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No. 4

REPORT OF THE THIRTY-SIXTH ANNUAL MEETING OF THE OHIO ACADEMY OF SCIENCE

The Thirty-sixth Annual Meeting of the Ohio Academy of Science was held at the Ohio State University, Columbus, Ohio, April 9 and 10, under the presidency of Dr. Paul M. Rea. About one hundred fifty members, old and new, were in attendance. Sixty-nine new members were elected, thus bringing the total membership of the Academy up to 442 at the close of the meeting.

The following is the general program of the meeting:

FRIDAY, APRIL 9.

- 9:00 A. M.—Business meeting.
- 10:00 A. M.—Reading of papers in general session.
- 1:00 P. M.—Reading of papers in sectional meetings.
- 4:00 P. M.—Invitation address on "The Evolution of the Grand Canyon Region," by Dr. Douglas Johnson, of Columbia University, New York City.
- 6:30 P. M.—Annual banquet at the New Neil House.
- 8:00 P. M.—The Presidential Address on "The Social Significance of Science," by President Rea.

SATURDAY, APRIL 10.

- 8:00 A. M.—Adjourned business meeting.
- 9:00 A. M.—Reading of papers in general session, including two very interesting symposia, one on "Animal Parasitism" and the other on "Biological Training for Medicine and Dentistry."

MINUTES OF THE BUSINESS MEETINGS.

The first business session was called to order by President Rea at 9:05 A. M., Friday, April 9, 1926, in the Auditorium of the Archaeological Museum.

The President announced the appointment of the following committees:

Committee on Membership—M. E. Stickney, W. M. Barrows, J. Ernest Carman.

Committee on Resolutions—Edward L. Rice, F. C. Waite, E. L. Moseley.

Committee on Necrology—Henry C. Beardslee, Herbert Osborn.

The following *Auditing Committee* was then elected by the Academy: Raymond C. Osburn, David Dietz.

The following *Nominating Committee* was elected by ballot by the Academy: Herbert Osborn, M. E. Stickney, J. Ernest Carman, F. C. Waite, H. E. Burtt, and F. C. Blake.

The reports of the following officers and standing committees were called for, read and ordered filed, viz.: The Secretary, the Treasurer, the Executive Committee, the Publications Committee, the Trustees of the Research Fund, the Library Committee and the Committee on State Parks and Conservation.

At an adjourned meeting held in Room No. 100, Botany and Zoology Building, 8:00 A. M., Saturday, April 10, the reports of the special committees, namely, the Committee on Membership, on Resolutions, on Necrology, on Legislation, on Auditing, and on Nominations, were read, approved and ordered filed. The reports of all committees, standing and special, together with the officers' reports, are published in full below.

Under the head of new business, Dr. Edward L. Rice requested the prompt and cordial co-operation of the members of the Academy in bringing to his attention all instances of adverse or unfriendly legislation, actual or proposed, regarding the teaching of science in the public schools and educational institutions of the country. Doctor Rice is the official representative of the Ohio Academy of Science in the American Association for the Advancement of Science in matters along the line of his request.

The business meeting was adjourned at 8:58 a. m.

REPORTS.

Report of the Secretary.

COLUMBUS, OHIO, April 9, 1926.

To the Ohio Academy of Science:

Passing the year now ending in hasty review, omitting of course the numerous details that engage the time and attention of the Secretary in the course of the year, we note that the first event of more than passing interest and importance was the holding of memorial exercises in University Hall, Ohio State University, in honor of the late Thomas Corwin Mendenhall, a distinguished member of this Academy, on the afternoon of April 16, 1925. The following was the brief, simple program:

PROGRAM.

DR. WILLIAM OXLEY THOMPSON, *Presiding.*

Address by DR. IRA N. HOLLIS, President of Worcester Polytechnic Institute, Worcester, Mass.

Address by DR. CHARLES FREDERICK MARVIN, Chief, U. S. Weather Bureau, Washington, D. C.

Personal Reminiscences from DR. ELIHU THOMPSON, Director of the Thompson Laboratory, General Electric Company, Lynn, Mass.

Presentation by the Mendenhall family of a bronze replica of the portrait medallion of Dr. Mendenhall given him by his first group of students on the fiftieth anniversary of the opening of the University, September 17, 1923.

The following account of these exercises was prepared by Dr. A. D. Cole, of the Ohio State University, who served as the chairman of the committee that arranged the memorial services:

"On April 16, 1925, the trustees of the Ohio State University held memorial exercises in honor of Thomas Corwin Mendenhall, the first professor of physics of the University and since 1919 a member of the Board of Trustees. President William Oxley Thompson presided at these exercises. The program included an address by Dr. Ira N. Hollis, President of Worcester Polytechnic Institute, and an address by Dr. Charles Frederick Marvin, Chief of the U. S. Weather Bureau, Washington, D. C. Personal reminiscences by Dr. Elihu Thompson, Director of the Research Laboratory, General Electric Co., and by Dr. Edward S. Morse, President of the Lynn, Mass., Peabody Academy of Science, Salem, Mass., were read.

Dr. Hollis spoke of Dr. Mendenhall's service to the Worcester Polytechnic Institute as its president from 1894-1901, which included the successful establishment of important changes in its educational policy. He emphasized Dr. Mendenhall's fine spirit of co-operation with other forward-looking men as effective in the accomplishing of needed reforms.

Dr. Marvin spoke sympathetically of Dr. Mendenhall's early work in organizing the scientific work of the then new Ohio State University and interesting the Columbus public in all the important scientific discoveries of the time. Dr. Marvin also showed how his effectiveness as a scientist

was greater because "he acted and moved in an atmosphere of warm human affection, sympathy, good fellowship and sunshine." An interesting personal touch was added when he told of his own experiences as assistant to Dr. Mendenhall in experiments for the Lowell lectures of 1882 in Boston and in organizing the research work of the Signal Corps of the U. S. Army at Washington a little later. He gave an interesting account of Dr. Mendenhall's important improvements in the accurate measurements of length and time which form an important part of the work of the U. S. Coast and Geodetic Survey, of which he was Superintendent from 1889 to 1894.

Dr. Elihu Thompson told how Dr. Mendenhall had conducted the first efficiency tests of commercial electric lighting ever made in this country (at Cincinnati in 1883), also of his important activities in the International Electrical Congress in 1893, which adopted definitions for the ampere, volt and other electrical units.

Dr. Edward S. Morse confined his memories largely to their joint labors as professors in the Imperial University of Japan, where they were very intimately associated and very close friends. He gave a fine tribute to Dr. Mendenhall as a teacher and scientist, with special emphasis upon his extraordinary personal charm.

President Thompson made two interesting announcements. The first that the Trustees of the University had named the large Physics Building the Mendenhall Laboratory in recognition of his important services to the institution, both as professor of physics for many years and as a member and chairman of its Board of Trustees. The second announcement was that his son, Professor Charles E. Mendenhall, of the University of Wisconsin, had given to the University a replica of the beautiful bronze medallion portrait of Dr. Mendenhall which was presented to him by the surviving members of that first group of seventeen students, on the 50th anniversary of their enrollment when the University opened its doors in September, 1873.

Professor Charles Mendenhall was present with his wife and son. They and the two principal speakers were later guests of the Faculty Club at a banquet given to them and the University Trustees in the Club dining room."

Certificates of election to fellowship in the Academy were sent to all those elected at the Wooster meeting, on April 3, 1925.

A brief report of the Thirty-fifth Annual Meeting of the Academy was prepared and sent to *Science*, and was published in that journal of July 17, 1925, pages 60-62, (Vol. LXII, No. 1594, New Series).

The Secretary represented the Academy in the Council of the American Association for the Advancement of Science at the Kansas City meeting, December 29, 1925, to January 3, 1926. Perhaps attention should again be called to the fact that the Council of the A. A. A. S. at the Kansas City meeting passed a special ruling by which any member of an affiliated society or academy may join the Association without the payment of the usual \$5.00 entrance fee. It was also noted with considerable pride and pleasure that one of if not the outstanding address of the meeting was made by one of our own members, namely, Dr. Dayton C. Miller, of the Case School of Applied Sciences, Cleveland,

Ohio. Doctor Miller gave that great gathering of scientists an unusual thrill when he announced that as a result of more than one hundred thousand separate readings or observations on ether drift, performed under the most trying circumstances in 1925, that it has been determined in effect that the earth does drag the ether so that the apparent relative motion at the point of observation is one-twentieth of the absolute motion and that the earth and the whole solar system are rushing headlong into the dragon of the sky, the constellation Draco, at the immense speed of at least 125 miles per second, perhaps faster!

On March 19, 1926, the Secretary received a telegraphic request from Watson Davis, editor, *Science Service*, for copies or abstracts of the papers to be presented at this meeting in order to send out some ten days in advance of the meeting news stories regarding the principal papers to be read. This request could not be complied with, as copies and abstracts were not available. Given as a hint for the future!

Respectfully submitted,

WM. H. ALEXANDER, *Secretary*.

Report of the Treasurer for the Year 1925-1926.

The following report from the Treasurer was received and referred to the Auditing Committee for examination. The report of the Auditing Committee is appended.

To the Ohio Academy of Science:

Your Treasurer submits the following report for the period from March 13, 1925, to April 1, 1926, inclusive:

RECEIPTS.

Cash balance as of March 13, 1925.....	\$ 961.01
Interest total on certificate of deposit payable in two checks of April and October.....	39.00
Library sales of publications.....	37.74
Received from Secretary A. A. A. S. allowance of fifty cents per member of the A. A. A. S. on 207 members, 1926 collections to date.....	103.50
From Academy members' accounts to date.....	592.20
Total Receipts—Exhibit A.....	\$1,733.45

DISBURSEMENTS.

To Wm. H. Alexander, Secretary's honorarium.....	\$ 100.00
To The Ohio Journal of Science for 1925 subscriptions.....	372.00
To Postmaster, Columbus Post Office, for stamped envelopes.....	21.92
To Postmaster, Columbus Post Office, for stamps.....	10.00
To A. E. Kraus Print Shop.....	79.75
To Hiss Stamp Company.....	.80
To Helen Coleman, stenographic assistance.....	8.00
To Wm. H. Alexander, secretarial expenses.....	14.54
To B. E. Livingston, forwarded dues.....	6.00
To check returned—account closed.....	2.00
To R. A. Hefner, check for incorrect payment A. A. A. S. dues.....	4.00
To Wm. H. Alexander, secretarial expenses.....	2.36
To the Ohio Journal of Science for 1926 subscriptions.....	396.00

Total Disbursements—Exhibit B.....\$1,017.37

BALANCE SHEET.

Exhibit A—Receipts.....	\$1,733.45
Exhibit B—Disbursements.....	1,017.37
Cash balance on hand April 1, 1926.....	\$ 716.08

Estimated current liabilities including expenses of the meeting and printing and the 1926 Secretary's honorarium would amount to approximately three hundred dollars, leaving an available surplus of approximately four hundred dollars.

Respectfully submitted,

A. E. WALLER, *Treasurer.*

Report of the Auditing Committee.

COLUMBUS, OHIO, April 10, 1926.

The Auditing Committee of the Ohio Academy of Science at its Annual Meeting, April 10, 1926, has examined the books of the Treasurer of the Academy and of the Trustees of the Research Fund of the Academy and find them to be correct.

(Signed) RAYMOND C. OSBURN,
DAVID DIETZ,

Auditing Committee.

Report of the Executive Committee.

COLUMBUS, OHIO, April 9, 1926.

To the Ohio Academy of Science:

Pursuant to a call of the President, the Executive Committee met at the office of the Secretary, 16 East Broad Street, Columbus, January 9, 1926, with all members present and in addition Dr. C. H. Kennedy, Vice-President of the Zoology Section. President Rea called the meeting to order at 2:10 p. m., and after a brief statement by the President of the purpose of the meeting and a short general report by the Secretary as to routine matters during the year, the following motions were made and agreed to, viz:

That the Academy be asked at its next annual meeting to pass a resolution authorizing the Executive Committee, in worthy cases and at its own discretion, to relieve members of 20 years' or more standing of further payment of dues.

That a letter be written by the Secretary to Mr. Otto H. Swezey expressing the regrets of this Committee that he has severed his connection with the Academy.

That the Secretary prepare the draft of a revision of Article III, Membership, of the Constitution so as to eliminate the class of members known as "Corresponding Members" and present same at the next annual meeting of the Academy.

That the Treasurer be requested to secure from the Librarian of the Ohio State University an inventory of all Academy publications now on hand and, if possible, make some definite agreement as to the sale and distribution of same.

That the Vice-Presidents of the several sections be the accredited representatives of the sections to the A. A. S. and in the event the Vice-President of a section cannot attend, he appoint a representative.

That the next annual meeting of the Academy be held at the Ohio State University, Columbus, as per standing invitation, on April 9 and 10, 1926.

The applications for membership in the Academy of Mr. Warren C. Miller, Bedford, Ohio, and Mr. Francis J. Pettijohn, Oberlin, Ohio, were favorably acted upon, subject to ratification by the Academy.

A second meeting of the committee was held last evening at the office of the Secretary, at which the following items of business were agreed upon, viz:

That the Publications Committee be requested to arrange for the printing of a revised list of the publications of the Academy, that 500 reprints of said list be made for the use of the Library Committee, and that the advisability of reprinting some of the older publications, the supply of which has become exhausted, be taken up.

That the Academy be asked to send its Treasurer, Dr. A. E. Waller, as the official representative to the International Botanical Congress to assemble at Ithaca, N. Y., in August, 1926, and that the Academy pay his actual transportation expenses to and from the meeting.

That the applications of the 51 persons for membership in the Academy, presented by the Secretary, be approved subject to ratification by the Academy.

Dr. Frederick H. Kreckler, editor of THE OHIO JOURNAL OF SCIENCE, came before the committee and made a full frank statement regarding the OHIO JOURNAL OF SCIENCE—its financial needs, desired improvements, policies, changes, actual and proposed, etc. In line with the suggestions of Doctor Kreckler it was voted unanimously to recommend to the Academy that the retiring President and the President be made the representatives of the Academy on the Editorial Board of the Journal and that the Academy express its entire approval of the efforts and plans of the Editorial Board to improve the Journal and pledge its support in any proper effort to secure additional financial support. To this end, the Committee suggests that the Executive Committee for the ensuing year be requested to consider fully the whole matter and if thought advisable, recommend some plan by which the Academy may extend additional financial support to the JOURNAL.

Respectfully submitted,

WM. H. ALEXANDER, *Secretary*.

Proposed Amendment of the Constitution.

(By the Executive Committee).

That ARTICLE III—*Membership*, be amended to read as follows:

ARTICLE III.—MEMBERSHIP.

1. *Classes of Members*.—The Academy shall be composed of members, fellows, honorary members and patrons.
2. *Members*.—Members shall be persons interested in scientific work.
3. *Fellows*.—Fellows shall be persons who are engaged in productive scientific work.
4. *Honorary Members*.—Honorary members shall be persons distinguished for their attainments in science and not resident of the State of Ohio. Their number shall not exceed twenty-five.
5. *Patrons*.—Patrons shall be persons who have bestowed important favors upon the Academy as defined in the By-Laws.
6. *Privileges of Members*.—Only members, fellows and patrons shall be entitled to vote in the Academy; only fellows and patrons shall be eligible to office and to membership in the Executive Committee.

And further, that such other verbal changes as may be necessary to make the Constitution and the By-Laws consistent with the foregoing be made.

Report of the Trustees of the Research Fund.

The Trustees of the Research Fund, in presenting a financial statement of the condition of the funds in hand, desire to call attention to the action at our last meeting authorizing the allotment of funds in assistance of scientific investigations and the use of the income from \$1,000 of invested funds to be known as the McMillin Grant, in recognition of an exceptional contribution to science by a member of the Academy. The Trustees have not received any nominations for such an award this year, but will be pleased to have nominations during the coming year.

A request for an allowance to aid in the publication of a paper by Dr. W. M. Barrows was granted.

The balance on hand at the time of the report of a year ago was \$1,362.91, of which \$1,300 was invested in bonds and the interest added during the year, \$91, giving a total of \$1,453.91, less the grant to Dr. Barrows of \$70, gives a present total of \$1,383.91, or a cash balance of \$83.91 above the \$1,300.00 invested. Interest accruing April 15th will give an available balance of \$127.41 for grants during the coming half year without drawing upon the invested fund. An additional \$45.50 will be due October 15th.

Unless it is the wish of the Academy that the fund be allowed to accumulate, we will be pleased to receive requests for the use of the available balance, although it is obvious that no large sums can be allotted. Vouchers, bank statement and receipt for bonds deposited will be furnished the auditing committee.

Respectfully submitted,

HERBERT OSBORN, *Chairman*,
EDWARD L. RICE,
GEO. D. HUBBARD,

Columbus, Ohio, April 10, 1926.

Trustees.

Report of Committee on State Parks and Conservation.

A meeting was held at the Neil House, Columbus, evening of April 8th, 1926, and the committee begs to report progress and certain recommendations for consideration.

According to statements of State Forester, Mr. Secrest, there have been additions to the state forests which bring the total to 19,826 acres, at an average cost of \$6.10 per acre, and further additions are being made so that progress in this field is encouraging.

Recent legislation concerning sanitary regulations for state parks as set forth in bulletins and leaflets from the State Department of Health have provided for the control of parks in this respect in a very efficient manner. A general and whole-hearted compliance with these regulations will ensure healthful conditions for all those who use the parks.

A start has been made in the organization of an advisory Council on State Parks and Conservation by the calling of a conference by the Director of Agriculture which was attended by representatives from this committee, the Board of Agriculture, Board of Health, Federation of Women's Clubs, the Geological Survey and Sportsmen's League and other organizations, and such a council was considered as a very desirable organization. It is hoped that the organization may be consummated in the near future.

The Naturalists Guide, mentioned in previous reports as in preparation, has recently been issued and no doubt many of our members are already familiar with its contents. It must serve a very useful purpose and additions to the localities listed for Ohio may very properly be presented to this committee or to the Academy through the Ohio Journal of Science.

Reports from different members indicate that there is great need of prompt action to preserve the natural beauty and native condition of some of our state owned tracts. Some places recently made accessible to autoists are reported to be sadly misused and their natural beauty despoiled by the ruthless destruction of shrubs, vines and small trees, which are essential not only to the beauty and scenic attractiveness of the parks, but an essential factor in the preservation of birds and other animals. Definite rules as to use of the park areas and restrictions placed on those who visit them appear to be the only way to prevent such vandalism, but we believe every effort should be made to secure the voluntary compliance with the necessary regulations by the education of the public in the proper use of such state property.

The following recommendations, offered by the Committee on State Parks and Conservation, were unanimously adopted by the Ohio Academy in annual meeting at Columbus, Ohio, April 9, 1926:

1. That we express our appreciation of the progress made in the acquisition of State Forests and Game Refuges and the hope that these may be largely increased in number and extent.
2. That we approve the sanitary regulations for State Parks adopted by the State Department of Health and urge the most cordial and universal support in their enforcement and their extension to other sites.
3. That we heartily approve the organization of an advisory council on State Parks and Conservation, to consist of representatives from the State departments, institutions and societies interested, to consider and advise regarding the best measures for the preservation of the natural features, wild life and the historic and scenic beauties in tracts that are owned or controlled by the State.
4. That we especially urge wherever practicable the setting aside of certain parts of the State Forests and Game Refuges, or other tracts under State control as wild life sanctuaries or preserves, with a view to the permanent preservation of the native associations of plants and animals so that they may serve our own and future generations as examples of the primitive fauna and flora of the State. Where camp sites are allowed these should be restricted to a definite small area and supervised.
5. That we encourage the widest publicity and educational effort to acquaint the public with the need of universal observance of measures to protect from injury or destruction by digging, uprooting, cutting, blazing, mutilation, fire or other means, the wild flowers, shrubs, trees and natural conditions essential to the beauty of the parks and the survival of both plant and animal representatives of our native forms of life.

6. We urge the posting of suitable placards throughout the park areas or reserves to inform all persons as to regulations for the preservation of all wild life.

7. That we urge a wider attention to studies of the native plants and animals on the part of teachers in the public schools and the support of the Audubon societies and the Wild Flower Preservation societies in their laudable efforts to educate the people of the country to a better knowledge of the dangers of extinction for many of our most interesting forms of life.

8. That copies of these recommendations be forwarded by the Secretary to the State departments, institutions and societies known to be interested.

HERBERT OSBORN, *Chairman*,
E. L. FULLMER, E. N. TRANSEAU,
E. LUCY BRAUN, A. R. HARPER,
E. R. HAYHURST, EDMUND SECREST,
C. G. SHATZER, BRUCE FINK.

(The last three—Harper, Secrest and Fink—did not see the above recommendations before they were read and adopted).

Discussion.

Following the reading of the foregoing report, Doctor Transeau, Ohio State University, called attention to the damage being done at Old Man's Cave, by way of emphasizing the importance of the eighth recommendation requiring the Secretary to send copies of the recommendations "to the State departments, institutions and societies known to be interested." Miss E. Lucy Braun, University of Cincinnati, expressed the opinion "that while a letter from the Secretary of the Ohio Academy of Science with these recommendations would be of interest, it would merely be set aside. It should be followed up by the recipient by writing to State officials, who will thus learn that the people of the State know about and are interested in and pushing conservation movements."

Report of the Library Committee.

April 8, 1926.

To the Ohio Academy of Science:

The Library Committee wishes to call the attention of the Academy to the very healthy growth of its exchange list during the past twelve years under the able custodianship of Mr. Reeder, which ended last year, and it desires to convey to Mr. Reeder the thanks of the Academy for his long-continued and unselfish services, and to express its regret at the severance of the relation.

In 1909 Professor Mills, who was then Librarian of the Academy, reported seventeen institutions on the Academy's exchange list. In 1914 the Academy entered into an agreement with the Ohio State University Library concerning the deposit of the library of the Academy with the University Library. Early in 1915 this deposit was made, and the Academy Library and exchanges came under the immediate care of

Mr. Reeder. At the 1920 meeting, Mr. Reeder reported "Sixty-five institutions on the exchange list." In 1921 there were sixty-eight. In 1922 his report read "seventy-one institutions on the exchange list," while at the 1925 meeting he stated "some additions have been made to the list this year."

In nearly every report which Mr. Reeder has made since 1915 he has emphasized the desire of the University Library to serve the Members of the Academy with scientific literature for their research, and its willingness to lend to any member, through his institutional library, any publication needed in research work. He has expressed the hope that more members of the Academy would take advantage of this opportunity so that "more and more the University Library would serve as the center of scholarly research by members of the Academy."

In 1920 he reported loans made by the University Library of only forty-two books to nine Ohio Colleges. It seems to the Committee that a much larger use of the facilities of the University Library should be made by the members of the Academy. Such use of the University Library by members of the Academy is open to them not merely as a courtesy of the University, but as their right under Articles 8 and 9 of the "Agreement Between the Ohio Academy of Science and the State University Library," entered into in 1914.

Since Mr. Reeder's resignation early in 1925 the care of the Academy exchanges has been largely in the hands of Miss McKee, of the University Library Staff, who has been too burdened with other duties to give them adequate attention. Recently, however, Mrs. Ethel M. Miller, librarian of the departments of Botany and Zoology, has been assigned by the University to take charge of the exchanges of both the Academy and the Ohio Journal of Science. She is entering upon her work with enthusiasm and in a very methodical and business-like way. The Academy is to be congratulated upon having its exchanges in such able hands.

The Committee wishes to call the attention of the Academy to several points, where the University Library seems to have failed in its handling of the Academy exchanges.

1. Under Article (5) of the Agreement of 1914, "The University Library agrees to keep a Separate Card Catalogue of the library of the Academy, showing the accession records." While under Article (1) the Academy library is defined as "its collection of books, pamphlets, periodicals and other publications, now constituting its library, together with future additions."

This Separate Card Catalogue does not appear to have been maintained. It seems especially desirable that the Academy should possess such a record of its original library and accessions.

2. In 1917 the Academy voted "that a suitable printed plate, to be paid for by the Academy, be put in the books given to the Ohio State University Library." This plate seems not to have been placed in any of the accessions to the Academy library received by exchange since 1917. The Committee feels that this failure should be rectified.

3. A clear cut separation of accessions to the University Library through purchase, through gift and through exchange of Academy Proceedings and Papers, of the Ohio Journal of Science and of the Ohio Biological Survey publications does not seem to have been maintained. So that in many cases proper credit has not been given for the accessions. For example, certain accessions have been

credited in one place to the Academy and in another place to Purchase. It may be impossible, therefore, to determine at this time, with any degree of accuracy, what accessions have been received through the Academy exchanges. This should be investigated and remedied so far as possible.

The Committee finds that the price list of its Proceedings and Special Papers is practically exhausted. It suggests that the list be brought down to date, that it be published each year with the Annual Report as an advertising page, and that extra copies of the list be issued for the use of the Librarian in answering inquiries. Certain Special Papers are nearing exhaustion. The Committee advises their republication.

The Committee wishes also to submit the accompanying report of Miss McKee, of the University Library Staff, who has had charge during the past year of the sale and distribution of the Academy publications. For purposes of accurate record it is to be noted that the \$28.15 referred to by Miss McKee as turned over to the Treasurer of the Academy is made up of two items, viz., \$25.53 from the sale of publications during the year, and \$2.62, referred to in the last report as outstanding from the sales of 1924, but collected since then.

Respectfully submitted,

FREDERICK O. GROVER, *Chairman.*

Report of Miss McKee for the Ohio State University Library.

To the Ohio Academy of Science:

The University Library received in 1916 a deposit of the Ohio Academy of Science containing a number of exchanges, many of them foreign periodicals. At that time a campaign for additional exchanges was undertaken with the result of about two hundred new titles.

In 1921 letters were again sent out in another attempt for additional exchanges, but results were not so satisfactory. Since that time owing to the rapid increase in the number of students making new demands on the library without a corresponding increase in the Staff, it has been impossible to undertake any systematic effort for new exchanges, although some new ones have been added to the list.

During the past year an attempt has been made to reorganize the records of Academy material in the library and a card record is being established in the Botany and Zoology department library. This record will consist of the titles deposited by the Academy in 1916 with the additional titles added by exchanges established since that time. It will not be a complete record of volumes and numbers to date, as this would duplicate work already being done at the main library, but will give a working list of titles available.

We hope by the next meeting to be able to report to the Academy as to the exact number of volumes and the approximate money value of your exchanges.

An inventory has been taken of the numbers of Special Papers and Proceedings of annual meetings in stock, which is appended. By this it will be seen that numbers 13 and 15 are entirely out of print.

The price list of Special Papers and Proceedings is decidedly out of date and as the supply is low, it might be wise to have a new edition of this list, especially if a campaign for exchanges is to be instituted.

The sale of Special Papers and Proceedings has gone on as usual during the year, amounting to \$28.15, which has been turned over to the Treasurer of the Academy.

Proceedings of the 35th annual meeting were received in August and mailed out to the members as soon after that as possible, although we regret that there was some delay in this mailing owing to vacations and illness in the Library Staff.

One of the most valuable tools for the research worker which has issued lately is the "Union List of Serials in the Libraries of the U. S. and Canada." This compilation is the result of co-operation among the libraries of the two countries and is being published by the H. W. Wilson Co., of New York. Each co-operating library receives first a checking list in which it states the periodicals regularly received, and, later a completed list, giving the name of each library receiving a given title regularly. The work has proceeded through the letter R and the completed volumes should be available next year. Already this has proved itself to fill a long felt need.

Work on the filing of cards in the depositary catalog of the Library of Congress is progressing, although it is not yet in shape for use. When this is available the Library will have in this and the Union List two of the most valuable tools possible for inter-library loans of which Academy members may avail themselves.

(Signed) ALICE D. McKEE,
For Ohio State University Library.

Inventory of Special Papers, Proceedings, Etc., of Ohio Academy of Science, April 1, 1926, in Stock and Deposited with the Ohio State University Library.

CONSTITUTION AND LIST OF MEMBERS.
135 copies.

SPECIAL PAPERS.

1.....188 copies	8.....90 copies	15.....0 copies
2.....120 copies	9.....180 copies	16.....186 copies
3.....164 copies	10.....225 copies	17.....288 copies
4.....125 copies	11.....256 copies	18.....198 copies
5.....69 copies	12.....185 copies	19.....199 copies
6.....125 copies	13.....0 copies	
7.....242 copies	14.....262 copies	

REPORTS AND PROCEEDINGS.

1.....89 copies	13.....230 copies	25.....194 copies
2.....134 copies	14.....245 copies	26.....152 copies
3.....176 copies	15.....231 copies	27.....163 copies
4.....212 copies	16.....218 copies	28.....149 copies
5.....182 copies	17.....238 copies	29.....118 copies
6.....189 copies	18.....never published	30.....128 copies
7.....268 copies	19.....560 copies	31.....50 copies
8.....215 copies	20.....180 copies	32.....352 copies
9.....260 copies	21.....219 copies	33.....294 copies
10.....220 copies	22.....207 copies	34.....303 copies
11.....240 copies	23.....194 copies	35.....282 copies
12.....265 copies	24.....209 copies	

Report of the Committee on Legislation.

April 9, 1926.

To the Ohio Academy of Science:

Your Special Committee on Legislation has been rather inactive during the year just closing, not a single formal meeting of the committee having been held. However, there has been some informal conferences and correspondence among the committee members and the prevailing opinion seemed to be that there was little that could be done at this time. Furthermore, the committee feels that before a renewal of effort before the General Assembly in behalf of any bill is made that the Academy should definitely decide whether or not it really wants to surrender its present informal and independent form for that of a state-supported institution, and if so, then action should be taken to work out a more careful program of the broad services it hopes to render the State before the question of legislation is taken up anew. If anything is to be accomplished in the future along these lines it will be necessary for the Academy first to sell the proposition to itself and then by a united, enthusiastic effort present a proposal of such evident, unquestioned merit that it will sell itself to the General Assembly and the Governor.

Respectfully submitted,

WM. H. ALEXANDER, *Chairman*,
M. M. METCALF, EDW. L. RICE,
PAUL M. REA, L. B. WALTON.

Report of Committee on Election of Fellows.

COLUMBUS, OHIO, April 9, 1926.

To the Ohio Academy of Science:

A meeting of the Committee on the Election of Fellows was held last evening at the office of the Secretary, 16 East Broad Street, Columbus, with a quorum present. Of the candidates considered, five received the necessary favorable votes and were declared elected. The Fellows elected will be personally notified, and the list published in the Proceedings of this meeting.

Respectfully submitted,

WILLIAM H. ALEXANDER,
Secretary, for the Committee.

The following is a list of those elected Fellows:

J. H. GOURLEY, Wooster.
NELLIE F. HENDERSON, Columbus.
ONDESS L. INMAN, Yellow Springs.
HARRY M. JOHNSON, Columbus.
H. C. YOUNG, Wooster.

Report of the Membership Committee.

To the Ohio Academy of Science:

Applications in due form have been received from the following persons and we recommend their election to full membership in the Academy, effective upon the payment of one year's dues, viz.:

ACKERMAN, LLOYD, Western Reserve University, Cleveland.
 ARNOLD, H. J., Wittenberg College, Springfield.
 BAKER, (MISS) MARGARET, Otterbein College, Cochran Hall, Westerville.
 BEHRE, CHARLES H., JR., University of Cincinnati, Cincinnati.
 BERRY, FRED, State Department of Health, O. S. U., Columbus.
 BLOCHER, JOHN M., 379 Beech Street, Berea.
 BODENBERG, EMMETT T., Capital University, Columbus.
 BOESEL, M. W., Botany and Zoology Bldg., O. S. U., Columbus.
 BORST, HAROLD L., Farm Crops Dept., O. S. U., Columbus.
 BROWN, HELEN J., 55 Kelso Road, Columbus.
 CASSIDY, HAROLD, 216 S. Maple Street, Akron.
 CHAPPARS, M. E., Miami University, Oxford.
 DUNFORD, RALPH E., Dept. of Psychology, O. S. U., Columbus.
 EDGERTON, HAROLD A., Dept. of Psychology, O. S. U., Columbus.
 ELIOT, THEODORE SESSINGHAUS, 2109 Adelbert Road, Cleveland.
 ELLIOTT, RUSH, Box 421, Athens.
 EYE, L. F., Dept. of Health, O. S. U., Columbus.
 FISHER, MILDRED, 2594 Summit St., Columbus.
 FORDYCE, GEORGE L., 40 Lincoln Ave., Youngstown.
 FRANKS, ROSCOE W., 80 W. Eighth Ave., Columbus.
 FRAYNE, J. G., Antioch College, Yellow Springs.
 FREY, CARL A., 16 President St., Athens.
 GILMORE, R. CLARK, Bot. Dept., O. S. U., Columbus.
 HATHAWAY, S. R., 3 Van Vorhes St., Athens.
 HAZARD, FRANK O., Wilmington College, Wilmington.
 HOSKINS, J. HOBART, Dept. of Botany, University of Cincinnati, Cincinnati.
 HURST, MACLEOD E., Orton Hall, O. S. U., Columbus.
 HUTTER, HARRY K., 1222 Stewart Ave., Cambridge.
 JOHNSON, MINNIE M., 312 W. Ninth Avenue, Columbus.
 JOHNSTON, WILLIAM DRUMMON, JR., Dept. of Geology, University of Cincinnati, Cincinnati.
 JONES, H. LEE, Antioch College, Yellow Springs.
 KAUTZ, H. W., 4612 Glenshade Ave., Cincinnati.
 KEELER, ALMA, 377 W. Ninth Ave., Columbus.
 KINDEL, DR. D. J., 1442 Neil Ave., Columbus.
 KUECHLE, THEODORE FRED, 1180 Wyandotte Road, Columbus.
 MAXFIELD, FRANCIS N., Dept. of Psychology, O. S. U., Columbus.
 MILLER, VERNON L., Dept. of Psychology, O. S. U., Columbus.
 MILLER, WARREN C., Bedford High School, Bedford.
 MITCHELL, ROBERT H., St. Clairsville.
 MOORE, ROBERT A., Hamilton Hall, O. S. U., Columbus.
 PETLAY, FRED, New Concord.
 PETTIJOHN, FRANCIS J., 136 Woodland Ave., Columbus.
 PFLEIDERER, E. R., Dept. of Psychology, O. S. U., Columbus.
 PHILLIPS, JAMES McIVOR, 1952 Iuka Ave., Columbus.
 PRATT, KARL C., Dept. of Psychology, O. S. U., Columbus.
 RENSHAW, SAMUEL, Dept. of Psychology, O. S. U., Columbus.
 REXROAD, CARL N., Dept. of Psychology, O. S. U., Columbus.
 REYMERT, MARTIN L., Wittenberg College, Springfield.
 ROLLAND, WILLIAM A., 2419 Pomeroy St., Columbus.
 ROOSE, ROBERT L., 16 Lloyd St., Barberton.
 SANDS, OLIVE RUTH, 80 Clinton Heights Ave., Columbus.
 SEASHORE, ROBERT H., Dept. of Psychology, O. S. U., Columbus.
 SELBERT, (MRS.) NORMA, College of Medicine, O. S. U., Columbus.

SHAW, MARGARET F., 312 W. Ninth Ave., Columbus.
 SMITH, CLAYTON S., Hamilton Hall, O. S. U., Columbus.
 SOUTH, EARL B., Dept. of Psychology, O. S. U., Columbus.
 SPIEKER, EDMUND M., Orton Hall, O. S. U., Columbus.
 STOUT, GILBERT LEONIDAS, Dept. of Botany, Miami University, Oxford. (Home Address) R. No. 5, Lockland, Ohio.
 THUT, HIRAM F., 1501 Neil Ave., Columbus.
 TRAUTMAN, MILTON B., 618 S. Fifth St., Columbus.
 TRYON, MARGARET E., Otterbein College, Cochran Hall, Westerville.
 TURNER, JEAN, 80 W. College Ave., Westerville.
 VALENTINE, WILLARD L., Ohio Wesleyan University, Delaware.
 VISSCHER, J. PAUL, Western Reserve University, Cleveland.
 WILLIAMS, PEARLE E., Botany Dept., O. S. U., Columbus.
 WILSON, ORVILLE TURNER, University of Cincinnati, Cincinnati.
 WILSON, WILLIAM R., Dept. of Psychology, O. S. U., Columbus.
 WINNETTE, CLIFFORD L., 66 East Main St., New Concord.
 WRIGHT, FRANK J., Granville.

Respectfully submitted,

M. E. STICKNEY, *Chairman*,
 W. M. BARROWS,
 J. ERNEST CARMAN.

Report unanimously approved.

Report of Nominating Committee.

President—WILLIAM MCPHERSON, Ohio State University, Columbus.

Vice-Presidents:

Zoology—JAMES A. NELSON, Mt. Vernon.

Botany—N. M. BENEDICT, University of Cincinnati, Cincinnati.

Geology—WILBUR E. STOUT, Ohio State University, Columbus.

Medical Sciences—EMERY R. HAYHURST, Ohio State University, Columbus.

Psychology—GARRY C. MYERS, Cleveland School of Education, Cleveland.

Physical Sciences—CHARLES H. SKINNER, Ohio Wesleyan University, Delaware.

Secretary—WILLIAM H. ALEXANDER, U. S. Weather Bureau, Columbus.

Treasurer—A. E. WALLER, Ohio State University, Columbus.

Elective Members of Executive Committee—C. G. SHATZER, Springfield, and ALPHEUS W. SMITH, Columbus.

Publications Committee—H. C. SAMPSON, Ohio State University, Columbus.

Trustee Research Fund—HERBERT OSBORN, Ohio State University, Columbus.

Library Committee—F. O. GROVER, Oberlin College, Oberlin.

Committee on State Parks—BRUCE FINK, Oxford; E. R. HAYHURST, Columbus; and E. N. TRANSEAU, Columbus.

Respectfully submitted,

HERBERT OSBORN, *Chairman*, F. C. WAITE,
 M. E. STICKNEY, H. E. BURTT,
 J. ERNEST CARMAN, F. C. BLAKE.

The report was unanimously adopted and the above named persons duly elected to the positions indicated. By a previous

action of the Academy, the new President, Dr. Wm. McPherson, and the retiring President, Dr. Paul M. Rea, become the Academy representatives on the Editorial Board of the OHIO JOURNAL OF SCIENCE.

Report of the Committee on Necrology.

COLUMBUS, OHIO, April 10, 1926.

To the Ohio Academy of Science:

The Academy has suffered the loss by death of three of its members during the year just ended, namely, Harry Arthur Gossard, Wooster, Ohio; Henry Curwen Lord, Columbus, Ohio; and Roscoe J. Webb, Garrettsville, Ohio. The following brief notes on the life and work of these esteemed members are presented for your information:

I. HARRY ARTHUR GOSSARD.

Prof. Harry A. Gossard was born on a farm near Ames, Iowa, February 7, 1868, and died at his home in Wooster, Ohio, December 18, 1925. He entered the Iowa State College in 1886 and graduated with honor in 1889. After graduation he was appointed Assistant in Entomology in the Iowa Experiment Station and carried graduate work in the college, receiving his Master's degree in 1892. He served as President of Albion Seminary at Albion, Iowa, 1893 to 1895, and as instructor in natural sciences in the high schools of Rochester, Minn., and Princeton, Ill., from 1895 to 1898, when he was elected Professor of Entomology, Zoology and Geology and Entomologist of the Experiment Station of Florida. He held this position until 1904, when he was selected to fill the position of Entomologist in the Ohio Experiment Station, where he remained until his death.

Prof. Gossard's work was characterized by a very full appreciation of the practical needs of agriculture and horticulture and a very thorough and painstaking method of experiment and investigation. His numerous published papers and the large number of exhaustive studies made by his assistants give abundant evidence of his insight into the basic needs of insect control and the practical applications of scientific results. His worth was recognized in honors from various scientific bodies, one of the most recent being the Presidency of the American Association of Economic Entomologists.

Among his hosts of friends in Ohio and throughout the country he was esteemed as a man of most sterling character, a safe counsellor whose judgment always commanded respect and all unite in sincerest sympathy for the bereaved family. In his death the Academy has lost one of its conspicuous contributors to science and the state a conscientious, able administrator in research activity.

II. HENRY CURWEN LORD.

Prof. Henry C. Lord was born at Cincinnati, Ohio, on April 17th, 1866, and died at Columbus, Ohio, September 16, 1925. He studied at Ohio State University during the years 1884 to 1887, and received his Bachelor degree from the University of Wisconsin in 1889. He came to the Ohio State University in 1891, first as assistant in Mathematics and Astronomy, and later, 1894, as Associate Professor of Astronomy, and in 1900 Professor of Astronomy and Director of the Emerson McMillin Observatory, a position he held until his death.

Professor Lord was an intense worker and his talents were recognized not only in his particular field, but among scientific workers in many branches. He was interested especially in astrophysics, but had a wide knowledge in various branches of science and was keenly interested in the educational problems connected with university life. Among his colleagues he was noted and greatly respected for his ability to analyze complex situations and to state his opinions in concise and logical terms.

He took part in a number of Eclipse expeditions and one of his notable achievements was the securing of an exceptionally valuable series of photographs during the eclipse of October, 1900. He was a member of a number of scientific societies,

among them the Royal Astronomical Society and the Astronomical and Astrophysical Society of America, and his published papers appear in a number of scientific journals. He became a member of this Academy in 1915 and was made a Fellow in 1920. He was, no doubt, best known among his colleagues at the University and especially to a favored circle of friends and admirers who will always remember him with affection. We desire to record our sincere sympathy for the bereaved family and relatives in their great loss.

III. ROSCOE J. WEBB.

Roscoe J. Webb was born at Garrettsville, Ohio, on May 19, 1875. He completed his high school course in his native village in 1894 and entered Hiram College in the fall of the same year, but was compelled by the frailty of his health to give up college work after a few months.

He studied law in his father's office and was admitted to the bar in 1906. Forming a partnership with his father under the firm name of Webb and Webb, he continued the practice of law with conspicuous success and growing reputation until his death on October 3, 1925.

From early youth Mr. Webb was an ardent lover of nature and pursued the study of the *flora* and *fauna* of his region with great industry and success throughout his life. Few men in the northern part of the State had a wider or more accurate knowledge of our native plants. By his many botanical friends he was known as an authority on the botany of his region.

His life was one of unusual service to his community in which he was a most useful and beloved member. He will be greatly missed by a wide circle of friends to whom his character and scientific attainments had greatly endeared him. He became a member of the Ohio Academy of Science in 1898 and though not a frequent attendant upon its meetings nor personally known to many of our members, his services and contributions to science are well known and much appreciated.

Respectfully submitted,

HERBERT, OSBORN, *Chairman*,
H. C. BEARDSLEE.

Report of the Committee on Resolutions.

COLUMBUS, OHIO, April 10, 1926.

Resolved,

1. That the Ohio Academy of Science expresses its grateful appreciation of the work of the local committee of the Academy, the officers of the Ohio State University, and the Columbus Chamber of Commerce in arranging so satisfactorily for the success of the meeting and for the comfort and pleasure of the members.

2. That the Academy most heartily thank Dr. Douglas Johnson, of Columbia University, for his extraordinarily interesting and instructive lecture on "The Evolution of the Grand Canyon Region."

3. That the Academy recognizes the benefit to be derived from a more intensive study of the responses of insects and other animals to weather factors, such as temperature, humidity, rainfall and light. It recognizes the need for continuous pure science study along these lines, and endorses the proposal for the establishment of an endowed laboratory for the study of the relations of insects and other animals to weather and climate.

4. That the Ohio Academy of Science, in session at the annual meeting, wishes to voice its protest against the granting of long-time rights and privileges in the grazing lands of the National Forests and other Public Domain. The bill recently introduced by Senator Stanfield (S. 2584) or any other such bill, is directly opposed to all principles of conservation; it threatens the integrity of a national organization, and passes control of public lands to private interests. Control of grazing, or other privilege granted in National Forests and Public Domain, must remain in the hands of a centralized body such as the Forest Service, which can administer all interests.

EDWARD L. RICE, *Chairman*,
F. C. WAITE,
E. L. MOSELEY.

SCIENTIFIC SESSIONS.

The following is the complete scientific program of the meeting:

PRESIDENTIAL ADDRESS.

The Social Significance of Science.....PAUL M. REA

PUBLIC LECTURE.

The Evolution of the Grand Canyon Region.....DOUGLAS JOHNSON

PAPERS.

1. The Franz Theodore Stone Laboratory. (10 min.).....R. C. OSBURN
2. Science, the Newspaper and the Public. (15 min.).....DAVID DIETZ
3. The Crested Butte Region of Colorado. (20 min.) (lantern),
CLARENCE H. KENNEDY
4. Effects of Ultra-violet Radiation on Inorganic Compounds, Enzymes,
and Living Organisms. (20 min.) (lantern).....ROBERT C. GOWDY
5. Some Recent Experiments Bearing on the Problems of Sleep. (15 min.)
H. M. JOHNSON AND GEO. E. WEIGAND
6. A Quantitative Life History of Sweet Clover Stand. (15 min.) (lantern),
O. J. WILLARD
7. A Waterspout on Lake Erie. (10 min.) (lantern).....FREDERICK H. KRECKER
8. Some Notes on Genetics. (10 min.).....L. B. WALTON
9. The Cost of Quick Shift of Learning Habits. (10 min.) (lantern),
GARRY C. MYERS
10. The Corn Borer Invasion of Ohio. (20 min.).....HERBERT OSBORN
11. SYMPOSIUM: ANIMAL PARASITISM.
 (1) The Past and Future of Medical Parasitology. (15 min.),
FREDERICK H. KRECKER
 (2) Parasites as Natural Enemies of Insects and the Relatively High
 Cost of Artificial Controls. (10 min.).....DWIGHT M. DELONG
 (3) Parasites of Economic Importance in Fish of Ohio. (10 min.),
RALPH V. BANGHAM
 (4) Notes on the Mallophaga of Ohio Birds. (10 min.)...HAROLD S. PETERS
 (5) Some Interesting Tachinid Parasites of the Gipsy Moth. (10 min.),
H. W. ALLEN
12. SYMPOSIUM: BIOLOGICAL TRAINING FOR MEDICINE AND DENTISTRY.
 (1) Papers by—
 DR. F. L. LANDACRE. (20 min.).
 DR. FREDERICK C. WHITE. (20 min.).
 (2) Discussion by—
 DR. RAYMOND C. OSBURN. (5 min.).
 DR. EDGAR N. TRANSEAU. (5 min.).
 DR. EDWARD L. RICE. (5 min.).
 DR. L. B. WALTON. (5 min.).
13. Notes on Computing Mean Temperatures for Biological Purposes.
(10 min.) (lantern).....C. R. CUTRIGHT
14. Some Physiological Studies with Hessian Fly. (10 min.).....T. H. PARKS
15. Eugenic Data from Families of College Freshmen. (10 min.) (Wall
charts).....ROBERT A. HEFNER
16. The Mouthparts and Gonopads of Polyzonium Rosalbum, a Suctorial
Millepede. (10 min.) (diagrams).....STEPHEN R. WILLIAMS
17. Value of Scientific Work in the Ohio Division of Fish and Game. (10 min.),
E. L. WICKLIFF
18. Measuring Locomotion and its Variable Components in the Manure
Worm. (*a. foetida*). (10 min.).....WM. M. BARROWS

19. Notes on the Ecology of *Goniobasis livescens*. (10 min.) (wall charts; mounted shells).....ROBERT A. HEFNER
20. Unusual Ohio Faunistic Records Based on Specimens in the State Museum. (10 min.).....JAMES S. HINE
21. Some Variations in *Drosophila hydei* and *Drosophila funebris*. (10 min.),
WARREN P. SPENCER
22. The Range of Tolerance of Three Species of *Euglena* for Hydrogen Ions.
(10 min.).....W. J. KOSTIR
23. The Origin of the Pleurites in the Insects. (10 min.).....L. B. WALTON
24. Plant Successions in Portage County, Ohio. (20 min.) (lantern),
H. C. SAMPSON
25. Further Notes on the Vegetation of Ohio. (20 min.) (lantern),
E. N. TRANSEAU
26. The Plant Communities of Adams County, Ohio, and Their Relation to
the Geological Formation. (15 min.).....E. LUCY BRAUN
27. Non-dependence of Sexual States on Allosomes in Japanese Hop. (10 min.),
J. H. SCHAFFNER
28. Inoculation Experiments with Tomato Streak. (15 min.).....W. G. STOVER
29. Opening of Stomata in Different Wave-lengths of Light. (15 min.),
J. D. SAYRE
30. Ohio Mosses. (5 min.).....NELLIE F. HENDERSON
31. New and Interesting Fungi for Ohio. (20 min.) (lantern).....H. C. BEARDSLEE
32. The Ohio Puffballs. (10 min.).....MINNIE M. JOHNSON
33. Some Interesting Fungi Recently Found in Ohio. (5 min.).....W. G. STOVER
34. Siamese Twins of *Arisaema Triphyllum* of Opposite Sex Experimentally
Induced. (5 min.).....J. H. SCHAFFNER
35. Range of H-ion Concentration in Leaves and Stems of Plants. (10 min.),
J. D. SAYRE
36. Fossil Plants from American Coal Balls. (15 min.) (lantern),
J. HOBART HOSKINS
37. On the Great Number of Seeds Produced by a Single Plant. (5 min.),
EDO CLAASSEN
38. Observations on a Species of *Euglena* Frequently Found Growing on a
Clay Surface. (10 min.).....E. L. FULMER
39. Seasonal Variation in the Physical Properties of Evergreen Leaves.
(15 min.) (lantern).....B. S. MEYER
40. Drainage Changes in Northeastern Washington. (20 min.).....CARL VER STEEG
41. Saw-Teeth Forms in Virginia. (10 min.).....GEO. D. HUBBARD
42. Reaction Profiles of Surficial Materials. (10 min.).....G. W. CONREY
43. Some Shore Line Pot Holes at Half Moon Bay, California. (10 min.)
(lantern).....A. C. SWINNERTON
44. A Hamilton Fauna from Northwestern Ohio. (10 min.).....GRACE A. STEWART
45. The Cynthiana Formation of Kentucky. (10 min.) (lantern).....PAUL H. DUNN
46. The Structure of the Siphuncle in Fossil Cephalopods. (20 min.),
AUG. F. FOERSTE
47. Monongahela Formation in Eastern Ohio. (5 min.).....WILBER STOUT
48. Deep Wells of Southern Ohio. (5 min.).....MILDRED FISHER
49. Origin of the Natural Brines of Eastern Ohio. (15 min.).....R. C. LORD
50. Methods of Studying and Correlating Erosion Cycles. (10 min.),
GEO. D. HUBBARD
51. Some Observations on the Validity of the Erosion Levels in Eastern
Ohio. (20 min.).....C. F. MOSES
52. Molding Sands Investigated by the Commercial Club of Cincinnati
Resource Survey. (10 min.) (lantern).....P. WILLARD CRANE
53. Notes on Heredity in Man. (5 min.).....L. B. WALTON
54. Occupational Diseases Reported to the Ohio State Department of
Health for the Five-Year Period Ending June 30, 1925. (15 min.),
E. R. HAYHURST AND D. J. KINDEL
55. Transposition of Vessels of the Heart. (12 min.).....R. A. MOORE
56. Paradoxical Coronary Embolism. (12 min.) (lantern).....ERNEST SCOTT

57. Complete Dissecting Aneurysm of the Aorta. (12 min. (lantern),
J. E. HOBERG
58. A Hitherto Unrecognized Body Function and the System which
Operates It. (12 min.).....S. G. ZINKE
59. The Origin and Duration of the Enamel Cuticle (Nasmyth's membrane).
(12 min.) (lantern).....S. W. CHASE
60. The Relation of Hysterectomy to the Oestral Cycle. (10 min.),
E. P. DURRANT
61. Factors Influencing the Oestrous Cycle of the Rat. (10 min.)...M. O. LEE
62. Fatigability of Castrated Rats. (10 min.).....M. GANS
63. The Differentiation of the Primitive Ectodermal Lines of Amblystoma.
(10 min.).....F. L. LANDACRE
64. The Interpretation of Recent Studies of the Effects of Insomnia. (15 min.),
H. M. JOHNSON
65. The Beginnings, or Foundation, of Disease, and Their Cause. (5 min.),
S. G. ZINKE
66. Effect of Subcutaneous Injection of Luteal Extract on Cyclic Activity of
Female White Rats. (5 min.).....E. P. DURRANT
67. Celloidin injections for the Demonstration of Vascular Pathology,
ERNEST SCOTT AND R. A. MOORE
68. Peculiar Perforation of the Intestine.....ERNEST SCOTT
69. The Thyroid Influence on the Behavior of the White Rat. (10 min.),
EDNA RICKEY LOTZ
70. Some First Indications of Value of Tests for Learning Nonsense Syllables
in School Survey. (15 min.).....FLORENCE MATEER
71. Experimental Studies of Certain College Problems. (10 min.),
LUELLA C. PRESSEY
72. A Philosophical Foundation of Psychology from the Point of View of
Phenomenology. (15 min.).....PAUL B. MEANS
73. The Price of Speed Pressure to the Learner. (15 min.) (lantern),
GARRY C. MYERS
74. Fundamental Drives and the Doctrine of Sublimation. (15 min.),
H. AUSTIN AIKINS
75. The Nature of Quality. (10 min.).....R. D. WILLIAMS
76. Mechanism in Psychology. (10 min.).....A. P. WEISS
77. *How the Spectroscope Reveals the Structure of Atoms. PROF. HENRY G.
GALE, University of Chicago.
78. *The Size and Shape of Molecules. PROF. EDWARD MACK, Ohio State Uni-
versity, Columbus.
79. *Crystals and Their Structure. PROF. W. J. McCAUGHEY, Ohio State Uni-
versity, Columbus.
80. †Ultra-violet Filters. (10 min.) (lantern). ROBERT C. GOWDY, University
of Cincinnati.
81. †Some Models of Electronic Phenomena. ALPHEUS W. SMITH, Ohio State
University.
82. †Measurements of Sound Intensity by Means of a Rayleigh Disk. C. H.
SKINNER, Ohio Wesleyan University.
83. †Line Absorption Spectra and Their Relation to Energy Levels. JOHN G.
FRAYNE, Antioch College.
84. †Planetary Nebulae and Stellar Evolution. DONALD H. MENZEL.

* These papers were read before a meeting of the Non-Biological Section of the Ohio Educational Conference, to which the members of the Physical Sciences Section of the Ohio Academy of Science were invited.

† These papers were read at a joint session of the Physical Sciences Section of the Ohio Academy of Science and the newly-organized Central Ohio Physics Club.

DEMONSTRATIONS.

1. Transposition of Vessels of the Heart.....R. A. MOORE
2. Celloidin Injections for the Demonstration of Vascular Pathology,
ERNEST SCOTT AND R. A. MOORE
3. Photomicrographs Used in Teaching Dental Histology.....S. W. CHASE
4. Figures Illustrating the Development of the Face, Jaws, and Teeth in
the Pig.....B. M. PATTEN
5. Skins of "Hen-feathered" bantams, Showing Effect of the Gonad Feather
Form and Color.....T. S. ELIOT
(Introduced by Dr. F. C. Waite)
6. Activity Cage Used in Physiological Laboratory at Ohio State University,
E. P. DURRANT
7. Charts in Genetics.....L. B. WALTON
8. Drawings Illustrating Origin of Pleurites in Insects.....L. B. WALTON
9. Specimens of Belgian, English and American Coal Balls...J. HOBART HOSKINS
10. A Hamilton Fauna from Northwestern Ohio.....GRACE A. STEWART
11. Siamese Twins of Arisaema of Opposite Sex.....JOHN H. SCHAFFNER
12. Sex-reversal in Japanese Hop.....JOHN H. SCHAFFNER
13. Chimera-like Sex-expression in the Cat-tail.....JOHN H. SCHAFFNER
14. Leaf Series in the Rejuvenation Zone in Hemp.....JOHN H. SCHAFFNER
15. Map Showing the Hydrogen-ion Concentration of Lakes and Streams
of Ohio.....E. L. WICKLIFF
16. Graphs or Seiches and Tides on Lake Erie.....FREDERICK H. KRECKER
17. Goniobasis Livescens from Varied Habitats.....R. A. HEFNER
18. Photographs Showing the Retention of Snow upon a Wind-swept Area
by a Heavy Rate of Seeding Wheat.....CLYDE E. DIKE
19. Variations in a Species of Polyporus.....F. O. GROVER
20. Tomato Streak, Artificial Inoculations.....W. G. STOVER
21. Two Fungi Parasitic on Other Fungous Species.....W. G. STOVER
22. Photo-micrographs and Line Drawings of North American Species of
Deltoccephalus Species.....D. M. DELONG
23. Illustrations of Foerster's Types of Odonata.....CLARENCE H. KENNEDY
24. (Room 52, B. & Z. Bldg.). Apparatus for Measuring Locomotion of
Earth Worms Under Controlled Conditions,
WM. M. BARROWS AND K. C. PRATT
25. A Culture of Englena on Clay.....E. L. FULMER