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of the
Indiana Academy
of Science

Founded December 29, 1885

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P. D. EDWARDS, EDITOR
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Spring Meeting
CANNELTON, INDIANA
May 9 and 10, 1941

Fifty-Seventh Annual Meeting
DEPAUW UNIVERSITY
October 30, 31, and November 1, 1941

JUNE, 1942
BOOKWALTER-BALL-GREATHOUSE
INDIANAPOLIS, IND.

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OFFICERS AND ELECTED COMMITTEES FOR 1941

OFFICERS

President, PAUL WEATHERWAX, Indiana University, Bloomington.

Vice-President, EDWARD F. DEGERING, Purdue University, Lafayette.

Secretary, WINONA H. WELCH, DePauw University, Greencastle.

Treasurer, W. P. MORGAN, Indiana Central College, Indianapolis.

Editor, P. D. EDWARDS, Ball State Teachers College, Muncie.

Press Secretary, WILL E. EDINGTON, DePauw University, Greencastle.

Trustees of Academy Foundation: (term 4 years) J. S. Wright, Eli Lilly and Company (term expires 1944), chairman; F. B. Wade, Shortridge High School (term expires 1943).

Committee for Bonding of Trustees: H. L. Bruner, Butler University, Indianapolis, chairman; W. A. Cogshall, Indiana University, Bloomington.

Research Grant Committee: A. L. Foley, Indiana University (term expires 1941), chairman; E. G. Mahin, University of Notre Dame (term expires 1942); John S. Wright, Indianapolis (term expires 1943); M. S. Markle, Earlham College (term expires 1944); H. E. Enders, Purdue University (term expires 1945); Paul Weatherwax, Indiana University (ex officio); Winona H. Welch, DePauw University (ex officio).

DIVISIONAL CHAIRMEN

Anthropology, THOMAS B. NOBLE, R. R. 17, Box 187, Indianapolis.

Bacteriology, C. G. CULBERTSON, I. U. Medical School, Indianapolis.

Botany, R. E. CLELAND, Indiana University.

Chemistry, J. L. RIEBSOMER, DePauw University.

Geology and Geography, ROBERT KARPINSKI, Indiana State Teachers College.

Mathematics, WILL E. EDINGTON, DePauw University.

Physics, R. E. MARTIN, Hanover College.

Psychology, HARRY N. FITCH, Ball State Teachers College.

Zoology, W. E. MARTIN, DePauw University.

EXECUTIVE COMMITTEE

(Past Presidents, Officers, Divisional Chairmen, and
Chairmen of Standing Committees)

J. C. Arthur, C. A. Behrens, W. M. Blanchard, H. L. Bruner, S. Burrage, R. E. Cleland, W. A. Cogshall, Stanley Coulter, C. G. Culbertson, E. R. Cumings, J. J. Davis, Charles C. Deam, Edward F. Degering, W. E. Edington, P. D. Edwards, H. E. Enders, Harry N. Fitch, A. L. Foley, R. C. Friesner, W. G. Gingery, R. E. Girton, Robert Hessler, Robert Karpinski, Eli Lilly, M. W. Lyon, Jr., E. G. Mahin, E. S. Martin, R. E. Martin, W. E. Martin, W. J. Moenkhaus, W. P. Morgan, Thomas B. Noble, H. A. Noyes, F. Payne, N. E. Pearson, R. R. Ramsey, J. L. Riebsomer, F. B. Wade, F. N. Wallace, Paul Weatherwax, Winona H. Welch, J. S. Wright, T. G. Yuncker.

STANDING COMMITTEES

(Appointed by the President, Chairman of Each
Committee Named First)

Auditing: E. S. Martin, William Johnson.

Biological Survey: N. E. Pearson, C. M. Palmer, M. W. Lyons, Jr., Dorothy Parker, Winona Welch, Ralph Kriebel, G. A. Ficht, W. P. Allyn.

Junior Academy of Science: H. E. Enders, F. J. Breeze, O. B. Christy, C. F. Cox, F. B. Wade, P. D. Wilkinson.

Library: Walter G. Gingery, Ray C. Friesner, Nellie M. Coats.

Membership: R. E. Girton, N. E. Pearson, W. D. Thornbury, O. B. Christy, A. H. Meyer.

Nominations: J. S. Wright, William E. Edington, E. G. Mahin.

Program: T. G. Yuncker, Glenn A. Black, F. E. Beghtel, C. A. Malott, B. E. Montgomery, and Divisional Chairmen.

Publication of Proceedings: P. D. Edwards, J. J. Davis, M. E. Hufford, F. B. Wade.

Relation of Academy to State: F. N. Wallace, J. S. Wright, Stanley Coulter, E. Y. Guernsey.

Representative on Council of A.A.A.S.: H. E. Enders.

MINUTES OF THE EXECUTIVE COUNCIL

GREENCASTLE, INDIANA, FEBRUARY 2, 1941

The Council Meeting of the Academy was called to order by President Weatherwax at 2 o'clock in the Faculty Room of the Administration Building of DePauw University. He explained that although the Council consists of the officers, it has been customary to invite the Executive Committee to attend the Council Meeting so that all activities of the Academy could be represented.

Through oversight the expired terms of one of the Academy Foundation Trustees and one of the members of the Research Grant Committee were not filled at the meeting of the Executive Committee, November 14, 1940. Dr. Morgan moved that Mr. John S. Wright succeed himself as Trustee of the Academy Foundation. Dr. Cogshall seconded the motion. Mr. Wright was unanimously elected to serve as trustee for another 4-year term. Dr. Foley moved that Dr. Enders be re-elected as a member of the Research Grant Committee. Dr. Wade seconded the motion. Dr. Enders was unanimously elected to serve on this committee for another 5-year term. It was agreed to submit this matter to the Academy for approval at the Spring Meeting because of the irregularity of the election.

Officers and committee representatives reported as follows:

Academy Foundation. Dr. Wade stated that the amount on hand in the Indiana National Bank at the time of the meeting of the Executive Committee, November 14, 1940, was \$940.61; that on January 7, 1941, two gifts, one of \$250.00 and one of \$260.00, had been received from a friend of the Academy; and that the total savings, due to the gifts, interest, dividends, and bond coupons, are now \$1,482.06.

Bonding Trustees. Dr. Cogshall reported, in the absence of Dr. Bruner, that the bonds were all in good order.

Research Grant. Dr. Foley reported that two applications were received at the November meeting but no decision had been made because the committee wished to make new rules for the selection of the grantees. President Weatherwax read a portion of a letter from Ass't. Sec. Woodley of A.A.A.S., informing the Academy that it has \$150.00 available for its distribution. The committee promised to report definitely at the meeting in the spring.

Auditing. Mr. E. S. Martin reported that the books of the Trustees and of the Treasurer had been audited and found satisfactory.

Membership. Dr. Girton stated that the campaign for membership was being carried on by correspondence. Results will be announced at the Spring Meeting.

Program. Dr. Yuncker reported that Evansville and the Angel Mounds Site were being considered for the Spring Meeting early in May; and that the DePauw committee was crystallizing plans for the Winter Meeting to be held early in November in Greencastle.

Publication of Proceedings. Dr. Edwards reported that three-fourths of the copy was turned over to the printer at 11 a.m., February 2.

Relation of Academy to State. Dr. Friesner reported, in the absence of Mr. Wallace, that \$1,500.00 had been included in the State Budget for the Academy.

Junior Academy of Science. Dr. Wade, in the absence of Dr. Enders, reported that he was well pleased with the growth of the Junior Academy and with the competence of the young people. He complimented Dr. Enders upon doing a fine piece of work, having an attendance of 250 at the meeting at Ball State Teachers College last November.

Treasurer. Dr. Morgan stated that for the year 1940 the total receipts were \$1,570.15 and the total disbursements were \$1,376.04, leaving a balance of \$194.11. In 1939 there were 690 paid members.

Press Secretary. Dr. Edington reported that he sent numerous articles to the press at the time of the meetings of the Academy. As Necrologist of the Academy he stated that 18 members passed away in 1940, and two members, Dr. Frank Andrews of Bloomington, and Mr. S. E. Perkins, III, of Indianapolis, had died since the Fall Meeting. He inquired as to the preparation of memorials for those who are resigned or retired members at the time of death but who had been active members over a long period of years. Dr. Friesner moved that a committee be appointed to amend the by-laws to include membership-emeritus, to report at the Fall Meeting. Dr. R. E. Martin seconded the motion. Motion carried.

Index. Dr. Friesner reported that the work on the Index of the Proceedings is progressing.

Publication of Proceedings. It was requested that the Committee on Publication present at the Spring Meeting a code on eligibility for publication.

New Business. Dr. Friesner made the following motion: "I move that the President, Secretary, Treasurer, Editor, and the Chairmen of the Committee on Relation of Academy to State, Program Committee and Library Committee constitute a Budget Committee for the purpose of budgeting the major expenditures of the Academy." Dr. Edington seconded the motion. Motion carried. The committee is to become effective at once.

The Council adjourned at 4 p.m.

MINUTES OF THE SPRING MEETING

CANNELTON, INDIANA, MAY 9-10, 1941

Many Academy members and friends visited the Angel Mounds near Evansville enroute to Cannelton. The tour of the site conducted by Mr. Glenn Black was exceedingly interesting.

The meeting was called to order by President Weatherwax at 8:00 p.m., May 9, in the dining room of the Sunlight Hotel, Cannelton, Indiana. Mr. Harry Davidson, Superintendent of the Cannelton Schools, officially welcomed the Academy to the city. The response was made by President Weatherwax.

Dr. C. A. Malott presented the geological and historical setting of the Cannelton region and Dr. Ray C. Friesner discussed the floristic features in the vicinity of Cannelton, enumerating several species, distinctive of southern Indiana, which could be seen the following day.

Mr. Glenn Black spoke concerning the rock shelters of the Indians who used to live in this part of the state.

The minutes of the Council Meeting were read and approved.

The irregular election of a Foundation Trustee and of a member of the Research Grant Committee at the Council Meeting was explained by President Weatherwax. The motion of approval by the Academy of the action by the Council was made by Dr. Friesner and seconded by Dr. Yuncker. The election was approved.

Membership-Emeritus Committee. The president appointed on the Membership-Emeritus Committee Dr. Ray C. Friesner, Dr. W. P. Morgan, and Mr. Walter G. Gingery. The committee was requested to report before the Executive Committee at the Fall Meeting.

Research Grant Committee. Dr. Foley reported that the Research Grant Committee had received five applications. The following grants were recommended: A. H. Meyer, Valparaiso University, \$100.00, with a possible increase to \$125.00; William D. Gray, Miami University, \$75.00; Albert E. Reynolds, DePauw University, \$62.75; and Winona H. Welch, DePauw University, \$100.00. The recommendations were approved by the Academy.

Membership Committee. Dr. Girton reported 23 membership applications and moved that the secretary cast an unanimous ballot for the election of these applicants to membership in the Academy. The motion was seconded by Dr. Yuncker and carried by the Academy.

A.A.A.S. Dr. Enders stressed the importance of Indiana Academy members being members of the A.A.A.S. also, because of the 50c per member increase in the amount of research fund given to the Academy by the A.A.A.S.

Publication of Proceedings. Dr. Edwards reported that the Committee on Publication had decided to continue the present ruling on

eligibility for publication, at least for another year. He announced that the Proceedings should be bound within the next few days.

Fifty-Year Index. Dr. Friesner made a progress report concerning the Fifty-Year Index. Dr. Smith has the indexing completed and is now putting the material into manuscript form.

Library. Dr. Friesner made the library report for Miss Nellie Coats. Exchanges from 20 foreign countries have been received within the last two months; none from conquered or occupied countries and one from Germany; an attempt is being made to exchange with countries of South America; 31 exchanges have been received from the University of Wisconsin; and 181 volumes are now in the bindery.

Academy Conference. Representative Enders discussed the affiliation of collegiate groups with the state academies in a manner comparable to the Junior Academies. The expression of the Indiana Academy of Science is to be made at the Executive Committee Meeting in order that Dr. Enders may convey our wishes concerning this matter to the Dallas Meeting of the Academy Conference.

New Business. Dean William M. Blanchard, DePauw University, was unanimously elected to the position of Honorary Fellow in the Indiana Academy of Science.

The meeting adjourned at 10 p.m.

At 8 o'clock Saturday morning those interested in geology left for an excursion led by Dr. Malott and the botanists went on a foray conducted by Dr. Friesner.

PROGRAM OF THE WINTER MEETING

DEPAUW UNIVERSITY

October 30-November 1, 1941

THURSDAY, OCTOBER 30

7:30 p.m.

Meeting of the Executive Committee.

FRIDAY, OCTOBER 31

9:30 a.m. General Session.

Address of Welcome. "Our Indebtedness to the Scientist", President Clyde E. Wildman, DePauw University.

Response. President Paul Weatherwax.

Selections by the Madrigal Singers. Professor Edna Tyne Bowles, Director.

Business Session.

Necrology. Will E. Edington, DePauw University.

"Why? What? Whither?" Althur L. Foley, Indiana University.

"Some Thoughts on Origin and Evolution." Arthur T. Evans, Miami University, Oxford, Ohio.

1:00 p.m. Sectional Meetings.

6:00 p.m. Annual Dinner.

Business Session.

President's Address. "The Indian as a Corn Breeder," Paul Weatherwax, Indiana University.

SATURDAY, NOVEMBER 1

9:00 a.m.

Taxonomists Meeting.

Entomologists Meeting.

Junior Academy of Science Meeting and Exhibits.

MINUTES OF THE EXECUTIVE COMMITTEE

DEPAUW UNIVERSITY, OCTOBER 30, 1941

The Executive Committee was called to order by President Weatherwax at 7:30 p.m., in the Faculty Room of the Administration Building of DePauw University, Greencastle, October 30, 1941. The minutes of the Spring Meeting held at Cannelton, May 9-10, 1941, were read and approved. Officers and committees reported as follows:

Academy Trustee. Dr. John S. Wright submitted the following report of the Foundation funds of the Academy for 1940-1941:

Receipts

Balance in bank from previous year.....	\$ 940.61
Total Receipts	680.50
Total	<u>\$1,621.11</u>

Expenditures

Withdrawal to purchase \$1,000 U. S. Savings Bond Series G (12 yr. Current Income Bonds).....	\$1,000.00
Withdrawal to pay research grant as ordered.....	87.75
Balance in Indiana National Bank Savings Account.....	533.36
Total	<u>\$1,621.11</u>

Assets in the Fund as of October 25, 1941

Five \$1000 U. S. Savings Bonds, Series D at cost.....	\$3,750.00
One \$1000 U. S. Savings Bond, Series G at cost.....	1,000.00
Federal Farm Loan & Farm Mortgage Bonds at par.....	2,500.00
One \$500 4% U. S. Treasury Bond of '44-'54, par.....	500.00
Four \$100 U. S. Treasury 4% Bonds of '44-'54 at par.....	400.00
One \$100 U. S. Treasury 4¼% Bond at par.....	100.00
One \$100 3¼% U. S. Treasury Bond at par.....	100.00
One \$100 3½% U. S. Treasury Bond at par.....	100.00
Two \$100 Muncie Masonic Temple Assn. First Mortgage Bonds....	200.00
Six shares Standard Oil of Indiana common stock, par.....	150.00
Total at par or cost.....	<u>\$8,800.00</u>

Auditing Committee. Mr. E. S. Martin stated that the Auditing Committee had found the books of the Academy Foundation correct and that the securities listed in the Assets were in the lock box of the Academy Foundation.

Treasurer's Report. Dr. Morgan gave a tentative financial report for the period from January 1, 1941, to October 25, 1941. His final report, approved by the Auditing Committee, at the end of the year follows:

Receipts

Balance on hand January 1, 1941.....	\$ 194.11
Dues and initiation fees	921.00
A.A.A.S. refund for research grants.....	150.00
Foundation Fund for research grants.....	87.75
Gift designated for research grants.....	150.00
Sale of Proceedings.....	15.00
Author's Reprints, Vol. No. 46.....	3.99
Author's Reprints, Vol. No. 49.....	98.67
Author's Reprints, Vol. No. 50.....	112.37

\$1,732.89

Disbursements

1—Program Committee.....	\$ 132.95
*2—Editor	220.00
3—Expenses of Secretary.....	94.00
4—Expenses of Treasurer.....	70.00
5—Mailing Proceedings.....	22.98
6—Stationery	40.39
7—Delaware Engraving Co.....	125.07
8—Junior Academy Bulletins.....	20.00
9—Surety Bond and Safety Deposit Box.....	30.55
10—Research Grant to Winona Welch.....	100.00
11—Research Grant to A. H. Meyer.....	100.00
12—Research Grant to N. E. Pearson.....	50.00
13—Research Grant to W. D. Gray.....	75.00
14—Research Grant to A. E. Reynolds.....	62.75
15—C. E. Pauley Balance on Proceedings.....	156.02
16—Postage refund to committees.....	4.56
17—Returned check and service charges.....	1.75

\$1,306.02

Balance on hand.....

426.87

\$1,732.89

(Signed) W. P. MORGAN, *Treasurer*.

(Signed) ERSIE S. MARTIN, *Auditor*.

* Includes cost of preparation of list of members.

Bonding Committee. In the absence of Dr. Bruner and Dr. Cogshall, the Secretary read the report which follows:

As chairman of the Bonding Committee of the Indiana Academy of Science, I send herewith notice of premium due Nov. 18, 1941, on Fidelity Bond No. 1113950, issued by the Hartford Accident and Indemnity Company, in behalf of the Academy of Science. The premium covers the cost of bonds for the following officers of the Academy:

Treasurer	\$2,000 cost	\$ 5.00
One Trustee	5,000 cost	10.00
Second Trustee	5,000 cost	10.00

Total cost

\$25.00

The report was accepted and the cost of bonding ordered paid.

Editor. Dr. Edward's report concerning volume 50 of the Proceedings of the Indiana Academy of Science follows:

Number of copies cloth bound.....	1,000
Number of copies paper bound.....	600
Number of pages.....	302
Total number of reprints.....	8,200
Cost of engraving, printing, and binding.....	\$1,581.34
Cost of editing for assistant, postage, and supplies.....	200.00
Due from authors for reprints.....	147.40

Publication of Proceedings. Dr. Edwards stated that the requirements for eligibility for publication were unchanged from those presented at the Spring Meeting.

Research Grant. Dr. Foley recommended the following grants for approval by A.A.A.S.: Dr. Dorothy Parker, St. Mary's College, \$50.00, and Emory Simmons, DePauw University, \$100.00. Duties 3, 4, and 5 of the Chairman of the Research Grant Committee were read and discussed. A motion was made and carried that a committee be appointed to study these duties, presenting a possible solution of the problem at the Spring Meeting.

Biological Survey. In the absence of Dr. Pearson, Dr. Palmer read the following report: Studies on the biota of the state continue. Progress on the study of the liverworts and mosses will be reported in the botany section during the annual meeting. Aided by a research grant for biological survey, Dr. Frederick H. Test extended the survey of the mice in Parke, Harrison, and Jefferson counties.

Fifty-Year Index. A progress report was made by Dr. Friesner. The number of entries to date is approximately 12,000.

Library Committee. Mr. Gingery read the following report which was prepared by Miss Coats, librarian of the Indiana Academy of Science Library:

Despite the hazards of shipping, material has been received during this period from 27 foreign countries, though none came from such conquered or occupied states as Belgium, Finland, France, Holland, Norway, Poland, Roumania or Czechoslovakia. In general it is not known whether serials formerly issued in these countries have temporarily discontinued or have completely ceased publication though in one instance, that of the *Bulletin of the Societe chimique de France*, a dealer in foreign serials has indicated that issues are being held for future shipment.

While the receipts are smaller from European countries it is hoped that exchange arrangements can be made with a larger number of organizations in this hemisphere and to that end letters have recently been addressed to 21 additional American societies and institutions publishing scientific material and to 58 such societies and institutions in Latin America.

Replies are just beginning to come in but apparently the response will be generous and most of the material valuable. The Wagner Free institute sent a file of its publications with the exception of one volume entitled *Hellprin: Exploration of the West Coast of Florida and the Okeechobee Wilderness* which is available only by purchase (\$2.50). The Texas academy of science, Trans. v. 14, Shulz. *Texas Cacti* is also available only by purchase (\$1.50). It is requested that a small sum be appropriated for the purchase of such occasional items needed to complete files.

The completion of files and the acquisition of new titles adds to the problem of binding and though 181 volumes were bound this year much unbound material remains.

The fact that the titles available in this library are listed in the *Union list of serials in Indiana libraries* which appeared this year adds greatly to the library's usefulness, though attention should be called to the fact that many new titles have been added since the volumes went to press.

Serials were received in 1940-41 from the following countries: Argentina, Australia, Brazil, Canada, Chile, China, Cuba, Dutch East Indies, England, Germany, Guatemala, Hawaii, Ireland, Italy, Java, Mexico, Peru, Philippines, Portugal, Russia, Scotland, South Africa, Sweden, Switzerland, Tasmania, Ukraine, Uruguay, and United States.

It was moved and carried that the Budget Committee be advised to set aside an amount for the purchase of occasional and valuable publications which are available only by purchase, as requested by Miss Coats.

Press Secretary. Dr. Edington reported that the work of the Press Secretary is carried out through the publicity facilities of the host college thus insuring that the articles submitted may receive the attention of the large Press Association as well as the local and Indianapolis papers. Reports on the Spring and Fall Meetings have appeared in the Indianapolis papers and others, and also in *Science*. The report was accepted.

Membership Committee. Dr. Girton reported that a total of 57 applications for membership had been received in 1941 including those elected at the Spring Meeting. Other applications were expected before the time of the election at the dinner meeting.

Junior Academy of Science. Dr. Enders reported that there are 38 active Junior clubs in the state, and several have a number of divisions, ranging from two to six. A new club in the Bedford High School has been recommended to membership. The committee recommended that the Academy continue its allotment of \$20.00 for the publication, Science Aids Service, and that the Treasurer be authorized to pay this amount to the publisher, Louis A. Astell. A motion was made and carried that this amount be referred to the Budget Committee.

Relation of the Academy to A.A.A.S. Representative Enders recommended a concentrated effort on the part of the Academy to induce its members to join the A.A.A.S. and thereby to contribute to the increase of funds that are available to the Academy for its research projects, and hoped that there would be a good representation of the Academy at the December, 1941, Meetings in Dallas, Texas.

Nominations Committee. The committee recommended for election as Fellow, Dr. J. L. Riebsomer, DePauw University. Recommendation was approved.

Invitations Committee. President Weatherwax appointed Dr. Degering, Chairman, Dr. Edwards, and Dr. Edington.

Resolutions Committee. President Weatherwax appointed Dr. Potzger, Chairman, and Dr. Christy.

Membership-Emeritus. Dr. Friesner read the report as follows:

The following is proposed to become Section 5 of Article 2 of the Constitution: Any member of the Academy because of age or condition of health may, upon recommendation of the secretary and approval of the Executive Committee by a three-fourths vote of the members present, become an emeritus member. Emeritus members shall pay no further dues but shall be entitled to all privileges of Academy membership except receipt of the Proceedings, unless by special act of the Executive Committee, in recognition of outstanding services to the Academy, the Proceedings shall be ordered continued to such emeritus member.

The amendment to the constitution was approved by the Executive Committee subject to final action in the General Session.

Collegiate Group. Dr. Enders reported that he had received no favorable comments concerning the affiliation of collegiate groups with the Indiana Academy, and will report accordingly at the Academy Conference in Dallas in December.

Change in Constitution. The Executive Committee recommends the deletion of the following sentence in Article 2, Section 3, of the Constitution: "Fellows of the American Association for the Advancement of Science who are also members of the Indiana Academy of Science shall automatically become fellows of this Academy." This is not considered to be retroactive for any Fellow now listed.

Adjournment, 9:30 p.m.

MINUTES OF THE GENERAL SESSION

OCTOBER 31, 1941

President Clyde E. Wildman of DePauw University welcomed the Indiana Academy of Science to the campus and gave a splendid address on "Our Indebtedness to the Scientist". President Weatherwax responded in behalf of the Academy. The Madrigal Singers, under the leadership of Professor Edna Tyne Bowles, delightfully entertained with several numbers.

The minutes of the Executive Committee meeting of October 30, 1941, were read by the secretary and approved by the Academy. The two changes in the Constitution were adopted by the Academy.

Mr. Wright reported that the Nominations Committee had nominated Dr. Foley to succeed himself on the Research Grant Committee, and Dr. Bruner and Dr. Cogshall to be their own successors on the Bonding Committee. The report was accepted.

President Weatherwax and the Academy gave a vote of thanks to Dr. Enders in appreciation of his splendid work and untiring efforts in the Junior Academy.

Dr. Edington presented the necrology and spoke briefly concerning eleven members whose deaths had occurred within the past year.

Two addresses followed: Dr. Arthur L. Foley, Indiana University, on "Why? What? Whither?", and Dr. Arthur T. Evans, Miami University, on "Some Thoughts on Origin and Evolution".

Following the banquet, Charles H. Sheridan, accompanied by Henry G. Oakes, presented several vocal numbers.

Dr. Girton presented forty-three applications for membership, including one Life Membership and one Junior Academy Membership, making a total of sixty-nine applications for the year. The secretary was instructed to cast an unanimous ballot for the forty-three applicants.

Dr. Edington, in the absence of Mr. Wright, read the nominations of the committee as follows: *President*, M. G. Mellon, Purdue University; *Vice-President*, Theodor Just, University of Notre Dame; *Secretary*, Winona H. Welch, DePauw University; *Treasurer*, W. P. Morgan, Indiana Central College; *Editor*, P. D. Edwards, Ball State Teachers College; and *Press Secretary*, C. M. Palmer, Butler University. Dr. J. L. Riebsomer, DePauw University, was nominated for election as Fellow of the Academy. The nominees were elected.

The Divisional Chairmen elected in the sectional meetings for 1942 were announced as follows: *Anthropology*, C. F. Voegelin, Indiana University; *Bacteriology*, L. S. McClung, Indiana University; *Botany*, R. C. Friesner, Butler University; *Chemistry*, K. N. Campbell, University of Notre Dame; *Geology and Geography*, G. T. Wickwire, Hanover College; *Mathematics*, W. E. Edington, DePauw University; *Physics*, O. H. Smith, DePauw University; *Psychology*, F. D. Brooks, DePauw University; and *Zoology*, T. M. Sonneborn, Indiana University.

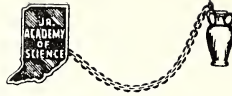
The Academy accepted the invitation of members of the faculty of Notre Dame University to hold the annual Fall Meeting of the Academy in 1942 at Notre Dame.

Dr. Potzger read the report of the Resolutions Committee expressing, on behalf of the Academy, the sincere appreciation of the courtesies extended by DePauw University, its President, Dr. Wildman, the members of the Science Faculty, and to all others who contributed to the success of the meeting. The report was accepted.

Dr. Paul Weatherwax, retiring President, delivered a very interesting address on the subject, "The Indian as a corn breeder".

The 57th annual meeting of the Indiana Academy of Science, with a general attendance of 464 and a dinner attendance of 148, was adjourned.

WINONA H. WELCH, *Secretary.*



INDIANA JUNIOR ACADEMY OF SCIENCE

Officers for 1941:

President: Pat Anderson, Edison High School, Hammond, Indiana.

Vice President: Mary Elizabeth Hybarger, Lew Wallace High School, Gary.

Secretary: Mary Lou Smith, Marion High School, Marion (moved to Erie, Pa.); Lois Taylor, George Washington High School, Indianapolis.

Members of the Council: Anna Inskip (1936-1941); Lola Lemon (1937-1942); J. H. Otto (1938-1943); P. L. Whitaker (1939-1944) to succeed A. B. Krom, resigned; Roy McKee (1940-1945).

Junior Academy Committee: F. E. Beghtel, F. J. Breeze, O. B. Christy, C. F. Cox, F. B. Wade, P. D. Wilkinson, M. M. Williams, and H. E. Enders, Chairman.

PROGRAM OF THE ELEVENTH ANNUAL MEETING

November 1, 1941

10:00 a. m., Minshall Laboratory, DePauw University, Greencastle

Pat Anderson, President, presiding

Music, Saxophone Quartette, Greencastle School.

1. Discussion of Music, Juanita Jones and Margaret Clark, Bloomington Junior-Senior High School.

2. "The Civic Functioning Junior Academy of Science," Margaret Elliott, Elkhart Junior High School.

3. "The Photo Electric Cell and Electronic Relay," Robert S. Smith, Arsenal Technical High School, Indianapolis.

4. Lecture and Demonstration of Liquid Air, Dr. F. J. Allen, Purdue University.

Business Session.

1:00 p.m., Chapel, Meharry Hall

1. "Audio Analyzer," James Clay, Bloomington High School.

2. "Heredity of the Fruit Fly," Jean Ross, Thomas Edison Junior High School, Hammond.

3. "Bee Keeping," John Toney, Thomas Edison High School, Hammond.

4. "My First Canary," Harriet Roy, Lew Wallace High School, Gary.

5. "Alligators," Frances Castagna, Lew Wallace High School, Gary.

6. "Television—The Marvel of Tomorrow," Davis Borland, Junior-Senior High School, Bloomington.

7. "The Emergence of the 17 Year Locust," Kodachrome motion pictures, Paul Henke, Arsenal Technical High School, Indianapolis.

Report on the Progress of the Indiana Junior Academy of Science, Dean Howard E. Enders, State Sponsor.

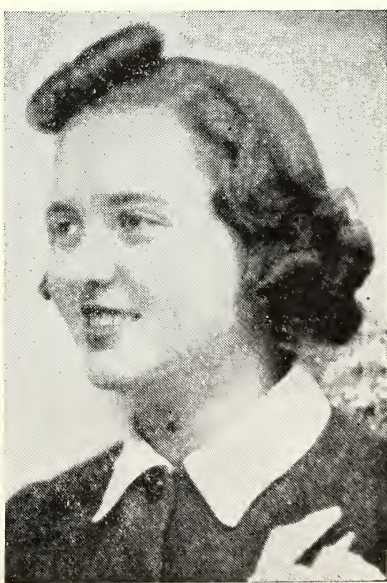
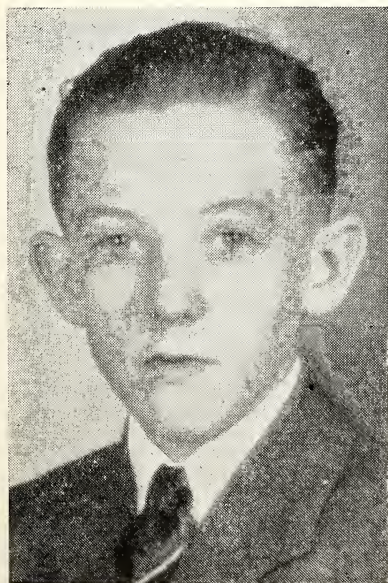
MINUTES

The eleventh annual meeting of the Indiana Junior Academy of Science was held Saturday, November 1, 1941, in the Minshall Laboratory, DePauw University, Greencastle, Indiana.

Dr. Howard E. Enders of Purdue University gave a word of greeting and introduced the president, Pat Anderson, of the Edison High School, Hammond, and the vice-president, Mary Elizabeth Hybarger, Lew Wallace High School, Gary. Since the secretary, Mary Lou Smith, of Marion, had moved to Erie, Pa. and could not be present, a secretary *pro tem* was appointed—Miss Lois Taylor, George Washington High School, Indianapolis.

The president opened the meeting by calling for the minutes of last year's meeting. They were read and approved.

The group was then entertained by a Saxophone Quartette from the Greencastle High School.



A new club, the Phi Pi Chi Club, of Bedford High School, Bedford, was admitted into the Indiana Junior Academy of Science.

Following the presentation of the papers listed in the morning program Mr. Darl Wood of the Mishawaka High School was chosen to serve as Council Member from 1941 to 1946, succeeding Anna Inskeep, whose five year appointment expires with the current year.

Don F. Courtney of the Camera Club, of Sullivan, and Jean Ross of the Edison Junior Academy Club of Hammond were chosen by the Council for nomination by the Indiana Academy of Science as Honorary Members of the American Association for the Advancement of Science, and with the privilege of attending the annual meetings in Dallas, Texas, in December, 1941.

The election of officers for the coming year was held and the officers chosen were: *President*—James Sarasién, Phi-Chem Club, Elmhurst H.S., Fort Wayne; *Vice-President*—Jack Moseley, Greencastle; *Secretary*—Selma Heaton, Mishawaka High School, Mishawaka.

After the business session the meeting adjourned for lunch. The total attendance was 288 but others were unable to enter the filled room.

The afternoon session was held in the chapel of Meharry Hall. The papers listed in the afternoon program were presented and well received. Following the last paper the meeting was adjourned by the President at 2:30 o'clock. Many of the students attended a football game at the DePauw Stadium as guests of the University.

Lois Taylor, *Secretary Pro Tem*.

Pat Anderson, *President*.

EXHIBITS

The exhibits were installed Saturday morning. Keen interest was manifested by members of the visiting clubs as well as by those who demonstrated their own exhibits. The following exhibits were prepared:

1. Bloomington, University School. Model airplane at work, Douglas Moffatt; Moths-Butterflies.
2. Bloomington, Junior H.S. Science Club. Finished American wood, Ruth Thomas; Foreign and native wood, Ruth Thomas; Audio analyser.
3. Elkhart, Biology Club. Photographic copies of newspaper clippings pertaining to sale of tulip trees; Maps of Elkhart showing where and by whom tulip trees were sold.
4. Fort Wayne, Elmhurst Phi-Chem Club. Displacement series; Transportation of anions and cations; Surface tension.
5. Greencastle, Science Club. Projecting machine; Open air art exhibit.
6. Hammond, Edison Junior Academy. Biology of house fly and cockroach, Microscope of 1890, Blind fish, by the Club; Skulls, Bob Rubright; Fruit flies and pineapple plant, Jean Ross; Bee keeping equipment, John Toney; Chemical gases, Vernon Fauver.
7. Indianapolis, Shortridge Chemistry Club. Rock collection, Poster charts.

8. Indianapolis, Crispus Attucks Biology Club. Valuable bacteria, Leaf collection, Algae, by the Club; Dissected frog, Louise Phelps; Copper sulphate crystals, Louise Phelps; Nitrogen cycle, Edna Moseley.

9. Indianapolis, Technical Nature Study Club. Bird calendar, Flower calendar, Reports and photographs of club work; Fruits and seed dispersal, Catherine Berfanger, Virginia Reuter, and John W. Kendrick; Life story of 17 year locust, Paul Henke.

10. Indianapolis, Technical Physics Club. Model of Carlsbad Cave, Marjorie Morrow; Anemometer, Willis Martin; A.F. test oscillator, Calvin J. Rock; Water motor, Clarence Alexander; Model of Long's Peak, Robert Auble.

11. Indianapolis, Washington Science Club. Turtles; Rocks; Leaf collection; Gopher tortoise; Alligator; Photographs.

12. Mishawaka Science Club. I. Rat maze, Frederick Sparks; II. Atomic models: Oxygen, Vera Robinson; Carbon, and Oxygen, Robert Swandener; Crystal lattice; Calcium, Richard Granger; Sodium, Chemistry section. III. Molecular models: Methyl alcohol, Richard Kelley; Ethane, Richard Granger. IV. Xylophone, Marjorie Ginte.

13. Sullivan Camera Club. Photographs, (Pictorial histories).

14. Terre Haute, State High Discovery Club. Soaps; Insect and leaf collections, Lew Wallace.

INDIANA JUNIOR ACADEMY CLUBS

Town	Name and School	Date	Sponsor
Anderson	Science	1936	M. J. Brosier
Bedford	Phi Pi Chi	1941	W. D. Prather
*Bloomington	General Science, Jr.H.S.	1931	M. M. Williams
	University School, Science Club	1938	W. B. Miner
Cambridge City	Tri Science	1934	J. L. Bozarth
*Crawfordsville	Audubon Society, Jr.H.S.	1931	Emmet Stout
East Chicago	Edison Club, Roosevelt H.S.	1935	Harry Apostle
Elkhart	Biology Club	1940	N. E. Adams Evelyn Wagoner
Fort Wayne	*Geography Council, North Side H.S.	1932	F. J. Breeze
	Nature Club, North Side H.S.	1936	H. H. Michaud and Vesta Thompson
	Phi-Chem Club, North Side H.S.	1937	H. A. Thomas
	Phy Chem Club, Elmhurst H.S.	1935	Ruth Wimmer and M. Logan
	Nature Club, Cent.H.S.		Iva Spangler
Gary	Biology Club, Lew Wallace H.S.	1935	Lola Lemon
Gas City	Science Club	1936	Roy McKee

* Charter Clubs.

Town	Name and School	Date Organized	Sponsor
Greencastle	Science Club	1936	F. N. Jones
Guilford	Science Club	1936	L. B. Willis
Hammond	Edison Academy of Science	1938	Max McCowen
Indianapolis	*Crispus Attucks H.S., Biology Club, Chemistry Club, Zoology and Radio Club, Zoology and Radio	1931	Mrs. Kuykendall, A. C. Cox, G. W. Wade and L. C. Parker
	*Technical Schools—Nature Study	1932	C. F. Cox and John Kendrick
	Physics Club		Ersie Martin
	*Shortridge H.S.—Chemistry Club	1931	R. W. Woline
	George Washington H.S.—Science Club	1937	J. H. Otto
Lafayette	Biology Club, Jefferson H.S., with six divisions	1939	Kenneth Dobelbower
Lawrenceburg	Phi-Bi-Chem	1939	H. P. Harrison
Lowell	Science	1935	C. N. Seeright
Madison	Science	1938	Evans Cottman
Marion	Science	1936	Pauline Mayhugh
Mishawaka	Science	1936	Darl F. Wood
Montmorenci	Jr. Academy of Science	1933	
Mooresville	Science	1936	Fitzhugh Lee
Muncie	Science—Blaine Jr.H.S.	1934	J. D. Young
New Albany	Junior Academy Club—Jr.H.S.	1935	Gladys Knott
North Madison	*Hilltop Nature Study Club	1931	V. Shoemaker
N. Terre Haute	Otter Creek Jr. Acad. Science	1939	Prevo L. Whitaker
Paoli	Science Club	1935	
South Bend	Science Club, Central H.S. Jr. Izaak Walton Club	1939	O. C. Osborn Arthur L. Smith
	Natural Science Club		C. C. Miller
	Photography		W. W. Lauterback
	Radio Club		Claude Bush
	Camera Club I		Elmer Barnbrook
	Camera Club II	1940	Rose M. Gillespie
Sullivan	Camera Club		Ruth Hinkle
Terre Haute	Jr. Science Club (Laboratory School)	1939	Geraldine Shontz
	State High Discovery Club, Sr.H.S. Lab. School	1939	V. C. O'Leary
Tipton	Nature Club	1935	W. D. Hiatt
Valparaiso	*Sciemus Club	1931	C. O. Pauley
Wabash	Science Club	1936	R. D. Black
West Lafayette	Biology Club	1933	Anna Inskeep

* Charter Clubs.