

The Ohio Journal of Science

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No. 1

REPORT OF THE THIRTIETH ANNUAL MEETING OF THE OHIO ACADEMY OF SCIENCE.

Columbus, May 14th and 15th, 1920.

The Thirtieth Annual Meeting of the Ohio Academy of Science was held at Ohio State University, Columbus, Ohio, May 14 and 15, 1920, under the presidency of Professor Frederick C. Blake. Sixty-nine members were registered as in attendance; thirty new members were elected.

GENERAL PROGRAM.

FRIDAY, MAY 14.

- 11:00 A. M.—Business Meeting.
- 12:30 P. M.—Luncheon.
- 2:00 P. M.—Reading of Papers in General Session.
- 3:30 P. M.—Lecture by Professor Dayton C. Miller, Case School of Applied Science, Cleveland, on "Photographing Sound Waves from Large Guns and Projectiles."
- 4:30 P. M.—Reading of Papers in Sectional Meetings.
- 6:00 P. M.—Dinner.
- 7:30 P. M.—Address by the President of the Academy, Professor F. C. Blake, Ohio State University, Columbus, on "The Einstein Theory of Relativity and Gravitation."
- 8:30 P. M.—Demonstrations and Social Gathering.

SATURDAY, MAY 15.

- 9:00 A. M.—Adjourned Business Meeting.
- 10:00 A. M.—Reading of Papers in Sectional Meetings.

MINUTES OF BUSINESS MEETINGS.

The first business session was called to order by President Blake, at 11:00 A. M., on Friday, May 14. An adjourned session was held at 9:00 A. M. on the following day.

The appointment of the following committees for the meeting was announced by the chair:

Committee on Membership—C. L. Metcalf, J. W. Bridges, C. W. Reeder.

Committee on Resolutions—F. H. Herrick, E. L. Fullmer, W. G. Hormell.

The following Auditing Committee was elected by the Academy: J. W. Bridges, R. J. Seymour.

The following Nominating Committee was elected by the ballot of the Academy: R. C. Osburn, T. M. Hills, F. C. Blake.

Report of the Secretary.

The following report by the Secretary was received and ordered filed.

May 14, 1920.

To the Ohio Academy of Science:

Much of the work of the Secretary has been in connection with the Executive Committee and other committees, and is covered by the committee reports; much of the balance has been mere routine.

The circular of information was reprinted, as directed by the last annual meeting, and distributed with the preliminary announcement of this meeting.

A brief report of the Twenty-Ninth Annual Meeting was prepared for *Science*, and appeared in the number for August 1.

Arrangements were made with the Publication Committee for the appearance of the full report in the first issue of the OHIO JOURNAL OF SCIENCE for the current year; and it is hoped that this may become the established custom.

The usual notices of the present meeting were sent to the Columbus dailies.

In conference with the President, the Secretary arranged with Dr. S. J. Barnett, of the Carnegie Institution of Washington, to represent the Ohio Academy at a convention of the National Public Works Department Association, held in Washington, D. C., on January 13th and 14th. In reporting his attendance at the convention, Dr. Barnett writes as follows: "I certainly approve most strongly of the work of the Association, and I believe the movement worthy of any help the Academy can give it by passing a resolution in its favor, by interviewing Ohio Representatives and Senators, and by financial assistance if that should be practicable. I hope the movement is successful, and I am

glad to have had an opportunity to do a very little for it." The Secretary has the full minutes of this convention on file and available for any members interested. They contain the following statement: "The Finance Committee notified the Convention that the need of money was acute" and "recommended that each participating society be asked to assess their members at least one dollar per man." Nothing further has been heard concerning this matter.

Two requests for data concerning the membership and research funds of the Academy have been received from the National Research Council, and the desired information has been supplied.

On April 23d and 24th the Secretary represented the Ohio Academy of Science at the very interesting Semi-Centennial of the Wisconsin Academy of Sciences, Arts, and Letters in Madison. This was done at the request of the President, and was made financially possible, without expense to the Academy or to the Secretary, through the generosity of a group of Columbus members, to whom the Secretary wishes to express his very genuine thanks, although he does not know their names.

Respectfully submitted,

EDWARD L. RICE, *Secretary*.

Report of the Treasurer for the Year 1919-20.

The report of the Treasurer was received as follows, and referred to the Auditing Committee, whose report is appended.

May 15, 1920.

The Treasurer's report contains only such statements as presented before May 15th. There are a number of bills outstanding that will have to be taken care of in the next annual Treasurer's report. This accounts for the apparent decrease in the amount of the Treasurer's expenses for the current year but will be increased by the bills included in next year's account.

Independent Print Shop, Delaware, Ohio.....	\$ 45.25
Spahr & Glenn, Printers, Columbus, Ohio.....	2.50
E. L. Rice, Secretarial expenses.....	8.14
A. E. Waller, Treasurer's expenses.....	5.20
T. C. Mendenhall, Coupons cashed from Liberty Bond.....	4.15
150 paid subscriptions to Journal.....	150.00

Liabilities.....	\$215.24
Assets, balance in bank, May 13, 1920.....	\$363.90
Received from C. W. Reeder from sale of publications.....	16.90

Total assets.....	\$380.80
Less.....	215.24

\$165.56

Respectfully submitted,

A. E. WALLER, *Treasurer*.

The above accounts have been audited and found correct.

J. W. BRIDGES,
R. J. SEYMOUR,
Auditing Committee.

Report of the Executive Committee.

The report of the Executive Committee was received as follows and ordered filed.

May 14, 1920.

To the Ohio Academy of Science:

Two meetings of the Executive Committee have been held during the year. At the first, January 21st, all members were in attendance; at the second, held this morning, the following were present: F. C. Blake, A. E. Waller, Wm. McPherson, E. L. Rice.

A considerable part of the work of the Committee has been carried on through correspondence.

The action of the President and Secretary, delegating Dr. Barnett to represent the Academy at the convention of the National Public Works Department Association on January 13th, was approved.

The year has been a phenomenal one in the matter of resignations on the part of officers; and the Committee has made the following appointments to fill vacancies:

A. E. Waller, Treasurer, vice W. J. Kostir.
C. D. Coons, Vice-President for Physics, vice M. E. Graber.
J. A. Culler, Vice-President for Physics, vice C. D. Coons.
T. M. Hills, Vice-President for Geology, vice J. E. Hyde.

Sixteen new members have been elected, subject to the ratification of the present meeting.

In selecting May 14th and 15th as the date of the present meeting, the Committee hoped to secure a date at once early enough to avoid the rush of the close of the school and college year and late enough to afford a reasonable prospect of good weather for possible field trips. Several complaints have been received. Does the Academy wish to fix the date for next year or to give any instructions to the incoming Executive Committee?

No invitations were received for the present meeting except the very welcome and very cordial standing invitation from Columbus. Tentative invitations from Alliance and Cleveland were postponed to a later date.

Perhaps the most important action of the Committee was the completion of the affiliation with the American Association for the Advancement of Science, authorized by the Academy at its last meeting and referred to the Committee with power to act. By the terms of this affiliation the Academy surrenders nothing of its present autonomy, but becomes entitled to representation in the Council of the American

Association. It is hoped that the affiliation may lead to an increase in the membership of both societies and to a mutually beneficial co-operation. The essentials of the plan are as follows:

1. All arrangements for the affiliation must be completed within the first six months of 1920.
2. The Treasurer of the Ohio Academy is authorized to collect the joint dues from members of the two organizations and to transmit the proper share to the Treasurer of the A. A. A. S.
3. By action of the last Annual Meeting, the annual dues of the Ohio Academy of Science are now two dollars; those of the A. A. A. S. are five dollars. The joint dues for members of both societies are six dollars, of which four dollars go to the A. A. A. S. and two dollars to the Ohio Academy.
4. Members of the Ohio Academy who are not members of the A. A. A. S. may become such without the payment of the usual initiation fee of five dollars.
5. Members of the Academy who do not become members of the A. A. A. S. continue to pay only the dues of the Ohio Academy.
6. All members of the Ohio Academy who have already paid the five dollar 1920 dues in the A. A. A. S. may obtain a rebate of one dollar from the Treasurer of the Ohio Academy upon application accompanied by proper receipt.

No further steps have been taken in connection with the proposed affiliation with the Ohio Association of Technical Societies.

Respectfully submitted,

EDWARD L. RICE, *Secretary,*
For the Committee.

Report of the Publication Committee.

The following report of the Publication Committee was received and ordered filed. The recommendations embodied in the report were approved by the Academy.

The only publication issued during the year was the Annual Report of the Twenty-ninth Meeting (Proc. Ohio Acad. Sci., Vol. VII, Part 4, pp. 87-116.) The Secretary's report was printed in the November number of the OHIO JOURNAL OF SCIENCE. It is recommended that this become the regular procedure which will insure publication the same year as the annual meeting and make it possible for the members to have the report before the annual dues for the following year are collected. The committee believes that the Academy should continue the publication of special reports from time to time, as in the past. In this way the standing of the Academy outside of the state would be advanced.

Respectfully submitted,

JOHN H. SCHAFFNER, *Chairman.*

Report of the Trustees of the Research Fund.

The following report of the Trustees of the Research Fund was received and ordered filed. The financial portion of the report was referred to the Auditing Committee, whose report is appended.

To the Ohio Academy of Science:

The Trustees of the Research Fund submit the following report for the year ending May 1, 1920:

During the year payments have been made to the following persons for the purposes indicated:

F. C. Blake: For the purchase of a specially sensitive galvanometer for use in an investigation already under way, and for materials purchased under previous grants for which bills had not been rendered. The entire cost of the galvanometer was paid from the Research Fund and it thus becomes the property of the Academy. It will be available for future use by any other member of the Academy who may need such an instrument in any investigation which has received the approval of the Trustees of the Research Fund. It is the desire and policy of the Trustees to give preference, as far as is possible, to grants of this kind where the expenditure of the money not only aids the investigator but also results in a valuable addition to the material resources of the Academy.

Paul B. Sears: To aid in the study of Ohio vegetation.

W. H. Bucher: To aid in the making of a geological map of the disturbed area in Adams County, Ohio.

L. B. Walton: For a continuation of his study of fresh water organisms.

Miss Elsie Jordan: For work in relabeling the Harper collection of Naiades (under the direction of W. H. Bucher).

In grants already made there are unexpended balances, due on the rendering of a satisfactory statement, to

A. E. Waller: For aid in a study of Ohio vegetation; to

L. B. Walton and W. H. Bucher: For the objects indicated above; and to

L. C. Hopkins: To aid in making a collection of Pteridophytes, and in the determination of the water-shed of Ohio. In these last two the expenditure is to be mostly for the printing and distribution of circular letters.

Below is a statement of receipts, expenditures, and liabilities, according to which there is an available balance of about four hundred dollars from which grants will be made upon application approved by the Trustees.

Vouchers for all expenditures are submitted herewith.

RECEIPTS.

Cash in bank, May 30, 1919.....	\$678.57
Interest on Liberty Bond, June 2, 1919.....	7.45
Check from Mr. McMillin, April 12, 1920.....	250.00
Interest on Liberty Bond, April 21, 1920.....	31.87
	<hr/> \$967.89

EXPENDITURES.

F. C. Blake, June 12, 1919.....	\$ 31.92
F. C. Blake, Oct. 10, 1919.....	150.00
Paul B. Sears, Nov. 3, 1919.....	22.44
W. H. Bucher, Nov. 12, 1919.....	89.06
L. B. Walton, Dec. 16, 1919.....	17.29
Elsie Jordan, Dec. 16, 1919.....	12.50
	<hr/> 323.21

Cash balance in bank, May 1, 1920.....	\$644.68
Total assets, (Liberty Bond at par).....	\$1,144.68

LIABILITIES (under grants).

A. E. Waller.....	\$75.00
W. H. Bucher.....	98.44
L. C. Hopkins.....	50.00
L. B. Walton.....	20.31
	<hr/> 243.75

Excess of available assets above liabilities.....	\$400.93
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(Signed),

T. C. MENDENHALL,
HERBERT OSBORN.

The financial statement in the above report has been audited and found correct.

J. W. BRIDGES,
R. J. SEYMOUR,
Auditing Committee.

Report of the Library Committee.

For the Library Committee, Mr. Reeder, of the Ohio State University Library, presented the following report, which was received and ordered filed.

May 14, 1920.

To the Ohio Academy of Science:

The Library Committee begs leave to submit the following report:

(1) The sale of publications during the year has been above normal, the total amount received being \$27.75. On July 15, 1919, \$10.85 of this amount was turned over to Mr. Kostir, and the balance \$16.90 is now ready for the Treasurer.

(2) The Proceedings of the 29th Annual Meeting appeared in the OHIO JOURNAL OF SCIENCE for November, 1919, and a few months

later the reprints were received and mailed to persons whose names appear in that report on the membership roll. The report was also sent to the sixty-five institutions on the exchange list.

(3) The receipt of exchanges by the Academy has been about as usual with a slight increase in the foreign group due to a resumption of near-normal transportation conditions and the clearing out of accumulations by the International Exchange Service of the Smithsonian Institution.

(4) During the year a thousand cards were added to the Union Catalog of Scientific Periodicals by the Oberlin College Library. It is known that other libraries have contributions of cards ready whenever there is need of them, but the matter has not been pushed on account of the difficulty experienced in the large libraries in keeping even with current work on account of depleted staffs.

(5) During the past year the University Library made loans of 42 books to nine Ohio Colleges. It is not known whether or not the professors desiring these books are members of the Ohio Academy, but it is hoped they are. The library offers to lend to any scientist in the Academy, through his institutional library, any publication not needed for immediate use. This service ought to be developed more extensively and the Library stands ready to discharge its obligation to the men and women of the Ohio Academy who are engaged in research and need more book facilities than are available in their libraries.

Respectfully submitted,

C. W. REEDER.

Report of the Committee on Legislation.

The following report of the Committee on Legislation was received and ordered filed. The Committee was continued.

Your Committee on Legislation is unable to report any very substantial progress in the matter of securing state support but would recommend that the committee be continued or another committee appointed to continue the effort. Owing to the session of last winter being an adjourned session and averse to taking up new measures and also the varied questions of intense debate that developed during the session and the attitude of members toward the introduction of any new measures involving new appropriations, the time seemed inopportune. Moreover, there are one or two points which it seems desirable to clear up before offering a specific form of bill.

For the information of the members we submit the following draft of a bill which embodies the points it seems desirable to include.

It may be noted that there is some question as to the form in which an act may best be stated which provides that the service of the Academy may be mandatory while the obligation of the state can only operate during the life of an appropriation which under the constitution is limited to the biennial period. The committee has attempted to include in one bill the provision that the Academy may function as an advisory body for the state and also that the state shall support the Academy in the matter of publication and expenses.

Suggestions from members as to the best manner in which this can be accomplished will be welcomed by the committee if continued.

A BILL.

To provide for the publication of the Proceedings of the Ohio Academy of Science and Support and Service of the Academy.

Be it Enacted by the Eighty-third General Assembly of the State of Ohio:

SECTION 1. That there is hereby appropriated the sum of \$2,000 per annum during the biennium for the Ohio Academy of Science for the support of its publications and for the payment of expenses of the society which may include the salary of a secretary.

SEC. 2. The Proceedings of the Academy, aside from its regular distribution to members and exchanges, shall be distributed one copy to each public library and to each university, college and first grade high school in the state. The exchanges received shall be kept available to the citizens of the state through the library of the State University or such other channel as may be determined.

SEC. 3. The services of the Academy shall be available to the state or any of its officers in any matter in which the consideration of scientific facts, policies or problems is involved, and the officers of the state may call upon the Academy through its properly elected officers or committees appointed by its officers for such consultation and advice as may be of service to them in their duties, the members of such committees to receive no compensation for this service further than necessary expenses of travel or other outlay in the performance of their duty and no member of the Academy while serving as a member on such committee shall be eligible for expert service involving compensation from the state. The President of the Academy shall serve as the medium of communication with the Academy.

Respectfully submitted,

HERBERT OSBORN,
T. C. MENDENHALL,
EDWARD L. RICE.

Report of the Committee on War Roll.

The following report of the Committee on War Roll was received and ordered filed. The Committee was discharged.

To the Ohio Academy of Science:

The committee appointed a year ago to continue the collection of data concerning the war record of Academy members has held no meeting during the year; but a call for the desired information was included this year, as last, in the preliminary notice of the Annual Meeting. Forty members responded to this call. The data collected are in the possession of the Secretary, and will be transferred for permanent record to the cards of the Secretary's membership catalog.

Respectfully submitted,

EDWARD L. RICE, *Secretary,*
For the Committee.

Report of the Committee on Election of Fellows.

The following report of the Committee on Election of Fellows was accepted and ordered filed.

May 14, 1920.

To the Ohio Academy of Science:

The Constitution, as amended in 1919, delegates the election of fellows to a joint committee consisting of the Vice-Presidents and the Executive Committee. Nine of the eleven votes are necessary to an election.

Much of the work of the joint committee has been done by correspondence; but a meeting held this morning gave opportunity for free discussion. Seven members of the committee were present at this meeting; the other four were represented by more or less fully instructed proxies. The entire mode of procedure has been as follows:

As only fellows are to be eligible to office and to membership in the Executive Committee, it was agreed that all past and present Officers and Executive Committee members should become fellows. These number fifty-six.

Membership lists were then mailed to all members of the Committee, to be checked as ballots and returned to the Secretary for tabulation. Ten of the eleven members of the Committee voted. No member of the Academy received the necessary nine ballots, although two lacked but one vote each. The names of members receiving any votes were then mailed to the Committee members to serve as a list of nominations for consideration at this morning's meeting.

From this list fifty-eight fellows were elected, making the total number one hundred and fourteen. The fellows will be designated by some distinguishing mark in the next list of members published.

Your committee believe that their work has been conservative. They have endeavored to guard against the election of any undesirable fellows; desirable candidates have undoubtedly been omitted. Such errors can be easily rectified by succeeding committees.

Respectfully submitted,

EDWARD L. RICE, *Secretary,*
For the Committee.

Election of Officers.

The following officers and committee members for 1920-21 were elected by the ballot of the Academy:

President—MR. W. H. ALEXANDER, U. S. Weather Bureau, Columbus.

Vice-Presidents:

Zoology—Professor F. H. KRECKER, Ohio State University, Columbus.

Botany—Professor C. H. OTIS, Western Reserve University, Cleveland.

Geology—Professor W. H. BUCHER, University of Cincinnati, Cincinnati.

Physics—Professor D. C. MILLER, Case School of Applied Science, Cleveland.

Medical Sciences—Professor ERNEST SCOTT, Ohio State University, Columbus.

Psychology—Professor H. A. AIKINS, Western Reserve University, Cleveland.

(On the resignation of Professor AIKINS, the Executive Committee appointed Professor J. W. BRIDGES, Ohio State University, Columbus, to fill the vacancy.)

Secretary—Professor E. L. RICE, Ohio Wesleyan University, Delaware.

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

Elective Members of Executive Committee—Professor F. C. BLAKE, Ohio State University, Columbus; Professor C. G. SHATZER, Wittenberg College, Springfield.

Member of Publication Committee—Professor L. B. WALTON, Kenyon College, Gambier.

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

Member of Library Committee—Professor F. O. GROVER, Oberlin College, Oberlin.

Representatives on Editorial Board of Ohio Journal of Science:

Zoology—Professor R. A. BUDINGTON, Oberlin College, Oberlin.

Botany—Professor BRUCE FINK, Miami University, Oxford.

Geology—Professor G. D. HUBBARD, Oberlin College, Oberlin.

Physics—Professor S. J. M. ALLEN, University of Cincinnati, Cincinnati.

Medical Sciences—Professor F. C. WAITE, Western Reserve University, Cleveland.

Psychology—Professor H. A. AIKINS, Western Reserve University, Cleveland.

Election of Members.

The Membership Committee reported fourteen names for election to membership; sixteen additional names, previously approved by the Executive Committee and marked with (*) in the following list, were presented for ratification. All were elected, as follows:

*Anderson, Donald B., Botany; Botany and Zoology Bldg., Ohio State University, Columbus.

Arps, G. F., Psychology; Ohio State University, Columbus.

*Balduf, Walter V., Zoology; Dept. of Zoology and Entomology, Ohio State University, Columbus.

Berger, F. L., Physics; 121 E. Long St., Ada.

*Bohl, Ray Anderson, Anatomy, Zoology; 838 May St., Akron.

*Bowman, H. H. M., Botany, Zoology; University Science Hall, Cherry and Page Streets, Toledo.

*Braun, E. Lucy, Botany; 2702 May Street, Cincinnati.

- *Brewer, P. H., Chemistry; McKinley High School, Canton.
Burt, Harold E., Psychology; Department of Psychology, Ohio State University, Columbus.
Ditto, R. C., Physics; 316 W. Eighth Avenue, Columbus.
Evans, Wm. Lloyd, Chemistry; Dept. of Chemistry, Ohio State University, Columbus.
Guyton, F. E., Zoology, Entomology; Dept. of Zoology and Entomology, Ohio State University, Columbus.
*Harper, Arthur R., Botany, Zoology; 2479 Findlay Ave., Columbus.
Henderson, Wm. E., Chemistry; Dept. of Chemistry, Ohio State University, Columbus.
Householder, F. F., Physics; Municipal University of Akron, Akron.
Howard, C. C., Chemistry; Columbus.
Huber, Lawrence L., Zoology, Entomology; Dept. of Zoology and Entomology, Ohio State University, Columbus.
Kennedy, Clarence H., Entomology; Dept. of Zoology and Entomology, Ohio State University, Columbus.
*Kline, E. K., Chemistry, Public Health, Physics; Public Health Laboratories, Toledo.
*Kornhauser, Sidney Isaac, Zoology; Denison University, Granville.
*Kraatz, Walter C., Zoology, Entomology; Dept. of Zoology and Entomology, Ohio State University, Columbus.
*Kreider, Henry R., Chemistry, Public Health, Physics; University of Toledo, Toledo.
Miller, Dayton C., Physics; Case School of Applied Science, Cleveland.
Minchin, Howard D., Physics; Columbus.
*Pumphrey, Elva, Biology; Dept. of Biology, Ohio Wesleyan University, Delaware.
*Root, Eunice, Botany; Botany and Zoology Bldg., Ohio State University, Columbus.
*Schweikher, F. P., Nature Study, General Science, Agriculture, Botany, Zoology; 1623 Compton Road, Cleveland.
*Stover, Ernest L., Botany; Botany and Zoology Bldg., Ohio State University, Columbus.
*Tiffany, Lewis H., Botany; Dept. of Botany, Ohio State University, Columbus.
Todd, Frank E., Entomology, Zoology, Plant Pathology; Assistant State Entomologist, Yuma, Arizona.

Report of Committee on Necrology.

No deaths of members during the year were reported, and the report of the Committee on Necrology was happily omitted.

Report of Committee on Resolutions.

The following resolutions were presented by the Committee on Resolutions and adopted by the Academy.

1. The Academy desires to thank the Local Committee and the officers of Ohio State University for their efforts in making the Thirtieth Annual Meeting a success.

2. The Academy wishes to record an expression of its thanks to Mr. Emerson McMillin for his continued and generous support of scientific research in Ohio.

3. The Academy would also thank Professor Dayton C. Miller for an illustrated lecture upon his ingenious experiments in "Photographing Sound Waves from Large Guns and Projectiles."

4. The Academy further expresses its appreciation to the Secretary for his sustained and efficient services in forwarding its interests and thus contributing to the success of its meetings and work.

(Signed),

F. H. HERRICK,
E. L. FULLMER,
W. G. HORMELL.

Conservation of Platinum and Potassium.

The following resolutions concerning the use and abuse of platinum and potassium were introduced by Professor J. R. Withrow and unanimously adopted by the Academy. Professor Withrow and the Secretary were appointed a special committee to secure the publicity of the resolutions and to urge the importance of the subject alike to scientists and the general public.

(1)

WHEREAS, The price of platinum has risen in the past twenty years from 50 cents or less per gram to as high as \$5.30 in the present year, or in the neighborhood of 1000% increase in cost, making it prohibitive for educational or scientific work; and

WHEREAS, Cheap platinum as it was twenty years ago, would greatly ease and encourage research work in Physics and Chemistry and would doubtless greatly cheapen sulphuric acid, required in making phosphate fertilizers and perhaps quickly give us the key to the utilization of atmospheric nitrogen for use in agriculture as a plant food; and

WHEREAS, The world's stock of platinum is small and the prospects for large additions to this stock are far from bright since the Russian deposits are understood to be approaching exhaustion and we have none as good in sight; and

WHEREAS, The chemical and electrical industries have absolute need for platinum, though they are continually seeking cheaper and as satisfactory substitutes; therefore,

Be it Resolved, That the Ohio Academy of Science commends the effort made in the dental profession and in the electrical industries to find substitutes for platinum in their work and urges all scientists to assist in every way with these important efforts at platinum conservation;

Be it Resolved, That the Ohio Academy of Science urges the dental profession and the electrical and other industries to reduce to a minimum the use of platinum in all places where its ultimate loss is certain;

Be it Resolved, That the Ohio Academy of Science condemns the use of platinum in jewelry and in any other way that is not productive of scientific or industrial advance or development;

Be it Resolved, That the Ohio Academy of Science urges the women of Ohio in the interests of science and the development of industry to abstain from the use of platinum as jewelry.

(2)

WHEREAS, The amount of potash salts is limited and their use in some connections is imperative; and

WHEREAS, Most chemical and other scientific texts and formularies have long been saturated with directions for the use of potash salts where sodium salts would serve as well; and

WHEREAS, There has on this account in the past existed an appalling waste in potash, of which the citation of the use of potassium cyanide in gold metallurgy for years where sodium cyanide would and does do as well may serve as an example; therefore,

Be it Resolved, That the Ohio Academy of Science urges all men of science to eliminate the use of potash where possible, and to publish the results of their experiments or report their experiences, favorable or unfavorable, to the Academy Secretary or to Professor Withrow at the Ohio State University.

Ohio Biological Survey.

An informal report was presented by Professor Herbert Osborn, Director of the Ohio Biological Survey, concerning the recent work of the Survey and its present financial limitations. The following resolution, presented by Professor E. L. Fullmer, was adopted by the Academy.

Resolved, That the Academy record its appreciation of the work of the Ohio Biological Survey and express its sincere hope that the work of the survey may be continued with increased support and activity in order that more rapid progress may be made in the investigation of pressing biological problems. The reports so far published have been of distinct service and furnish a solid basis for further progress while the organization in co-operation with the various universities and colleges gives opportunity for very effective association of the trained biological workers of the state. The authorities of the State University are assured of the continued interest and co-operation of the Academy in any measures which may advance this project.

Preservation of Wild Life of State.

At the suggestion of the Section for Zoology, Professor Herbert Osborn reported on the work of the State Department of Agriculture in providing preserves for the wild life of the State. The Academy expressed its hearty approval and appreciation of this work, and authorized the appointment of a committee to co-operate with the State authorities and to report to the next meeting a policy for the future work of the Academy toward the preservation of the native fauna and flora. The President appointed the Committee as follows: Herbert Osborn, Chairman; J. E. Carman, Bruce Fink, F. H. Herrick, M. M. Metcalf, C. G. Shatzer, E. N. Transeau.

Election of Patron.

On the recommendation of the Executive Committee, Mr. Emerson McMillin was unanimously elected a Patron of the Academy, in recognition of his many financial contributions to the research work of the Academy.

Representation in Council of A. A. A. S.

As an affiliated society, the Academy is entitled to a representative in the Council of the American Association for the Advancement of Science. The Secretary was appointed to serve in this capacity, with power to appoint a substitute in case of inability to attend a meeting of the Council.

Proposed Constitutional Amendment.

Notice was given of a proposed amendment to the constitution, to be submitted for action at the next annual meeting, providing for the nomination of candidates for fellowship in the Academy by two fellows, the election to remain as now provided.

SCIENTIFIC SESSIONS.

The complete scientific program of the meeting follows:

Presidential Address.

"The Einstein Theory of Relativity and Gravitation,"

F. C. BLAKE

Public Lecture.

"Photographing Sound Waves from Large Guns and Projectiles" DAYTON C. MILLER

Symposium Before Physics Section.

The Constitution of the Atom:

- (a) The Planetary Atom of the Physicist.....S. J. M. ALLEN
- (b) Why Not One Kind of Atom Only?.....R. C. GOWDY
- (c) Discussion, led by.....W. L. EVANS

Papers.

1. Claws of Arachnids.....W. M. BARROWS
2. The Arizona Boll Weevil (*Anthonomus grandis* var. *thurberia*) with Special Reference to Steps Taken by the Arizona Commission of Agriculture and Horticulture to Prevent its Establishment in Cultivated Cotton. Read by title.....DON C. MOTE
3. *Aphelopus theliae* (Gahan) and the Changes Produced in *Thelia* by this Parasite. 15 min. (Lantern).....S. I. KORNHAUSER
4. The Intestinal Parasites of Overseas Troops as Compared with Home Service Troops. 10 min.....S. I. KORNHAUSER
5. A New Disease, Black Tumor, of the Catfish. 5 min.....R. C. OSBURN
6. Classification of the Opalinidæ. 10 min.....MAYNARD M. METCALF
7. Geographical Distribution of the Opalinidæ. 15 min...MAYNARD M. METCALF
8. Factors in the Distribution of Aquatic Snails in Lake Erie. 20 min. (Lantern).....F. H. KRECKER
9. Caddis-fly Larvæ as Agents in Distribution of Fresh Water Sponges. 5 min. F. H. KRECKER
10. Notes on Some Tropical Homoptera. 8 min.....HERBERT OSBORN
11. Generic and Specific Characters from the Male Genitalia of Syrphidæ (Diptera). 10 min. (Lantern).....C. L. METCALF
12. Some Myriapods of Put-in-Bay. 10 min.STEPHEN R. WILLIAMS
13. The Chondrocranium of *Syngnathus fuscus*. 20 min.....J. E. KINDRED
14. Additions to the Birds of Ohio. 10 min.....LYNDS JONES
15. Bird Migration Groups. 20 min.....LYNDS JONES
16. Two Recently Destructive Clover Insects of Western Ohio. 5 min.....T. H. PARKS
17. The Preservation of Native Flora and Fauna. 10 min.....HERBERT OSBORN
18. New Economic Applications for the Mangrove. 8 min. (Lantern) H. H. M. BOWMAN
19. The Progress of Revegetation in the Katmai District. 15 min. (Lantern) ROBERT F. GRIGGS

20. Observations on the Edge of the Forest in the Katmai District. 15 min.
(Lantern).....ROBERT F. GRIGGS
21. The Influence of Environment on Sexual Expression in the Hemp. 10 min.
J. H. SCHAFFNER
22. A Double Mutant of the Hemp. 5 min.....J. H. SCHAFFNER
23. Translocation and Storage of Carbohydrates in Apple Fruit Spurs and
Two-year-old Seedlings. 20 min.....SWARNA KUMER MITRA
24. Origin and Character of Schizogenous Resin Cavities in Avocado Fruits
and Leaves. 15 min. (Opaque projection).....SWARNA KUMER MITRA
25. Origin and Character of Adventitious Roots in Cornus Pubescence. 15 min.
(Opaque projection).....SWARNA KUMER MITRA
26. Story of Citrus Fruits of Pinellas County, Florida. 5 min.....
KATHARINE DOORIS SHARP
27. Factors Controlling Transpiration.....JASPER D. SAYRE
28. Certain Conditions that Hinder the Study of Botany in High Schools..
MAXIMILIAN BRAAM
29. Progress in Plant Microchemistry. 20 min.....H. C. SAMPSON
30. Sugar Syrup from Home Grown Sugar Beets. 10 min.....JAMES R. WITHROW
31. Some Farm Experiments in the Making of Syrup from Sugar Beets. 10 min.
F. C. VILBRANDT
32. Some Pertinent Questions for Ohio Scientists. 30 min.
(a) Sulphuric Acid and Kiln Plants and their Fumes.
(b) The Errors of Ohio's Legal Kerosene Flash Point Apparatus—the
Foster Cup.
(c) The Unnecessary Use of Potassium Salts.
(d) The Damage to Science and Industry by the Wastage of Platinum.
JAMES R. WITHROW
33. Partial Solution of Certain Applied Chemical Problems. 30 min.
(a) Saving of Platinum by the Use of Platinum Crucibles in Electro-
analysis.
(b) By a Modified Mercury Cathode Cell.
(c) The Determination of Water in Substances Easily Decomposable
Thermally.
JAMES R. WITHROW
34. Gas Combustion Investigations. 10 min.
(a) Quartz-apparatus.
(b) Central Burner Type.
(c) Devitrification of Quartz in Capillaries.
F. C. VILBRANDT
35. The Thermionic Tube as a Useful Amplifying Tool of the Scientist. 20
min.....A. D. COLE
36. A Seasonal Breakage of Watch Springs and Its Cause. 10 min.....
SAMUEL R. WILLIAMS
37. Springs of Minimum Weight. 20 min.....H. C. LORD
38. Relations between Atomic Numbers and the Wave Lengths of X-rays.
10 min.....S. J. M. ALLEN
39. Relations between Absorption Coefficients and Wave Lengths of X-rays.
10 min.....S. J. M. ALLEN
40. Characteristic Curves of Different Types of Thermionic Tubes. 15 min.
A. D. COLE
41. Thermodynamics. 20 min.....LOUIS T. MORE
42. Electrification by Impact. 10 min.....HAROLD RICHARDS
43. On Self and Mutual Elastance and Capacitance. 15 min.....F. C. BLAKE
44. Note on a Double Solenoid for the Production of Uniform Magnetic Fields.
S. J. BARNETT

45. Observations on Eruptive Phenomena in the Valley of Ten Thousand Smokes. 15 min. (Lantern).....ROBERT F. GRIGGS
46. Diastrophism Still Continuing in the Great Lakes Region. 15 min.....E. L. MOSELEY
47. Clarion and Vanport Members in Ohio. 30 min.....WILBER STOUT
48. A Pre-somite Human Embryo. 10 min. (Opaque projection)....C. L. TURNER
49. Relation of Catalase to Activity. 5 min.....R. J. SEYMOUR
50. Some Features of Industrial Fatigue. 15 min.....E. R. HAVHURST
51. Epidemic Encephalitis. 15 min. (Lantern).....ERNEST SCOTT
52. Measurement of Blood Pressure by Resistance of Carbon Discs.F. P. DURRANT
53. Educative Characteristics of First Grade Children. 15 min...MARY E. MILLER
54. A Study of the Lowest Five Percent of College Students as Determined by the Army Alpha Examinations. 10 min.....HELEN MARSHALL
55. A Study of the Highest Five Percent of College Students as Determined by the Army Alpha Examinations. 10 min.....EARL R. GABLER
56. Experimentation in the Psychology of Music. 15 min...ESTHER L. GATEWOOD
57. Mental and Educational Tests of the Deaf. 10 min.....JEANNETTE REAMER
58. Syphilis and Delinquency. 15 min.....FLORENCE MATEER

Demonstrations.

- (a) Black Tumor of the Catfish.....R. C. OSBURN
- (b) Some Interesting Tropical Hemiptera.....HERBERT OSBORN
- (c) Caddis Cases Covered with Sponges.....F. H. KRECKER
- (d) Wax Models of 8 mm. and 12 mm. Chondrocrania of Syngnathus.....J. E. KINDRED
- (e) Models of Pre-somite (Mateer) Human Embryo.....C. L. TURNER
- (f) Specimens from the Valley of Ten Thousand Smokes.....ROBERT F. GRIGGS
- (g) Wireless Telephone.....R. A. BROWN