ANNUAL REPORT
OF THE
OHIO ACADEMY OF SCIENCE
Fiftieth Meeting
1940

THE OHIO ACADEMY OF SCIENCE
Organized 1891     Incorporated 1892
Affiliated with the American Association for the Advancement of Science

OFFICERS AND COMMITTEES FOR 1940–1941

President
STEPHEN R. WILLIAMS

Vice-Presidents
A. Zoology: MISS HOPE HIBBARD
B. Botany: F. O. GROVER
C. Geology: CARL A. LAMEY
D. Medical Sciences: RUSH ELLIOTT
E. Psychology: PAUL E. FIELDS
F. Physics and Astronomy: M. L. POOL
G. Geography: CHARLES G. SHATZER
H. Chemistry: FRANCIS E. RAY
I. Mathematics: O. L. DUSTHEIMER
J. Junior Academy: CHARLES W. JARVIS

Secretary
WILLIAM H. ALEXANDER

Treasurer
EDWARD S. THOMAS
Executive Committee

Ex-Officio: S. R. WILLIAMS, WM. H. ALEXANDER and Edw. S. THOMAS
Elective: WM. LLOYD EVANS and CHARLES W. JARVIS

Trustees Research Fund

HERBERT OSBORN, Chairman, term expires.......................... 1941
CHARLES G. SHATZER, term expires................................. 1942
PAUL B. SEARS, term expires........................................ 1943

Committee on Conservation

A. E. WALLER, Chairman, term expires................................. 1942
G. W. CONREY, term expires........................................ 1941
E. L. WICKLIFF, term expires........................................ 1941
PAUL B. SEARS, term expires........................................ 1941
EMERY R. HAUHURST, term expires................................. 1942
L. E. HICKS, term expires........................................ 1942
T. H. LANGLOIS, term expires..................................... 1943
J. D. SAYRE, term expires........................................ 1943
DWIGHT M. DELONG, term expires................................. 1943

Library Committee

MRS. ETHEL M. MILLER, Chairman,
Librarian in charge Academy Exchanges and Publications
A. W. LINDSEY

Academy Representatives

(1) On Joint Administrative Board, O. J. S.: A. W. LINDSEY and JAMES R. PATRICK
(2) On Council A. A. A. S.: WM. H. ALEXANDER.
(3) On Save Outdoor Ohio: ROSCOE W. FRANKS.

Committee on Nominations for 1941

THE VICE-PRESIDENTS OF 1939-1940

Membership Committee

A. Zoology.................................................. WILLIAM C. STEHR, Ada, Ohio
B. Botany................................................... E. LUCY BRAUN, Cincinnati, Ohio
C. Geology................................................ PARIS B. STOCKDALE, Columbus, Ohio
D. Medical Sciences.............................. DR. RUSH ELLIOTT, Athens, Ohio
E. Psychology........................................... PAUL FIELDS, Delaware, Ohio
F. Physics and Astronomy............................. CHARLES W. JARVIS, Delaware, Ohio
G. Geography......................................... CHARLES G. SHATZER, Springfield, Ohio
H. Chemistry.............................................. LOUIS A. PAPPENHAGEN, Alliance, Ohio
I. Mathematics........................................ C. O. WILLIAMSON, Wooster, Ohio
J. Junior Academy.................................. O. L. LINEBRINK, Columbus, Ohio

The Council for 1940-1941

ALEXANDER, WILLIAM H.
BRAUN, E. LUCY
DUSTHEIMER, O. L.
ELLIOTT, RUSH
EVANS, WILLIAM LLOYD
FIELDS, PAUL
GROVER, F. O.
HIBBARD, HOPE
JARVIS, CHARLES W.
LAMEY, CARL A.
LINDSEY, A. W.
LINEBRINK, O. L.
O'NEAL, CLAUDE E.

OSBORN, HERBERT
PAPPENHAGEN, LOUIS A.
PATRICK, JAMES R.
POOL, M. L.
RAY, FRANCIS E.
SCHEAR, EDWARD W. E.
SHATZER, CHARLES G.
STEHR, WILLIAM C.
STOCKDALE, PARIS B.
THOMAS, EDWARD S.
WALLER, A. E.
WILLIAMS, STEPHEN R.
WILLIAMSON, C. O.
REPORT OF THE FIFTIETH ANNUAL MEETING OF
THE OHIO ACADEMY OF SCIENCE

In line with a resolution and plan adopted by the Academy at its annual meeting in 1937 (the 47th), the meeting in 1940 was devoted almost exclusively to the celebration of the "Golden Anniverary." This anniversary was held on May 9, 10 and 11, at Ohio State University and was generally conceded to be an outstanding event in the history of science in Ohio. To do justice to the event as a whole, to the officers and members who labored so long and so hard to bring the event to a happy fruition, and to the many notable scientists who contributed so generously of their time and talent to the success of the celebration, would require a very sizable volume. The determination on the part of the officers and members of the Academy to publish just such a volume, one that will be a memorial worthy of the event and the participants, in the not too distant future is very strong, and our hopes are very high that some way of bringing this about will be found.

In the meantime, it seems fitting that a very brief report of the meeting should be made and printed in the usual manner. Obviously many of the usual features of the annual meeting of the Academy had to be omitted or modified. This applies particularly to the fine sectional meetings and programs that usually form such a vital part of the annual meeting. Instead, the scientific portion of program took the form of symposia of great and general interest participated in by the most eminent scientists of the country, both home and abroad.

For example, on Friday morning (May 10), three concurrent symposia were discussed by the most eminent authorities: (1) A Symposium on Hearing, discussed by Dr. R. H. Stetson of Oberlin College and Dr. E. A. Culler of the University of Illinois; (2) A Symposium on the Basic Factors in Conservation, discussed by Dr. Guy W. Conrey of the Ohio Agricultural Experiment Station, by Dr. Frank J. Wright of Denison University, and by Dr. E. N. Transeau, Ohio State University; (3) A Symposium on Radiation and the Cancer Problem, ably discussed by Dr. E. U. Condon of the Westinghouse Research Laboratories, by Dr. Isadore Lampe, of the University Hospital, University of Michigan, and by Dr. Francis Carter Wood, of Saint Luke's Hospital, New York.
Friday afternoon was devoted to one great general meeting in the University Chapel at which three outstanding addresses were made: (1) "Forests on a Changing Earth" by Dr. R. W. Chaney, of the University of California; (2) "Application of Airplane Photography to Geographic Studies" by Dr. John L. Rich of the University of Cincinnati; and (3) "Industry and Science" by Dr. Charles F. Kettering of the General Motors Research Corporation.

Then on Saturday forenoon four concurrent symposia: (1) A Symposium on the Nervous System, discussed by Dr. Herbert S. Gasser, Director of the Rockefeller Institute, by Dr. R. W. Gerard, of the University of Chicago, and by Dr. John F. Fulton, of Yale University; (2) A Chemical-Physical Program, discussed by Dr. Edward Mack of the Battelle Memorial Institute, Dr. M. S. Newman, Ohio State University, and by Dr. H. S. Booth, Western Reserve University; (3) A Genetics-Speciation Program, discussed by Dr. Laurence H. Snyder, of Ohio State University, by Dr. Warren P. Spencer, of the College of Wooster, and by Dr. David C. Rife, Ohio State University; and (4) A Botanical Program in which Dr. A. E. Waller of Ohio State University, Dr. J. H. Gourley, of Ohio Agricultural Experiment Station, Dr. Paul B. Sears of Oberlin College and Dr. E. Lucy Braun participated.

The meeting really began on Thursday evening, May 9, with a very large general gathering in the University Chapel. At this first meeting the Governor of Ohio, the Honorable John W. Bricker, extended the greetings of the State of Ohio to the assembled scientists, and President Howard L. Bevis of the Ohio State University welcomed the Academy and its friends to the University, to which President William Lloyd Evans responded for the Academy. Following these exchanges of greetings, the audience was treated to a masterly address on "Sound Patterns," wonderfully illustrated, by Dr. Harvey Fletcher of the Research Staff of the Bell Telephone Company.

As usual, Friday evening was given over to the annual banquet, always a most interesting event. The banquet was held in the Hall of Mirrors at the Deshler-Wallick Hotel, with a capacity attendance, and was presided over by President-Emeritus William McPherson. The event of the annual banquet is always the Presidential Address. Doctor Evans chose for his topic, "A Present-Day Examination of the Postulates of John Dalton." He made the story or history of the atom as
revealed by the ever increasing scientific light of knowledge through the years most interesting and informing.

Just preceding the Presidential Address, Dr. James P. Porter of Ohio University gave a very full history of the Ohio Academy of Science during the fifty years of its existence.

Under the new constitution the only opportunity the Academy as a whole has to consider the business affairs of the Academy is at the annual banquet. It was therefore necessary to hear brief reports from officers and committees, to hold the annual election and transact any other business deemed proper. These reports will be published in full in the memorial volume (if and when published) and only a résumé given at this time.

The Nominating Committee nominated and the Academy elected the following officers for the ensuing year:

President ........................................ Stephen R. Williams, Oxford
Secretary .......................................... William H. Alexander, Columbus
Treasurer .......................................... Edward S. Thomas, Columbus
Joint Administrative Board, O. J. S. .......... [A. W. Lindsey, Granville
Trustee Research Fund .......................... Paul B. Sears, Oberlin
Committee on Conservation ...................... J. D. Sayre, Wooster

The Committee on Membership reported the election of 127 new members during the year and the restoration of three. Fellowship in the Academy was bestowed by the Council on the following persons, viz.:

JOHN G. ALBRIGHT ................................. Case School of Applied Science
HARVEY CLAYTON BRILL ......................... Miami University
G. E. COGHLIN ..................................... Gainesville, Fla.
ELIZABETH ELEANOR COYLE ..................... College of Wooster
OLIVER DANIEL DILLER ............................ Ohio Agricultural Experiment Station
WILLIAM CLARENCE DILLER ...................... Denison University
PAUL E. FIELDS .................................... Ohio Wesleyan University
ALFRED BENJAMIN GARRETT ..................... Ohio State University
ROY I. GRADY ...................................... College of Wooster
FRANK ALEXANDER HARTMAN ...................... Ohio State University
JAMES ARTHUR HERRICK ......................... Kent State University
CHARLES D. HODGMAN ............................. Case School of Applied Science
HARVEY EVERETT HUBER ......................... Ohio Northern University
HOWARD WILFRED JOHNSON ...................... Bureau of Plant Industry, U. S. D. A.
CHARLES F. KETTERING ........................... General Motors Research Corporation
HAROLD P. KNAUSS ................................ Ohio State University
ALFRED LANDE ..................................... Ohio State University
ROBERT DONALD LEWIS ........................... Ohio State University
WARREN C. MILLER ............................... Bedford High School, Bedford, Ohio
The meeting was characterized not only by an unusually rich program, excellent in every way, but by at least two other notable features: (1) The number and quality of the exhibits, assembled and arranged by the Committee on Exhibits under the enthusiastic and resourceful leadership of Dr. Glenn W. Blaydes of Ohio State University. Note that at the time of the printing of the program there were ninety-nine centralized and forty fixed exhibits ready for the opening day of the centennial; others came in later. These exhibits in themselves showed marked cleverness and ingenuity on the part of the exhibitors; (2) One of if not the most significant forward step made at this annual meeting was the organization of a Junior Academy Section of the Ohio Academy of Science, largely due to the persistent, intelligent, skillful, enthusiastic leadership of Dr. Charles W. Jarvis of Ohio Wesleyan University, materially aided in the final steps by the inspirational talks and helpful suggestions of Dr. Otis W. Caldwell of the American Association for the Advancement of Science. Special credit should also be given to Mr. Orville Linebrink of the Columbus Schools for his untiring aid in interesting other schools in the Junior Academy. We understand there are now some ninety science clubs, members of the Junior Academy and these are well distributed over the State. We wish we had the space and the ability to describe adequately some of these papers, demonstrations and exhibits put on by these youngsters; they would do credit to any group. Take as an example the "Dissecting of a Pig Embryo," a demonstration put on by four girls from the Walnut Hills High School of Cincinnati under the sponsorship of Miss Etta Elberg; or, the demonstration by two boys from the New Philadelphia High School entitled "Experiments Using Dry Ice," sponsored by Miss Leila E. Helmick. Both performed in a masterly manner.

There were other features, of course, and other items of
interest in the various reports but lack of space forbids further review, except that we must give a small part of the Treasurer’s report that you may have some idea as to the financial affairs of the Academy. The report covers the year ending December 31, 1939, and was duly audited. See following.

As to the report of the Trustees of the Research Fund it may be sufficient to say that it shows grants paid $198.52, with a balance in the checking account of $193.93, and assets (bonds, stock, etc.) to the value of $1,737.50.

So much then for the Fiftieth Anniversary! May the One Hundredth Anniversary witness even greater things!

WILLIAM H. ALEXANDER, Secretary.

Report of the Treasurer

Dear Mr. Alexander:

I enclose a financial statement of the condition of the Ohio Academy of Science as of December 31, 1939. The books have been audited and the opinion of the auditor is herewith attached.

Cordially yours,
Eugene Van Cleef, Treasurer.

BALANCE SHEET AS AT DECEMBER 31, 1939

Assets

CURRENT EXPENSE FUND:

- Cash in bank—Current: $27.37
- Cash in bank—Semi-Centennial Celebration: $100.00
- Undeposited Cash: $2.50

Total cash: $129.87

- Dues receivable 1938: $75.00
- Dues receivable 1939: $170.00

Total Dues receivable: $245.00

- Bonds—Consolidated Federal Farm Loan 3% 1945-55: $1,300.00

Total assets current expense fund: $1,674.87

RESEARCH FUND:

- Cash on deposit: $193.93
- Banc Ohio Securities Company Stock (cost): $437.50
- Bonds—Fort Hayes Hotel—Columbus, Ohio (cost): $1,300.00

Total assets research fund: $1,931.43

Total assets: $3,606.30

Liabilities, Deferred Credits and Net Worth

LIABILITIES:

- None.

DEFERRED CREDITS TO INCOME:

- Reserve for uncollected dues 1938 and 1939: $245.00
- 1940 dues collected in 1939: $37.50

Total deferred credits to income: $282.50
NET WORTH:
Ohio Academy of Science—
Current expense fund—surplus. $1,292.37
Research fund—surplus. 1,931.43
Semi-Centennial Celebration—surplus. 100.00
Total surplus (schedule 1) 3,323.80
Total liabilities, reserves and net worth. $3,606.30

ANALYSIS OF CHANGES IN SURPLUS DECEMBER 31, 1939
Surplus, December 31, 1938 $3,414.98
Deduct:
Decrease in surplus—current expense fund $ 65.59
Decrease in surplus—research fund 125.59
Total deductions 191.18
Surplus—Current and Research Funds $3,223.80
Surplus—Semi-Centennial Celebration 100.00
Total Surplus, December 31, 1939 $3,323.80

STATEMENT OF INCOME AND EXPENSE FOR THE YEAR ENDING DECEMBER 31, 1939
INCOME:
Dues for the year 1939 $1,202.50
Grants for research 150.00
Sale of publications 7.65
Interest on bonds 39.00
Total income $1,399.15

OPERATING EXPENSES:
Speakers $ 25.00
Clerical assistance 20.70
Postage and telegraph 85.75
Office supplies and expenses 25.55
Expenses of officers to meetings 62.70
Printing:
Proceedings, Ohio Journal of Science $138.25
Other 155.87
Total printing 294.12
Subscriptions, Ohio Journal of Science 675.00
Research grants 150.00
Secretary's honorarium 100.00
Safety Deposit box rent 3.30
Bond treasurer 5.00
Auditing expense 15.00
Bank charges 9.62
Total operating expenses 1,471.74
Net operating deficit for the year 1939 $ 72.59

OTHER INCOME:
Dues collected for prior years:
1937 $ 2.50
1938 90.00
Total other income $ 92.50

OTHER EXPENSE:
1938 subscriptions, Journal of Science 85.50
Net other income 7.00
Net deficit for the year $ 65.59