I. TRUSTEES

EX OFFICIO

FRANK R. LILLIE, President Emeritus of the Corporation, The University of Chicago
LAWRASON RIGGS, President of the Corporation, 120 Broadway, New York City
E. NEWTON HARVEY, Vice President of the Corporation, Princeton University
CHARLES PACKARD, Director, Marine Biological Laboratory
OTTO C. GLASER, Clerk of the Corporation, Amherst College
DONALD M. BRODIE, Treasurer, 522 Fifth Avenue, New York City

EMERITUS

E. G. CONKLIN, Princeton University
B. M. DUGGAR, University of Wisconsin
W. E. GARREY, Vanderbilt University
R. A. HARPER, Columbia University
ROSS G. HARRISON, Yale University
H. S. JENNINGS, University of California
F. P. KNOWLTON, Syracuse University
R. S. Lillie, The University of Chicago
*C. E. McClung, University of Pennsylvania
S. O. Mast, Johns Hopkins University
A. P. Mathews, University of Cincinnati
*T. H. Morgan, California Institute of Technology
W. J. V. Osterhout, Rockefeller Institute
G. H. Parker, Harvard University
W. B. Scott, Princeton University

TO SERVE UNTIL 1949

W. R. Amberston, University of Maryland School of Medicine
P. B. Armstrong, Syracuse University
L. G. Barth, Columbia University
S. C. Brooks, University of California
W. C. Curtis, University of Missouri
H. B. Goodrich, Wesleyan University
A. C. Redfield, Harvard University
C. C. Speidel, University of Virginia

TO SERVE UNTIL 1948

Eric G. Ball, Harvard University Medical School
R. Chambers, Washington Square College, New York University
Eugene F. Dubois, Cornell University Medical College
Columbus Iselin, Woods Hole Oceanographic Institution
C. W. Metz, University of Pennsylvania
H. H. Plough, Amherst College
E. W. Sinnott, Yale University
W. R. Taylor, University of Michigan

TO SERVE UNTIL 1947

W. C. Allee, The University of Chicago
G. H. A. Clowes, Lilly Research Laboratory
P. S. Galtsoff, U. S. Fish and Wild Life Service
L. V. Heilbrunn, University of Pennsylvania
Laurence Irving, Swarthmore College
J. H. Northrop, Rockefeller Institute
A. H. Sturtevant, California Institute of Technology
Loran D. Woodruff, Yale University

TO SERVE UNTIL 1946

Dugald E. S. Brown, New York University
E. R. Clark, University of Pennsylvania
Otto C. Glaser, Amherst College
E. N. Harvey, Princeton University
M. H. Jacobs, University of Pennsylvania
A. K. Parpart, Princeton University
Franz Schrader, Columbia University
B. H. Willier, Johns Hopkins University

EXECUTIVE COMMITTEE OF THE BOARD OF TRUSTEES

Lawrason Rigs, Ex officio, Chairman
E. N. Harvey, Ex officio

*Deceased.
ACT OF INCORPORATION

D. M. Brodie, *Ex officio*

Charles Packard, *Ex officio*

P. B. Armstrong, to serve until 1947

L. G. Barth, to serve until 1946

P. S. Galtsoff, to serve until 1947

Wm. Randolph Taylor, to serve until 1946

The Library Committee

A. C. Redfield, *Chairman*

E. G. Ball

S. C. Brooks

M. E. Krahl

J. W. Mavor

The Apparatus Committee

E. P. Little, *Chairman*

C. L. Claff

G. Failla

S. E. Hill

A. K. Pardpar

The Supply Department Committee

D. A. Marsland, *Chairman*

P. B. Armstrong

P. S. Galtsoff

R. T. Kempton

Charles Packard

The Evening Lecture Committee

F. M. Landis, *Chairman*

Charles Packard

The Instruction Committee

H. B. Goodrich, *Chairman*

W. C. Allee

S. C. Brooks

Viktor Hamburger

Charles Packard, *Ex officio*

The Buildings and Grounds Committee

E. G. Ball, *Chairman*

D. P. Costello

Mrs. E. N. Harvey

Roberts Rugh

Mrs. C. C. Speidel

II. ACT OF INCORPORATION

Commonwealth of Massachusetts

Be It Known, That whereas Alpheus Hyatt, William Sanford Stevens, William T. Sedgwick, Edward G. Gardiner, Susan Minns, Charles Sedgwick Minot, Samuel Wells, William G. Farlow, Anna D. Phillips, and B. H. Van Vleck have associated themselves with the intention of forming a Corporation under the name of the Marine Biological Laboratory, for the purpose of establishing and maintaining a laboratory or station for
scientific study and investigation, and a school for instruction in biology and natural history, and have complied with the provisions of the statutes of this Commonwealth in such case made and provided, as appears from the certificate of the President, Treasurer, or Trustees of said Corporation, duly approved by the Commissioner of Corporations, as recorded in this office;

Now, therefore, I, HENRY B. PIERCE, Secretary of the Commonwealth of Massachusetts, do hereby certify that said A. Hyatt, W. S. Stevens, W. T. Sedgwick, E. G. Gardner, S. Minns, C. S. Minot, S. Wells, W. G. Farlow, A. D. Phillips, and B. H. Van Vleck, their associates and successors, are legally organized and established as, and are hereinafter, an existing Corporation, under the name of the MARINE BIOLOGICAL LABORATORY, with the powers, rights, and privileges, and subject to the limitations, duties, and restrictions, which by law appertain thereto.

Witness my official signature hereunto subscribed, and the seal of the Commonwealth of Massachusetts hereunto affixed, this twentieth day of March, in the year of our Lord One Thousand Eight Hundred and Eighty-Eight.

HENRY B. PIERCE,
Secretary of the Commonwealth.

III. BY-LAWS OF THE CORPORATION OF THE MARINE BIOLOGICAL LABORATORY

I. The members of the Corporation shall consist of persons elected by the Board of Trustees.

II. The officers of the Corporation shall consist of a President, Vice President, Director, Treasurer, and Clerk.

III. The Annual Meeting of the members shall be held on the second Tuesday in August in each year, at the Laboratory in Woods Hole, Massachusetts, at 11:30 A.M. and at such meeting the members shall choose by ballot a Treasurer and a Clerk to serve one year, and eight Trustees to serve four years, and shall transact such other business as may properly come before the meeting. Special meetings of the members may be called by the Trustees to be held at such time and place as may be designated.

IV. Twenty-five members shall constitute a quorum at any meeting.

V. Any member in good standing may vote at any meeting, either in person or by proxy duly executed.

VI. Inasmuch as the time and place of the Annual Meeting of members are fixed by these By-laws, no notice of the Annual Meeting need be given. Notice of any special meeting of members, however, shall be given by the Clerk by mailing notice of the time and place and purpose of such meeting, at least fifteen (15) days before such meeting to each member at his or her address as shown on the records of the Corporation.

VII. The Annual Meeting of the Trustees shall be held on the second Tuesday in August in each year, at the Laboratory in Woods Hole, Mass., at 10 A.M. Special meetings of the Trustees shall be called by the President, or by any seven Trustees, to be held at such time and place as may be designated, and the Secretary shall give notice thereof by written or printed notice, mailed to each Trustee at his address as shown in the records of the Corporation, at least one (1) week before the meeting. At such special meeting only matters stated in the notice shall be considered. Seven Trustees those eligible to vote shall constitute a quorum for the transaction of business at a meeting.

VIII. There shall be three groups of Trustees:

(A) Thirty-two Trustees chosen by the Corporation, divided into four classes, to serve four years; and in addition there shall be two groups of Trustees as follows:
REPORT OF THE TREASURER

(B) Trustees ex officio, who shall be the President and Vice President of the Corporation, the Director of the Laboratory, the Associate Director, the Treasurer, and the Clerk;

(C) Trustees Emeritus, who shall be elected from the Trustees by the Corporation. Any regular Trustee who has attained the age of seventy years shall continue to serve as Trustee until the next Annual Meeting of the Corporation, whereupon his office as regular Trustee shall become vacant and be filled by election by the Corporation and he shall become eligible for election as Trustee Emeritus for life. The Trustees ex officio and Emeritus shall have all the rights of the Trustees except that Trustees Emeritus shall not have the right to vote.

The Trustees and officers shall hold their respective offices until their successors are chosen and have qualified in their stead.

IX. The Trustees shall have the control and management of the affairs of the Corporation; they shall elect a President of the Corporation who shall also be Chairman of the Board of Trustees; and shall also elect a Vice President of the Corporation who shall also be the Vice Chairman of the Board of Trustees; they shall appoint a Director of the Laboratory; and they may choose such other officers and agents as they may think best; they may fix the compensation and define the duties of all the officers and agents; and may remove them, or any of them, except those chosen by the members, at any time; they may fill vacancies occurring in any manner in their own number or in any of the offices. The Board of Trustees shall have the power to choose an Executive Committee from their own number, and to delegate to such Committee such of their own powers as they may deem expedient. They shall from time to time elect members to the Corporation upon such terms and conditions as they may think best.

X. Any person interested in the Laboratory may be elected by the Trustees to a group to be known as Associates of the Marine Biological Laboratory.

XI. The consent of every Trustee shall be necessary to dissolution of the Marine Biological Laboratory. In case of dissolution, the property shall be disposed of in such manner and upon such terms as shall be determined by the affirmative vote of two-thirds of the Board of Trustees.

XII. The account of the Treasurer shall be audited annually by a certified public accountant.

XIII. These By-laws may be altered at any meeting of the Trustees, provided that the notice of such meeting shall state that an alteration of the By-laws will be acted upon.

IV. THE REPORT OF THE TREASURER

To the Trustees of the Marine Biological Laboratory:

Gentlemen:

Herewith is my report as Treasurer of the Marine Biological Laboratory for the year 1945.

The accounts have been audited by Messrs. Seamans, Stetson, and Tuttle, certified public accountants. A copy of their report is on file at the Laboratory and inspection of it by members of the Corporation will be welcomed.

The principal summaries of their report—The Balance Sheet, Statement of Income and Expense, and Current Surplus Account—are appended hereto as Exhibits A, B, and C.

The following are some general statements and observations based on the detailed reports:
I. Assets

1. Endowment Assets

As of December 31, 1945, the total book value of all the Endowment Assets, including the Scholarship Funds, was $966,772.16, a loss for the year of $17,128.41. The decline was due, as in the last two years, to losses on the mortgage participations on New York City realty held in the Trust Funds.

At the end of the year $831,993.01 was invested in marketable securities (bonds, preferred stocks and common stocks) with a market value of $910,162.31. $125,753.85 was invested in mortgage participations on New York City real estate. $9,025.30 was in uninvested principal cash.

The Treasurer's estimate of the actual value of the $125,753.85 in mortgage notes and participations held on December 31 is $85,750.00. With the market value of $910,162.31 on marketable securities and the $9,025.30 in cash this makes a total current valuation of $1,004,937.61 compared with total book value of $966,772.16.

The increase for the year in market values, $75,454.79, is largely due to the rise in common stock prices.

2. Plant Assets

There were no changes of any consequence in Plant Assets during the year. The Reserve Fund was increased nearly $10,000.00 to a total of $26,830.71 by the transfer of the Crane Co. dividends, part of the General Biological Supply House dividends and other items of current income.

3. Current Assets

The total of current assets increased $10,730.68 during 1945 to a total of $212,970.35. Current Liabilities at the end of the year were $2,754.70. Current Surplus increased $12,277.94 to a total of $196,337.90.

II. Income and Expenditures

The return to more normal operations for the Laboratory last summer resulted in larger totals for both income and expense items. Total income was $182,818.23, total expense including depreciation reserves of $26,968.12 was $173,044.95, giving a net surplus for the year of $9,773.28.

EXHIBIT A

MARINE BIOLOGICAL LABORATORY BALANCE SHEET, DECEMBER 31, 1945

Assets

Endowment Assets and Equities:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Securities and Cash in Hands of Central Hanover Bank and Trust Company, New York, Trustee</td>
<td>$950,130.04</td>
</tr>
<tr>
<td>Securities and Cash in Minor Funds</td>
<td>16,642.12</td>
</tr>
<tr>
<td>Total</td>
<td>$966,772.16</td>
</tr>
</tbody>
</table>
REPORT OF THE TREASURER

Plant Assets:
- Land $111,425.38
- Buildings 1,326,345.54
- Equipment 187,837.87
- Library 337,266.01

Total Plant Assets $1,962,874.80
Less Reserve for Depreciation 677,140.22
Reserve Fund, Securities and Cash 26,830.71
Book Fund, Securities and Cash 18,282.46

Current Assets:
- Cash $30,467.02
- Accounts Receivable 20,396.65
- Inventories:
  - Supply Department 44,441.66
  - Biological Bulletin 20,117.40
- Investments:
  - Devil's Lane Property 46,556.99
  - Gansett Property 1,749.92
  - Stock in General Biological Supply House, Inc. 12,700.00
  - Other Investment Stocks 20,095.00
- Retirement Fund 11,517.82
- Prepaid Insurance 4,033.08
- Items in Suspense 895.41

Total Current Assets $212,970.35

Total Assets $1,330,847.75

Endowment Funds:
- Endowment Funds $948,646.82
- Reserve for Amortization of Bond Premiums 1,483.22

Total Endowment Funds $950,130.04

Minor Funds 16,642.12

Total Minor Funds $1,066,772.16

Plant Funds:
- Mortgage Notes Payable $5,000.00
- Donations and Gifts $1,172,564.04
- Other Investments in Plant from Gifts and Current Funds 153,283.71

Total Plant Funds $1,330,847.75

Current Liabilities and Surplus:
- Accounts Payable $2,754.70
- Items in Suspense 1,799.63
- Reserve for Repairs and Replacements 12,078.12
- Current Surplus 196,337.90

Total Current Liabilities and Surplus $212,970.35

Total Liabilities $2,510,590.26
### Marine Biological Laboratory Income and Expense, Year Ended December 31, 1945

<table>
<thead>
<tr>
<th></th>
<th>Total Income</th>
<th>Total Expense</th>
<th>Net Income</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Income</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Endowment Fund</td>
<td>$32,214.07</td>
<td>$32,214.07</td>
<td>$0</td>
</tr>
<tr>
<td>Library Fund</td>
<td>9,479.18</td>
<td>9,479.18</td>
<td>0</td>
</tr>
<tr>
<td>Donations</td>
<td>755.00</td>
<td>755.00</td>
<td>0</td>
</tr>
<tr>
<td>Instruction</td>
<td>$9,554.39</td>
<td>7,220.00</td>
<td>$2,334.39</td>
</tr>
<tr>
<td>Research</td>
<td>4,550.59</td>
<td>17,434.24</td>
<td>12,883.65</td>
</tr>
<tr>
<td>Evening Lectures</td>
<td>86.35</td>
<td>86.35</td>
<td>0</td>
</tr>
<tr>
<td>Biological Bulletin and Membership Dues</td>
<td>6,393.65</td>
<td>8,775.63</td>
<td>2,381.98</td>
</tr>
<tr>
<td>Supply Department</td>
<td>39,255.03</td>
<td>47,812.56</td>
<td>8,557.52</td>
</tr>
<tr>
<td>Mess</td>
<td>24,146.52</td>
<td>20,750.36</td>
<td>3,396.16</td>
</tr>
<tr>
<td>Dormitories</td>
<td>27,443.23</td>
<td>14,547.91</td>
<td>12,895.32</td>
</tr>
<tr>
<td>(Interest and Depreciation charged to above 3 Departments)</td>
<td>(25,574.03)</td>
<td>25,574.03</td>
<td>0</td>
</tr>
<tr>
<td>Dividends, General Biological Supply House, Inc.</td>
<td>14,732.00</td>
<td>14,732.00</td>
<td>0</td>
</tr>
<tr>
<td>Dividends, Other Investment Stocks</td>
<td>725.00</td>
<td>725.00</td>
<td>0</td>
</tr>
<tr>
<td><strong>Rents</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bar Neck Property</td>
<td>767.65</td>
<td>6,000.00</td>
<td>5,232.32</td>
</tr>
<tr>
<td>Janitor House</td>
<td>30.89</td>
<td>360.00</td>
<td>329.11</td>
</tr>
<tr>
<td>Danchakoff Cottages</td>
<td>240.86</td>
<td>275.00</td>
<td>34.16</td>
</tr>
<tr>
<td>Sale of Library Duplicates, Micro Film, etc</td>
<td>344.74</td>
<td>344.74</td>
<td>0</td>
</tr>
<tr>
<td>Microscope and Apparatus Rental</td>
<td>1,372.54</td>
<td>1,372.54</td>
<td>0</td>
</tr>
<tr>
<td>Sundry Income</td>
<td>20.00</td>
<td>20.00</td>
<td>0</td>
</tr>
<tr>
<td><strong>Maintenance of Plant</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buildings and Grounds</td>
<td>23,642.27</td>
<td>23,642.27</td>
<td>0</td>
</tr>
<tr>
<td>Apparatus Department</td>
<td>4,911.52</td>
<td>4,911.52</td>
<td>0</td>
</tr>
<tr>
<td>Chemical Department</td>
<td>2,265.30</td>
<td>2,265.30</td>
<td>0</td>
</tr>
<tr>
<td>Library Expense</td>
<td>6,487.95</td>
<td>6,487.95</td>
<td>0</td>
</tr>
<tr>
<td>Workmen's Compensation Insurance</td>
<td>526.63</td>
<td>526.63</td>
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</tr>
<tr>
<td>Truck Expense</td>
<td>238.60</td>
<td>238.60</td>
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</tr>
<tr>
<td>Bay Shore Property</td>
<td>92.78</td>
<td>92.78</td>
<td>0</td>
</tr>
<tr>
<td>Great Cedar Swamp</td>
<td>21.00</td>
<td>21.00</td>
<td>0</td>
</tr>
<tr>
<td><strong>General Expenses</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administration Expense</td>
<td>15,168.99</td>
<td>15,168.99</td>
<td>0</td>
</tr>
<tr>
<td>Endowment Fund Trustee and Safe-Keeping</td>
<td>1,028.45</td>
<td>1,028.45</td>
<td>0</td>
</tr>
<tr>
<td>Bad Debts</td>
<td>375.97</td>
<td>375.97</td>
<td>0</td>
</tr>
<tr>
<td>Special Repairs on account of 1944 Hurricane Damage</td>
<td>4,297.24</td>
<td>4,297.24</td>
<td>0</td>
</tr>
<tr>
<td>Interest</td>
<td>125.00</td>
<td>125.00</td>
<td>0</td>
</tr>
<tr>
<td>Reserve for Depreciation</td>
<td>26,968.12</td>
<td>26,968.12</td>
<td>0</td>
</tr>
<tr>
<td><strong>Excess of Income over Expense carried to Current Surplus</strong></td>
<td>$173,044.95</td>
<td>$182,818.23</td>
<td>$114,635.32</td>
</tr>
</tbody>
</table>

### Footnotes
- Excess of Income over Expense carried to Current Surplus: $9,773.28
- Total: $182,818.23
- Net Income: $114,635.32
EXHIBIT C

MARINE BIOLOGICAL LABORATORY, CURRENT SURPLUS ACCOUNT,
YEAR ENDED DECEMBER 31, 1945

Balance January 1, 1945 ........................................... $184,059.96

Add:  
Excess of Income over Expense for Year as shown in Exhibit B. $9,773.28
Gain on Gansett Lots Sold ................................... 464.18
Bad Debts Recovered ........................................ 82.23
Mortgage Payable, Transferred to Plant Funds ............ 5,000.00
Reserve for Depreciation Charged to Plant Funds ......... 26,968.12 42,287.81

$226,347.77

Deduct:  
Payments from Current Funds during Year for Plant Assets as shown in Schedule IV:
   Buildings ........................................... $ 7,402.65
   Equipment ........................................ 4,462.50
   Library ........................................ 7,500.43

$19,365.58

Less Received for Plant Assets Sold ................. 5,600.00

$13,765.58

Pensions Paid ........................................... $ 3,460.00
Loss on Retirement Fund Securities .................. 847.32

$ 4,307.32

Less Retirement Fund Income ......................... 311.79

$ 3,995.53

Transfers to Reserve Fund:
   Portion of Dividends from General Biological Supply House, Inc. $ 2,500.00
   Dividends from Crane Co. ................................ 625.00
   Income from Operation and Sale of Property 445-51 W. 23rd and 450-2 W. 24th Sts., N. Y. C. 8,947.72
   Gansett Property Profits, 1944 ............................ 176.04 12,248.76 30,009.87

$196,337.90

Respectfully submitted,

DONALD M. BRODIE,
Treasurer

V. REPORT OF THE LIBRARIAN

The sum $12,262.54 appropriated to the library in 1945 was expended as follows: books, $469.99; serials, $2,625.79; binding, $577.60; express, $43.22; supplies, $147.84; salaries, $7,262.54 ($1,150 of this sum was contributed by the Woods Hole Oceanographic Institution); back sets, $1,104.98; insurance, $45.00;
sundries, $5.00; total, $12,281.96. The cash receipts of the library totalled $344.74 for microfilms, $220.34 ( $62.17 expenses paid by the library and accounted above under “supplies”); sale of duplicates, $122.74; sale of the “Serial List,” Biologica Bulletin supplement number, $1.66. This sum, $344.74, reverts to the laboratory and does not include rent payments for library readers which are collected by the main office. There were 49 library readers accommodated in the library during the summer of 1945.

Of the Carnegie of New York Fund, $126.35 was expended for the completion of one journal and the partial completion of another.

The sum appropriated by the Woods Hole Oceanographic Institution in 1945 for purchases was $800. A balance of $949.39 remaining from 1944 made a available total of $1,749.39. Of this sum $947.12 was expended, leaving a balance of $802.27 towards future purchases. In addition to the above, the Woods Hole Oceanographic Institution contributed $1,150 (see above under salaries).

During 1945 the library received 902 current journals: 279 (8 new) by subscription to the Marine Biological Laboratory; 30 (7 new) to the Woods Hole Oceanographic Institution; exchanges 352 (6 new; 145 reinstated foreign) and 5 (35 foreign reinstated) with the Woods Hole Oceanographic Institution publications; 177 as gifts to the former and 6 to the latter. The library acquired 20 books: 27 by purchase of the Marine Biological Laboratory; 44 by purchase of the Woods Hole Oceanographic Institution; 10 gifts by the authors; 46 gifts by the publishers; 20 by miscellaneous donors and 9 from Miss Jane Strong. There were 22 back sets of serial publications completed: 14 purchased by the Marine Biological Laboratory (one with the Carnegie Fund); 2 by the Woods Hole Oceanographic Institution; 5 by exchange of the “Biological Bulletin” and one by exchange of duplicate material. Partially completed sets were 54; purchased by the Marine Biology Laboratory, 27 (1 by the Carnegie Fund); purchased by the Woods Hole Oceanographic Institution, 2; by exchange with the “Biological Bulletin,” 2; by gift and exchange of duplicate material, 23.

The reprint additions to the library were 4,620; current of 1944, 604; current of 1945, 64; and of previous dates, 3,952. A total of 6,390, 2,130 not duplicate of our holdings, were presented to the library; 4,295 by Mrs. Meigs; 67 by Dr. H. G. Cassidy; 627 by the University of Utah; 26 by Dr. B. M. Davis; and 1,375 by Dr. L. C. Wyman. The large collection of Dr. Garrey's reprints presented last year have not as yet been counted nor started on the way toward cataloguing.

At the end of the year 1945 the library contained 53,990 bound volumes and 137,674 reprints.

Readers of the library report will be glad to note the number of foreign exchanges that have already been reinstated during 1945, both for the “Biological Bulletin” and for the Woods Hole Oceanographic Institution publications: 145 for the former and 35 for the latter. Next year's report will probably show the pre-war number reinstated save only for Germany and perhaps for Russia since we get very poor response from that country. Nor have we heard anything in regard to the German journals on order with Otto Harrassowitz which are apparently stalled if not destroyed in Leipzig. The library committee that is working with the State Department to get these released has nothing so far to report to this library.
 REPORT OF THE DIRECTOR

VI. REPORT OF THE DIRECTOR

TO THE TRUSTEES OF THE MARINE BIOLOGICAL LABORATORY:

Gentlemen:

I herewith submit a report on the fifty-eighth session of the Marine Biological Laboratory.

1. Attendance

Since 1943 our total attendance has increased from the low point reached that year. In 1944 it was 53 per cent of the pre-war average of 490; in 1945 it was 63 per cent. This increase is found among the independent investigators and the students; the beginning investigators and research assistants, who, as I explained in the last report, belong in one group, are still sparsely represented. In 1945 there were only 36, whereas the pre-war average was 130. The advance registration for 1946 shows an encouraging increase in this group. Many of the applicants are veterans who are taking advantage of Government funds provided under the G. I. Bill of Rights.

2. Building Repairs

One of the inevitable effects of the war has been the deterioration of our buildings. Lack of materials and labor has up until now prevented all but the most essential repairs from being made. Fortunately, we are now able to begin to put our house in order, in spite of the shortage of some critical materials. To determine what work should be done, a Committee on Special Repairs, under the able leadership of Mr. C. L. Claff, conducted a thorough survey of all of the buildings and made detailed recommendations. The report, a model of completeness as drawn up by Mr. Claff, calls for the ultimate expenditure of approximately $145,000 for present repairs and future desirable improvements not only in the buildings but also in equipment for the Apparatus Department and the Supply Department.

The Executive Committee voted to expend the entire Reserve Fund, amounting to $25,000, and all but a minimum of the current cash on hand for making the most urgently needed repairs at once. It also laid plans for securing outside funds with which to complete the changes called for in the report, and to purchase apparatus. In addition, funds for a new building and for additional endowment are to be sought.

Many of the essential repairs have already been made. The Mess kitchen, never properly restored after the Navy occupation, is now in good condition, and improvements in the dining room have been made. The Botany Building, unused for several seasons, has been put to rights with new plumbing, wall tables, shelves, and other fixtures. Replacements have been made in the Supply Department and Rockefeller Building; hot water systems are installed in the residences heretofore not so provided; and much painting has been done. This work was accomplished in large measure by our permanent staff, under the direction of Mr. MacNaught. All the men worked faithfully and energetically, and have completed the assigned tasks in a most satisfactory manner. It is hoped that waterproofing of the Crane and Brick Buildings may be completed before the 1946 season begins. As soon as this has been satisfactorily finished, those Laboratory rooms which have been damaged by water can be made presentable.
3. The Housing Problem

An unexpected outcome of war-time activities is the housing shortage. Before the war our residences and the houses in the village could accommodate 450 to 500 persons during the course of a summer. But when the Oceanographic Institution embarked on extensive defense projects, the number of its workers increased from comparatively few to upwards of 250, most of whom are year round residents. They now occupy most of the available houses in the village; some are forced to live as far away as North Falmouth and Hyannis. As a result of this crowding we shall be unable, in the summer of 1946, to take care of more than 375 investigators and students—that is, about 100 less than our pre-war average. Indeed we can accommodate this number only because the authorities of the U. S. Fish and Wild Life Commission have granted us the use of a part of the Fisheries residence. For their cooperation in this, and in many other ways, the Laboratory is grateful.

When it is possible once more to build houses, some of this pressure for living space will be relieved. To encourage investigators to have homes here in Woods Hole, the Laboratory has opened up the Devil’s Lane tract, situated a mile and a half from the center of the village, between the State Road to Falmouth and the railroad. About 100 lots will presently be available.

In the meantime, the number of applicants for research space will undoubtedly increase, and we shall be unable to find places for all qualified investigators who wish to come. The Administration thus faces the unwelcome prospect of having to choose between applicants. The Executive Committee has ruled that investigators, instructors, and students should have preference over Library readers in the residences and at the Mess. But some further method of selection must be followed until the housing shortage is relieved.

4. Financial Problems

The report of the Treasurer shows that our financial condition is sound; that is, we are free from debt, and have about $57,000 in the Reserve and Current Cash accounts. But most of this has already been earmarked to pay for the most necessary repairs, and for foreign journals not yet delivered. We shall still need a larger amount for other needed repairs and replacements. When these have been made we can say that our regular income from all sources is sufficient to maintain the Laboratory on its present basis. But in order to expand our research facilities we must have additional funds. It is estimated that $30,000 each year should be spent for this purpose.

5. Gifts

Mr. Allen R. Memhard has provided a fund of $1,000, the income of which may be awarded to a qualified student who has completed the Embryology course.

Mrs. Adele K. Stricker has presented to the Laboratory the sum of $50 in memory of her son, Capt. George J. Stricker, who worked here during the summers of 1933 and 1934.

Dr. A. C. Redfield contributed $100 for a hedge and trees to be planted to the east of the Stone Building.

Donations for current purposes received during the year were as follows: Mrs. E. B. Meigs, $25.00; Dr. William D. Curtis, $100.00; M. B. L. Associates, $630.00.
6. Deaths

This year we have sustained irreparable losses by death; Dr. T. H. Morgan, Trustee since 1897, whose scientific achievements and devotion to this Laboratory from its earliest days contributed greatly to its growth in usefulness and influence, and Dr. C. E. McClung, elected Trustee in 1913, active in all Laboratory affairs, especially in the building up of our great Library.

7. Election of Trustees

At the meeting of the Corporation, held August 14, 1945, the following were elected Trustees Emeriti: Dr. F. P. Knowlton, elected Trustee in 1922; Dr. R. S. Lillie, elected Trustee in 1921.

The following were elected Trustees: Dr. P. B. Armstrong, Professor of Anatomy, College of Medicine, Syracuse University; Dr. A. K. Parpart, Associate Professor of Biology, Princeton University.

8. Publications

The Executive Committee voted to print in this Report a list of papers, based wholly or in part on work done at this Laboratory, and published during the years 1941–1945. A similar list, which appeared in the Annual Report of 1908, covered the years from the beginning of the Laboratory in 1888 to 1907. It is hoped that eventually a complete compilation of titles to include the intervening years may be made.

Appended as parts of this Report are:

1. Publications from this Laboratory during the years 1941–1945.
2. The Staff.
3. Investigators and Students.
5. Subscribing and Cooperating Institutions.
7. Shorter Scientific Papers.
8. Members of the Corporation.

Respectfully submitted,
CHARLES PACKARD,
Director

1. PUBLICATIONS FROM THE MARINE BIOLOGICAL LABORATORY, 1941–1945

Note: An asterisk before a title indicates that the work was done only in part at this Laboratory.

ABELL, R. G. See also Zweifach, Abell, Chambers, and Clowes, 1945.
ANDERSON, T. F. See also Harvey, E. B. and Anderson, 1943; Luria, Delbruck and Anderson 1943; Richards, Steinbach and Anderson, 1943.
REPORT OF THE DIRECTOR 15


BALLENTINE, ROBERT. See Parpart and Ballentine, 1943.


BERGER, C. A. *Some criteria for judging the degree of polyploidy of cells in the resting stage. *Amer. Nat.*, 75: 1941.


Bradley, H. C. See Bailey, Koran and Bradley, 1942.
Brooks, S. C. See also Brooks and Brooks, 1945.
Buck, J. B. See also Boche and Buck, 1942.


CABLE, R. M. See also Hunninien and Cable, 1941, 1943.


CHAMBERS, ROBERT. Some physical properties of protoplasm. Chapter in Alexander's *Colloid Chemistry*, 1944.


CHENRY, R. H. Inhibitory effect of caffeine on oxygen consumption in Arbacia eggs. *Anat. Rec.*, 84: 1942 (abs.).

CHENRY, R. H. *Variation in reproductive phenomena by caffeine. Federation Proc.*, 3: 1944 (abs.).


Claff, C. L. *Glass electrode for determination of hydrogen ion activity of small quantities of culture media. *Science, 94: 1941.


Clowes, G. H. A. See also Krahl, Keltch, Neubeck and Clowes, 1941; Keltch, Baker, Krahl and Clowes, 1941; Davis, Baker and Clowes, 1941, 1942; Krahl, Jandorff and Clowes, 1942; Powell, Krahl and Clowes, 1942; Hutchens, Keltch, Krahl and Clowes, 1942; Zweifach, Abell, Chambers and Clowes, 1945.


Cole, K. S. See also Guttman and Cole, 1941; Curtis and Cole, 1942, 1944.


Cunningham, O. See Brown and Cunningham, 1941.
REPORT OF THE DIRECTOR

CURTIS, H. J. See also Cole and Curtis, 1941.


DAVSON, HUGH. See also Shapiro and Davson, 1941.


DELBRUCK, M. See Luria, Delbruck and Anderson, 1943.


DENT, J. N. See also Lynn and Dent, 1941.

DEWEY, VIRGINIA C. See also Claff, Dewey and Kidder, 1941.


DOUGLIS, MARJORIE B. See Alice and Douglis, 1945.


FAILLA, G. See Evans, Slaughte, Little and Failla, 1942.


FINKEL, A. J. See Allee, Finkel and Garner, 1941, 1942; Allee, Finkel, Garner, Merwin and Evans, 1942.


FRISCH, J. A. *The rate of adaptation of P. caudatum to sea water. Anat. Rec. 89: 1944 (abs.).


GARNER, H. R. See Allee, Finkel and Garner, 1941, 1942.

GILBERT, P. W. *The urogenital system of the male frilled shark, Chlamydoselachus anguineu Anat. Rec., 84: 1942 (abs.).
GOLDIN, A. *See also Spiegelman and Goldin, 1944.
GOLDINGER, J. M. *See Barron and Goldinger, 1941.
GRANICK, SAM. *See Michaelis and Granick, 1945.
GRAVE, CASWELL. The “eye spot” and light response of the larva of Cynthia partita. Biol. Bul 81: 1941 (abs.).
GUTTMAN, RITA AND K. S. COLE. The rectifying property of the giant axon of the squi Collecting Net, 16: 1941.


Harvey Ethel Browne and T. F. Anderson. The spermatozoan and fertilization membrane of Arbacia, as shown by the electron microscope. BioI. Bull., 85: 1943.

Harvey Ethel Browne and G. I. Lavin. The chromatin in the living Arbacia egg; and the cytoplasm of the centrifuged egg as photographed by ultraviolet light. BioI. Bull., 86: 1944.


Haywood, Charlotte. The permeability of the toadfish liver to insulin, with and without cholertics. Federation Proc., 2: 1943 (abs.).

HEILBRUNN, L. V. *An Outline of General Physiology. 2nd Ed. Saunders. 1943.


HOPKINS, D. L. See Mast and Hopkins, 1941.


HUNNINEN, A. V. See also Cable and Hunningen, 1941, 1942.


JACOBS, M. H. See also Netzky and Jacobs, 1941; Stewart and Jacobs, 1941.


REPORT OF THE DIRECTOR

KALISS, NATHAN. See Furth, Boon and Kaliss, 1944.

KAWATA, N. See Steinbach, Spiegelman and Kawata, 1944.


KELTCH, ANNA K. See Krahl, Keltch, Neubeck and Clowes, 1941; Hutchens, Keltch, Krahl and Clowes, 1942.


KIDDER, G. W. See also Claff, Dewey and Kidder, 1941; Burt, Kidder and Claff, 1941.


KOPAC, M. J. See also Hutchens, Kopac and Krahl, 1942.

KRAHL, M. E. See also Hutchens, Keltch, Krahl and Clowes, 1942; Jandorf and Krahl, 1942; Hutchens, Kopac and Krahl, 1942.


LAVIN, G. J. See also Costello and Lavin, 1943; Harvey and Lavin, 1944; Hibbard and Lavin, 1945.


LEE, R. E. See also Chambers, Zweifach, Lowenstein and Lee, 1944; Zweifach, Lee, Hyman and Chambers, 1944.


LEWIS, MARGARET R. *The failure of purified penicillin to retard the growth of sarcoma in mice. Science, 100: 1944.
LITTLE, E. F. See Evans, Slaughter, Little and Fiala, 1942.
LYNN, W. G. *The embryology of Eleutherodactylus nubicola, an anuran which has no tadpole stage. Carnegie Contrib. to Embryol., 30: 1942.
MACLEAN, BERNICE. See Shapiro, 1945.

Mast, S. O. *See also Bertholf and Mast, 1944; Grave and Mast, 1944.*


McElroy, W. D. *See Harvey, Barnes, McElroy, Whitely, Pease and Cooper, 1944.*

Melland, A. M. *See Buck and Melland, 1942.*


Merwin, Ruth M. *See Allee and Merwin, 1941; Allee, Finkel, Garner, Merwin and Evans, 1942; Allee and Merwin, 1943.*


Meyerhof, Bettina. *See Nachmansohn and Meyerhof, 1941.*


Minsky, A. E. *See Pollister and Minsky, 1942, 1943.*


Moog, Florence. *See also Spiegelman and Moog, 1944.*


Neubeck, C. E. *See Krahl, Kelitch, Neubeck and Clowes, 1941.*

O'Brien, J. P. *Studies on the effects of X-rays on regeneration in the fragmenting oligochaete, Nais paraguayanus.* Growth, 6: 1942.


PACE, D. M. See Mast and Pace, 1942.


PARK, THOMAS. The laboratory population as a test of a comprehensive ecological system *Quart. Rev. Biol., 16: 1941.


PARKER, G. H. The methods of excitation of melanophores in the skin of the catfish Ameiurus *Science, 93: 1941.


PARPERT, A. K. See also Lucke, Parpert and Ricca, 1941; Chase, Lorenz, Parpert and Gregg 1944.


PEASE, D. C. See Harvey, Barnes, McElroy, Whitely, Pease and Cooper, 1944.


QUINN, GERTRUDE P. See Hiatt and Quinn, 1945.
RECKNAGEL, RICHARD. See Wilbur and Recknagel, 1943.
RICCA, R. A. See Lucke, Parpart and Ricca, 1941.
28 MARINE BIOLOGICAL LABORATORY


Rose, S. M. See also Gidge and Rose, 1944.

Rugh, Robert. See Marsland and Rugh, 1942.


Scharrer, Berta. See also Scharrer and Scharrer, 1945.


Scharrer, Ernst. See also Scharrer and Scharrer, 1944.


SHEAFFER, A. A. A fourteen day rhythm in the left-right spiralling ratio of Flabellula citata. *Biol. Bull.*, 83: 1942 (abs.).


SHAPIRO, HERBERT. Metabolism and fertilization in the starfish egg. *Collecting Net*, 16: 1941.


SICHEL, F. J. M. *See* also Harvey and Sichel, 1942, 1945.


SLATER, J. C. *See* Evans, Slaughter, Little, and Failla, 1942.


SMITH, M. E. *See* Evans, Beams, and Smith, 1941.


SPIEGELMAN, S. *See* also Moog and Spiegelman, 1942; Steinbach and Spiegelman, 1943, 1944.


STEINBACH, H. B. *See* also Nachmansohn and Steinbach, 1942; Richards, Steinbach and Anderson, 1943.


STEWART, DOROTHY R. See Jacobs and Stewart, 1941, 1942, 1945; Jacobs, Stewart and Butler, 1943.


STEWART, W. A. See Lancefield and Stewart, 1944.

STILES, K. A. *Handbook of microscopic characteristics of tissues and organs. Blakiston, 1943.*


TAYLOR, W. R. *The collecting of seaweeds and fresh water algae. Instructions to naturalists in the armed forces for botanical work. 1944 2nd ed. 1945.*


REPORT OF THE DIRECTOR


TRINKHAUS, J. P. See Goodrich, Josephson, Trinkhaus and Slate, 1944.


WALKER, Roland. See also Freedman and Walker, 1942.


WICHTERMAN, RALPH. *Pure line mass cultures for demonstrating the mating reaction and conjugation in Paramoecium. Turtox News, 22: 1944.


WILBUR, K. M. See also Angerer and Wilbur, 1943.


WILLIAMSON, R. R. See Buchsbaum and Williamson, 1943.


WILLIER, B. H. AND MARY E. RAWLES. *Genotypic control of feather color pattern as demonstrated by the effects of a sex-linked gene upon the melanophores. Genetics, 29: 1944.


WITKUS, ELEANOR R. See also Berger and Witkus, 1943; Berger, Sullivan and Witkus, 1944.

WOODRUFF, L. L. See Boell and Woodruff, 1941.


WRINCH, DOROTHY. *Growth and form. Isis, 34: 1943.


WULFF, V. J. See Brown and Wulff, 1941.


REPORT OF THE DIRECTOR


ZWEIFACH, B. J. See also Chambers and Zweifach, 1944.


2. THE STAFF, 1945

CHARLES PACKARD, Director, Marine Biological Laboratory, Woods Hole, Massachusetts.

SENIOR STAFF OF INVESTIGATION

E. G. CONKLIN, Professor of Zoology, Emeritus, Princeton University.
FRANK R. LILLIE, Professor of Embryology, Emeritus, The University of Chicago.
RALPH S. LILLIE, Professor of General Physiology, Emeritus, The University of Chicago.
C. E. MCCLUNG, Professor of Zoology, Emeritus, University of Pennsylvania.
S. O. MAST, Professor of Zoology, Emeritus, Johns Hopkins University.
A. P. MATHEWS, Professor of Biochemistry, Emeritus, University of Cincinnati.
T. H. MORGAN, Director of the Biological Laboratory, California Institute of Technology.
G. H. PARKER, Professor of Zoology, Emeritus, Harvard University.

ZOOLOGY

I. Consultants

T. H. BISSONNETTE, Professor of Biology, Trinity College.
L. L. WOODRUFF, Professor of Protozoology, Yale University.

II. Instructors

F. A. BROWN, Associate Professor of Zoology, Northwestern University, in charge of course.
T. H. BULLOCK, Assistant Professor of Neurology University of Missouri Medical School.
W. D. BURBANK, Associate Professor of Biology, Drury College.
C. G. GOODCHILD, Associate Professor of Biology, Southwest Missouri State Teachers College.
JOHN H. LOCHHEAD, Instructor in Zoology, University of Vermont.
MADELENE E. PIERCE, Assistant Professor of Zoology, Vassar College.
W. M. REID, Assistant Professor of Biology, Monmouth College.
MARY D. ROGICK, Professor of Biology, College of New Rochelle.

III. Laboratory Assistant

ANTOIN BACA, Duke University Medical School.

EMBRYOLOGY

I. Consultants

H. B. GOODRICH, Professor of Biology, Wesleyan University.
II. INSTRUCTORS

W. W. Ballard, Professor of Zoology, Dartmouth College.
Donald P. Costello, Professor of Zoology, University of North Carolina.
Viktor Hamburger, Professor of Zoology, Washington University, in charge of course.
Jane M. Oppenheimer, Assistant Professor in Biology, Bryn Mawr College.

III. RESEARCH ASSISTANT

Marjorie Hopkins, University of California.

IV. LABORATORY ASSISTANTS

Catherine Henley, The Johns Hopkins University.
Eleanor Lerner, Washington University.

PHYSIOLOGY

I. CONSULTANTS

W. R. Amerson, Professor of Physiology, University of Maryland, School of Medicine.
Harold C. Bradley, Professor of Physiological Chemistry, University of Wisconsin.
Walter E. Garrey, Professor of Physiology, Vanderbilt University Medical School.
Merkel H. Jacobs, Professor of Physiology, University of Pennsylvania.

II. INSTRUCTORS

Aurin Chase, Assistant Professor of Biology, Princeton University.
Arthur C. Giese, Associate Professor of Biology, Stanford University (absent in 1945).
E. S. Guzman Barron, Associate Professor of Biochemistry, The University of Chicago.
Rudolf T. Kempton, Professor of Zoology, Vassar College (absent in 1945).
Arthur K. Parpart, Associate Professor of Biology, Princeton University, in charge of course.
Robert Ramsey, Associate Professor of Physiology, Medical College of Virginia.

BOTANY

I. CONSULTANTS

S. C. Brooks, Professor of Zoology, University of California.
B. M. Duggar, Professor of Plant Physiology, University of Wisconsin.

II. INSTRUCTORS

Wm. Randolph Taylor, Professor of Botany, University of Michigan, in charge of course.
Hannah Croasdale, Technical Assistant, Dartmouth College.

EXPERIMENTAL RADIOLOGY

G. Failla, Memorial Hospital, New York City.
L. Robinson Hyde, Phillips Exeter Academy, Exeter, N. H.

LIBRARY

Priscilla B. Montgomery (Mrs. Thomas H. Montgomery, Jr.), Librarian
Deborah Lawrence
MRS. Elon H. Jessup
Mary A. Rohan
REPORT OF THE DIRECTOR

APPARATUS DEPARTMENT
E. P. LITTLE, Phillips Exeter Academy, Exeter, N. H., Manager
J. D. GRAHAM

CHEMICAL DEPARTMENT
E. P. LITTLE, Phillips Exeter Academy, Exeter, N. H., Manager

SUPPLY DEPARTMENT
JAMES McINNIS, Manager
D. J. ZINN, Naturalist

RUTH CROWELL
M. B. GRAY
W. E. KAHLER
G. LEHY

A. M. HILTON
W. E. KAHLER
F. N. WHITMAN

GENERAL OFFICE
F. M. MacNaught, Business Manager
POLLY L. CROWELL
MRS. LILA S. MYERS

GENERAL MAINTENANCE
T. E. Larkin, Superintendent
W. C. HEMENWAY
R. W. KAHLER
A. J. PIERCE

G. T. Nickelson, Jr.
T. E. TAWELL

THE GEORGE M. GRAY MUSEUM
GEORGE M. GRAY, Curator Emeritus

3. INVESTIGATORS AND STUDENTS

Independent Investigators, 1945

ABELL, RICHARD G., Assistant Professor of Anatomy, University of Pennsylvania.
ADDISON, WILLIAM H. F., Professor of Normal Histology and Embryology, University of Pennsylvania.
ANDERSON, RUBERT S., Assistant Professor of Physiology, University of Maryland.
ANFINSON, CHRISTIAN B., Jr., Instructor in Biological Chemistry, Harvard Medical School.
ARMSTRONG, PHILIP B., Professor of Anatomy, Syracuse University.
ARNOFF, SAMUEL, Instructor, University of Chicago.
AXELRAD, ARTHUR A., Investigator, McGill University.
BALL, ERIC G., Associate Professor of Biological Chemistry, Harvard Medical School.
BALLARD, W. W., Professor of Zoology, Dartmouth College.
BALLENTINE, ROBERT, Instructor, Columbia University.
BARROW, E. S. GUZMAN, Associate Professor of Biochemistry, The University of Chicago.
BARTH, L. G., Associate Professor of Zoology, Columbia University.
BEERS, CHARLES D., Professor of Zoology, University of North Carolina.
BERGER, CHARLES A., Professor of Cytology, Fordham University.
BERTHOLF, LLOYD M., Professor of Biology, Western Maryland College.
BEVELANDER, GERRIT, Associate Professor of Anatomy, New York University.
BLISS, ALFRED F., Instructor in Physiology and Pharmacology, Union University.
BODIAN, DAVID, Associate in Epidemiology, Johns Hopkins University.
BRONK, DETLEV W., Professor of Biophysics, Johnson Foundation.
BROOKS, MATILDA M., Research Associate in Biology, University of California.
BROOKS, SUMNER C., Professor of Zoology, University of California.
BROWN, DUGALD E. S., Professor of Physiology, New York University.
BROWN, FRANK A., JR., Associate Professor of Zoology, Northwestern University.
BROWNELL, KATHARINE A., Research Associate, Ohio State University.
BUDINGTON, ROBERT A., Professor of Zoology, Emeritus, Oberlin College.
BULLOCK, THEODORE H., Assistant Professor of Anatomy, University of Missouri.
BURBANCK, WILLIAM D., Associate Professor of Biology, Drury College.
BURKHOLDER, PAUL R., Professor of Botany, Yale University.
CHAMBERS, ROBERT, Research Professor of Biology, New York University.
CHASE, AURIN M., Assistant Professor of Biology, Princeton University.
CHENEY, RALPH H., Chairman Biology Department, Long Island University.
CHIDESTER, F. E., Research Worker, Lee Foundation.
CLAFF, C. LLOYD, Research Fellow in Surgery, Harvard Medical School.
CLARK, ELEANOR L., Voluntary Research Worker, University of Pennsylvania.
CLARK, ELIOT R., Professor of Anatomy, University of Pennsylvania.
CLAUDE, ALBERT, The Rockefeller Institute for Medical Research.
CLEMENT, A. C., Associate Professor in Biology, College of Charleston.
CLOWES, G. H. A., Director of Research, Lilly Research Laboratories.
CONKLIN, EDWIN G., Professor of Zoology, Emeritus, Princeton University.
COPELAND, MANTON, Professor of Biology, Bowdoin College.
COSTELLO, DONALD P., Professor of Zoology, University of North Carolina.
CRAMPTON, HENRY E., Professor Emeritus, Columbia University.
CROASDALE, HANNAH T., Technical Assistant, Dartmouth College.
CROUSE, HELEN V., Research Associate, University of Pennsylvania.
CROWELL, SEARS, Assistant Professor of Zoology, Miami University.
CROWE, G. H. A., Director of Research, Lilly Research Laboratories.
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COPELAND, MANTON, Professor of Biology, Bowdoin College.
CROWELL, SEARS, Assistant Professor of Zoology, Miami University.
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CROWE, G. H. A., Director of Research, Lilly Research Laboratories.
CONKLIN, EDWIN G., Professor of Zoology, Emeritus, Princeton University.
CROWE, G. H. A., Director of Research, Lilly Research Laboratories.
REPORT OF THE DIRECTOR

LAVIN, GEORGE I., In charge of Spectroscopic Laboratory, Rockefeller Institute for Medical Research.

LEE, RICHARD E., Student, Columbia University.

LIEBER, FRITZ, Research Fellow, Johns Hopkins University.

LILLIE, RALPH S., Professor of Physiology, Emeritus, University of Chicago.

LOCHHEAD, JOHN H., Assistant Professor of Zoology, University of Vermont.

MCLEAN, C. E., Professor of Zoology, Emeritus, University of Pennsylvania.

MACLEAN, BERNICE L., Assistant Professor, Department Biological Sciences, Hunter College.

MAGALHAES, HULDA, Instructor in Zoology, Duke University.

MARKS, MILDRED H., Student, Massachusetts Institute of Technology.

MARS, DOUGLAS A., Associate Professor of Biology, New York University.

MAST, S. O., Professor of Zoology, Emeritus, Johns Hopkins University.

MATHEWS, ALBERT P., Professor of Biochemistry, Emeritus, University of Cincinnati.

MATTHEWS, SAMUEL A., Professor of Biology, Williams College.

MEMBER, ALLEN R., Crescent Road, Riverside, Connecticut.

MENKIN, VALY, Assistant Professor of Pathology, Duke University.

MERRIT, CHARLES W., Director Zoological Laboratory, University of Pennsylvania.

MICHAELIS, LEONOR, Member Emeritus, Rockefeller Institute for Medical Research.

MACHAMSTOHN, DAVID, Research Associate in Neurology, Columbia University.

NORTHROP, JOHN H., Member of the Institute, Rockefeller Institute for Medical Research.

OBBENHEIMER, JANE M., Assistant Professor of Biology, Bryn Mawr College.

OSTERHOUT, W. J. V., Member Emeritus, Rockefeller Institute for Medical Research.

PARFITT, ARTHUR K., Associate Professor of Biology, Princeton University.

PERRING, MADELENE E., Associate Professor of Zoology, Vassar College.

RAMSEY, ROBERT W., Associate Professor of Physiology, Medical College of Virginia.

RANKIN, JOHN S., JR., Assistant Professor of Zoology, University of Connecticut.

REID, W. MALCOLM, Assistant Professor of Biology, Monmouth College.

RIKER, WALTER F., JR., Instructor in Medicine and Pharmacology, Cornell University Medical School.

RIS, HANS, Assistant in Physiology, Rockefeller Institute for Medical Research.

ROBBIE, WILBUR A., Research Associate, State University of Iowa.

ROGICK, MARY DORA, Professor of Biology, College of New Rochelle.

SAMPSON, MYRA M., Professor of Zoology, Smith College.

SANDEW, ALEXANDER, Assistant Professor of Biology, New York University.

SCHAEFFER, A. A., Professor of Biology, Temple University.

SCHAEFFER, ERNST A., Assistant Professor of Anatomy, Western Reserve University School of Medicine.

SCOTT, SISTER FLORENCE MARIE, Professor of Zoology, Seton Hill College.

SCOTT, GEORGE T., Instructor, Oberlin College.

SHAHES, ABRAHAM M., Assistant Professor of Physiology, New York University College of Dentistry.

SHAPIRO, HARRY H., Assistant Professor of Anatomy, Columbia University.

SLIPER, ELEANOR H., Assistant Professor of Zoology, State University of Iowa.

SMITH, DIETRICH CONRAD, Associate Professor of Physiology, University of Maryland, School of Medicine.

STERN, KURT G., Lecturer in Department of Chemistry, Polytechnic Institute of Brooklyn.

STEWARD, DOROTHY R., Fellow in Physiology, University of Pennsylvania.

STOKEY, ALMA G., Professor of Plant Science, Emeritus, Mount Holyoke College.

STOKER, H. W., Professor of Biology, New York University.

TAKA, CHARLES H., Associate Professor of Pharmacology, Medical Branch, University of Texas.

TAYLOR, WILLIAM RANDOLPH, Professor of Botany, University of Michigan.

TEWINKEL, LOIS E., Associate Professor of Zoology, Smith College.

THIVY, FRANCESCO, Professor of Biology, Women’s Christian College.

VILLER, CLAUDE A., Assistant Professor of Zoology, University of North Carolina.

WAING, WALTER W., Assistant Professor of Physiology, New York University, College of Dentistry.

WABER, CHARLES O., Assistant Professor of Physiology, Cornell University Medical College.

WENRICH, D. H., Professor of Zoology, University of Pennsylvania.

WHITING, ANNA R., Visiting Investigator, University of Pennsylvania.
Whiting, P. W., Associate Professor of Zoology, University of Pennsylvania.
Wichterman, Ralph, Assistant Professor of Biology, Temple University.
Willier, B. H., Professor of Zoology and Director of the Biological Laboratories, John
Hopkins University.
Winsor, Charles P., Research Associate, Princeton University.
Witkus, Eleanor R., Instructor in Botany and Bacteriology, Fordham University.
Woodward, Alvlyn E., Assistant Professor, University of Michigan.
Wooley, D. W., Associate, Rockefeller Institute for Medical Research.
Wrench, Dorothy, Lecturer in Physics, Smith College.
Yntema, Chester L., Assistant Professor of Anatomy, Cornell University Medical College.
Zweifach, Benjamin W., Research Associate in Biology, New York University.

Beginning Investigators, 1945

Brown, Ellen, Commonwealth Fellow, University of California Medical School.
Brown, Virginia H., Graduate Student, Ohio State University.
Coyne, Christopher J., Student, University of Pennsylvania.
Davidson, Margaret E., Demonstrator and Assistant to Dr. Berrill, McGill University.
Krugels, Edith J., Graduate Student, Columbia University.
Lerner, Eleanor, Fellow in Zoology, Washington University.
Lovlace, Roberta, Teaching Fellow, University of North Carolina.
Miller, Elma C., Assistant, Johns Hopkins University.
Schneyer, Leon H., Instructor, New York University, College of Dentistry.
Wilson, Walter, Graduate Student, University of Pennsylvania.

Research Assistants, 1945

Abramsky, Tess, Research Assistant, Rockefeller Institute for Medical Research.
Brunelli, Eleanor L., Research Assistant, New York University, College of Dentistry.
DeFalco, Rose H., Research Assistant, University of Pennsylvania.
Fischl, Mathilda, Research Assistant in Medicine, Cornell University.
Franz, Ruth Estelle, Research Assistant, Yale University.
Garzoli, Ray F., Graduate Student, University of California.
Gould, David, Research Technician, New York University.
Harlow, Janet, Technician, Syracuse University.
Helfman, Myrna, Technician, New York University.
Henley, Catherine, Graduate Teaching Assistant, Johns Hopkins University.
Honegger, Carol, Student, Temple University.
Lawler, H. Claire, Research Assistant, New York University.
Levin, Isaac, Research Assistant, Princeton University.
Levy, Betty, Research Assistant, Rockefeller Institute for Medical Research.
Loopbrounrow, G. N., Instructor, Rhode Island State College.
McVeigh, Ida, Research Assistant in Botany, Yale University.
Metz, Delilah B., Research Assistant, Eli Lilly & Co.
Miner, Karyl, Research Assistant, New York University.
Mitchell, Constance, Research Assistant, University of Pennsylvania.
Pettengill, Olive S., Student, Temple University.
Quinn, Gertrude P., Research Assistant, New York University.
Rothenberg, M. A., Research Assistant in Biochemistry, College of Physicians and Surgeons
Uhlman, Gloria E., Research Assistant, Yale University.
Walters, C. Patricia, Research Assistant, Eli Lilly & Co.
Warner, Charlotte, Medical Student, University of Pennsylvania.
Zacks, Sumner I., Student, Brookline High School.

Library Readers, 1945

Amberstone, William R., Professor of Physiology, University of Maryland.
Beck, Lyle V., Associate Professor of Physiology, Hahnemann Medical College.
REPORT OF THE DIRECTOR

BENDICH, AARON, Member War Research Division, Neurological Institute, New York.
BREHE, KATHERINE S., Lecturer, Cornell University Medical College.
BREMER, RAYMOND L., Research Assistant, Yale University, Medical School.
CARSON, HAMPTON L., Instructor in Zoology, Washington University.
CASSIDY, HAROLD G., Assistant Professor of Chemistry, Yale University.
COLVIN, LAURA HUNTER, Instructor, Pennsylvania College for Women.
FRIEDEMANN, ULRICH H., Head of Department of Bacteriology, Brooklyn Jewish Hospital.
FRISCH, JOHN A., Professor of Biology, Canisius College.
GATES, R. RUGGLES, Professor Emeritus, University of London.
GUREWICH, VLADIMIR, Assistant Visiting Physician, Bellevue Hospital.
KABAT, ELVIN A., Research Associate in Biochemistry, College of Physicians and Surgeons.
KAYLOR, CORNELIUS T., Assistant Professor of Anatomy, Syracuse University.
KELLER, RUDOLPH, Researcher, Robinson Foundation, New York.
KLEIN, ANITA, Assistant Instructor, New York University.
KON, FRANCES, Head of Department of Research, Guggenheim Dental Foundation.
LANGE, RUGGLES M., Professor of Zoology, Head of Department of Biology, Wheaton College.
LOEW, OTTO, Research Professor of Pharmacology, New York University, College of Medicine.
MARINELLI, LEONIDAS, Physicist, Memorial Hospital.
MAYOR, JAMES W., Professor of Biology, Union College.
MAYER, MANFRED M., Scientific Staff, War Research Division, Columbia University.
METZ, CHARLES B., Instructor in Biology, Wesleyan University.
MEYERHOF, OTTO, Research Professor of Biochemistry, University of Pennsylvania.
MODAVER, JOSEPH, Research Associate in Neurology, Columbia University.
MOORE, JOHN A., Assistant Professor of Zoology, Barnard College.
MOSCHOWITZ, ELI, Assistant Professor of Chemical Medicine, Columbia University.
OREASNOH, ROBERT O., Long Island College of Medicine.
PERRY, BARBARA H., Graduate Student and Teaching Fellow in Zoology, Smith College.
PODWER, ERIC, Research, Nassau Hospital.
RASMUS, ETHEL J., Instructor in Biology, Montclair Teachers College.
ROBINSON, MILES H., Instructor in Pharmacology, University of Pennsylvania.
RYAN, FRANCIS J., Assistant Professor, Columbia University.
SCOTT, ALLAN, Assistant Professor of Biology, Union College.
STRAUSS, WILLIAM L., Jr., Associate Professor of Anatomy, Johns Hopkins University.
VON DACH, HERMAN, Assistant Professor of Physiology, Georgetown Medical School.
WALLACH, JACQUES B., Long Island College of Medicine.
ZORZOLI, ANITA, Assistant Instructor, New York University.

Students, 1945

BOTANY

BARRACLOUGH, MARY EDITH, Student, Smith College.
DIETZ, ALMA, Assistant in Biology, American International College.
GARDNER, ELIZABETH B., Radcliffe College.
MOUL, EDWIN THEODORE, Botany Assistant, University of Pennsylvania.
SMITH, MATTHEW LOU, Student, Radcliffe College.

EMBRYOLOGY

BEECH, JANET, Student, University of Connecticut.
BERRY, BETTY, University of Montreal, Quebec, Canada.
BERRY, BETH SINCLAIR, Student, Rockford College, Illinois.
CARTER, MARGARET ESTELLE, Teacher, Georgia State Women's College.
CHIRICO, ANNA MARIE, Student, Seton Hill College.
CLARK, CARL CYRUS, Student, Amherst College.
COINGERS, ANNE STEVENS, Goucher College.
EHRICH, MIRIAM, Knox College.
IZZO, MARY JANE, University of Rochester.
KELL, AMY, University of Illinois.
LEVIN, ILANE B., Goucher College.
Lomco, Dorothy Geraldine, University of Rochester.
Lovelace, Lollie Roberta, Teaching Fellow, University of North Carolina.
Marker, Muriel Josephine, Student, Colby College.
Mezger, Liselotte, Student, Bryn Mawr College.
Miller, Helma C., Graduate Assistant, Johns Hopkins University.
Perkins, Barbara Burnham, University of Connecticut.
Raymond, Barbara, Student, Swarthmore College.
Rice, Mary Esther, Assistant in Biology Laboratory, Drew University.
Roberts, Elizabeth S., Assistant in Biology, Wilson College.
Ruderman, Claire, Teaching Assistant, University of Rochester.
Thorby, Jean Adelaide, Student, Rockford College.
Upoff, Delta E., University of Rochester.

PHYSIOLOGY

Brust, Manfred, Student, New York University.
Cook, John Alfred, George Washington University.
Ferguson, Alice Howard, Graduate Assistant, Louisiana State University.
Flinker, Marie Louise M., Assistant in Physiology, Vassar College.
Fogerson, Virginia Lee, Student, Drury College.
Foster, Elizabeth Jane, Student, University of Illinois.
Goldsmith, Yvette, Perth Amboy, New Jersey.
Hajek, Norma Mary, Cornell University.
Hecht, Liselotte Isabella, Student, University of Michigan.
Resnick, Oscar, Resident Scholar, Harvard University.
Weiss, Michael S., Student, Washington Square College.
Wolff, Mary Lyda, Instructor, Cedar Crest College.
Worken, Barney, 3400 Wayne Avenue, New York City.

ZOOLOGY

Aronowitz, Olga, New York University.
Bates, Mary Florence, Student, Vassar College.
Bayors, Winifred M., Student, Seton Hill College.
Beal, Judith D., Vassar College.
Benjamin, Mrs. Reszin C., Undergraduate Student, University of Rochester.
Bernard, Sister Marie, Fordham University.
Bernier, Germaine, Instructor, University of Montreal.
Bezilla, Helen, Student, Seton Hill College.
Brady, John L., Northwestern University.
Calvert, Julie Neil, Student, Wilson College.
Carlson, Alice Marie, Laboratory Assistant, University of Minnesota.
Chaffin, Evelyn L., Student, Drury College.
Clark, Carl Cyrus, Amherst College.
Cummings, Rev. George W., Graduate Student, Catholic University.
Dale, Dorothy Helen, Depauw University.
Dawson, Mary Jean, Student, Mt. Holyoke College.
Dempsey, Ellen, Oberlin College.
Dickson, Mary Elizabeth, Student, Smith College.
Farnham, Carol Jean, Student, Drury College.
Freitag, Janet Faith, Student, University of Connecticut.
Goldis, Bernice Ruth, Graduate Student, University of Pennsylvania.
Hanlon, Rev. James J., Graduate Student, Fordham University.
Hill, Shirley B., Student, Vassar College.
Hines, Eileen Barbara, State University of Iowa.
Jones, Dorothy B., Student, University of Connecticut.
Josita, Sister M., Student, Fordham University.
Julier, Edith Vaillant, Student, Vassar College.
REPORT OF THE DIRECTOR

KREKELER, CARL H., Student, Washington University.
KUHN, ALICE ROBERTS, Western-Maryland College.
LOWENS, MARY DOROTHY, Student, Swarthmore College.
MCCLAIN, MARYLOW, Student, Swarthmore College.
MC Gregor, Elizabeth, Instructor, Mount Holyoke College.
McVICKER, SISTER MAUREEN, Teacher of Biology, St. Joseph’s College for Women.
MALLOCH, JEAN, Vassar College.
MEINHECK, HELEN LLOYD, Student, Oberlin College.
MINA, FRANK A., Laboratory Instructor, Fordham University.
OSBORN, JOAN A., Student, Barnard College.
PETERS, REV. JOSEPH J., Graduate Student, Fordham University.
RAYMOND, BARBARA, Student, Swarthmore College.
RIGGS, AUSTIN F., Student, Harvard University.
ROGERS, HENRY CRAMPTON, Deerfield Academy.
SCHAEPER, GERTRUDE, Undergraduate, Temple University.
SEAMAN, ARLENE, Zoology Assistant, Cornell University.
SNIPES, ANNE, Wheaton College.
STEES, NANCY, Teacher, West Chester State Teachers College.
SURRABER, THOMAS C., Professor of Biology, Baldwin-Wallace College.
THORNTON, DOROTHY GOLDEN, Assistant in Zoology Dept., Wellesley College.
TUPPER, LYLA, Graduate Student, Northwestern University.
UBER, VIRGINIA M., Student, Pennsylvania College for Women.
WAX, FLORENCE SIMA, Student, Oberlin College.
WHYTE, MARGIE ANN, Assistant, Cornell University.
WILCOX, BARBARA L., Student, Radcliffe College.
WILKINS, OLWEN, Teacher of Biology and Chemistry, The Putney School.
WILSON, FAITH EVELYN, Johns Hopkins University.
WILSON, MARIE ELLEN, Student, Western Maryland College.

4. Tabular View of Attendance

<table>
<thead>
<tr>
<th></th>
<th>1941</th>
<th>1942</th>
<th>1943</th>
<th>1944</th>
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<td>Investigators—Total</td>
<td>337</td>
<td>201</td>
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<td>193</td>
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<tr>
<td>Independent</td>
<td>197</td>
<td>132</td>
<td>89</td>
<td>112</td>
<td>138</td>
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<tr>
<td>Under instruction</td>
<td>59</td>
<td>16</td>
<td>19</td>
<td>11</td>
<td>10</td>
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<tr>
<td>Library readers</td>
<td>31</td>
<td>28</td>
<td>35</td>
<td>50</td>
<td>38</td>
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<tr>
<td>Research assistants</td>
<td>30</td>
<td>25</td>
<td>17</td>
<td>20</td>
<td>26</td>
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<tr>
<td>Total Attendance</td>
<td>468</td>
<td>275</td>
<td>228</td>
<td>276</td>
<td>308</td>
</tr>
<tr>
<td>Less persons registered as both students and investigators</td>
<td>7</td>
<td>2</td>
<td>6</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

| Institutions Represented—Total | 144  | 126  | 116  | 106  | 124  |
| By investigators              | 102  | 83   | 70   | 74   | 100  |
| By students                   | 72   | 43   | 41   | 41   | 49   |

<table>
<thead>
<tr>
<th>Schools and Academies Represented</th>
</tr>
</thead>
<tbody>
<tr>
<td>By investigators</td>
</tr>
<tr>
<td>By students</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Foreign Institutions Represented</th>
</tr>
</thead>
<tbody>
<tr>
<td>By investigators</td>
</tr>
<tr>
<td>By students</td>
</tr>
</tbody>
</table>
5. SUBSCRIBING AND COOPERATING INSTITUTIONS

1945

Albany Medical College  Oberlin College
Amherst College  Ohio State University
Biological Institute, Philadelphia, Pennsylvania  Pennsylvania College for Women
Bowdoin College  Princeton University
Bryn Mawr College  Radcliffe College
Cathedral College  Rockefeller Institute for Medical Research
The Catholic University of America  St. Joseph College for Women
Columbia University  Smith College
Cornell University  State University of Iowa
Cornell University Medical College  Syracuse University
Duke University  Syracuse University Medical School
Fish and Wild Life Service, U. S. Dept. of the Interior  Temple University
Fordham University  University of Chicago
Goucher College  University of Connecticut
Harvard University  University of Illinois
Harvard University Medical School  University of Maryland Medical School
Industrial and Engineering Chemistry, of the American Chemical Society  University of Michigan
Johns Hopkins University  University of Missouri
Johns Hopkins Medical School  University of Pennsylvania
Lee Foundation  University of Pennsylvania School of Medicine
Eli Lilly & Company  University of Rochester
Long Island University  Vanderbilt University Medical School
Macy Foundation  Vassar College
Massachusetts Institute of Technology  Washington University
McGill University  Wayne University
Miami University  Wellesley College
Mount Holyoke College  Wesleyan University
New York University  Western Maryland College
New York University College of Medicine  Western Reserve University
New York University School of Dentistry  Wheaton College
New York University Washington Square College  Williams College

6. EVENING LECTURES, 1945

Friday, June 29
PROF. P. W. WHITING  "The Development of Hymenopteran Genetics."

Friday, July 6
DR. R. R. GATES  "Human Heredity in Relation to Animal Genetics."

Friday, July 13
DR. I. FANKUCHEN  "X-Ray Diffraction and Protein Structure"

Friday, July 20
PROF. S. C. BROOKS  "Our Interrelationships with South American Universities, together with Illustrated Travel Notes."

Friday, July 27
PROF. E. G. BUTLER  "Problems of Differentiation and Dedifferentiation in Amputated Urodele Limbs"
Friday, August 3
Dr. Bostwick H. Ketchum ........... "The Prevention of Ship Bottom Fouling."

Friday, August 10
Dr. Daniel Merriman ................. "A Study in Pure and Applied Marine Biology. The Life History and Economic Importance of the Ocean Pout."

Friday, August 17
Dr. Detlev W. Bronk .................. "Biological Research During the War and Postwar Periods."

Friday, August 24
Dr. F. L. Hisaw ....................... "Endocrines and the Evolution of Vivi-parity among the Vertebrates."

Monday, August 27
George G. Lower ..................... "Local Invertebrates."

Wednesday, August 29
Dr. Paul S. Galtsoff .................. "Impressions of a Biologist at the San Francisco Conference."

Thursday, August 30
Major A. H. Neufeld .................. "Medical Research Organization in the Canadian Army."

Thursday, August 30
Capt. W. R. Duryee ................... "Medical Military Training."

7. Shorter Scientific Papers, 1945

Tuesday, July 24
Dr. M. M. Brooks .................... "The Redox Potential of Penicillium rotatum Medium under Some Different Conditions of Growth."

Dr. Wilbur Robbie .................... "The Use of Cyanide in Manometric Experimentation."

Dr. Sears Crowell .................... "The Displacement of Terns by Gulls at Weepecket Island."

Tuesday, July 31
Dr. P. W. Whiting ................... "The Problem of Reversal of Male Haploidy by Selection."

Dr. Berta Scharrer .................... "Experimental Tumors after Nerve Section in an Insect."

Dr. P. S. Galtsoff ................... "Reactions of Oysters to Free Chlorine."

Tuesday, August 7
Dr. T. H. Bullock .................... "Organization of Giant Nerve Fibers in certain Polychaetes."

Dr. Ernst Scharrer .................... "The Origin of Neurosecretory Granules from Basophil Substances in the Nerve Cells of Fishes."

Dr. C. H. Taft ....................... "The Action of Quitenine on the Livers of Tautog and Toadfish."

Dr. A. M. Shanes ..................... "Evidence of a Metabolic Effect by Potassium in Lowering the Injury Potential of Nerve."
Tuesday, August 14
Dr. R. Chambers ..................... "Interrelations between Sperm-Nucleus and Cytoplasm in Asteria Egg.

Dr. Kurt G. Stern .................. "Physical-chemical Studies on Chromosomal Nucleoproteins."

Tuesday, August 21
Dr. Dorothy Wrinch .................. "Hemoglobin and other Native Proteins."

Dr. E. R. Witkus .................. "Endomitosis in Plants."

Dr. C. A. Berger .................. "Recent Cytological Studies in Culex."

Thursday, August 23
Dr. Ethel B. Harvey .................. "Development of Granule-free Fractions of Arbacia eggs."

Dr. Alexander Sandow ............. "Studies of the Muscle Twitch by Method of Electronic Recording."

Dr. C. D. Beers .................. "The Role of Bacteria in the Excystment of the Ciliate Didinium."

Monday, August 27
Dr. Anna R. Whiting .................. "Differences in Sensitivity, Hatchability Curves and Cytological Effects between Eggs X-rayed in First Meiotic Prophase and Metaphase."

Dr. W. W. Wainio .................. "Aerobic Oxidation of Simple sugars by Mammalian Liver."

Dr. Dugald E. S. Brown .................. "The Role of Myosin and Myosin Triphosphatase in Vitro and in Muscle."

Tuesday, August 28
Dr. Lloyd M. Bertholf .................. "Accelerating Metamorphosis in the Tunicate Styela."

Dr. Alfred Froelich .................. "The Influence of Drugs on Heat-narcosis."

Dr. W. Malcolm Reid .................. "In Vitro and in Vitro Glycogen Utilization in the Avian Nematode Ascardia Galli."

8. MEMBERS OF THE CORPORATION, 1945

1. LIFE MEMBERS

Allis, Mr. E. P., Jr., Palais Carnoles, Menton, France.
Beckwith, Dr. Cora J., Vassar College, Poughkeepsie, New York.
Billings, Mr. R. C., 66 Franklin Street, Boston, Massachusetts.
Calvert, Dr. Philip P., University of Pennsylvania, Philadelphia, Pennsylvania.
Cole, Dr. Leon J., College of Agriculture, Madison, Wisconsin.
Conklin, Prof. Edwin G., Princeton University, Princeton, New Jersey.
Cowdry, Dr. E. V., Washington University, St. Louis, Missouri.
Jackson, Mr. Chas. C., 24 Congress Street, Boston, Massachusetts.
Jackson, Miss M. C., 88 Marlboro Street, Boston, Massachusetts.
King, Mr. Chas. A.
REPORT OF THE DIRECTOR

KINGSBURY, PROF. B. F., Cornell University, Ithaca, New York.
LEWIS, PROF. W. H., Johns Hopkins University, Baltimore, Maryland.
MEAMS, DR. J. H., 15 Chestnut Street, Boston, Massachusetts.
MOORE, DR. GEORGE T., Missouri Botanical Gardens, St. Louis, Missouri.
MORGAN, MRS. T. H., Pasadena, California.
MORGAN, PROF. T. H., Director of Biological Laboratory, California Institute of Technology, Pasadena, California.
NOYES, MISS EVA J.
SCOTT, DR. ERNEST L., Columbia University, New York City, New York.
SEARS, DR. HENRY F., 66 Beacon Street, Boston, Massachusetts.
SHEDD, MR. E. A.
STRONG, DR. O. S., Columbia University, New York City, New York.
WAITE, PROF. F. C., 144 Locust Street, Dover, New Hampshire.
WALLACE, LOUISE B., 359 Lytton Avenue, Palo Alto, California.

2. Regular Members

ADAMS, DR. A. ELIZABETH, Mount Holyoke College, South Hadley, Massachusetts.
ADOLPH, DR. EDWARD F., University of Rochester Medical School, Rochester, New York.
ALBAUM, DR. HARRY G., Biology Dept., Brooklyn College, Brooklyn, N. Y.
AMBERSON, DR. WILLIAM R., Department of Physiology, University of Maryland, School of Medicine, Lombard and Greene Streets, Baltimore, Maryland.
ANDERSON, DR. RUBERT S., University of Maryland School of Medicine, Department of Physiology, Baltimore, Maryland.
ARMSTRONG, DR. PHILIP B., College of Medicine, Syracuse University, Syracuse, New York.
AUSTIN, DR. MARY L., Wellesley College, Wellesley, Massachusetts.
BAITSELL, DR. GEORGE A., Yale University, New Haven, Connecticut.
BALLARD, DR. WILLIAM W., Dartmouth College, Hanover, New Hampshire.
BALLENTINE, DR. ROBERT, Columbia University, Department of Zoology, New York City, New York.
BALL, DR. ERIC G., Department of Biological Chemistry, Harvard University Medical School, Boston, Massachusetts.
BARD, PROF. PHILIP, Johns Hopkins Medical School, Baltimore, Maryland.
BARRON, DR. E. S. GUZMAN, Department of Medicine, The University of Chicago, Chicago, Illinois.
BART, DR. L. G., Department of Zoology, Columbia University, New York City, New York.
BARTLETT, Dr. JAMES H., Department of Physics, University of Illinois, Urbana, Illinois.

BEADLE, Dr. G. W., School of Biological Sciences, Stanford University, California.

BEAMS, Dr. HAROLD W., Department of Zoology, State University of Iowa, Iowa City, Iowa.

BECK, Dr. L. V., Hahnemann Medical College, Philadelphia, Pennsylvania.

BEHRE, Dr. ELINOR H., Louisiana State University, Baton Rouge, Louisiana.

BERTHOLF, Dr. LLOYD M., Western Maryland College, Westminster, Maryland.

BIGELOW, Dr. H. B., Museum of Comparative Zoology, Cambridge, Massachusetts.

BIGELOW, Prof. R. P., Massachusetts Institute of Technology, Cambridge, Massachusetts.

BINFORD, Prof. RAYMOND, Guilford College, North Carolina.

Bissonnette, Dr. T. HUME, Trinity College, Hartford, Connecticut.

BLANCHARD, Prof. K. C., Johns Hopkins Medical School, Baltimore, Maryland.

BODINE, Dr. J. H., Department of Zoology, State University of Iowa, Iowa City, Iowa.

BORING, Dr. ALICE M., Dickinson House, South Hadley, Massachusetts.

BRADLEY, Prof. HAROLD C., University of Wisconsin, Madison, Wisconsin.

BRODIE, Mr. DONALD M., 522 Fifth Avenue, New York City, New York.

BRONFENBRENNER, Dr. JACQUES J., Department of Bacteriology, Washington University Medical School, St. Louis, Missouri.

BROOKS, Dr. MATILDA M., University of California, Department of Zoology, Berkeley, California.

BROOKS, Dr. S. C., University of California, Berkeley, California.

BROWN, Dr. DUGALD E. S., New York University, College of Dentistry, 209 East 23d Street, New York City, New York.

BROWN, Dr. FRANK A., Jr., Department of Zoology, Northwestern University, Evanston, Illinois.

BUCK, Dr. JOHN B., Industrial Hygiene Research Lab., National Institute of Health, Bethesda, Maryland.

BUCKINGHAM, Miss EDITH N., Sudbury, Massachusetts.

BUDDINGTON, Prof. R. A., Winter Park, Florida.

BULLINGTON, Dr. W. E., Randolph-Macon College, Ashland, Virginia.

BULLOCK, Dr. T. L., University of Missouri, Columbia, Missouri.

BURBANCK, Dr. WILLIAM D., Department of Biology, Drury College, Springfield, Missouri.

BURKENROAD, Dr. M. D., Yale University, New Haven, Connecticut.

BUTLER, Dr. E. G., Princeton University, Princeton, N. J.

BYNES, Dr. ESTHER F., 1803 North Camac Street, Philadelphia, Pennsylvania.

CAMERON, Dr. J. A., Baylor College of Dentistry, Dallas, Texas.

CANNAN, Prof. R. K., New York University College of Medicine, 477 First Avenue, New York City, New York.

CARLSON, Prof. A. J., Department of Physiology, The University of Chicago, Chicago, Illinois.

CAROTHERS, Dr. E. ELEANOR, 134 Avenue C. East, Kingman, Kansas.

CARPENTER, Dr. RUSSELL L., Tufts College, Tufts College, Massachusetts.

CARROLL, Prof. MITCHELL, Franklin and Marshall College, Lancaster, Pennsylvania.
REPORT OF THE DIRECTOR

CARVER, PROF. GAIL L., Mercer University, Macon, Georgia.
CATTELL, DR. MCKEEN, Cornell University Medical College, 1300 York Avenue, New York City, New York.
CATTELL, MR. WARE, 1621 Connecticut Ave., Washington, D. C.
CHASE, DR. AURIN M., Princeton University, Princeton, New Jersey.
CHENEY, DR. RALPH H., Biology Department, Long Island University, Brooklyn, New York.
CHIDESTER, PROF. F. E., Auburndale, Massachusetts.
CHILD, PROF. C. M., Jordan Hall, Stanford University, California.
CHURNEY, DR. LEON, 155 Powell Lane, Upper Darby, Pennsylvania.
CLAFF, MR. C. LLOYD, Research Fellow in Surgery, Harvard Medical School, Boston, Mass.
CLARK, DR. LEONARD B., Department of Biology, Union College, Schenectady, New York.
CLELAND, PROF. RALPH E., Indiana University, Bloomington, Indiana.
COE, PROF. W. R., Yale University, New Haven, Connecticut.
COHN, DR. EDWIN J., 183 Brattle Street, Cambridge, Massachusetts.
COLE, DR. ELBERT C., Department of Biology, Williams College, Williamstown, Massachusetts.
COLE, DR. KENNETH S., University of Chicago, Chicago, Illinois.
COLLETT, DR. MARY E., Western Reserve University, Cleveland, Ohio.
COLTON, PROF. H. S., Box 601, Flagstaff, Arizona.
COOPER, DR. KENNETH W., Department of Biology, Princeton University, Princeton, New Jersey.
COPELAND, PROF. MANTON, Bowdoin College, Brunswick, Maine.
COSTELLO, DR. DONALD P., Department of Zoology, University of North Carolina, Chapel Hill, North Carolina.
COSTELLO, DR. HELEN MILLER, Department of Zoology, University of North Carolina, Chapel Hill, North Carolina.
CRAMPTON, PROF. H. E., American Museum of Natural History, New York City, New York.
CRANE, JOHN O., Woods Hole, Massachusetts.
CRANE, MRS. W. MURRAY, Woods Hole, Massachusetts.
CROASDALE, HANNAH T., Dartmouth College, Hanover, New Hampshire.
CROWELL, DR. P. S., JR., Department of Zoology, Miami University, Oxford, Ohio.
CURTIS, DR. MAYNIE R., 377 Dexter Trail, Mason, Michigan.
CURTIS, PROF. W. C., University of Missouri, Columbia, Missouri.
DAN, DR. KATSUMA, Misaki Biological Station, Misaki, Japan.
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