

PROCEEDINGS

of the

Indiana Academy of Science

Founded December 29, 1885



Volume 80

1970



MARION T. JACKSON, Editor

Indiana State University

Terre Haute, Indiana



Spring Meeting

May 1-2

TURKEY RUN STATE PARK

Fall Meeting

November 5-6

INDIANA STATE UNIVERSITY, Terre Haute

Published at Indianapolis, Indiana

1971

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PART 1

THE WORK
OF THE
ACADEMY

1970

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SPRING MEETING

TURKEY RUN STATE PARK, Parke County, Indiana

MINUTES OF THE EXECUTIVE COMMITTEE MEETING

May 1, 1970

The meeting was called to order at 4:35 PM, May 1, 1970, at Turkey Run Inn, in Turkey Run State Park, by President Frank A. Guthrie. Twenty-one members were present. The minutes of the general session meeting of October 24, 1969, were approved as duplicated and distributed.

Treasurer: Rev. Damian Schmelz presented the financial report for January 1 to April 29, 1970. It was accepted by consent.

Research Grants Committee: Miss Winona Welch reported that the research committee had been able to grant all the requests submitted in the last 6 months.

Academy Representative on the Council of the A.A.A.S.: Willis H. Johnson reported no particular action by that body which would directly affect the Academy.

Auditing Committee: William G. Kessel, Chairman, submitted a written report stating that the treasurer's books for the calendar year 1969 were in good order. It was accepted by consent.

Youth Activities Committee: No one was present to report. General discussion of youth activities ensued; some opinions were expressed that the number of chapters of the Junior Academy had recently decreased markedly in the high schools of the state.

Library Committee: William A. Daily reported that only 200 copies of *Natural Features of Indiana* remain in stock.

Publications Committee: Marion T. Jackson, Editor, reported that progress was good on the 1969 *Proceedings* and the second *Monograph*.

Relation of Academy to State Committee: William A. Daily, Chairman, reported no change.

Invitations Committee: The Secretary, J. Dan Webster, reported that an invitation from Indiana Central College for the 1973 meeting had been approved by the Invitations Committee.

Emeritus Members Committee: Ralph E. Cleland, Chairman, moved that O. B. Christy be granted emeritus membership. The motion carried.

Preservation of Scientific Areas Committee: Robert O. Petty, Chairman, reported that the data concerning scientific areas have been transferred to IBM cards.

Science and Society Committee: Willis H. Johnson, Chairman, reported that: 1) John A. Leighty has resigned as executive secretary of the committee as of May 15. The services of Helmut Kohnke have been secured. Dr. Kohnke will begin work June 15, and the office will be moved from Columbus to Indianapolis. 2) Of the 150 worthwhile, scientifically-valuable natural areas in Indiana (See Lindsey, A. A., D. V. Schmelz and S. A. Nichols. 1969. *Natural Areas in Indiana and Their Preservation*) 2 or 3 are destroyed annually. 3) The Academy should try to save any threatened Indiana natural areas of these 150 important ones. Dr. Johnson moved that the Academy mount a drive for funds to save these natural areas; that a committee be appointed to direct and promote the drive; and that monies contributed be given to and handled by the Indiana Chapter of the Nature Conservancy for action. The motion carried. The President appointed a committee with Robert Menke, Chairman; Marion T. Jackson, Alton A. Lindsey, John Pelton, Robert O. Petty, and Damian V. Schmelz.

Secretary: J. Dan Webster, Secretary, moved the following amendment to the Academy by-laws:

Article III Section 1. Delete the last clause reading, "provided that any bill for fifty dollars or more shall be approved by the President." As a result Article III, Section 1 would read "The Treasurer is authorized to issue checks in payment of bills submitted by officers or committees for which provision has been made in the budget for that year." The motion carried.

Resolutions Committee: Arthur T. Guard moved the following resolution:

WHEREAS, the Indiana Academy of Science is deeply grateful to Mr. Engle, manager of Turkey Run Inn, and his very helpful staff for placing their facilities at our disposal during our spring meeting,

RESOLVED: That the Indiana Academy members and friends here assembled express their sincere thanks to the management and staff of the park for all the courtesies which they have shown us during this meeting.

F. Leon Bernhardt, the appointed chairman of the provisional Science Education division, commented on the nature of this section and its adherents. There was discussion of possible publication problems and meeting times for the division.

Samuel N. Postlethwait moved that the president appoint a special committee to study communications among the members of the Academy, and to explore the possible publication of a newsletter to improve those communications. The motion was seconded and carried.

Special appreciation and thanks are due Dr. William B. Hopp, Program Chairman, and the leaders of field trips for their efficient planning and execution of a most interesting program. We also

thank Dr. Robert O. Petty for his interesting and informative lecture,
"The Flag and the Fir Tree."

The meeting was adjourned at 6:15 PM.

Approved November 5, 1970.

Respectfully submitted,
J. DAN WEBSTER, Secretary

FALL MEETING

INDIANA STATE UNIVERSITY, Terre Haute, Indiana

MINUTES OF THE EXECUTIVE COMMITTEE MEETING

November 5, 1970

The executive committee of the Indiana Academy of Science met in Room 206 of the Science Building, Indiana State University, Terre Haute, November 5, 1970. President Frank A. Guthrie called the meeting to order at 7:45 PM. The minutes of the May 1, 1970, meeting of the executive committee were approved as duplicated and distributed, with minor corrections. The following reports were read, and upon motion, accepted:

Treasurer: Rev. Damian V. Schmelz presented the financial report for January 1 through November 3, 1970, as follows:

Academy accounts

Income	\$ 7,922.42
Expenditure	9,307.79
Balance from 1969	9,774.34
Balance November 3	8,388.97

Administered accounts

Income	\$46,817.28
Expenditure	52,830.47
Balance from 1969	26,038.08
Balance November 3	20,024.89

The only striking changes from the past were: 1) The withdrawal of a large balance by the Science Fairs subcommittee from their administered account; 2) Costs of publication of two volumes of the *Proceedings* within 9 months.

Trustees of the Academy Foundation: William A. Daily reported that they administer endowment funds with an estimated value of about \$364,000. During this year to date, \$11,446.86 was paid out from earnings into the research and publications fund.

Director of Public Relations: Paul E. Klinge reported good press, radio and television coverage of academy activities this year.

Research Grants Committee: John Patton, chairman, reported that his committee had made 12 grants, totaling \$5,070, in 1970.

Academy Representative on the Council of the A.A.A.S.: Willis H. Johnson, delegate, reported no actions from that body relevant to us.

Youth activities committee: Paul E. Klinge, Chairman, reported a good on-going program. However, he anticipated that changes would be necessary in the next year as a result of the rapid current change in science education in the country. The two following reports are from subdivisions of this committee.

Indiana Science Talent Search: Wendell F. McBurney, Director, reported a successful and worthwhile program among high school students. He noted a serious problem, however. The National Science Talent Search (which provides much of the administrative and advertising support for the Indiana program) has this year prohibited work by applicants on live vertebrate animals (wild or tame, caged or not). It was moved, seconded, and carried that the officers and budget committee, next month, after investigation, prepare a resolution opposing this prohibition, giving reasons, and send it to the National Science Talent Search.

Indiana Junior Academy of Science: Donald R. Winslow, Director, reported a very successful year with 55 high school clubs participating. He recommended that a revised program should be planned and operated to meet the present challenge. For one thing, only a small percentage of the state's high school students are being helped by this program.

Library Committee: Mrs. Lois Burton reported for Nellie M. Coats, Chairman, that, as usual, there was much borrowing of the Wright Memorial Library's materials by scientists throughout the country.

Program Committee: No insoluble problems were reported by William B. Hopp, Chairman. The spring meeting was held at Turkey Run State Park, May 1 and 2, 1970, with about 70 members and guests attending.

Publications Committee: Editor Marion T. Jackson reported that Indiana scientists are writing more and longer papers as judged from an increasing number of pages submitted to the *Proceedings*. Suggestions were asked for which would improve the editorial review policy. A second *Monograph* is in press; two volumes of the *Proceedings* appeared within 9 months as they caught up on the schedule.

Committee on Relations to the State: William A. Daily reported that we have received \$4,000 per year for several years from the state to help with our printing and binding costs; \$5,500 has been requested for each of the next 2 years.

Membership Committee: Rev. Damian Schmelz reported for Eliot C. Williams, Chairman, that on January 31, 1970, there were 930 members. We had lost 90 members in a year by resignation, death, or nonpayment. During 1969 we added 72 new members and reinstated 3 members; thus we had a net loss of 15 members.

Fellows Committee: Benjamin Moulton, Chairman, reported that the following members were recommended for fellows—Emily J. Blasingham, Frank A. Guthrie, Clyde W. Hibbs, Russel K. Stivers, Herbert P. Ulrich. It was moved, seconded and carried that they be so elected.

Emeritus Membership Committee: Ralph E. Cleland, Chairman, recommended emeritus status for Ray T. Everly and Walter G. Gingery. It was moved, seconded and carried that they be so elected.

Invitations Committee: James C. List, Chairman, reported that we will meet at Earlham College in 1971, at St. Mary's College in 1972, and at Indiana Central College in 1973. The secretary was directed to write a letter of acceptance to Indiana Central College for the 1973 meeting.

Scientific and Natural Areas Preservation Committee: Robert O. Petty, Chairman, and Rev. Damian V. Schmelz reported that their latest registry, now being widely distributed to many state, local, and private agencies, lists 399 areas in 75 counties.

Science and Society Committee: Willis H. Johnson, Chairman, reported that Helmut Kohnke, the Executive Secretary, now operated from an office in the State Office Building, by courtesy of Governor Whitcomb.

Robert Menke reported for a special committee on natural areas funding that he had raised sufficient money to save the Blue Bluffs area.

The following items of old business were considered: President Guthrie reported that a short newsletter had been sent out in August, and that another would be distributed in late November with the cooperation of President-elect Postlethwait.

The new Science Education section was discussed. A motion was approved that it be continued provisionally for three more years.

There was a general discussion of the status of sections. The constitution (Article IV, Section 4) and our current program are at odds on names and activities.

The meeting was adjourned at 9:44 PM.

Approved April 23, 1971.

Respectfully submitted,
J. DAN WEBSTER, Secretary

GENERAL SESSION—NOVEMBER 6, 1970

TERRE HAUTE, INDIANA

President Guthrie called the meeting to order at 11:10 AM in Tilson Hall of the Tirey Memorial Union Building, Indiana State University. Dean John J. Corrigan made a short, friendly speech of welcome, during which he touched on the current problems of the environment. Generally, he painted an optimistic picture of man's relationship to natural resources.

The Science and Society Committee presented a balanced, thoughtful panel discussion entitled, "Saving the Pieces of Primal Indiana." Willis H. Johnson, chairman, introduced the panelists, and discussion followed their presentations. The panelists and their theses were:

Professor Marion T. Jackson explained the scientific, cultural, economic and aesthetic importance of natural areas.

Reverend Damian V. Schmelz described the steady loss of natural areas in Indiana, currently and recently.

Mr. Robert Menke explained some of the problems of preserving natural areas in Southern Indiana, chiefly because of public indifference or opposition.

Senator Jess Andrew described the difficulties of preserving natural resources in the state from the point of view of a concerned legislator.

Lawyer James M. Barrett III argued for more preservation of natural areas by private conservation groups as the most practicable method of ownership and management.

The secretary summarized the actions of the Executive Committee at last night's meeting. The following amendment to the By-laws of the Academy was moved by the secretary, seconded, and carried:

Article III, Section 1. Delete the last clause, reading, "provided that any bill for fifty dollars or more shall be approved by the President." As a result, Article III, Section 1 would read, "The Treasurer is authorized to issue checks in payment of bills submitted by officers or committees for which provision has been made in the budget for that year."

Mrs. Fay K. Daily named the members of the Academy who had died during the past year (See Necrology Report, page 25). A moment of silence was observed in their honor.

The meeting was temporarily adjourned, on motion, at 12:40 PM.

The meeting was reconvened at 8:00 PM by President-elect Postlethwait, after dinner and in the West Ball Room of the Tirey Memorial Union Building.

Resolutions committee: This motion was presented—

The Academy members here assembled at the 86th Annual Meeting express their appreciation to Indiana State University for all the courtesies which have been extended to the membership of the Academy during this meeting. We are particularly grateful to the members of the Program Committee which included Professors Marion T. Jackson, Benjamin Moulton, Lawrence E. Poorman, Joseph R. Siefker, Kenneth W. Uhlhorn and William B. Hopp, Chairman. The arranged facilities for all programs at this annual meeting were excellent. Further, the Academy is very appreciative of the warm welcome and his learned address given at the general session by Dr. John J. Corrigan, Associate Dean, College of Arts and Sciences, Indiana State University.

The Academy members were especially appreciative of the program arranged by Prof. A. A. Lindsey entitled, "Saving the Pieces of Primaeval Indiana." Special mention is made of Program Moderator, Dr. Willis H. Johnson, of Wabash College, and panel discussion members Dr. M. T. Jackson, Indiana State University, Rev. Damian Schmelz, St. Meinrad College, Mr. Robert Menke, Trustee of Indiana University, State Senator Jess Andrew, and Attorney James M. Barrett III of Ft. Wayne.

It was seconded and carried. The members of the resolutions committee were Arthur T. Guard, Howard R. Youse, and James E. Newman, Chairman.

The secretary moved that the 101 new members on his list be admitted to membership. The motion was seconded and carried.

The secretary read the reports from the various sections, giving the results of their election of chairmen as follows:

<i>Section</i>	<i>1971 chairman</i>	<i>1972 chairman</i>
Anthropology	Georg K. Neumann	
Botany	James R. Rees	Willard F. Yates
Cell Biology	William J. Griffing	Frank Padgett
Chemistry	Gerald R. Bakker	
Ecology	Carl H. Krekeler	
Entomology	Robert E. Dolphin	Claude Wade
Geology and Geography	Charles E. Wier	
History of Science	None elected	
Microbiology and Molecular Biology	Robert F. Ramaley	
Physics	Malcolm E. Hulst	Torsten Alvager
Plant Taxonomy	Fay K. Dailey	Gerald Gastony
Science Education	Kenneth W. Uhlhorn	Keith Ault
Soil Science	Russell K. Stivers	William R. Gommel
Zoology	William J. Brett	

Nominating committee: (Harry G. Day, Chairman; Willis H. Johnson, Ralph E. Cleland) presented the following slate of officers for 1971: President-elect—Otto K. Behrens. Research committee member—Winona H. Welch. Academy foundation trustee—William A. Dailey. Bonding committee—Robert M. Brooker and Howard H. Michaud. A motion was moved, seconded and carried that the nominations be closed and that these nominees be elected by unanimous ballot.

Frank Guthrie presented an enlightening illustrated lecture entitled, "Chromatography and Spectroscopy—the New Team in Chemistry."

The meeting adjourned at 9:20 PM.

Approved April 23, 1971.

Respectfully submitted,
J. DAN WEBSTER, Secretary

FINANCIAL REPORT OF THE INDIANA ACADEMY OF SCIENCE

January 1—December 31, 1970

I. ACADEMY ACCOUNTS

	Income		Expenditure	Budgeted
Dues -----	\$ 3,889.00			
Reprints -----	4,630.47		\$ 5,202.98	
Interest on Savings -----	1,354.72			
Miscellaneous -----	67.47			
Secretary -----			572.28	\$ 400.00
Clerical -----	\$ 540.50			
Postage, etc. -----	31.78			
Treasurer -----			198.29	225.00
Clerical -----	37.00			
Postage, etc. -----	161.29			
Office -----			172.74	175.00
Travel, Dues -----			170.10	180.00
Transfer to Administered Accts. -----			2,300.00	
Proceedings: Pub. -----	500.00			500.00
Library: Binding -----	1,000.00			1,000.00
Science & Society -----	600.00			600.00
Natural Areas Committee -----	200.00			200.00
President's Fund -----			20.00	100.00
Membership Committee -----				75.00
Junior Academy -----			100.67	150.00
Program Committee -----			120.97	700.00
Chairman -----	7.65			
Printing -----	28.00			
Mailing -----	85.32			
Publications -----				
Editor -----			400.00	400.00
Mailing -----			161.88	100.00
	\$ 9,941.66	\$ 4,216.93	\$ 9,419.91	\$ 4,805.00

II. ADMINISTERED ACCOUNTS

	January 1 Balance	1970 Income	1970 Expenditure	December 31 Balance
Science Talent -----	\$ 135.35	\$ 3,500.00	\$ 1,800.98	\$ 1,834.37
Science Fairs -----	12,700.00	12,210.00	22,599.02	2,310.98
Science & Society -----	511.89	600.00	300.07	811.82
Research -----	433.52	10,760.00	5,074.95	6,118.57
Natural Areas Comm. -----		200.00	213.50	-13.50
J. S. Wright Library -----	134.28			134.28
Lilly III Library -----	2,922.82			2,922.82
Lilly IV Library -----		15,000.00		15,000.00
Library Binding -----	1,000.00	1,000.00	966.45	1,033.55
Publications -----	1,029.50	11,246.03	11,278.52	997.01
NSF Grant -----	7,170.72	20,000.00	14,400.07	12,770.65
	\$26,038.08	\$74,516.03	\$56,633.56	\$43,920.55

III. SUMMARY

	Academy Accounts	Administered Accounts	Total
1970 Income -----	\$ 9,941.66	\$74,516.03	\$84,457.69
1970 Expenditure -----	9,419.91	56,633.56	66,053.47
Net Gain 1970 -----	521.75	17,882.47	18,404.22
1969 Balance -----	9,774.34	26,038.08	35,812.42
December 31 Balance -----	10,296.09	43,920.55	54,216.64

IV. BANK BALANCES

Terre Haute First National Bank, Terre Haute, Indiana -----	\$32,817.53
Great Western Savings & Loan, Los Angeles, California -----	10,938.78
First Western Savings & Loan, Las Vegas, Nevada -----	10,460.33
Total Assets in All Accounts -----	\$54,216.64

REV. DAMIAN SCHMELZ, Treasurer
December 31, 1970

We, the undersigned, have audited the Treasurer's records for the Indiana Academy of Science for the year 1970 and have found them to be accurate and in order.

W. G. KESSEL
JOSEPH R. SIEPKER
January 21, 1971

BUDGET FOR 1971

Anticipated Income

\$ 4,000.00	Dues, Initiation, and Reinstatement Fees
800.00	Interest on Savings
200.00	Sale of Reprints to Authors
<hr/>	
\$ 5,000.00	TOTAL ACADEMY INCOME

Budgeted Expenditures

\$ 500.00	Secretary
225.00	Treasurer
175.00	Office Supplies
180.00	Travel Allowance, A.A.A.S. Conference Dues, etc.
100.00	President's Contingency Fund
75.00	Membership Committee
200.00	Junior Academy of Science
600.00	Program Committee
400.00	Editor's Travel and Office Expenses
	Speaker of the Year
500.00	Honorarium
50.00	Administrative Expenses
	<i>Proceedings</i>
500.00	Publication
100.00	Mailing Expenses
1,000.00	Academy Library: Binding Expenses
600.00	Science and Society Committee
575.00	Committee on Preservation of Scientific and Natural Areas
<hr/>	
\$ 5,880.00	TOTAL BUDGET

Approved by the Budget Committee at Indianapolis December 5, 1970.

NOTES

Dues—New memberships for 1970 numbered 114. Current members who have not paid numbered 116. Anticipated income was \$4,000.00.

Reprints—Volumes 78 and 79 of the *Proceedings* are represented. Several authors have not paid for their reprints. Net expense to the Academy for both volumes was \$168.50 (necrology, President's address, instructions for authors). Net income should finally be \$404.04. Anticipated income for each volume was \$150.00.

Savings—Anticipated income was \$700.00. Two certificates with First Western valued at \$8,525.34 were redeemed during the year to allow Science Fairs to invest \$15,400.00 from its administered account directly. It is planned to invest part of the current balance in the checking account at Terre Haute in new certificates. Along with expansion and consolidation, the name of Equitable Savings has been changed to Great Western Savings.

Miscellaneous—Mainly a donation from Dr. William A. Willer of the Fort Wayne Academy of Science at the time the organization was disbanded.

Publications: Mailing—The expenditure exceeded the budgeted amount due to a second volume being mailed within the current year. The cost of each mailing was less than \$100.00. With the approval of the budget committee, in the future this item will be handled as an administered account.

Program Committee—Some bills are still due from the fall meeting.

Natural Areas Committee—1970 was the first year for its budget. Computer programming costs slightly exceeded the anticipated.

Research—Income represents: \$10,300.00 transferred from Endowment Funds; \$375.00 donation from A.A.A.S.; \$85.00 refund (amount not needed) from previous grant to Dr. Sears Crowell. Expenditure represents 12 grants to Academy members.

Lilly IV Library—A grant from Lilly Endowment, Inc. in support of the John Shepard Wright Memorial Library in December.

Publications—Income represents: \$4,488.34 for volume 78 and \$5,523.94 for volume 79 of *Proceedings* transferred from Endowment Funds; \$500.00 transferred from Academy operating account; \$169.00 from sale of *Proceedings*, \$499.75 from sale of *Natural Features*, \$65.00 from sale of *Monograph #1*.

REV. DAMIAN SCHMELZ, Treasurer
December 31, 1970

INDIANA JUNIOR ACADEMY OF SCIENCE

OFFICERS

President: RACHEL KOONTZ, New Haven Senior High School, New Haven, Indiana

Vice President: MARK COATES, Madison Consolidated High School, Madison, Indiana

Secretary: JOHN FARRELL, Brebeuf Preparatory School, Indianapolis, Indiana

JUNIOR ACADEMY COUNCIL

MR. CHARLES SOUERS, University Junior High School, Bloomington, Indiana

MISS HELEN REED, Manual High School, Indianapolis, Indiana

MR. DAVID BLASE, Arlington High School, Indianapolis, Indiana

DR. MARY J. PETERSEN, Morton High School, Hammond, Indiana

SR. MARY ALEXANDRA, Roncalli High School, Indianapolis, Indiana

STATE DIRECTOR

PROF. DONALD R. WINSLOW, Morrison Hall 103, Indiana University, Bloomington, Indiana

REGISTRATION

Students from Schulte High School who helped with registration at Junior Academy of Science on November 7, 1970.

MARY BARKOUSKIE

GREG DAWSON

STEVE KINDRICK

KATHY BORDERS

TOM FISCHER

CHUCK MALOOLEY

JULIE BUTWIN

STEVE GROHOVSKY

ROB SCOTT

PAT CONWAY

JOHN JOY

MARISSA SISON

BRENDA CURTIS

PROGRAM

Thirty-Eighth Annual Meeting

Saturday, November 7, 1970

8:00 AM

Junior Academy Council Meeting. Room 183, Science Building.

8:30-10:30 AM

Junior Academy Council Interviews for "Best Boy"—"Best Girl" Scientists Awards. Room 183, Science Building.

8:30-11:30 AM

Tours of Laboratories and Research Facilities. Tours to be arranged by Dr. Jack Munsee and Dr. Gene Poorman, Indiana State University.

11:30 AM-1:00 PM

Lunch. Tiry Memorial Grill.

1:00 PM

Junior Academy General Session. Tilson Music Hall, Tirey Memorial Union Building. Rachel Koontz, Presiding.

1:30 PM

Presentation of papers.

3:30 PM

General announcements, presentation of awards, adjournment.

PROGRAM OF PAPERS

1. The Results of Feeding Hydroponics Grass to Swine and Poultry.
ELAINE BERNING, Heritage Science Club, Heritage High School, Monroeville, Indiana.
2. Will Cyclamates Affect the Next Generation?
MARK ELLIOTT, Heritage Science Club, Heritage High School, Monroeville, Indiana.
3. Bacteria and Your Health.
STEVE GROHOVSKY, Pius X Science Teens, Schulte High School, Terre Haute, Indiana.
4. Effects of Dichloro Diphenyl Trichloro Ethane on Chick Embryo Development.
STEVE L. MARIETTA, Pius X Science Teens, Schulte High School, Terre Haute, Indiana.

AWARDS

Awards will be presented to the "Best Boy" and "Best Girl" scientists by the American Association for the Advancement of Science.

The American Society for Microbiology, Indiana Branch, will give an award for the best paper presented in the area of microbiology.

MINUTES OF THE THIRTY-EIGHTH ANNUAL MEETING OF THE INDIANA JUNIOR ACADEMY OF SCIENCE

The thirty-eighth annual meeting of the Indiana Junior Academy of Science was held Saturday, November 7, 1970, on the campus of Indiana State University in Terre Haute, Indiana. Students and teachers in attendance represented 16 high school clubs.

President Rachel Koontz called to order the general session at 1:00 PM in the Tilson Music Hall, Tirey Memorial Union building. Prior to this meeting, members and their sponsors were taken on conducted tours of the Science Building. Dr. Lawrence E. Poorman and Dr. Jack Munsee of Indiana State University arranged the tours.

Vice President Mark Coates presided over the presentation of papers. Dennis DeRosa of Hammond Morton presented a paper as well as did Steve Marietta of Terre Haute Schulte.

The presentation of papers was followed by the election of officers. Nominations for secretary were received from the floor. The results of the election were as follows:

JOHN JOSEPH FARRELL, Brebeuf Preparatory School, President
 DENNIS DEROSA, Hammond Morton, Vice-President
 BARBARA KONKLE, Madison High School, Secretary

Membership charters were presented to three new clubs as follows:

Heritage High School	Monroeville
Martinsville High School	Martinsville
Harrison High School	Evansville

Next, the AAAS award for the "Best Boy Scientist" was presented to Eric Valainis of Brebeuf Preparatory School, Indianapolis.

For a brief time the officers entertained suggestions from the floor concerning ways in which the program could be improved for next year.

President Rachel Koontz adjourned the meeting at 2:30 PM.

The students of Schulte High School acted as hosts for the meeting.

Respectfully submitted,
 JOHN FARRELL, Secretary

INDIANA JUNIOR ACADEMY OF SCIENCE

New Clubs for 1970

<i>City</i>	<i>School</i>	<i>Sponsor</i>
Evansville	Harrison High School	JAMES SCHWENGLE
Hartford City	Blackford High School	DONALD W. MCAFEE
Martinsville	Martinsville High School	HENRY PEARCY
Monroeville	Heritage High School	COLEEN SNYDER

BIOLOGICAL SURVEY COMMITTEE

LELAND CHANDLER, Chairman, Purdue University

Publications of 1969-1970

Dealing with the Biota of Indiana

- Fungi:** GREEN, RALPH J., JR. 1970. Black root rot of walnut seedlings caused by *Phytophthora citricola*. Plant Disease Reporter 54:583-585.
- MISLIVEC, P. B., and J. TUIITE. 1970. Species of *Penicillium* occurring in freshly harvested and in stored dent kernels. Mycologia 62:67-74.
- MUSSELL, H. W., and R. J. GREEN, JR. 1970. Host colonization and polygalacturonase production by two tracheomycotic fungi. Phytopathology 60:192-195.
- ULLSTRUP, A. J., E. B. SMALLEY, G. L. WORF, and R. W. AHRENS. 1969. Eyespot; a serious new disease of corn in the U.S.A. Phytopathology 59:1054.
- Tracheophyta:** GASTONY, GERALD J. 1971. *Asplenium pinnatifidum* x *trichomanes*—a new record for Indiana. Amer. Fern J. 61:
- LINDSEY, A. A., and LINDA ESCOBAR. 1970. Beech-maple and maple-basswood regions of the deciduous forest formation. Vols. I, II, and Suppl., National Park Service, Washington, D.C. 471 p.
- SCHMELZ, DAMIAN V., and ALTON A. LINDSEY. 1970. Relationships among the forest types of Indiana. Ecology 51:620-629.
- SCHREIBER, M. M., and L. R. OLIVER. 1971. Two new varieties of *Setaria viridis*. Weed Science.
- Protozoa:** MUELLER, JO ANNA, and WAYNE P. MUELLER. 1970. *Colpoda cucullus*: a terrestrial aquatic. Amer. Midland Natur. 84:1-12.
- Insecta:** ARNETT, R. H., JR. 1970. Objectives of a taxonomic catalog of Coleoptera. Coleopterists' Bull. 24:76-83.
- DOWNIE, N. M. 1970. Notes on a rare beetle, *Cerophytus pulsator* Hald. Coleopterists' Bull. 24:128.
- PEDIGO, LARRY P. 1970. Activity and local distribution of surface-active Collembola: I. Woodland populations. Amer. Midland Natur. 83:107-118.
- PEDIGO, LARRY P. 1970. Activity and local distribution of surface-active Collembola: II. Pond-shore populations. Ann. Entomol. Soc. Amer. 63:753-760.
- SHADE, RICHARD E., HARRY L. HANSEN, and M. CURTIS WILSON. 1970. A partial life table of the cereal leaf beetle, *Oulema melanopus*, in northern Indiana. Ann. Entomol. Soc. Amer. 63:52-59.
- Amphibia:** FULK, F. D., and J. O. WHITAKER, JR. 1969. The food habits of *Rana catesbiana* in three habitats in Owen County, Indiana. Proc. Indiana Acad. Sci. 78:491-496.
- Aves:** Indiana Audubon Society Members. 1970. Many titles in Indiana Audubon Quart. 47.
- Aquatic Animals:** GAMMON, JAMES R. 1970. Aquatic life survey of the Wabash River with special reference to the effects of thermal effluents on populations of macroinvertebrates and fish. Final Report, Public Service Indiana. 60 p.

- Biota: LINDSEY, A. A., D. V. SCHMELZ, and S. A. NICHOLS. 1970. (Reprint edition). Natural Areas of Indiana and their Preservation. Amer. Midland Natur., Notre Dame Univ., Notre Dame, Indiana. 606 p.

Theses Completed and Placed on File, Dealing with the Biota of Indiana

- Fungi: PRATT, ROBERT G. 1970. *Pythium sylvaticum*: heterothallism, sexuality and a taxonomic evaluation. M.S., Purdue.
THOMSON, T. BRANT. 1970. The effect of temperature on the pathogenicity of *Pythium aphanidermatum*, *P. debaryanum*, and *P. ultimum* on soybeans. M.S. Purdue.
- Tracheophyta: SCHMELZ, DAMIAN V. 1969. Methodological approaches in the analysis of Indiana old-growth forests. Ph.D. Purdue.
- Nematoda: JOHNSTON, STEPHAN R. 1971. Nematode community structure of selected deciduous woodlands. Ph.D. Purdue.
- Acarina: MCBRAYER, JAMES F. 1970. Trophic level delineation of forest soil microinvertebrates. M.S. Purdue.
MCGROARTY, DENNIS L. 1971. Population dynamics of the ectoparasite fauna of the house sparrow, *Passer domesticus* (L.), in Indiana. M.S. Purdue.
- Insecta: BITNER, RONNIE M. 1970. The population structure of coexisting wasp and bee species. M.S. Purdue.
CHRISTENSEN, CHRISTIAN M. 1970. A biological study of *Aphodius fimetarius* (L.) and *A. distincta* (Mueller) in central Indiana. M.S. Purdue.
KNAUER, KENNETH H. 1969. Quantitative ecology of the walking-stick, *Diaperomera femorata* (Say). Ph.D. Purdue.
LAWSON, H. R. 1970. The Planipennia (Neuroptera) of Indiana. M.S. Purdue.
MACLEAN, DAVID. 1969. Ordination of forest insect and plant communities in west-central Indiana. Ph.D. Purdue.
WARD, GERTRUDE L. 1970. The comparative ethology of coexisting mud dauber species. Ph.D. Purdue.
WHITE, DAVID S. 1970. The effect of limestone sediment on the macroinvertebrates of Deer Creek. M.A. DePauw.
- Pisces: BORNE, J. O. 1970. Effects of acid mine pollution upon the occurrence of invertebrate and fish populations in Sugar Creek, Vigo County, Indiana. M.A. Indiana State.
- Mammalia: SLY, G. R. 1970. Small mammal succession on strip-mined land in Vigo County, Indiana. M. A. Indiana State.

Work in Progress, but not yet Published, Dealing with the Biota of Indiana

- Algae: BROWN, RICHARD D. Indiana State. Diatom morphology as an indicator of water quality; dynamics of rheophilic diatom communities; polymorphism of certain *Navicula* diatoms.
- Tracheophyta: MCCLAIN, M. LESLIE. Indiana State. Aspects of the ecological life history of the Kentucky coffeetree, *Gymnocladus dioica* (L.) K. Koch.

OLIVER, F. ELLEN. Indiana State. A chronological comparison of the vegetation of Vigo County: Presettlement (1814) vs. Contemporary (1971).

- Crustacea: CHAMBERLAIN, WILLIAM M. Indiana State. Effect of heat pulsing on the growth and reproduction of the cladoceran, *Daphnia rosea*.
- Insecta: CHANDLER, LELAND. Purdue. Nectar whipping among species of bees; the lepidopterous family, Epipyropidae; the inducement of social behavior in subsocial bees; the mechanisms of coexistence in nesting populations of wasps and bees; A text book for Ecology.
- SIVERLY, R. E. Ball State. The mosquitoes of Indiana; the ecology of species of Diptera.
- Mammalia: WHITAKER, J. O., JR. Indiana State. Ecology of Indiana mammals and their parasites.
- Aquatic Animals: GAMMON, J. R. Depauw. The response of fish and macroinvertebrate populations to heated effluents; effect of sediment on stream biota.

NECROLOGY

FAY KENOYER DAILY, Butler University

LAWRENCE H(ENRY) BALDINGER



Galion, Ohio

South Bend, Indiana

January 12, 1907

November 28, 1970

Very often opportunity limits the expression of a man's abilities to only one phase of academic service such as teaching, research or administration. However, the professional life of Dr. Lawrence H. Baldinger demonstrated his great ability in all of these areas.

Born in Galion, Ohio, January 12, 1907, Dr. Baldinger completed grade school there and also graduated from the high school in Galion in 1924. He then attended Western Reserve University at Cleveland, Ohio, receiving the degrees of Pharmaceutical Chemist in 1928 and Bachelor of Science in 1929. Graduate work at Notre Dame University, Notre Dame, Indiana, rewarded him with the degrees of Master of Science in 1931 and Doctor of Philosophy in Chemistry in 1933. He had been an instructor in pharmacy at Notre Dame from 1929 to 1933 and became professor and head of the department in 1933. He continued in this capacity until 1939 when the department was discontinued and the faculty was absorbed into the chemistry department

where he was assistant professor of chemistry from 1939 to 1942, and professor from 1943 to 1960. He was also made dean of the College of Science in 1943 after serving as assistant dean in 1941 and acting dean in 1942. He served as dean until 1960 when he became associate dean.

The Notre Dame Alumnus (September, 1960) headed an article: "Tradition of excellence bequeathed by Dean Baldinger to Dean-elect Rossini." In the article, the impact of Dr. Baldinger's teaching and administrative ability is extolled. It states that in the 30 years at the university as head of pharmacy, professor of chemistry, assistant dean and for 17 years as dean of the College of Science, Dr. Baldinger was very effective as advisor to premedical students and would continue in that capacity as associate dean. His influence was measured by the large number of M.D. degrees obtained by his former students, the high ranking for Notre Dame men in medical schools and competitive exams across the country and the dozens of letters every year thanking Dr. Baldinger for his help and encouragement.

Another article in *The Notre Dame Alumnus* (March, 1958) gives a brief biography of Dr. Baldinger and mentions the Lay Faculty Award for Outstanding Service to the university received by Dr. Baldinger in 1950. In addition, an award named in his honor was first presented to a pre-medical senior student by Notre Dame in 1968.

Dr. Baldinger did extensive research on the oil of peppermint. Some of this work was done at Purdue University during the summers of 1938 to 1941 for the U.S. Department of Agriculture cooperating with the Horticulture Department of Purdue. He published numerous technical articles. Papers presented at the Indiana Academy of Science dealt with the iodine number for the oil of peppermint; assay for menthone in oil of peppermint; and (as co-author with V.J. Traynelis) reduction of oil of peppermint with lithium aluminum hydride. When president of the Indiana Academy of Science, however, in 1961, his address to the members drew on his initial profession, pharmacy, for material. It contributed valuable historical data about Academy members interested in pharmaceuticals. Drug research and new product development were traced into manufacture, control and sale showing keen insight into the challenges involved. Dr. Baldinger became a member of the Academy in 1930 and was honored as Fellow in 1949. He was active as a member of the Science Talent Search and Resolutions Committees, served as Chairman of the History of Science Section in 1967; was Vice-President of the Academy in 1960; and, as mentioned above, was president in 1961.

Other professional affiliations of Dr. Baldinger were with the American Association of the Advancement of Science of which he was a Fellow, American Pharmaceutical Association, Indiana Chemical Society, American Chemical Society, Rho Chi and Phi Delta Chi. He is listed in *American Men of Science*, *Indiana Scientists*, *Who's Who in Indiana* and *Who's Who in the Midwest*.

CHARLES H. BECHERT

Indianapolis, Indiana

Indianapolis, Indiana

June 15, 1905

July 10, 1970

A native of Indiana and educated in this state, Mr. Charles H. Bechert was Director of the Division of Water, Department of Natural Resources of Indiana.

Mr. Bechert was born in Indianapolis June 15, 1905, and received his early education in that city. He graduated from Manual Training High School becoming a *Raines Alumnus* (Honorary). He then went to Purdue University receiving a B.S. degree in Civil Engineering in 1929.

His professional career began right after graduation from Purdue when he joined the staff of the Division of Water of the Department of Natural Resources as a Sanitary Engineer, the first in their department. He served as Assistant State Engineer, State Engineer (1929 to 1965) and finally as Director (1945 to 1970). He administered regulations concerning lakes, streams and ground water. He served as officer and member of many committees, commissions, boards and associations pertaining to water use and water supplies. He was past president of the American Society of Civil Engineers and the Indiana Division of the American Waterworks Association. He was a member of the Sciencetech Club and the Indiana Society of Professional Engineers.

His professional ability was recognized by Matthew E. Welch in 1963 when Mr. Bechert was appointed Sagamore of the Wabash. He had also been honored in 1955 by the American Waterworks Association when he was given the George Fuller award. He is listed in *Who's Who in the Midwest* (1967-1968) and was the subject of an article in *Outdoor Indiana* (May, 1961). Other organizations with which he was affiliated are Tau Kappa Epsilon and Chi Epsilon (Honorary, Civil Engineering) fraternities, and he was founder of the St. Meinrad Seminary Parents Association and Catholic Youth Organizations Camp Committee. Mr. Bechert's membership in the Indiana Academy of Science was very brief having joined in 1967.

Mr. Charles H. Bechert was 65 when he died July 10, 1970.

E(DWARD) WILLARD BERRY

Passaic, New Jersey

Corpus Christi, Texas

November 24, 1900

May 10, 1968

Dr. E. Willard Berry was retired from Duke University and living in Corpus Christi, Texas, at his death May 10, 1968. During his

career, he had brought the geology department at Duke University from a one-man department to one having four full-time faculty members and a visiting lecturer. A list of his published works (see memorial by James H. Zumberge, Geological Society of America) is quite long. His consulting activities were varied in promoting mineral industries in the state of North Carolina as well as oil exploration on the coastal plains. His travels were wide and meaningful activities many.

Born in Passaic, New Jersey, November 24, 1900, Dr. Berry was influenced strongly in his education by his father, Edward Wilber Berry, distinguished paleobotanist, dean and provost at John Hopkins University. Dr. E. Willard Berry received a bachelor's degree in 1923 and a Ph. D. degree (geology) in 1929 from John Hopkins University.

During his professional career, he was Micropaleontologist for the International Petroleum Company in Negritos, Peru, from 1925 to 1928, and he was an instructor in Geology at Ohio State University from 1929 to 1936.

It was in 1929 while Dr. Berry lived in Columbus, Ohio, that he joined the Indiana Academy of Science and kept his membership even though out of state through the years. He was made Emeritus Member in 1967.

In 1936, Dr. Berry went to Duke University as an assistant professor, chairman and sole teacher of the Department of Geology. He taught all geology courses given during his first 10 years there. He became full professor in 1950. His courses were stimulating and the department grew under his able direction.

Other professional activities were many. Besides those listed above, he was an assistant in the Maryland Geological Survey 1921—; field assistant with the United States Geological Survey in 1921 and 1923; assistant geologist with the State Bureau of Economic Geology in Texas, 1924; and with the Ohio Geological Survey 1930—.

He belonged to many organizations and was correspondent of the Geological Society of Peru and the *Revue de Geologie*, Belgium; Vice President of the Paleobotanical Section of the International Botanical Congress in 1935. He belonged to the American Association for the Advancement of Science and was a Fellow of the Geological Society of America, Geological Society of London and Paleontological Society of America. He was a member of the Institute of Mining, Metallurgical and Petroleum Engineers, American Association of Petroleum Geologists, the American Geophysical Union, Society of Geology of France, Switzerland Geological Society, Geological Society of Mexico, New Zealand Geological Society and Geological Society of South Africa. He was president of the North Carolina Academy of Sciences 1957 to 1958, member of Kappa Sigma, Sigma Xi and Society of Friends. He was Charter Member of the Carolina Geological Society and a leader in forming the Southeastern Section of the Geological

Society of America. He is listed in *American Men of Science, Who's Who in America* and *International Blue Book*.

Dr. Berry's travels took him to Alaska, France, South America, Africa, Australia and in 1961 to the University of Malaya where he was a Fulbright Professor of Geology for a year.

Dr. E. Willard Berry retired from Duke University, Durham, North Carolina, in 1967. He died May 10, 1968, at Corpus Christie, Texas, where he had moved after retirement. His full, active life had great impact on his students, profession and associates.

KONSTANTIN D (MITRIEWICH) KOLITSCHEW

Kazan, Russia

Indianapolis, Indiana

November 26, 1901

February 15, 1970

Dr. Konstantin D. Kolitschew was born in Kazan, Russia, Nov. 26, 1901. Kazan was the capital of the Kazan government until 1920, a major industrial and commercial center as well as the leading cultural center of the Volga region. Dr. Kolitschew's education began in the city schools and he graduated from Kazan High School in 1918.

These were turbulent times for this region of the world greatly influencing the life of this man. His graduation from high school followed shortly after the Bolshevik revolution of 1917 and the establishment of a communist state. There was great economic confusion and organized resistance to the new regime. The allies supported the "White Guards," a Russian army which opposed the Bolsheviks. It was organized and defeated in 1919. Konstantin Kolitschew served in the White Russian army and was a member of the anti-communist underground.

Dr. Kolitschew then attended college, majoring in physics and mathematics at the State University of Irkutsk, Siberia, from which he received a degree in 1921. After that he attended the Chemical Technological Institute at Tomsk, Siberia, where he obtained a Ph.D. degree in Chemistry (Engineering) in 1928.

Dr. Kolitschew's professional career began as Technical Director of a china factory in Irkutsk where he worked until 1930. He was then Research Engineer at the Irkutsk Research Institute for Gold and Colored Metals from 1930 to 1932. In 1932, he became head of research in the physics laboratory of the Corporation of Gold Mines of East Siberia. He was head of the department of physics at the Institute of Forestry in Ioshkar-Ola (Yoshkar-Ola), Mari autonomous Soviet Socialist Republic from 1934 to 1936 and head of the physics department at Smolensk University from 1936 to 1941.

There is no record of his professional activity from that date until 1952. During these years World War II erupted and Dr. Kolits-

chew escaped communist Russia with his wife, Matriona, also a Ph. D. in Mathematics. They made their way to the United States of America where Dr. Kolitschew became head of the physics department at Piedmont College, Demarest, Georgia, in 1952. He taught there 3 years coming to Indiana in 1955 as Physics Professor and Head of the Department at Indiana Central College, Indianapolis, Indiana. He joined the Indiana Academy of Science in 1956 and was Chairman of the Physics Section and member of the Executive Committee in both 1964 and 1967.

He also belonged to the Georgia Academy of Science, the American Association for the Advancement of Science and American Association of Physics Teachers.

Dr. Kolitschew retired from Indiana Central College in 1967 becoming Professor Emeritus. He continued part-time in a teaching capacity until his failing health brought this to a close. He was 68 years old when he finally succumbed February 15, 1970.

ARCHIE V. LOTT

Clark County, Indiana

Clark County, Indiana

March 21, 1892

November 18, 1969

The life of Archie V. Lott was very unusual. He was a retired mail carrier at his death, November 18, 1969, but his avocation brought recognition in scientific fields.

He was born near Sellersburg in Clark County, Indiana, on March 21, 1892. He attended the Hamburg grade school which had one room, and graduated from the Silver Creek High School in 1909. He then received a degree from Marion Normal College. From 1910 to 1911 he was a teacher in a one-room school, and from 1911 to 1912 he was principal of the Borden Grade School. From 1912 to 1914 he was principal of the Henryville Grade School. He served as private in the 19th Division in World War I, and was a charter member of the Wilber M. Ruby Post of the American Legion.

In 1920, he became a rural mail carrier which was his profession until retirement at 70 years of age.

One of his avocations, interest in weather and wind systems, began in high school and was stimulated by his acquaintance in 1930 with the chief of the weather bureau in Louisville, Kentucky, where he was privileged to use the extensive library. He became a member of the American Meteorological Society and joined the Indiana Academy of Science in 1936. He gave several interesting papers at Academy meetings chiefly on wind systems and theories of climatic cycles.

He was also interested in horticulture. With his sister, Esther Lott, he operated a small green house where his plant breeding experi-

ments resulted in the improvement of the oriental persimmon and development of some unique peanuts.

The interesting life of Mr. Lott prompted some articles in *Personality Sketches*, a column in the *Charlestown Courier* and *Sellersburg News*, written by Jesse G. Dorsey. The titles were: *Taking a Look at A. Lott* and *A. Lott of Weather Changes*. A lengthy memorial also appeared in the same newspaper. As indicated there, Mr. Lott was no ordinary man and his life is no ordinary story. The fact that he died in the same house in which he was born is also quite unusual in this day of restless Americans. He was 77 years of age at his death.

HARRY R (AYMOND) WEIMER

North Manchester, Indiana

North Manchester, Indiana

December 9, 1906

December 15, 1970

Dr. Harry R. Weimer died of a heart attack December 15, 1970, while giving a final examination to a class at Manchester College. He was Chemistry Department Chairman and head of the science division.

An Indiana native, Dr. Weimer was born at North Manchester on December 9, 1906. His education in this state was rewarded by a Bachelor of Arts degree from Manchester College in 1929. He then attended Ohio State University at Columbus, Ohio, where he received a Master of Science Degree in 1931 and a Doctor of Philosophy Degree in 1933.

He began his teaching career as a professor of chemistry at Bridgewater College in Virginia in 1933 where he taught until 1938. A brief biographical sketch in the *Manchester College Bulletin* (summer number for 1938) announced that Dr. Weimer was to replace Mr. Don Martin who had retired. It described Dr. Weimer as "well known and well liked by all students of former years." Dr. Weimer is also mentioned in Otho Winger's *Memories of Manchester* (1940), as one of the professors hired by Manchester College in a move to strengthen the faculty by Ph. D. holders. During World War II, he spent 6 months at Ball State University teaching science classes to navy personnel, and served as senior research chemist with the Manhattan Project at the Monsanto Chemical Company, Dayton, Ohio, from 1943 to 1944. He then returned to Manchester College. He went to Pennsylvania State University the summer of 1958 and the University of South Carolina the summer of 1960. His research interest was concerned with data of the state of gases.

During the time that Dr. Weimer taught at Manchester College, a fine new Hall of Science was built and completed in 1959. For 9 years, Dr. Weimer participated in a National Science Foundation

Program for 30 high school students recommended from all over the United States. He taught, counseled and cared for their needs in an expert way which has been attested to by many tributes received from young men and women now working in many parts of the world.

Dr. Weimer also was involved in several business enterprises and yet had time for some interesting hobbies. Several summers were spent with his wife, Orpha, collecting rocks and minerals which they polished in winter months. Dr. Weimer had also been teaching Geology at Manchester College for the past 4 years, and he prepared slides and specimens for these classes. He was also interested in Philately.

Dr. Weimer joined the Indiana Academy of Science in 1966. He was also a member of the American Chemical Society, American Association for the Advancement of Science, Sigma Xi, and Phi Lambda Upsilon (Honorary, Chemistry). He is listed in *American Men of Science* and *Indiana Scientists*.

President A. Blain Helman, Manchester College, in a memorial service for Dr. Weimer spoke of him as a "modest and sensitive man" and of his professional life as "characterized by hard work, integrity, compassion, dedication, achievement recognized by professional colleagues, and a sense of mission."

Dr. Weimer was 64 years old at his unexpected death after serving Manchester College well for over 30 years.

NEW MEMBERS FOR 1970

The following list contains the names and addresses of all new members who joined during 1970. The letter(s) following the address indicates the Section of the Academy in which the member has indicated his major interest, according to the following code:

- A—Anthropology
- B—Botany
- C—Chemistry
- D—Science Education
- E—Entomology
- G—Geology & Geography
- H—History of Science
- L—Ecology
- M—Mathematics
- O—Cell Biology
- P—Physics
- R—Microbiology & Molecular Biology
- S—Soil Science
- T—Plant Taxonomy
- Y—Psychology
- Z—Zoology

- DR. T. SCOTT ABNEY, Dept. Botany and Plant Pathology, Purdue Univ., Lafayette, Ind. 47907 BLT
- MR. and MRS. PHILIP R. ALLEN, Columbus Senior High School, Columbus, Ind. 47201 LBZ
- MR. GREGORY J. ANDERSON, Botany Dept., Indiana Univ., Bloomington, Ind. 47401 TBL
- MR. GREGORY K. BALDWIN, Anthony Apts. 102, Muncie, Ind. 47304 ALG
- MR. JAMES B. BANKS JR., Christ School, Arden, North Carolina 28704 TBE
- DR. BYRON K. BARTON, Dept. Geography and Geology, Indiana State Univ., Terre Haute, Ind. 46202 OCL
- DR. MARVIN E. BAUER, LARS Laboratory, Purdue Univ., Lafayette, Ind. 47906 BLS
- MR. CLIFFORD BERGER JR., R.R. 2, Plymouth, Ind. 46563 GBA
- MR. JAMES E. BIANCHETTA, 9135 Erie St., Highland, Ind. 46322 CDL
- DR. PAUL V. BLAIR, Dept. Biochemistry, Indiana Univ. School of Medicine, Indianapolis, Ind. 46202 OCL
- DR. ERWIN BOSCHMANN, IU-Purdue Univ., 518 N. Delaware, Indianapolis, Ind. 46204 CGH
- PROF. WILLIAM C. BRAMBLE, 200 Lindberg Ave., West Lafayette, Ind. 47906 BL

- DR. WILLIAM D. BROOKS, Dept. Geography and Geology, Indiana State Univ., Terre Haute, Ind. 47809 GDL
- MR. FRANKLIN BYNUM, Akron High School, Akron, Ind. 46910 DBL
- DR. D. DUANE CARMONY, Dept. Physics, Purdue Univ., Lafayette, Ind. 47907 PHZ
- DR. DANIEL M. COFFMAN, Dept. Geosciences, Purdue Univ., Lafayette, Ind. 47907 G
- DR. JOHN J. CORRIGAN, Arts and Sciences, Indiana State Univ., Terre Haute, Ind. 47809 ORD
- PROF. WILLIAM A. CRAMER, Dept. Biological Sciences, Purdue Univ., Lafayette, Ind. 47907 R
- DR. LAWRENCE E. DAY, Dept. K418, Eli Lilly and Co., 1202 Kentucky Ave., Indianapolis, Ind. 46206 RO
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- MR. RICHARD L. DUNN, Dept. Geography and Geology, Indiana State Univ., Terre Haute, Ind. 47809 GLD
- MR. DANIEL J. DYMAN, Biology Dept., Ball State Univ., Muncie, Ind. 47306 OLA
- MR. STEPHEN A. ELBERT, Dept. Zoology, DePauw Univ., Greencastle, Ind. 46135 Z
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- MR. RANDAL A. GASEOR, Dept. Zoology, De Pauw Univ., Greencastle, Ind. 46135 LOZ
- DR. GERALD J. GASTONY, Botany Dept., Indiana Univ., Bloomington, Ind. 47401 TBL
- DR. CHARLES W. GOFF, Dept. Life Sciences, Indiana State Univ., Terre Haute, Ind. 47809 O
- MR. WILLIAM O. GOTSCHALL, 2004 N. Anthony Blvd., Fort Wayne, Ind. 46805 P
- DR. W. J. GRIFFING, Toxicology Div., Eli Lilly and Co., Greenfield, Ind. 46140 O
- MR. CHARLES T. HAMMOND, Dept. Botany, Indiana Univ., Bloomington, Ind. 47401 BOL
- MISS MARY ANN HART, Hayes Regional Arboretum, 801 Elks Rd., Richmond, Ind. 47374 DTL
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- MR. MICHAEL T. HARVES, Zoology Dept., DePauw Univ., Greencastle, Ind. 46135 ZL
- MR. DONALD E. HENN, 4121 Gail Dr., Evansville, Ind. 47712 AGL
- MR. and MRS. H. DANIEL HIATT, 3729 Lickridge Lane So., Indianapolis, Ind. 46217 GDL
- MR. THOMAS W. HODLER, Dept. Geography, Indiana Univ., Bloomington, Ind. 47401 GDL

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- MR. DALE R. KIRKHAM, Biology Dept., Oakland City College, Oakland City, Ind. 47560 L
- DR. C. BARRY KNISLEY, Biology Dept., Franklin College, Franklin, Ind. 46131 EZL
- MR. STEVAN J. KRISTOF, LARS Laboratory, Purdue Univ., Lafayette, Ind. 47906 SB
- MR. THOMAS W. LANDRUM, Biology Dept., Ball State Univ., Muncie, Ind. 47306 ZLB
- DR. RICHARD M. LAWRENCE, Chemistry Dept., Ball State Univ., Muncie, Ind. 47306 CP
- MR. BRUCE M. LINDSTROM, 4935 N. LaSalle St., Indianapolis, Ind. 46205 Z
- SISTER MARY LONGTIME, Convent of the Immaculate Conception, Ferdinand, Ind. 47532 LBZ
- MR. MICHAEL LYKINS, P. O. Box 1392, Bloomington, Ind. 47401 EZL
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- MR. MANSON L. McCLAIN, Dept. Life Sciences, Indiana State Univ., Terre Haute, Ind. 47809 LBT
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- MR. LYLE E. MATTESON JR., Dept. Entomology, Purdue Univ., Lafayette, Ind. 47907 LE
- DR. JOHN H. MEISER, Chemistry Dept., Ball State Univ., Muncie, Ind. 47306 C
- BROTHER ARTHUR MERGEN, St. Meinrad Archabbey, St. Meinrad, Ind. 47577 TBL
- MR. CHARLES W. MILLER, Anderson College, Anderson, Ind. 46011 PGD
- MR. CLEMENT B. MOORMAN, Eastwood Jr. High School, 4401 E. 62nd St., Indianapolis, Ind. 46220 DPC
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- MR. TURHON A. MURAD, Dept. Anthropology, Indiana Univ., Bloomington, Ind. 47401 A
- DR. THOMAS P. MYERS, Indiana Univ. Museum, Student Building, Bloomington, Ind. 47401 AGL
- MR. JON NIEHAUS, 515 S. Council 9, Muncie, Ind. 47303 LZS
- MISS ELLEN OLIVER, Dept. Life Sciences, Indiana State Univ., Terre Haute, Ind. 47809 LBT
- DR. RICHARD G. PFIANZER, Wile Hall, Methodist Hospital, 1812 N. Capitol Ave., Indianapolis, Ind. 46202 ZPC
- MR. DALE PHINNEY, Agronomy Dept., Purdue Univ., Lafayette, Ind. 47906 LCP
- MR. WALTER R. RATHKAMP, Box 33, 224 Jordan Hall, Bloomington, Ind. 47401 Z
- MR. JAMES RAY, Clinton High School, Clinton, Ind. 47842 CBZ
- MRS. PAUL RAY, Manchester College, North Manchester, Ind. 46962 ROD
- MR. GORDON ROBISON, R. R. 1, Box 446, Michigan City, Ind. 46360 DPL

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- MRS. MARY SAILORS, 2601 S. Nebraska St., Marion, Ind. 46952 DL
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- MR. HOBART E. SCHACHT JR., East Brook High School, R. R. 6, Marion, Ind. 46952 ZL
- MR. LARRY L. SCHMELTZ, Dept. Life Sciences, Indiana State Univ., Terre Haute, Ind. 47809 ZLD
- MR. and MRS. JOHN R. SCHROCK, Campbell Co. Middle School, Alexandria, Ky. 41001 ELD
- MR. JAMES SENNETT, Barker Jr. High School, Barker Rd., Michigan City, Ind. 46360 DLG
- MR. DONALD A. SHROYER, 1623 N. Tillotson Ave., Muncie, Ind. 47304 EZO
- PROF. ERNEST M. SKULL, 402 N. Wayne St., N. Manchester, Ind. 46962 EA
- DR. JAMES M. SIDIE JR., Dept. Anatomy and Physiology, Indiana Univ., Bloomington, Ind. 47401 ZY
- MISS SARAH C. STRAWN, 306 Lincoln, Crawfordsville, Ind. 47933 Z
- DR. C. P. SWORD, Dept. Life Sciences, Indiana State Univ., Terre Haute, Ind. 47809 R
- MRS. MARY ELLEN TAVENNER, Mississinewa High School, 125 N. Broadway, Gas City, Ind. 46933 CBO
- MR. GEORGE E. TEMPEL, Dept. Anatomy and Physiology, Indiana Univ., Bloomington, Ind. 47401 ZOC
- DR. JAMES W. TOWNSEND, Indiana State Univ., Evansville, Ind. 47712 OZR
- MR. JOHN VAN SICKLE, 1136 A Canterbury Ct., Indianapolis, Ind. 46260 DLG
- DR. ROBERT E. VANATTA, Chemistry Dept., Ball State Univ., Muncie, Ind. 47306 CH
- MR. RAY WEATHERHOLT JR., R. R. 2, Box 445A, New Albany, Ind. 47150 TLB
- MRS. ALICE M. WEISLING, Mead Johnson and Co., LIBRARY, Evansville, Ind. 47721 DLR
- DR. ROBERT J. WERTH, Biology Dept., Purdue Univ. Calumet, Hammond, Ind. 46323 ZL
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- DR. FRANK H. WILCOX, Dept. Life Sciences, Indiana State Univ., Terre Haute, Ind. 47809 ZOR
- MR. ALLAN WOOD, Box 203, Prospect Heights, Ill. 60070 PDL
- MR. RICHARD D. WORDEN, 1301 Lincoln St., Anderson, Ind. 46016 LDO
- Science Club, Harrison High School, 211 Fielding Rd., Evansville, Ind. 47715
- Science Club, Heritage High School, 13608 Monroeville Rd., R. R. 2, Monroeville, Ind. 46773
- Science Club, Martinsville High School, S. Main St., Martinsville, Ind. 46151

PART 2

ADDRESSES
AND
CONTRIBUTED
PAPERS

Terre Haute, Indiana
November 6, 1970

PRESIDENTIAL ADDRESS

The address, "Chromatography and Spectroscopy — The New Team in Chemistry," was presented by retiring president, Dr. Frank A. Guthrie, Chairman, Chemistry Department, Rose-Hulman Institute of Technology, Terre Haute, Indiana, at the annual Fall Meeting dinner at the Tirey Memorial Union Building at Indiana State University, on Friday, November 6, 1970.

ADDITIONAL ADDRESSES

The address, "The Flag and the Fir Tree," by Dr. Robert O. Petty, Biology Department, Wabash College, Crawfordsville, Indiana, was given at the annual Spring Meeting dinner at the Turkey Run State Park Inn on Friday, May 1, 1970.

The address, "Outdoor Museums and Laboratories: Needs, Uses and Values," by Dr. Marion T. Jackson, Department of Life Sciences, Indiana State University, Terre Haute, Indiana, was given as part of a panel discussion entitled: "Saving the Pieces of Primaeval Indiana," at the Fall Meeting of the Academy, Friday, November 6, 1970.

The latter two addresses were published at the request of the Science and Society Committee.