agencies.
It is doubtful that the major role of the State Museum can be properly understood until a comprehensive study is made of the functions of state research and the role of the State Museum in a comprehensive public research program and policy, as has been stressed in these Annual Reports for many years.

In concluding this report I wish to acknowledge the appreciative and generous attitude and cooperation of the public with which the State Museum has worked. This is the source of the greatest personal satisfaction, and the resulting friendly relations are proof of its reality. Of course this public is not organized or vocal, and the public service rendered is often overlooked because of its intangible character, although it often takes very concrete form. It is, however, this kind of response which gives assurance of the need of such a public institution. Much of this is over and above the so-called “practical” assistance given in the form of innumerable items of advice and special information to industries, to teachers and to other individuals. At the same time there is the less personal public service given by the State Museum publications, which are widely distributed in libraries throughout the world.

When all these influences are taken into account, one is able to realize the role and function which the State Museum performs in our economic and social system, within and without the State.

Finally, in concluding the 107th Annual Report I wish to mention an interesting personal item which illustrates how the public scientific institutions give informal educational assistance that is all too frequently overlooked and forgotten.

In 1891, a lad of high school age, who was interested in natural history and was living in a conservative educational community dominated by the classical tradition, read a biographical sketch of the early entomologist Thomas Say, by George Ord, in which Ord urged young persons to delay the fascinating study of natural history until they were established in life, or they risked the prospect of being unable to earn a living, through the neglect of their business!

In struggling for an answer to the general question as to how to make a living and to secure the necessary training for the study of natural history the boy considered other alternatives. He was fortunate, however, in having the addresses of leading naturalists in the handbook of the Agassiz Association, The Three Kingdoms (by President Harlan H. Ballard, a former student of Louis Agassiz) and he wrote requesting advice from some members of the “Council” of the Agassiz Association. These letters were received from President David Starr Jordan of Stanford University, Dean N. S. Shaler of
Harvard University, and from the entomologists Dr Henry C. McCook of Philadelphia and Dr J. A. Lintner, State Entomologist, New York State Museum. This was the first time that I came within the sphere of influence of the State Museum. The letter from Doctor Lintner is as follows:

STATE OF NEW YORK
OFFICE OF THE STATE ENTOMOLOGIST

Mr. C. C. Adams

Dear Sir: In reply to your inquiries of the 16th, just received I would state:

The studies that you mention—Latin, Greek, and the mathematics will all be of service to you, as a mental discipline, in your study of Natural History. I would at least devote the time to the classics, that would enable you to understand the construction of the Greek and Latin names employed in classification, and to be able to make out the brief Latin generic diagnoses that are frequently given. Such a knowledge of French and German as would enable you to read these languages would be of service to you in advanced studies. I do not read the German, and I have frequently to deplore my being shut out from many publications that would aid me materially.

Very truly yours

(Signed) J. A. Lintner

Botany will also be of much use, in your study of food-plants. "Entomology and botany" are frequently combined in our Agric. Experiment Stations.

Two years later at the World's Fair at Chicago (1893) the fungus exhibit of the New York State Museum, by the State Botanist, Dr Charles H. Peck, enabled me to identify a number of fleshy fungi from which I had collected interesting insects.

Ever since these early days the New York State Museum has been for me an important and valued source of practical scientific and educational information. With the passing of the years there must have been thousands of similar instances unrecorded. This makes a fitting termination of my official relation to the New York State Museum, but not of course of my continued interest in it as a scientific, cultural and educational institution.

ANNUAL BIBLIOGRAPHY OF THE STATE MUSEUM

Publications by the Museum staff for the fiscal year ending March 31, 1943, or based, at least in part, on the Museum collections, or made in cooperation with the State Museum, are as follows:

Adams, Charles C.


Bathurst, Effie G.

Clausen, Robert T.

Goldring, Winifred
— Geology of the Coxsackie Quadrangle (In press)

Hartnagel, C. A.
1942a Oil and Gas Activities in New York-1941. Nat. Oil Scouts and Landmen's Ass'n Year Book—1941, 12:390-96

Hosmer, Ralph S.
1943 James S. Whipple, Forest Administrator. Univ. State of New York Bul. to the Schools, 29, no. 7:252-54

Houghton, Frederick

House, H. D.
1942 Clarence J. Elting and his Herbarium. Torreya, v. 42, no. 6:181-90

Koster, L. J.

Newland, D. H.

Ruedemann, Rudolf

Stoner, Dayton
1942 Longevity and Other Data on a Captive English Sparrow. Auk, 59:440-42
1942c The 1942 Status of the Normandin Woods Heronry. Feathers, 4:57-58
1942f Aspergillosis in a Snowy Owl. Auk, 59:577-78. [With Gordon M. Meade]
1943 Defensive Behavior of the White-breasted Nuthatch. Auk, 60:95-96
1943a Bird Records for Eastern New York. Feathers, 5:9-14
1943b Yellow-bellied Sapsucker, Tree-troubler. Univ. State of N. Y. Bul. to the Schools, 29, no. 7:266-70

White, W. L.
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: payments 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

Ackerman, Violet, New York, N. Y.
   Specimens of bark-louse (Ceratipsocus venosus Kolbe) New York, N. Y.

Adler, Margaret, St Huberts, N. Y.
   Twig of balsam fir with staminate cones. St Huberts, N. Y.

Albany Institute of History and Art (through John Davis Hatch) Albany, N. Y.
   Horn spoon

Allen, A. F., Albany, N. Y.
   3 two-lined salamanders, Lake View House, Dutchess county, N. Y.

Anderson, Mrs R. F., Waterford, N. Y.
   Specimens of black carpet beetle larvae. Waterford, N. Y.

Archibald, Mrs Helen G., Albany, N. Y.
   Specimens of household insects, Albany, N. Y.

Arnold, E. J., Albany, N. Y.
   Old wooden potato masher
   Old adz

Avery, Thurman J., Albany, N. Y.
   Specimens of “walking-stick” insects, Altamont, N. Y.

Bartlett, Guy, Schenectady, N. Y.
   Black and white warbler, Schenectady, N. Y.

Belknap, Mrs B. H., Delmar, N. Y.
   Skull of cedar waxwing, New Salem, N. Y.

Billstone, Victor, Jamestown, N. Y.
   Crude oil from shallow well 2 miles northeast of Frewsburg, N. Y.
   Crude petroleum (thin black) from shallow wells 2½ miles south of Frewsburg, N. Y.

Blank, Walter, Poughkeepsie, N. Y.
   Specimens of weevils, Brachyrhinus ovatus L., Tupper Lake, N. Y.
   Specimens of box elder plant bug, Leptocoris trivittatus Say, Fishkill, N. Y.
   Specimens of powder post beetles, Cohoes, N. Y.
   Specimens of psocids, Lachesilla pedicularia L., Lake George, N. Y.

Blust, Mrs Raymond, Sherrill, N. Y.
   Specimens of dog fleas, Sherrill, N. Y.
Bly, Mrs Ivy, Montgomery, N. Y.
Specimens of elm leaf beetles, Montgomery, N. Y.

Bond, Peter, Albany, N. Y.
Skull of robin, Albany, N. Y.

Bono, Peter, Albany, N. Y.
Olive-backed thrush, Albany, N. Y.

Bouton, Mrs Estelle Wright, Cragsmoor, N. Y.
Photographs and negatives from vicinity of Cragsmoor, N. Y., of E. L. Henry's art
2 specimens of magnetite from Studley Hill near Malone, N. Y.

Brockett, Frank S., Cambridge, N. Y.
Large wooden hay fork

Brooks, Dr P. B., Albany, N. Y.
Specimen of camel cricket, Altamont, N. Y.

Buckholz, Dr A. B., Albany, N. Y.
Specimens of brown dog tick, Albany, N. Y.

Buffalo Museum of Sciences (through Dr Irving G. Reimann), Buffalo, N. Y.
Photograph of a restoration of the trilobite *Terataspis*
2 photographs of a restoration of the cephalopod *Goldringia*

Buxton, Mary D., and Husson, C. Julie, Cragsmoor, N. Y.
Painting by E. L. Henry
Print of George Washington riding through the streets of New York

Clymer, Virgil H., Syracuse, N. Y.
Colored composite picture of Howe Caverns, N. Y.
Stafford scenic plate of Howe Caverns, N. Y.

Cohan, Timothy, Albany, N. Y.
Specimens of immature chinch bugs, Albany, N. Y.

Cohen, Ernest A. R., Schenectady, N. Y.
Specimens of black carpet beetles, Schenectady, N. Y.

Collister, Morton C., Baldwin, N. Y.
Old banner of New York State Academic Principals Association

Crockett, Dr R. L., Oneida, N. Y.
27 specimens of plants from New York State

Culp, Mrs H. E., Albany, N. Y.
Specimens (larvae) of webbing clothes moth, Albany, N. Y.

Cummins, Mrs H. W., Albany, N. Y.
Specimens of carpenter ants, Albany, N. Y.

Cummins, Rev. E. J., Schenectady, N. Y.
7 specimens of plants from Schenectady county

Deats, William, Barryville, N. Y.
8 fossil plant specimens near Pond Eddy, vicinity of Barryville and between
Barryville and Port Jervis, N. Y.

Dickinson, G. S., Poughkeepsie, N. Y.
Specimens of shed-building ants, Poughkeepsie, N. Y.

Dietrich, Dr Henry, Ithaca, N. Y.
Specimens of click beetles, *Ludius appressus* Rand., Mt Marcy, N. Y.

Eaton, Mrs A. H., Baldwin, Long Island, N. Y.
Specimens of saw-toothed grain beetles, Baldwin, L. I., N. Y.
Elting, Mrs Clarence J., Highland, N. Y.
1072 specimens of plants, mostly from Ulster county, N. Y.
3 old metal buckles
2 hand wrought nails
4 pitted stones; 2 pestles; netsinker; gorget fragment, bannerstone fragment; 3 drills; 5 drill fragments; 115 arrowpoints; 10 knives; 3 blades; 26 blanks and rejects; 4 scrapers; 4 quarts miscellaneous chipped fragments; 52 damaged arrowpoints; 2 flint lock flints from near Highland, N. Y.
5 arrowpoints and potsherd from New York State localities
8 arrowpoints from various U. S. localities

Fayerweather, Mrs Charles, New Lebanon, N. Y.
Iron stand
Shaker doll’s bonnet block
Small Shaker stool
Fireplace equipment
Old map of Monroe county, 1858

Fleming, John L., Troy, N. Y.
Specimens of pavement or lawn ants, Troy, N. Y.

Follett, Louis E., Saratoga Springs, N. Y.
Half bannerstone with two perforations; 2 scrapers; abrading stone; spearhead part; gorget fragment with one perforation; small drill; damaged celt, from vicinity of Fish Creek, N. Y.

Frederick, A. C., Albany, N. Y.
Specimens of whirligig beetles, *Gyrinus dubius* Wallis, Mt Albert, Quebec, Canada

Gardner, Mrs Harriet L., Newburgh, N. Y.
Antiques from the Cosman-Gardner home at Newburgh, N. Y.

Garry, Thomas, Albany, N. Y.
Specimen of “walking-stick,” Delmar, N. Y.

Gilcreas, F. W., Albany, N. Y.
Specimens of snow fleas, Horseheads, N. Y.

Glasgow, Dr Hugh, Geneva, N. Y.
Specimens of scarab beetles, *Amphimallon majalis* Rasoum, Newark, N. Y.

Glens Falls Insurance Company, Glens Falls, N. Y.
Colored print (kotsbackrome) of Black Watch at Ticonderoga, July 8, 1758. Painting by J. L. G. Ferris

Goldring, Mrs Frederick, Sr, and Dr Winifred, Slingerlands, N. Y.
Oil painting of a goat by Van Zandt

Gosling, Mrs J. W., 1084 Waverley pl., Schenectady, N. Y.
Indian sundial by J. W. Gosling

Grant, David, Troy, N. Y.
2 advertising cards of Button Engine Works, 1868

Griffin, Dr C. A., Albany, N. Y.
Specimens of parasitic mites from rabbits, Albany, N. Y.

Grossbeck, William, Hornell, N. Y.
Specimens of flesh-fly larvae, Steuben county, N. Y.

Halley, Mrs Ernest, Watertown, N. Y.
Specimen of pentatomid bug, *Perillus bioculatus* Fab., Watertown, N. Y.

Hallinan, F. J., Albany, N. Y.
Specimens of bird lice, Albany, N. Y.

Hampton, John M. Jr, Loudonville, N. Y.
Specimens of varied carpet beetle larvae, Loudonville, N. Y.

Hannan, William E., Albany, N. Y.
Specimen of ichneumon fly, Albany, N. Y.
Harpham, C. L., Loudonville, N. Y.
Virginia opossum, Loudonville, N. Y.

Haskins, Vernon, East Durham, N. Y.
Sora, East Durham, N. Y.

Hayner, Warren, Albany, N. Y.
Specimens of lady beetles, Chilocorus bivulneris, West Sand Lake, N. Y.

Hemesssy, Harry, Albany, N. Y.
Starling, Albany, N. Y.

Hill, Dudley Toll, Scotia, N. Y.
Old photographs and prints

Hollister, J. M., Schenectady, N. Y.
Specimen of sphinx moth, Stowe, Vt.
Kodachrome photograph of tent caterpillar egg mass, Schenectady, N. Y.
Specimens of spider wasp and sheet web-weaver spider
Specimens of walking-stick insects, Schenectady, N. Y.

Huntington, Mrs Archer M., Bethel, Conn.
2 bronze statues “Domestic Trouble” and “Peacocks Fighting”

Ibbott, William B., Wilson, Carl, and Howard, John, South Cambridge, N. Y.
Body of snowy owl with aspergillotic infection. South Cambridge, N. Y.

Ingraham, Donald, Cambridge, N. Y.
2 old coffee mills

Johnson, Clarence, Schenectady, N. Y.
Specimens of egg mass and newly hatched spiders

Kay, Dr G. Marshall, New York, N. Y.
11 graptolites from various formations and localities

Kellert, Dr Ellis, Schenectady, N. Y.
Specimens of tropical rat mites, Schenectady, N. Y.

Kellogg Switchboard and Supply Company, Chicago, Ill.
McCulloch radio tube

Kemp, Mrs R. C., Albany, N. Y.
Canary, Albany, N. Y.

Kennedy, J. D., Cortland, N. Y.
4 specimens of Hypericum prolificum from Cortland county, N. Y.

Killian, E. J., Albany, N. Y.
Specimens of weevils, Calomycterus setarius Roelofs, Albany, N. Y.

Kirker, J. E., Albany, N. Y.
Specimen of flea, Albany, N. Y.

Koster, John, West Nyack, N. Y.
7 gray squirrels; 5 skulls of birds and small mammals; 2 red squirrels;
3 starlings and Virginia opossum, West Nyack, N. Y.

Kraft, Fred G., Cragsmoor, N. Y.
Memorabilia of Artist E. L. Henry
Photograph of a E. L. Henry painting
Plaster bust of Henry P. Avery

Kruger, F. F., Schenectady, N. Y.
Specimen of flea, Schenectady, N. Y.

Langdon, Brig. Gen. Russell C., Brooklyn, N. Y.
17 arrowpoints from western North Carolina
Piece of coquina from Old Spanish Fort at Matanzas, Fla.
Lamellibranch shells and sharks teeth, Moorehead City, N. C.
Civil War, Spanish American War material and memorabilia of Colonel
Loomis L. Langdon and Brigadier General Russell L. Langdon
Specimens of ants, New Rochelle, N. Y.

Specimens of broad-necked Prionus, Voorheesville, N. Y.

Specimens of larvae of varied carpet beetle, Binghamton, N. Y.

Specimens of sap beetles, *Carpophilus hemipterus* L., Albany, N. Y.

Specimens of termites, Menands, N. Y.

Specimens of dytiscid beetle, *Dytiscus harrisi* Kby., Malone, N. Y.

Specimens of pine leaf aphids, pine needle scale, and larvae of LeConte’s sawfly, Keene Valley, N. Y.

Specimen of *Amorpha fruticosa*, Essex county, N. Y.

Specimens of plants from western New York

Specimen of carpenter ant, Canaan, N. Y.

Specimen of caddis fly case, Saratoga Springs, N. Y.

Specimens of larvae of varied carpet beetle

Specimens of pine bark aphids

7 specimens of titaniferous magnetite from Lake Sanford, N. Y.

25 specimens of anorthosite from Lake Sanford, N. Y.
Oneida Community, Oneida, N. Y.
1575 specimens of plants from the United States

Paladin, Arthur, Albany, N. Y.
3 owl flies from great horned owl, Valatie, N. Y.
Starling, Mexico, N. Y.
Skull of gray fox, Selkirk, N. Y.
3 skulls of black bears, Fulton county, Tupper Lake and Herkimer, N. Y.

Paradis, E. M., Albany, N. Y.
Specimens of brown dog ticks, Albany, N. Y.
Parker, Orissa V., Hoosick Falls, N. Y.
Specimen of gall on raspberry, Hoosick Falls, N. Y.

Partridge, Miss C. B., Menands, N. Y.
Specimens of lawn ants, Menands, N. Y.

Pauly, K. A., Schenectady, N. Y.
Thin section slide of fossil wood from Arizona
5 thin section slides of fossil wood from Thedford, Ont., Canada

Peters, Charles, Cragsmoor, N. Y.
Collection of E. L. Henry art material

Pittman, Mrs C. F., Schenectady, N. Y.
Specimens of larvae of varied carpet beetle, Schenectady, N. Y.

Platania, Mrs Ann, Albany, N. Y.
Specimen of clothes moth, Albany, N. Y.

Rea, Dr Paul M., Santa Barbara, Calif.
Specimen of Leptota Glatfelteri Peck, from California

Reoux, Mrs Adelia H., and Henry A., Warrensburg, N. Y.
The Albert H. Thomas Collection of guns, revolvers, swords etc.

Riemer, A. C., Delmar, N. Y.
Specimen of dog tick, Delmar, N. Y.

Rock, Mrs G. A., Whitehall, N. Y.
Specimens of larder beetle larvae, Whitehall, N. Y.

Rose, Lewis N., San Francisco, Calif.
24 specimens of plants from California

Rowe, Mrs Gertrude, Round Lake, N. Y.
Western fox squirrel (melano)

Rowley, Elmer B., Glens Falls, N. Y.
Samarskite-Aeschynite with black tourmaline in feldspar from Overlook Quarry near Conklingville, N. Y.
Cyrtolite crystals with Samarskite-Aeschynite from Overlook Quarry near Conklingville, N. Y.

Ruedemann, Rudolf, Albany, N. Y.
2 graptolites from near Jamesville, N. Y.

Sampson, Dr J. A., Albany, N. Y.
American redstart, Albany, N. Y.

Sanderson, W. E., Loudonville, N. Y.
Eastern turkey, immature, Loudonville, N. Y.

Sanford, Mrs Rollin B., Albany, N. Y.
Specimen of Eupatorium coelestinum, Newtonville, N. Y.

Schreiber, Rev. G. L., Kingston, N. Y.
10 specimens of plants from the Hudson valley, N. Y.

Shephard, Estate of Mr and Mrs Finley (through C. C. Huitt, executor), New York, N. Y.
Shovel from Saratoga Battlefield, 1777
Celt from western New York
Shillinglaw, James McC., Westmere, N. Y.
Specimen of cicada killer, Westmere, N. Y.

Simons, Howard, Albany, N. Y.
Book, "Field Service Regulation" U. S. Army, 1914
10-dollar bill of Confederate currency
World War badge of Albany War Chest, 1918

Smith, Vera, Troy, N. Y.
Nest of Baltimore oriole, Defreestville, N. Y.

Solheim, Dr W. G., Laramie, Wyo.
5 specimens of fungi from Wyoming

Spath, Mrs F. J., Albany, N. Y.
Specimens of ground beetle (Harpalus), Albany, N. Y.

Spiker, C. J., Branchport, N. Y.
Bicknell's thrush, Branchport, N. Y.

Staats, Mrs Esther F., Rensselaer, N. Y.
Old buckskin breeches

Starr, Nellie M., Delmar, N. Y.
Buffalo hide overcoat

Stone, Harry, New York, N. Y.
2 early nonelectric telephones

Stoneman, William H., Albany, N. Y.
69 articles of sailmaker's tools and equipment
Old sword-cane combination
2 historical lead pencils
Lithograph of Abraham Lincoln by Currier and Ives
Lithograph of President Andrew Jackson by Currier and Ives
Early lithograph of Woman and Child by Harry E. Pease
Lithograph of Barnum's Gallery of Wonders
Carved cigar holder
Materials relating to the history of navigation

Swane, Mrs Hubert E., Waverly, N. Y.
2 Quaker bonnets

Thomas, Frank M., Albany, N. Y.
Pamphlets on history and art
2 small water colors
Catalogue of George West Museum 1890
Papers on Stephen C. Foster
Old apothecary weighing scales

Thomas, Wilfred, Albany, N. Y.
Civil War explosive shrapnel
Toy Civil War sabre
Artist Thomas Cole's palette
Oil painting of a bootblack by W. B. Sparks
Brass Civil War buckle

Thompson, Deaconess Amy G., and Rev. Paul S. Huntington, Upper Red Hook, N. Y.
Memorabilia of artist E. L. Mooney

Tucker, Gilbert N., Glenmont, N. Y.
Specimens of Mexican bean beetle larvae, Glenmont, N. Y.

Vail, Robert W. G., Albany, N. Y.
Medal commemorating passage of prohibition amendment 18

Van Amringe, Mrs Edith H., New York, N. Y.
Addition to the Frederick C. Hirons Architectural Collection

Van Derzee, Mrs Albany, N. Y.
Specimen of brown dog tick, Albany, N. Y.
Van Etten, Dr E. J., Saugerties, N. Y.
3 specimens of *Blephilia hirsuta* (Pursh) Benth., from Ulster county, N. Y.

Van Sanford, Frances A., Albany, N. Y.
Specimen of Indian meal moth, Albany, N. Y.

Wallace, Floyd, Oneonta, N. Y.
Bone awl; 2 hammerstones; 9 miscellaneous arrowpoints from Otsego, N. Y.

Ward, Norman F., Watertown, N. Y.
Specimens of weevils, *Brachyrhinus ovatus* L., Watertown, N. Y.
Specimens of springtails, Watertown, N. Y.

Weeks, Mrs Walter N., Whitehall, N. Y.
Old fan
Old Grebe radio set

Wells, Sister Jennie, North Family of Shakers, Mt Lebanon, N. Y.
Shaker record book of the Sodus Bay Family of Shakers
Shaker book of deaths among the Shakers—1780-1830
Record book of the Sodus Bay Family of Shakers—1834-38

Wilckes, Mrs F., Katonah, N. Y.
Specimens of powder post beetles, Katonah, N. Y.

Wills, Dr J. G., Delmar, N. Y.
Specimens of weevils, *Brachyrhinus ovatus* L., Delmar, N. Y.

Wilson, Marion, Albany, N. Y.
Specimen of dragon fly, Albany, N. Y.

Wood, Bessie, Albany, N. Y.
Oven-bird, Voorheesville, N. Y.

Yerick, Mrs John F., Philmont, N. Y.
Specimens of psocids, *Lachesilla pedicularia* L., Philmont, N. Y.

Zeh, K. Harry, Haverstraw, N. Y.
Specimen of dog flea, Haverstraw, N. Y.

**BY EXCHANGE**

Schmidt, Robert, Callicoon Center, N. Y.
Mammoth tooth at Schuler's Lake near Callicoon Center, N. Y.

**BY PURCHASE**

American Meteorite Laboratory, Denver, Colo.
End section of meteorite from Burlington, N. Y.
Slice of meteorite from South Byron, N. Y.

Annesley & Company, Albany, N. Y.
Print, "Brunswick Church" from painting of E. L. Henry
Print, "First Railroad Train" by E. L. Henry

Arnold, E. T., Albany, N. Y.
Brass candle sconces

Congdon, Charles E., Salamanca, N. Y.
4 braided strips of corn from the Cattaraugus Indian reservation

Lecoste, Madame Paul, Outremont, Quebec, Canada
Miniature of Mrs D. A. Graves
Collection of costumes and accessories, *circa* 1835
Painting of Antonia Madina

A 180-card catalog of Pleistocene mollusks
Thomas, Frank M., Albany, N. Y.
A funeral sermon on the death of Abraham Eights
Electric telegraphic code apparatus
Old foot stool
Old banjo
Blood letting lancet
Physician's scale balance
Bone saw
Electric shock machine
Pocket medical dissecting set
2 pestles
Old Kellogg phone
Papers of Victor G. Audubon
Statuette of Rogers group by Daniel Chester French
Collection of old medical materials from home of Hiram Moses, M.D.,
Petersburg, N. Y., who was graduated from Yale University about 1824

Thomas, Wilfred, Albany, N. Y.
Old iron marine clock
Oil painting by G. H. Broughton
Old electric apparatus

Weil, Margaret, Albany, N. Y.
Surveyor's alidade

BY MUSEUM STAFF

Adams, Dr Charles C., Albany, N. Y.
Specimens of ants, North Elba, N. Y.
Specimen of Japanese beetle, Albany, N. Y.
Specimens of adults and work of alder leaf beetle, North Elba, N. Y.

Broughton, Dr John G., Albany, N. Y.
4 specimens of graphite from Ramapo township, Rockland county, N. Y.
Specimen of phlogopite from Lake Mombasha, Orange county, N. Y.
3 specimens of soapstone from Shenandoah talc mine in East Fishkill township, Dutchess county, N. Y.

Casey, J. L., Albany, N. Y.
Skull of starling, Albany, N. Y.

Chamberlain, K. F., Slingerlands, N. Y.
Specimens of hydrophilid beetles, Hydrobaticus normatus Lec.; Haliplid beetles, Peltodytes simplex Lec.; dytiscid beetles, Hydroporus striatellus Lec.; dytiscid beetles, Laccophilus decipiens Lec.; dytiscid beetles, Laccophilus fasciatus Aube.; hydrophilid beetles, Tropisternus californicus Lec., and Tropisternus ellipticus Lec., from Riverside, Calif.
Specimen of longicorn beetle, Centrodera nevadica Lec., Sequoia Park, Calif.
Specimens of long-toed water beetles, Macronychus glabratus Say, Cornwall, Conn.
Specimen of haliplid beetle, Haliplus Blanchardi Rbts., Natick, Mass.

Flower, Dr R. H., Cincinnati, Ohio
29 cephalopod specimens, West Brook, N. Y.
21 cephalopod specimens, Borodino, N. Y.
Cephalopod specimen, Georgetown, N. Y.
2 cephalopod specimens, Cayuga Lake, N. Y.
Collection of approximately 97 types and specimens of cephalopods from various localities and formations, as a permanent loan

Glasgow, Dr R. D., Albany, N. Y.
Specimens of chermid galls on hackberry, Morristown, N. J.
Many specimens of black fly adults, eggs, larvae and pupae from Ray Brook, North Elba, Lake Placid, North Creek, Clarksville, Thacher Park and Altamont

Hartnagel, C. A., Albany, N. Y.
4 specimens of magnetite from Clifton mines in St Lawrence county, N. Y.
5 specimens of titaniferous iron ore from Lake Sanford, N. Y.
House, Dr H. D., Albany, N. Y.
Specimens of sumac aphids, Saratoga Lake, N. Y.
Specimen of sphecid wasp, Loudonville, N. Y.
Specimens of balsam gall midge galls, Tahawus, N. Y.
Specimens of tree hoppers (*Pulvis concava* Say), Queensbury, N. Y.
Black-billed cuckoo, Malta, N. Y.
White-footed mouse, Loudonville, N. Y.
Koster, Louis J., Albany, N. Y.
16 skulls of small mammals, Rockland county, N. Y., and other localities
Skeleton of great blue heron, West Nyack, N. Y.
Starling, Albany, N. Y.
Schoonmaker, W. J., Albany, N. Y.
2 short-tailed shrews, Rensselaer county, N. Y.
2 white-footed mice, Rensselaer county, N. Y.
Red-backed mouse, Rensselaer county, N. Y.
Jumping mouse, Rensselaer county, N. Y.
Skull of short-tailed shrew, Rensselaer county, N. Y.
Skull of red-backed mouse, Rensselaer county, N. Y.
Eastern red-tail, Rensselaer county, N. Y.
Stoner, Dayton, N. Y.
6 lots of fleas from snowy owls, West Albany, N. Y.; Schoharie county, N. Y., and Voorheesville, N. Y.; Ticonderoga, N. Y.; East Schodack, N. Y., and South Cambridge, N. Y.
Starling, Albany, N. Y.
4 bank swallows, Vienna, N. Y.
3 barn swallows, Voorheesville, N. Y.
5 cliff swallows, Troy, N. Y.; Sylvan Beach, N. Y., and Altamont, N. Y.
Eastern song sparrow, Voorheesville, N. Y.
Lot of fleas from bank swallow, Oneida Lake, N. Y.
Skull of muskrat, Guilderland Center, N. Y.
House centipede, Albany, N. Y.
Northern gray squirrel, Albany, N. Y.
Whitney, A. G., Albany, N. Y.
Specimens of fungus beetles (*Lycoperdina ferruginea*), Albany, N. Y.
Specimen of plume moth, Albany, N. Y.
Specimen of parasite wasp (*Pelecitus*), Mt Rafinesque, N. Y.

**BY TRANSFER**

New York State Historical Collection (through C. C. Adams), Albany, N. Y.
54 miscellaneous chipped implements; 20 miscellaneous chipped points from the Harriet E. Lutman Collection (see 24th Report of Director, p. 37)

New York State Library, Albany, N. Y.
Old thread
Physician's medicine case
Cockade

Superintendent's Office, Education Building, Albany, N. Y.
2 old keys

**GIFTS TO INSTITUTIONS AND INDIVIDUALS**

Baudisch, Dr Oskar, Saratoga Springs, N. Y.
6 samples of Schenectady shale

Marlitt, Eleanor, Johnstown, N. Y.
15 specimens of rocks and minerals

Norvell, Stevens T., Sr, Western Springs, Ill.
Specimen of Clinton iron ore

St Mary's Girls' High School (through Miss Pat Clemens), Phoenix, Ariz.
15 specimens of rocks and minerals

Swartz, Dr Frank M., State College, Pa.
Rubber mold of *Odontochile phacoptyx* var. *gaspensis*
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