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PURDUE UNIVERSITY AT INDIANAPOLIS
Indianapolis, Indiana

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SPRING MEETING

MINUTES OF THE EXECUTIVE COMMITTEE MEETING

April 22, 1977

The meeting was called to order by President Clarence F. Dineen at 4:10 p.m. in the Roof Lounge of the Union Building, Indiana University-Purdue University at Indianapolis. The minutes of the Executive Committee and of the General Session of the Fall 1976 meeting were approved as corrected.

TREASURER'S REPORT

Treasurer Stanley L. Burden presented a financial report for the period January 1 through April 16, 1977, a summary of which follows:

	Academy Accounts	Administered Accounts	Total
Balance: January 1, 1977	\$6,359.58	\$14,585.77	\$20,945.35
1977 Income	3,486.07	5,302.70	8,788.77
1977 Expenditure	4,879.67	8,041.58	12,921.25
Balance: April 16, 1977	\$4,965.98	\$11,846.89	\$16,812.87

The Treasurer also reported that more than one-half of the 1977 membership dues have been received and that the new check-off format dues cards appear to be effective. The treasurer's report was accepted.

STANDING COMMITTEE REPORTS

Academy Foundation Committee. William A. Daily, Chairman, reported that the John S. Wright Invested Income Account held \$14,000 as of March 31, 1977. He also reported that the market value of the Foundation Account had increased by 13.3% to \$23,148, while that of the John S. Wright Fund had declined by 13.1% to \$490,987.

Research Grants Committee. Robert M. Brooker, Chairman, reported that \$4,244 has been granted for eleven individual research projects this year.

Membership Committee. Jerry J. Nisbet, Chairman, presented an analysis of Academy membership which indicated that the total membership had declined from 1,095 in 1975 to 1,059 in 1976; principal source of this decrease was a loss of 9 senior and 34 regular members during the period surveyed. The Executive Committee was asked to review the impact of the recently created Senior membership category on the financial status of the Academy. The consensus of the Executive Committee was that no further action on membership categories should be considered until the effectiveness of the check-off dues cards could be fully evaluated.

Publications Committee. Editor Benjamin Moulton, reporting for the committee, raised several questions concerning available space and costs of publishing *Proceedings*. He requested that suggestions for greater economy and efficiency be passed on to the committee. After some discussion concerning probable cost of publishing the next volume of *Proceedings* and the number of volumes required, the following action was taken:

Motion: That the Academy publish 525 paperback and 600 hardback volumes of Volume 86 of *Proceedings*. Seconded and carried.

Library Committee. Lois Burton, Chairman, reported on the status of the expansion of the State Library into the recently completed facilities and invited the Academy to visit, use, and hold committee meetings in the new facilities.

Representative to Association of Academies of Science (AAAS). President Dineen reported that the Academy representative, Willis H. Johnson, had attended the Denver meeting of the Association.

Youth Activities Committee. Although no formal report was presented, Chairman Donald R. Winslow informed the Executive Committee of forthcoming scheduled events which will lead to the awarding of two \$1,000 scholarships in the name of the Academy.

Science and Society Committee. Robert E. Henderson, Chairman, reported that support for the Science Advisory Bill will be actively sought at the next session of the State Legislature. He reported that the wide circulation of "Indiana Energy 1977" has resulted in the introduction of legislation in the General Assembly. The committee has received an interim report from Dr. Jerry Hamelink on PCB contamination in Indiana and has approved a major effort for 1977 tentatively entitled "Environmental Policy Decisions: A Case Study of PCB's in Indiana," with Dr. William Beranek as study committee chairman.

SPECIAL COMMITTEE REPORTS

Biological Survey Committee. Theodore Crovello, Chairman, presented a review of the goals, activities, and membership of the committee, including an analysis of the four existing subcommittees: Literature, Endangered Species, Flora Indiana Projects (FLIP), and People Power. He also urged interested Academy members to become actively involved in the various projects of the Biological Survey Committee. Dr. Crovello also distributed copies of the first bulletin of the Indiana Public Responsibilities Network of the American Institute of Biological Sciences (I-AIBS).

Emeritus Member Selection Committee. Robert H. Cooper, Chairman, reviewed the requirements for eligibility for Emeritus status and presented the following persons (initial membership year in parentheses) for election:

GEORGE F. HENNION, South Bend, Indiana (1928)

THEODORE KALLAS, Beech Grove, Indiana (1946)

WILLIAM J. TINKLE, North Manchester, Indiana (1936)

Motion: That the persons presented be elected to Emeritus Membership. Seconded and carried.

Preservation of Natural Areas Committee. William B. Barnes, Chairman, presented a complete listing of the 45 Indiana Nature Preserves, totalling 6,630 acres. Included are the four dedications and one addition since the last report. These new preserves are the Cedar Bluffs, Wawasee Wetlands, Hemlock Bluff, Hayswood, and Olin Lake Nature Preserves. Mr. Barnes also distributed copies of "Indiana Nature Preserves," a profusely illustrated reprint from *Outdoor Indiana*, which describes the first 36 nature preserves in the state-wide system. This publication is available, free of charge, from the Indiana Department of Natural Resources, Division of Nature Preserves.

Speaker-of-the-Year Selection Committee. Chairman Frank A. Guthrie submitted a report for the 1976-77 committee, which included a brief summary of the committee's activities and a complete listing of Speaker-of-the-Year Visitations since the inception of the program in 1971. Damian V. Schmelz, reporting for the 1977-78 committee, stated that seven nominations are under consideration for the next Speaker-of-the-Year.

Academy Representative to Natural Resources Commission. Damian V. Schmelz reviewed the functions and current activities of the Commission.

Newsletter. Walter A. Cory, Director of Public Relations, announced that Newsletter #17 had been unavoidably delayed, but should be sent out soon. He reviewed the Newsletter program and summarized information which will appear in the next issue.

OLD BUSINESS

The constitutional amendments regarding Article VII. MEETINGS, which was tabled during the Fall 1976 meeting was briefly discussed. By Executive Committee consensus, further consideration of this amendment will be delayed until an appropriate survey of the membership, conducted by the Secretary during the 1977 Fall meeting, can be completed.

President Dineen solicited suggestions on locations for future meetings; the 1978 and 1979 Fall meetings are scheduled for Anderson College and Manchester College, respectively. Of particular concern is the location of the Centennial Year meeting in 1985.

Following brief announcements concerning the General Session meeting and the Saturday morning field trip, the meeting was adjourned at 5:15 p.m.

Respectfully submitted,

ROBERT E. VAN ATTA, Secretary

SPRING MEETING

MINUTES OF THE GENERAL SESSION

April 22, 1977

The meeting was called to order by Program Chairman Arthur Mirsky at 7:30 p.m.

Dr. Mirsky presented Dean William Neville, who introduced the speaker of the evening, Dr. John M. Vaughan, Vice President, Engineering and Environmental Affairs, Inland Container Corporation, Indianapolis. Dr. Vaughan delivered an extremely interesting and thought-provoking address entitled "Industry and the Environment—A Dichotomy That Can Work," which generated many questions and lively discussions.

After a brief recess, President Dineen called the Business Meeting to order.

The Secretary of the Academy presented a brief summary of committee reports received and action taken by the Executive Committee on April 22, 1977.

Brief instructions regarding Saturday morning field activities were given by President Dineen and Program Chairman Arthur Mirsky.

William Daily, Chairman of the Resolutions Committee, moved the adoption of the following resolutions:

The Academy members and guests here assembled wish to express their sincere appreciation to the officers and especially Dr. Arthur Mirsky, Chairman of the Program Committee, for the fine program he has arranged.

We are grateful to the Indiana University-Purdue University here in Indianapolis for providing us with their splendid facilities.

Our thanks also go to Dr. John M. Vaughan who presented a timely and interesting address this evening.

Our appreciation is extended to the leaders of tomorrow's field trips, which are so important to our spring meetings.

The resolutions were approved.

President Dineen announced that a brief meeting of Division Chairmen with the Program Chairman and the Secretary would follow the Business Meeting.

The meeting was adjourned at 8:50 p.m.

Respectfully submitted,
ROBERT E. VAN ATTA, Secretary

FALL MEETING

MINUTES OF THE EXECUTIVE COMMITTEE MEETING

October 27, 1977

The meeting was called to order by President Clarence F. Dineen at 7:05 p.m. in the Roof Lounge of the Union Building at Indiana University-Purdue University at Indianapolis. The minutes of the Executive Committee and of the General Session of the Spring 1977 meeting were approved.

TREASURER'S REPORT

Treasurer Stanley L. Burden presented a financial report for the period January 1, 1977 through October 20, 1977, summarized as follows:

	Academy Accounts	Administered Accounts	Totals
Balance: January 1, 1977	\$6,359.58	\$14,585.77	\$20,945.35
1977 Income	9,873.82	5,811.02	15,684.84
1977 Expenditures	6,866.97	8,753.56	15,620.53
Balance: October 20, 1977	\$9,366.43	\$11,643.33	\$21,009.66

The Treasurer's report listed 803 currently paid-up members, including 370 senior members, with 52 new member applications; 96 members were dropped for non-payment of dues.

ELECTED COMMITTEE REPORTS

Academy Foundation Committee. William A. Daily, Chairman, presented the following summary report:

I. *Foundation Account*

Balance as of September 30, 1976	\$ 559.94
Income as of September 30, 1977	1,060.42
Disbursements to Academy	300.00
Transferred to Principal	1,000.00
Cash Balance	320.36

II. *John S. Wright Fund*

Balance as of September 30, 1976	\$ 14,000.00
Income as of September 30, 1977	19,930.65
Cash balance as of September 30, 1977	924.75
Disbursements from Invested Income Account:	
Research Grants and Proceedings, Vol. 85	5,500.00
Indiana National Bank fee	2,432.00
Cash balance	6,923.40
Balance in Invested Income Account:	20,000.00

III. *Market Value of all Securities*

	\$442,243.00
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Bonding Committee. No report.

Research Grants Committee. Robert M. Brooker, Chairman, reported that one research grant in the amount of \$320 has been awarded since the Spring 1977 meeting. After some discussion the Executive Committee agreed that future Academy meeting programs should carry appropriate identification of those papers resulting from research supported by the Academy.

Editor's Report. Benjamin Moulton, Editor, reported that Volume 86 (507 pages, plus index and table of contents) is nearing completion. A breakdown of contents by divisions was included.

Director of Public Relations. Walter A. Cory, Director, commented that media coverage of Academy activities remains a problem. He solicited suggestions and assistance in this area.

The reports of elected committees were approved.

PRESIDENTIAL APPOINTIVE COMMITTEES

Academy Representative to AAAS and AAS. Willis H. Johnson submitted a report summarizing the activities of Section X and the AAS, including changes in AAS operations for 1978.

Auditing Committee. No report.

Youth Activities Committee. Donald R. Winslow, Chairman presented a status report on the activities of the three youth activity programs sponsored by the Academy: the Science Fair Program, the Science Talent Search, and the Indiana Junior Academy of Science.

Twelve Regional Science Fairs were held last year; 24 state finalists and their sponsoring teachers made the trip to Cleveland to participate in the International Science and Engineering Fair. The Indiana Science Education Fund, Inc., and over 200 other organizations contributed financial support for this trip.

The 30th Annual Science Talent Search produced 43 participants from 26 high schools throughout the state; 24 finalists were selected, of whom 13 winners were selected to receive one-year subscriptions to *Scientific American*.

The chairman's report included a listing of the assets and liabilities of the Junior Academy and contained a recommendation for increased growth and service.

The most significant accomplishment of the year for the Youth Activities Committee was the award of two \$1,000 scholarships, created by the Board of Directors of the Indiana Science Education Fund, Inc. These awards were as follows:

Karl F. Kaufman Scholarship: Mike Miller, Lawrence Central High School, Indianapolis.

L. A. Willig Scholarship: Mike Forrest, John Adams High School, South Bend.

Library Committee. Lois Burton, Chairman, reported that Volume 85 of Proceedings was sent to 344 members and clubs. The library presently receives

materials from most states and 72 foreign countries; 67 new titles were received in exchange during the past year. Academy members were invited to visit the expanded facilities of the Academy Library.

Program Committee. Arthur Mirsky, Chairman, made several announcements pertaining to operations during the current meeting.

Publications Committee. William R. Eberly, Chairman, reported that the demand for monographs has been very heavy; *Natural Features of Indiana* has been taken over by the University of Notre Dame Press. Monographs and other Academy publications are available for purchase by members.

Fellows Committee. Richard L. Conklin, Chairman, made the following motion:

Motion: That the following persons, recommended by the Fellows Committee, be elected as Fellows of the Academy:

KARL L. KAUFMAN
WILLIAM G. KESSEL
VIRGIL R. KNAPP

CARL H. KREKELER
DAN WIERSMA
DONALD R. WINSLOW

Seconded and *carried*.

Resolutions Committee. No report.

Invitations Committee. Philip A. St. John, Chairman, announced that meetings are scheduled for Anderson College in 1978 and Manchester College in 1979. He requested invitations for 1980 and subsequent years. Brief discussion led to the suggestion that a possible site be sought in the Brookville area for the Centennial Meeting in 1985.

Necrologist. No report.

Parliamentarian. No report.

Science and Society Committee. Jerry J. Nisbet, reporting for Robert E. Henderson, Chairman, made the following motion:

Motion: That the Resolutions Committee be asked to draft a resolution to the Governor of the State of Indiana requesting that the Governor meet with a representative group of the Indiana Academy of Science to discuss appropriate mechanisms to provide assistance to state government on matters related to science and technology.

Seconded and *carried*.

Membership Committee. Jerry J. Nisbet, Chairman, reported that a new membership brochure is now available.

The reports of Presidential Appointive Committees were approved.

SPECIAL COMMITTEE REPORTS

Biological Survey Committee. Theodore J. Crovello, Chairman, presented a report detailing the activities of the four subcommittees on Literature, Endangered Species, Flora Indiana, and People Power. The function and progress of each was outlined and current tasks of the committee were reviewed.

Emeritus Member Selection Committee. Robert H. Cooper, Chairman, presented the following persons for Emeritus Membership (initial membership year shown in parentheses):

WILLIAM G. KESSEL (1946)

Motion: That the person presented be elected to Emeritus Membership.
Seconded and carried.

Preservation of Natural Areas Committee. William B. Barnes, Chairman, reported that although no nature preserves have been dedicated since the 1977 Spring meeting, the state-wide system now contains 45 areas with a total of 6,733 acres. He also reported on litigation involving the Bitternut Nature Preserve.

Speaker-of-the-Year Committee. John A. Ricketts, Chairman, reported that with the current Speaker, Dr. John B. Patton, the list of Indiana college visits has been completed. He also requested that names of suggested speakers be submitted in order that a catalog of speakers may be accumulated.

Academy Representative on Indiana Natural Resources Commission. Damian V. Schmelz reported on current and proposed activities of the Commission, including the forthcoming publication of all administrative laws. A long-range program for the *Design for the Future of Indiana's Natural Resources* is being initiated. He also briefly discussed the unfortunate outcome of the litigation involving the Bitternut Preserve, in which a small portion of that reserve will be lost in order to enlarge a road and construct a new bridge.

OLD BUSINESS

The Secretary of the Academy briefly reviewed the status of the constitutional amendment proposal originally presented at the November 4, 1976 Executive Committee meeting. The purpose of the straw vote to be taken of the membership during the Divisional Business Meetings on October 28, 1977 was described and possible further action of the Executive Committee following the straw vote was discussed. No action was taken.

The meeting was adjourned at 8:30 p.m.

Respectfully submitted,
ROBERT E. VAN ATTA, Secretary

FALL MEETING

MINUTES OF THE GENERAL SESSION

October 28, 1977

The Business Session of the 93rd Annual Meeting of the Academy was called to order by President Clarence F. Dineen at 11:05 a.m. in Room 101, Lecture Hall, Indiana University-Purdue University of Indianapolis.

Dr. Glen W. Irwin, Jr., Vice President of Indiana University (Indianapolis), welcomed the Academy on behalf of the university.

President Dineen introduced the Academy Speaker-of-the-Year, Dr. John B. Patton, State Geologist and Director of the Indiana Geological Survey, and three panelists: Dr. Mark Reshkin, Dr. Robert Henderson, and Mr. George W. Lands. Dr. Patton presented a timely illustrated lecture entitled "The Invisible Crisis: Implications for Indiana of Federal Energy Policy." Following his presentation, each panel member made brief remarks, to which Dr. Patton responded. A question-and-answer session produced numerous questions, directed to Dr. Patton and the panelists.

The Business Meeting was recessed at 12:05 a.m. and reconvened at 1:30 p.m. in Room 100, Lecture Hall.

The Secretary of the Academy presented a summary of committee reports and informed the membership of official actions taken by the Executive Committee on October 27, 1977.

The names of individuals who were elected 1978 Divisional Chairmen and Chairmen-Elect include:

ANTHROPOLOGY

Chairman: RUSSELL E. LEWIS
Chairman-Elect: CHARLES P. WARREN

BOTANY

Chairman: LARRY R. YODER
Chairman-Elect: ANNE SUSALLA

CELL BIOLOGY

Chairman: BETTY D. ALLAMONG
Chairman-Elect: MARY F. ASTERITA

CHEMISTRY

Chairman: CLYDE R. METZ
Chairman-Elect: JOHN R. RICKETTS

ECOLOGY

Chairman: ROBERT PRIDDY
Chairman-Elect: HAROLD MCREYNOLDS

ENGINEERING

Chairman: MILTON E. HARR
 Chairman-Elect: RAMACHANDRA A. RAO

(No 1977 election held; 1977 officers carry over to 1978.)

ENTOMOLOGY

Chairman: HAROLD L. ZIMMACK
 Chairman-Elect: ALAN C. YORK

GEOLOGY & GEOGRAPHY

Chairman: GERALD R. SHOWALTER
 Chairman-Elect: JOHN H. CLEVELAND

HISTORY OF SCIENCE

Chairman: WILLIAM BLOOM
 Chairman-Elect: PATRICK H. STEELE

MICROBIOLOGY & MOLECULAR BIOLOGY

Chairman: WILLIAM W. BALDWIN
 Chairman-Elect: CARL E. WARNES

PHYSICS

Chairman: CARL SARTAIN
 Chairman-Elect: RALPH LLEWELLYN

PLANT TAXONOMY

Chairman: THEODORE CROVELLO
 Chairman-Elect: DONALD L. BURTON

SCIENCE EDUCATION

Chairman: STANLEY S. SHIMER
 Chairman-Elect: H. MARVIN BRATT

SOIL & ATMOSPHERIC SCIENCES

Chairman: STEPHEN A. JUSTHAM
 Chairman-Elect: GARY C. STEINHARDT

ZOOLOGY

Chairman: JACKSON L. MARR
 Chairman-Elect: RICHARD MCCrackEN

The straw vote on the matter of a constitutional change of Academy Meeting dates was: Favorable, 67; Unfavorable, 95; Recorded abstentions, 35.

The Secretary then presented the following motions:

Motion: That the individuals who have applied for membership in the Academy be elected to the types of membership for which they have applied.

Seconded and *carried*.

Motion: That the individual recommended by the Emeritus Member Selection Committee and approved by the Executive Committee be elected to Emeritus Membership.

Seconded and *carried*.

Motion: That the individuals recommended by the Fellows Committee

and approved by the Executive Committee be elected as Fellows of the Academy.

Seconded and *carried*.

Faye Kenoyer Daily presented the Necrologist's report, which included the names of eight members:

- | | |
|---------------------|-------------------|
| TERZO P. AMIDEI | ELI LILLY |
| NELLIE M. COATS | ARMIN MANNING |
| WILLIAM E. EDINGTON | DORSEY P. MARTING |
| DAVID T. JONES | FERNANDUS PAYNE |

Damian Schmelz, Chairman of the Nominating Committee, placed the following slate in nomination:

- President:.....JERRY J. NISBET, 1978
- President-Elect:.....J. DAN WEBSTER, 1978
- Secretary:.....ROBERT E. VAN ATTA, 1978-80
- Editor:BENJAMIN MOULTON, 1978-80
- Academy Foundation:.....CLYDE R. METZ, 1978-79
- Bonding Committee:ROBERT M. BROOKER, 1978
C. BARRY KNISLEY, 1978
- Research Grants Committee.....GARY E. DOLPH, 1978-82

No nominations were made from the floor.

Motion: That the slate presented by the Nominating Committee be declared elected.

Seconded and *carried*.

William A. Daily, Chairman of the Resolutions Committee, presented the following:

RESOLUTION:

- WHEREAS: State government needs scientific counsel in dealing with many of the problems facing government and society today; and
- WHEREAS: Many members of the Indiana Academy of Science have expressed an interest in assisting the Governor in matters that involve their particular competence, be it therefore
- RESOLVED: That the President of the Academy be empowered to arrange a meeting with the Governor and selected members of the Academy to discuss ways in which members of the Academy might be of greatest assistance in solving such scientific problems, and be it further
- RESOLVED: That the Secretary of the Academy be instructed to transmit this resolution to the Governor of the State.

RESOLUTION:

- WHEREAS: The Indiana Academy of Science is deeply grateful to Indiana University-Purdue University at Indianapolis for their invitation to hold its 93rd annual meeting on their campus; and

WHEREAS: Administration, faculty and students alike have cooperated in providing us these many splendid rooms and facilities, be it

RESOLVED: That the Academy members here assembled express their sincere appreciation to IUPUI through Vice-President G. W. Irwin.

We express our sincere thanks to Dr. John B. Patton for his "Speaker of the Year" very informative and timely address.

We are grateful to Dr. Arthur Mirsky and his committee for the arrangements of the entire program and the comforts and conveniences provided the membership.

Motion: That the resolutions presented by the Resolutions Committee be approved.

Seconded and *carried*.

The meeting was recessed at 4:15 p.m. and reconvened at 6:00 p.m. with President-Elect Jerry J. Nisbet presiding at the annual banquet held in the Hoosier Room of the Student Union.

Following introduction of Academy Officers at the speakers' table, Dr. Nisbet introduced President Clarence F. Dineen, who presented the annual Presidential Address, entitled "History of a River," an interesting and thought-provoking discussion of the Michigan-Indiana watershed of the St. Joseph River.

The meeting was adjourned at 7:45 p.m.

Respectfully submitted,
ROBERT E. VAN ATTA, Secretary

INDIANA ACADEMY OF SCIENCE

LILLY RESEARCH LABORATORIES

Division of Eli Lilly Company
 Indianapolis, Indiana 46206
 Telephone (317) 636-2211

October 28, 1977

WHEREAS: The Indiana Academy of Science is deeply grateful to Indiana University-Purdue University at Indianapolis for their invitation to hold its 93rd annual meeting on their campus; and

WHEREAS: Administration, faculty and students alike have cooperated in providing us these many splendid rooms and facilities, be it

RESOLVED: That the Academy members here assembled express their sincere appreciation to IUPUI through Vice-President G. W. Irwin.

We express our sincere thanks to Dr. John B. Patton for his "Speaker of the Year" very informative and timely address.

We are grateful to Dr. Arthur Mirsky and his committee for the arrangements of the entire program and the comforts and conveniences provided the membership.

Submitted by the Resolutions Committee

WILLIAM A. DAILY, Chairman
 HOWARD R. YOUSE

DEPAUW UNIVERSITY

Greencastle, Indiana 46135

October 28, 1977

WHEREAS: State government needs scientific counsel in dealing with many of the problems facing government and society today; and

WHEREAS: Many members of the Indiana Academy of Science have expressed an interest in assisting the Governor in matters that involve their particular competence, be it therefore

RESOLVED: That the President of the Academy be empowered to arrange a meeting with the Governor and selected members of the Academy to discuss ways in which members of the Academy might be of greatest assistance in solving such scientific problems, and be it further

RESOLVED: That the Secretary of the Academy be instructed to transmit this resolution to the Governor of the State.

FINANCIAL REPORT
JANUARY 1-DECEMBER 31, 1977

I. ACADEMY ACCOUNTS

	Income	Budgeted	Expenditure	Budgeted
Dues	\$7,123.20	\$6,140.00		
Reprints: Vol. 83	61.55			
84	101.64			
85	2,661.31			
86	0.00	2,886.00	\$2,911.70	\$2,700.00
Interest	1,000.87	1,300.00		
Miscellaneous	4.00			
Secretary			486.91	500.00
Treasurer			354.71	400.00
General Office			109.00	250.00
Travel, AAAS Dues, etc.....			170.95	225.00
Membership Committee			200.00	200.00
Transfer to Administered Accounts			2,923.50	2,923.50
Junior Academy (\$1,000.00)				
Science and Society (\$500.00).....				
Natural Areas (-\$526.50)				
Library Binding (\$1,200.00)				
Proceedings: Publication (\$750.00) ...				
Proceedings: Mailing (\$0.00).....				
Publications: Clerical (\$0.00)				
President's Fund			0.00	100.00
Newsletter			500.00	500.00
Speaker of the Year Honorarium			500.00	500.00
Program Committee			*1,644.45	1,000.00
Publications Editor's Expenses			500.00	500.00
Youth Activities			0.00	50.00
Biological Surveys Committee			150.00	150.00
Representative to AAAS Meeting			294.70	300.00
Public Relations			17.00	100.00
Section Chairman Expenses			0.00	150.00
CPA Fees for Tax Return Preparation..			400.00	500.00
Lawyer's Fees			0.00	250.00
Miscellaneous			85.00	100.00
	\$10,952.57	\$10,326.00	\$11,229.92	\$11,398.50

* Includes a \$324.00 late billing from 1976 expense.

II. ADMINISTERED ACCOUNTS

	January 1 Balance	1977 Income	1977 Expenditures	December 31 Balance
Junior Academy	\$ 55.78	\$ 1,000.00	\$ 553.29	\$ 502.49
Science Talent Search	725.55	2,127.32	2,580.07	272.80
Science and Society	1,925.33	879.20	328.24	2,476.29
Research	254.60	660.00	4,574.00	(-3,649.40)
Natural Areas	526.50	-526.50	0.00	0.00
J.S. Wright Library	134.28	0.00	0.00	134.28
Lilly III Library	2,632.76	0.00	0.00	2,632.76
Lilly V Library	4,513.20	0.00	0.00	4,513.20
Library Binding.....	995.55	1,200.00	998.70	1,196.85
Science Fairs	0.00	0.00	0.00	0.00
Publications:				
Proceedings	46.27	6,250.00	5,495.38	800.89
Mailing of Proceedings	779.43	0.00	0.00	779.43
Monographs	1,496.52	34.00	0.00	1,530.52
Natural Features.....	0.00	0.00	0.00	0.00
Clerical	500.00	0.00	0.00	500.00
	<u>\$14,585.77</u>	<u>\$11,624.02</u>	<u>\$14,519.68</u>	<u>\$11,690.11</u>

III. SUMMARY

	Academy Accounts	Administered Accounts	Total
Balance: January 1, 1977.....	\$ 6,359.58	\$14,585.77	\$20,945.35
1977 Income	10,952.57	11,624.02	22,576.59
1977 Expenditures	11,229.92	14,519.68	25,749.60
Balance: December 31, 1977	6,082.23	11,690.11	17,772.34

IV. BANK BALANCES

Upland United Bank, Upland, Indiana.....	\$ 2,272.36
Great Western Savings and Loan, Los Angeles, California	6,019.83
First Western Savings and Loan, Las Vegas, Nevada	9,480.15
	<u>\$17,772.34</u>

V. SUMMARY OF TRUST FUNDS

A. Foundation Account (00430-00-0)			
Income cash balance (1/1/77)		\$ 518.68	
Total dividends and interest for 1977		1,041.98	
Disbursements for 1977			
Research grants.....	\$ 300.00		
Transfer to principal cash	1,300.00		
	<u>\$ 1,600.00</u>	<u>-1,600.00</u>	
Income cash balance (12/31/77)		\$ -39.34	\$ -39.34
Principal cash balance (1/1/77)		485.94	
Total receipts for 1977		11,544.02	
Total disbursements for 1977		-11,976.56	
Principal cash balance (12/31/77)		53.40	\$ 53.40
Market value of investments (12/31/77).....			\$23,248.50
Total value of account (12/31/77).....			<u>\$23,262.56*</u>

*Carrying value is \$24,192.53

B. John S. Wright Fund (00430-01-9)			
Income cash balance (1/1/77)		\$	782.98
Total dividends, interest, and other income for 1977			19,594.25
Disbursements for 1977			
INB fee	\$	2,432.00	
Transfer to 00430-02-8		13,983.73	
Transfer to Principal Cash		0.00	
		<hr/>	
	\$16,415.73	\$-16,415.73	
Income cash balance (12/31/77)		3,961.50	\$ 3,961.50
Principal cash balance (1/1/77)		210.33	
Total receipts for 1977		0.00	
Total disbursements for 1977		0.00	
		<hr/>	
Principal cash balance (12/31/77)	\$	210.33	\$ 210.33
Market value of investments (12/31/77)			\$466,671.50
Total value of account (12/31/77)			470,843.33*
*Carrying value is \$337,431.53			

C. John S. Wright Invested Income Account (00430-02-8)			
Income cash balance (1/1/77)		\$	694.84
Total interest for 1977			999.85
Disbursements for 1977			
Transfers to principal	\$	-1,500.00	
		<hr/>	
	\$ -1,500.00	\$ -1,500.00	
		<hr/>	
Income cash balance (12/31/77)		\$	179.69
Principal cash balance (1/1/77)			555.18
Total receipts for 1977			1,483.73
Disbursements for 1977			
Purchase of investments	\$16,000.00		
Research grants		0.00	
Proceedings, Vol. 85		5,500.00	
		<hr/>	
	\$21,500.00	-21,500.00	
		<hr/>	
Principal cash balance (12/31/77)		538.91	\$ 538.91
Market value of investments			\$ 22,000.00
		<hr/>	
Total value of account			\$ 22,718.00

VI. NOTES

Membership Dues:

According to the Treasurer's records, the current status may be summarized as follows:

945 paid (299 member, 436 senior member, 54 student, 13 family, 32 senior family member, 14 sustaining member, 1 family sustaining, (4) life, (1) honorary, (79) emeritus, and 14 club members.

152 on file from 1976 but not paid for 1977

70 new members for 1977 (included in above totals)

3 previous members reinstated during 1977 (included in above totals)

96 members and clubs dropped for nonpayment of 1976 dues

Dues Structure for 1977:

\$ 2.00 for student memberships

5.00 for memberships and club memberships

10.00 for senior memberships

- 25.00 for sustaining memberships
- 2.00 additional for family memberships
- 300.00 for life memberships
- 150.00-500.00 corporate memberships
- 50.00-100.00 institutional memberships
- 1.00 initiation/reinstatement fee (\$2.00 for family membership)

Savings

The treasurer, from the total assets of both Academy and Administered accounts, has maintained sufficient funds in the checking account to pay current bills throughout the year; the remaining funds have been invested in savings certificates.

Certificates redeemed in 1977

1. (FWSL #32-002495-4) \$2,000 invested at 6.50% April 26, 1976; April 26, 1977 redemption value \$2,143.01. \$2,000 reinvested as certificate #11-32010279.

Certificates current

1. (GWSL) \$5,919.10 invested at 6.75% October 1977; 31 December value \$6,019.83; Maturity at April, 1980.
2. (FWSL) \$3,000.00 invested at 6.75% October 1976; 31 December value \$3,266.70; Maturity at April 1979.
3. (FWSL) \$2,000.00 invested at 6.50% April 1977; 31 December value \$2,081.25; Maturity at April 1978.
4. (FWSL) \$1,000.00 invested at 6.50% June 1977; 31 December value \$1,033.05; Maturity at June 1978.
5. (FWSL) \$1,000.00 invested at 6.50% June 1977; 31 December value \$1,033.05; Maturity at June 1978.
6. (FWSL) \$1,000 invested at 6.50% June 1977; 31 December value \$1,033.05; Maturity at June 1978.
7. (FWSL) \$1,000.00 invested at 6.50% June 1977; 31 December value \$1,033.05; Maturity at June 1978.

Total	\$15,499.98
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Reprints:

Reprint charges to authors for Vol. 82 have been collected giving a net profit to the Academy of \$100.83 in excess of printing costs. Reprint charges to authors for Vol. 83 have been collected giving a net profit to the Academy of \$123.13 in excess of printing costs. Reprint charges to authors for Vol. 84 are being collected with 1 billing outstanding for a total of \$150.48 (William R. Eberly) and will give a net profit to the Academy (1975, 1976 and 1977) of \$223.81 in excess of printing costs when all bills have been collected. Reprint charges to authors for Vol. 85 are being collected with 4 billings outstanding for a total of \$416.08 and will give a net profit to the Academy of \$225.93 when all bills have been collected.

Attorney Fees:

Ice, Miller, Donadio & Ryan of Indianapolis have been advising the Academy in matters concerning the reprinting and roles of various publications. The executive committee voted at the Fall Meeting of 1973 to delay the transferring of \$4,226.87 for attorney fees concerning the tax classification problems to the Academy operating funds from the J.S. Wright fund until these funds are needed for operating expenses.

Publications:

Sales to date during 1977 have been \$34.00 for Monographs. The total cost of publishing Vol. 85 of the *Proceedings* was \$13,495.38 of which the State of Indiana paid \$8,000 leaving a balance of \$5,495.38 to be paid from Academy funds.

Research Grants:

Funds totaling \$4,564.00 have been awarded to: Greg Patterson (Indiana State), Charles D. Lawrence (I.U.), James Haddock (IUPU-Ft. Wayne), Larry R. Yoder (Ohio State-Marion Campus), William Chang (I.U.), L.R. Ganion (Ball State), J. Dan Webster (Hanover), Diana J. Einselen (Butler), Michael R. Hudson (I.U.), Deborah A. Champagne (I.U.), Neil Warren Stillman (Purdue), and Daniel Lee Krisher (I.U.).

VII. BUDGET FOR 1978

The following budget was approved by the Budget Committee in a telephone conference call meeting on December 14, 1977:

Academy Accounts

Anticipated Income

Dues, Initiation and Reinstatement Fees (70@\$2, 500@\$5, 400@\$10, 100@\$0)	\$ 6,640.00
Interest on Savings	1,000.00
Reprint Charges to Authors	3,100.00

\$10,740.00

Budgeted Expenditures

Secretary	\$ 500.00
Treasurer	400.00
General Office	250.00
Officer Travel, AAAS Dues.....	225.00
Membership Committee	200.00
President's Contingency Fund.....	100.00
Newsletter	500.00
Speaker of the Year Honorarium	500.00
Program Committee	1,000.00
Publication Editor's Expenses	500.00
Youth Activities Committee.....	50.00
Biological Surveys Committee (including Endangered Plant Species and Flora Indiana Project Com- mittees)	1,000.00
Representative to AAAS Meeting	300.00
Reprint Charges to Academy	3,000.00
Public Relations.....	100.00
Section Chairmen Expenses.....	50.00
CPA Fees for Tax Return Preparation	400.00
Lawyer's Fees	150.00
Miscellaneous (Including \$110 for library books)	210.00
Transfers to Administered Accounts	3,450.00
Junior Academy.....	\$ 1,000.00
Science and Society Committee	500.00
Natural Areas Committee	0.00
Library Binding	1,200.00
Proceedings: Publication	750.00
Proceedings: Mailing.....	0.00
Proceedings: Clerical.....	0.00

\$12,885.00

Endowment Funds

Anticipated Income

IAS Foundation.....	\$ 300.00
J.S. Wright Investment Income.....	15,500.00

\$15,800.00

Budgeted Expenditures

Bank Fee	\$ 2,700.00
Research Grants (\$7,000—\$350 AAAS)	6,650.00
Publications	
Proceedings, Vol. 87 (\$14,250—\$8,000 Ind.— \$750 transfer)	5,500.00

\$14,850.00

Restricted Accounts

Anticipated Income

Research Grants Committee (AAAS)		\$ 350.00	(part)
Science Talent Search (Tri Kappa).....		2,000.00	
Publications		300.00	
Proceedings.....	\$ 50.00		
Monographs and Nat. Feat.	250.00		
		<hr/>	
		\$ 2,650.00	

Budgeted Expenditures

Research Grants Committee		\$ 350.00	(part)
Science Talent Search		2,000.00	
Publications		300.00	
Proceedings.....	\$ 50.00	(part)	
Monographs	250.00	(part)	
		<hr/>	
		\$ 2,650.00	

Respectfully submitted,

Stanley Burden, Treasurer

We, the undersigned, have audited the Treasurer's records for the Indiana Academy of Science for the year 1977 and have found them to be accurate and in order.

February 20, 1978

Timothy J. Burkholder
A. Gilbert Cook

THE INDIANA JUNIOR ACADEMY OF SCIENCE

45th Annual Meeting, October 28, 1977

The 45th annual meeting of the Indiana Junior Academy of Science was called to order at 1:35 p.m. on October 28, 1977 by the president, Greg Rondot.

Qualifications for president and secretary were read and nominations were opened to the floor. Nominations for president were Brian Stephens, Highland High School and Terry Weigand, Marquette High School. Nominations for secretary were Cheryl Barbati, Highland High School and Julie Cadle, Paoli High School.

Candidates gave a brief explanation of why they felt they deserved the office. The ballots were distributed, marked and collected. They were then counted. The results were announced. The president-elect was Brian Stephens and secretary-elect was Cheryl Barbati. Seven clubs were represented at the meeting.

Dr. Robert Rivers, Junior Academy Director, announced the winners of the research paper competition. They were as follows:

JUNIOR SCIENCE DIVISION

First Place

Jamie Sibbitt, Paoli Jr.-Sr. High School

Second Place

Julie Calarek, St. John the Baptist, Fort Wayne

Tammi Hedges, Bishop Luers High School, Fort Wayne

LIFE SCIENCE—SENIOR DIVISION

First Place

Anne Celeste Pfauth, Marquette High School, Michigan City

Second Place

Margaret T. Bruner, Paoli Jr.-Sr. High School

Lynda S. Rhodes, East Noble High School, Kendallville

Third Place

Debra S. Benham, Paoli Jr.-Sr. High School

Ron Doris, Highland High School

Debbie S. Ferree, Paoli Jr.-Sr. High School

PHYSICAL SCIENCE—SENIOR DIVISION

First Place

Michael J. Patterson, East Noble High School, Kendallville

John A. Stark, East Noble High School

Second Place

Pamela Jo Barnett, Paoli Jr.-Sr. High School

Gregory A. Rondot, Bishop Luers High School, Fort Wayne

Third Place

Terry Wiegand, Marquette High School, Michigan City

Outstanding Paper Awards went to John Stark and Anne Pfauth. Outstanding Junior Scientists selected by the Junior Academy Council were Greg Rondot, Teresa Bruner and Mike Patterson. The new President and Secretary's address is: The G.R.A.M.S., Highland High School, Highland, Indiana 46322.

A movie was presented by the admissions office, IUPUI. Total attendance of the days' sessions was about 75 persons. The meeting was adjourned at 2:30 p.m.

Respectfully submitted,
STACY FOX, Secretary IJAS 1976-77

BIOLOGY SURVEY COMMITTEE

Report to Executive Committee
October 27, 1977, IUPUI, Indianapolis

BSC's Purposes And Organization

The Biology Survey Committee (BSC) has experienced a busy and productive year. Much thought and discussion has been given to how the BSC may best serve biology, the Academy, our government, and the people of Indiana.

Historically, the BSC is almost as old as the Academy itself. Its original purpose was extremely broad: to accumulate and make available information on the biota of the State. In a recent BSC history project coordinated by Jack Munsee, we discovered that originally the BSC's goal included an actual survey of the State, county by county. In subsequent decades the major BSC activity centered on the creation of an index to the literature of the State's biota. In the last few years, however, the need for diverse and detailed information on the biota of the State has become evident. But potential users of such information on the biota of the State has become evident. But potential users of such information no longer are restricted to academic biologists, and now also include such diverse people as environmental impact statement writers, workers in various agencies of both State and Federal government, teachers at all levels, area planners, and individuals with private interests. More importantly, at least federal legislation (e.g., the 1973 Endangered Species Act) now requires developers to demonstrate that their activity will not endanger species, etc. This and other legislation requires a basic, detailed knowledge of the biota of Indiana. Furthermore, not only is it essential that such knowledge be accumulated, but also that the small parts of it relevant to a specific task be made available in a meaningful and efficient way.

Thus we now see the current goal of BSC to be the same as when the Academy was founded: to accumulate, store, and make available in useful forms, information on the biota of the State. Given the magnitude of the data base of interest, and the need for fast retrieval of selected pieces of it, we also considered how computers might help the BSC achieve its goals of accumulating and disseminating information.

Consequently, given its purposes and building on previous activities of the BSC (for which we must thank its past Chairman, Jack Munsee), and of several more recently created subcommittees, the BSC is organized into the following subcommittees:

A. *BSC Literature Subcommittee*—Its purpose is to maintain and to accumulate published references on the biota of the State. While in the past the BSC Literature Project has presented its findings in conventional printed form, we also wish to explore the simultaneous creation of an accumulative computer data bank. It would provide updated, integrated bibliographies of particular

topics in response to specific requests. A recent poll on the value of this bibliographic service indicate it is of value, but its methods of dissemination should be reviewed.

B. *BSC Endangered Species Subcommittee*—Its purpose is to develop and maintain information on the status of species that might be threatened or endangered. Progress is being made in studying several large taxa, including mammals, fish, and vascular plants. This year two summary lists of rare species were produced from a computer data base, and await dissemination.

C. *BSC Flora Indiana Project (FLIP) Subcommittee*—Currently information is available on the presence or absence of each of 2,500 vascular plants in each of Indiana's 92 counties. Based on Deam's (1940) Flora of Indiana plus new records as verified by herbarium species this computerized information will be available as a byproduct of a Ph.D. thesis by Clifton Keller, a student of Crowello's at Notre Dame. While these data deal only with plants, the hope is that the computer programs and other techniques developed also will be of use to a Fauna Indiana Project.

D. *BSC People Power Subcommittee*—The purpose of this subcommittee is to develop and maintain information on persons interested in any or all aspects of the biota of the State, including the accumulation and use of such data. People with interests in the biota of one geographic area immediately come to mind, as do people with interests in one taxon, one group of species, etc. But people of value to the goals of the BSC are not restricted to biologists. The expertise of geographers, geologists and archeologists to name a few, is of great value to the BSC.

Larger Benefits of BSC Activity

A partial list of *broad* benefits of BSC activity include:

1. Provision of data and their evaluation to State agencies, educational institutions, businesses, and private citizens.
2. Enhancement of education at all levels.
3. Enhancement of good citizenship by increased awareness and involvement in the study of our biological natural resources (and introduced resources, e.g., crops, weeds, diseases, ornamentals).
4. Increased appreciation among Indiana citizens, young and old, for the beneficial effects of science.
5. Increased prestige and participation for the Indiana Academy of Sciences.

Current Tasks of the BSC.

1. Determine interest about the biota of the State, and in BSC activities, among individuals in Indiana, and in such organizations as Audubon, Isaac Walton, Nature Conservancy, etc.
2. Continue the work of the BSC Literature Subcommittee.
3. Integrate the works of several people on the status of endangered biota. Request a grant from the Indiana Academy to describe and summarize

their findings in a modest publication, much like that already done in states like Michigan and Wisconsin.

4. Investigate sources of funding (outside of the Indiana Academy) for BSC activities. An attractive feature of BSC activities, and thus funding, is that its activities are geographically oriented, thus opening the possibility and need for funding to be distributed among people and institutions around the state. Also, most computerized data banks developed by the BSC can be duplicated for use at colleges, etc., around the State.
5. Continue and expand work on the Flora Indiana Program.
6. Determine how the activities of the BSC Committee can enhance those of the Natural Areas Committee, and vice versa.
7. Develop background information and suggestions to help the State to draft endangered species or similar legislation, with cooperation of the Academy's Science and Society Committee, the AIBS's Public Responsibilities Network, etc.
8. Investigate whether the re-creation (?) of the post of State Botanist (plus ?) is necessary, given our increasingly-limited natural resources, etc. If deemed so, then provide sound recommendations and reasons to the proper people.
9. Explore the possibilities of making BSC data locally available via Indiana's IHETS, INDIRS, or other computer networks.
10. Maintain high levels of communication at the national level (e.g., with the federal Office of Endangered Species, EPA) to assure our awareness of new information affecting Indiana, and to assure that the BSC can contribute to the solution of relevant national problems.

October 27, 1977

Prepared and Submitted By,
THEODORE J. CROVELLO, Chairman
Biology Survey Committee

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HELP US TO HELP INDIANA!

BIOLOGY SURVEY COMMITTEE

LITERATURE SUBCOMMITTEE REPORT 1976-1977

THEODORE J. CROVELLO, Chairman, University of Notre Dame

WILLIAM B. CRANKSHAW

Ball State University

JAMES R. GAMMON

DePauw University

JACK R. MUNSEE

Indiana State University

VICTOR RIEMENSCHNEIDER

Indiana University, South Bend

DAVID S. WOODRUFF

Purdue University

FRANK N. YOUNG, JR.

Indiana University, Bloomington

The goal of the Literature Subcommittee of the Academy's Biological Survey Committee is to accumulate and maintain published and unpublished references on the biota of the State. While in the past the BSC Literature Project has presented its findings in conventional printed form, we now also are engaged in the simultaneous creation of a current and retrospective computer data bank. It will provide updated, integrated bibliographies on particular topics in response to specific requests. A recent poll on the value of this new bibliographic service indicated both its value and need. Contact Crovello for further information, or to submit project information to the data bank. The data bank includes much more information about each reference than is included in this printed summary.

The works reported below are arranged first by major taxonomic category, and then alphabetically by author. The letter in parentheses at the end of each reference stands for one of the following: P= Publication; I= In press; T= Thesis; W = Work in progress. For theses and for work in progress, the worker's affiliation is indicated *if* it was supplied to the Committee.

- Biota:
1. DINEEN, C. F. 1977. The history of a river. St. Mary's College. (I).
 2. GOODMAN, J. D. 1977. Vertebrates, molluscs, flatworms, parasites, and flowering plants of Delaware and Madison counties, Indiana. Anderson College. (W).
- Nonvascular Plants:
1. FAHEY, T., and J. D. SCHOKNECHT. 1977. *Coprinus*, *Oidium* and *Ozonium*: Development and ultrastructural investigations. Indiana State University. (T).
 2. JACK M. A., and M. R. TANSEY. 1977. Growth, sporulation, and germination of spores of thermophilic fungi incubated in sun-heated soil. *Mycologia* 69: 109-117. (P).
 3. KONOPKA, A. 1978. Physiological ecology of planktonic blue-green algae. Purdue University. (W).
 4. SAMSON, R. A., and M. J. CRISMAN, and M. R. TANSEY. 1977. Observations on the thermophilic ascomycete *Thielavia terrestris*. *Trans. Brit. Mycol. Soc.* 69: 69: 417-423. (P).
 5. SCLOKNECHT, J. Myxomycetes of Indiana and Illinois. Indiana State University (W).
 6. TANSEY, M. R., and M. A. JACK. 1977. Growth of thermophilic fungi in soil *in situ* and *in vitro*. *Mycologia* 69: 563-578. (P).
 7. TANSEY, M. R., and M. A. JACK. 1976. Thermophilic fungi in sun-heated soils. *Mycologia* 68: 1061-1075. (P).

- Vascular Plants:
1. CROVELLO, T. J. and C. KELLER. 1977. Rare plants of Indiana (W).
 2. CROVELLO, T. J. and C. KELLER. 1977. The Flora Indiana Project. (W).
 3. CROVELLO, T. J., B. HELLENTHAL, and C. KELLER. 1977. I-Trees, A Manual Of The Trees of Indiana. (W).
 4. CROVELLO, T. J. et al. 1977. An Atlas Of The Flora Of Indiana. (W).
 5. ENDERLE, K. 1977. Mosses of the Saint Mary's College Nature Area. (W).
 6. GASTONY, G. J. 1977. Chromosomes of the independently reproducing Appalachian gametophyte: a new source of taxonomic evidence. *Systematic Botany* 2: 43-48. (P).
 7. GASTONY, G. J. and D. E. SOLTIS. 1977. Chromosome studies of *Parnassia* and *Lepuropetalon* (Saxifragaceae) from the eastern United States. A new base number for *Parnassia*. *Rhodora* 79: 573-578. (P).
 8. KEPHART, S. R. Reproductive isolating mechanisms in *Asclepias* sp. Indiana University, Bloomington. (T).
 9. LEVY, M. and P. L. WINTERNHEIMER. 1977. Allozyme linkage disequilibrium among chromosome complexes in the permanent translocation *Oenothera biennis*. *Evolution* 31: (I).
 10. MAXWELL, R. H. 1978. Indiana Plant Distribution Records, Clark County. Indiana University Southeast. (W).
 11. MERTENS, R. 1977. Determination of the taxonomic position of *Polygonum tenue* in genus *Polygonum*. Ball State University. (W).
 12. RIETVELD, W. J. and R. D. WILLIAMS. 1977. Development of lifting and storage guidelines for optimum physiological condition of black walnut planting stock. U.S. Forest Service, Bedford, Indiana. (W).
 13. RIETVELD, W. J. and R. D. WILLIAMS. 1977. Detection of dormancy in black walnut seedlings with the Shigometer and an Oscilloscope technique. (I).
 14. SCHILLING, E. E. Systematics of the *Solanum nigrum* complex in North America. Indiana University, Bloomington. (W).
 15. SMITH, A. W. and J. J. TOBOLSKI. 1977. Isozyme polymorphism in white ash and blue ash. (W).
 16. SOLTIS, D. E. 1977. Biosystematic study of *Sullivantia* (Saxifragaceae). Indiana University, Bloomington. (W).
 17. TOBOLSKI, J. J. 1977. An isozyme survey of several Indiana oak species. (W).
 18. WILLIAMS, R. D. and D. T. FUNK. 1977. Eighteen-year performance on an eastern white pine genetic test plantation in southern Indiana. (I).
 19. WILLIAMS, R. D., D. T. FUNK and R. NIELSEN. 1977. Squirrels, direct seeding walnuts, repellents. *Southern Lumberman*. 89-91. (P).
 20. WILLIAMS, R. D. and D. T. FUNK. 1977. The effects of genotype and nursery environment on the survival and growth of black walnut plantations. (W).
 21. WEST, L. G., J. L. MCLAUGHLIN, and G. K. EISENBEISS. 1977. Saponins and Triterpenes from *Ilex opaca*. *Phytochemistry* 16, 1846-1847. (P).
- Insects:
1. AILOR, M. C. R. 1977. A study of the factors affecting body size and of fertility in the Hessian fly, *Mayetiola destructor* (Say). M. S. Thesis, Purdue University. 106p. (T).
 2. AKEY, R. J. 1977. A survey of the mosquito breeding sites in Wayne County, Indiana. Indiana University East. (W).
 3. BALLARD, T. and D. L. SCHUDER. 1977. Life history and control of eastern pine shoot borer. *Annals Entom. Soc. Amer.* (W).
 4. BELICEK, J. 1976. Coccinellidae of Western Canada and Alaska with analyses of the transmontane zoo-geographic relationships between the fauna of British Columbia and Alberta. (Insecta; Coleoptera: Coccinellidae). *Questiones Entomologicae* 12: 283-409. (P).
 5. BENNETT, G. W. and R. D. LUND. 1976. Evaluation of insecticide baits for cockroach control, 1976. *Insecticide and Acaricide Tests*, Vol. 3. (1978). (I).
 6. BENNETT, G. W. and R. D. LUND. 1977. Evaluation of encapsulated Pyrethrins (Sectrol™) for German cockroach and cat flea control. *Pest Control* 45 (9): 44, 46, 48-50. (P).

7. BENNETT, G. W., and S. H. ROBERTSON. 1977. Field testing of Ficam W for flea control. (I).
8. CALDWELL, D. L. and D. L. SCHUDER. 1977. Life cycle and descriptions of forms of *Phylloxera caryaecaulis* (Filch). Annals Entom. Soc. Amer. (W).
9. FOSTER, J. E. 1976. Current status of genetic control of Hessian fly populations with the dominant Great Plains Race. Proc. XV Internatl. Congress of Entomol. 157-163. (P).
10. FOSTER, J. E. 1977. Suppression of a field population of the Hessian fly by release of the dominant avirulent Great Plains biotype. Jour. Econ. Entomol. 70: (I).
11. HADDOCK, J. D. 1977. The biosystematics of the Caddis Fly genus *Nectopsyche* in North America with emphasis on the aquatic stages. The American Midland Naturalist 98: 382-421. (P).
12. HADDOCK, J. D. and N. D. SCHMIDT. 1977. Seasonal changes in soil arthropod species diversity as affected by perturbation in three successional communities in Northeastern Indiana. Proc. Ind. Acad. Sci. 86: 467-473. (P).
13. HALLMAN, G. J., and C. R. EDWARDS and J. E. FOSTER. 1977. Soybeans cultivars evaluated for resistance to Mexican bean beetle in southern Indiana. Jour. Econ. Ent. 70: 316-318. (P).
14. HARRIS, T. L. and W. P. McCAFFERTY. 1977. Assessing aquatic insect flight behavior with sticky traps. The Great Lakes Entomologist Vol. 10 (4): 233-239. (P).
15. JACOBS, M. E. 1974. Beta-Alanine and Adaptation in *Drosophila*. J. Insect Physiol. 20: 859-866. (P).
16. JOHNSON, M. D. 1976. Survey of the bees in Putnam Co. (includes nesting biology). DePauw University. (W).
17. KNSLEY, C. B. 1977. The Cicindelidae of Indiana (tiger beetles). (W).
18. LUND, R. D. and G. W. BENNETT. 1977. Evaluation of Bolt Roach Bait, 1977. Insecticide and Acaricide Tests, Vol. 3. (1978). (I).
19. LUND, R. D. and G. W. BENNETT. 1977. Comparison of three kinds of cockroach traps. Insecticide and Acaricide Tests, Vol. 3. (1978). (I).
20. LUND, R. D. and F. T. TURPIN. 1977. Carabid damage to weed seeds found in Indiana cornfields. Environ. Entomol. 6 (5): 695-698. (P).
21. LUND, R. D. and F. T. TURPIN. 1977. Serological investigation of black cutworm larval consumption by ground beetles. Ann. Entomol. Soc. Am. 70 (3): 322-324. (P).
22. McNEAL, C. D., JR. and G. W. BENNETT. 1976. Utilization of ultra-low volume aerosols for the control of German cockroaches. J. Econ. Entomol. 69 (4): 506-8. (P).
23. MEYER, R. W. 1976. Insects and other arthropods of economic importance in Indiana during 1975. Proc. Ind. Acad. Sci. 85: 262-270. (P).
24. MEYER, R. W. 1977. Insects and other arthropods of economic importance in Indiana during 1976. Proc. Ind. Acad. Sci. 86: (I).
25. MEYER, R. W. and D. P. SANDERS. 1976. New locality records in the genus *Chrysops* (Diptera: Tabanidae) in Indiana. Proc. Ind. Acad. Sci. 85: 271-273. (P).
26. MUNSEE, J. R. 1977. *Smithistruma filitalpa* W. L. BROWN, and Indiana Dacetine ant (Hymenoptera: Formicidae). Proceedings of the Indiana Academy of Science. (P).
27. MUNSEE, J. R. 1977. A gynandromorph of *Smithistruma* Symenoptera: Formicidae. Indiana State University. (W).
28. MUNSTERMANN, L. E. and G. B. CRAIG. 1976. *Culex* mosquito populations in the catch basins of northern St. Joseph County, In. Proc. Ind. Acad. Sci. 86: 246-252. (P).
29. OWENS, HOHN M. 1977. Ultra-low volume particle-size distribution in greenhouse whitefly control on poinsettia. Purdue University. (T).
30. OWENS, J. M. and G. W. BENNETT. 1978. Ultra-low volume particle-size deposition on immature greenhouse whiteflies. J. Econ. Ento. (I).

31. OWENS, J. M. and G. W. BENNETT. 1978. Ultra-low volume particle-size distribution in greenhouse whitefly control on poinsettia. Purdue University. (T).
 32. RUSSO, R. 1977. Effect of quantity of blood on ovarian development in *Culex pipiens*. IUPUI, Indianapolis. (W).
 33. RUSSO, R. 1977. Information retrieval in mosquito control. IUPUI, Indianapolis. (W).
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NECROLOGY

FAY KENOYER DAILY, BUTLER UNIVERSITY

TERZO P. AMIDEI

Fanano, Italy
July 23, 1907

Gary, Indiana
January 17, 1977

Mr. Terzo P. Amidei came to the United States with his parents when he was three years old. His birthplace was a village, Fanano, Italy, where he was born July 23, 1907. He went to grade and high school in Gary, Indiana, graduating from Froebel High School in 1925. He attended Indiana University where he obtained a B.A. degree in 1929 and a Master's degree majoring in Botany in 1931. His education was financed by working in the Gary steel mills for several years and in the school cafeteria and other odd jobs while on campus.

His interest in botany was nurtured at an early age by his mother whom he helped in growing flowers and vegetables at their home. This interest was recognized and stimulated by Mr. A. M. Wheeler, a science teacher at the high school which Mr. Amidei attended. When Mr. Wheeler retired, he gave Mr. Amidei books and special reference material which he had used in his own teaching. Mr. Amidei built up a fine library and subscribed to a number of scientific publications which he read avidly.

Mr. Amidei was a teacher in various public schools in East Chicago during his career. He taught elementary science, physics and biology. He was head of the science department at Roosevelt High School for about ten years before his retirement in 1973.

Mr. Amidei was the first naturalist at the Dunes State Park at Tremont working for the Indiana Department of Conservation for over twenty years. He would teach school during the week and serve as naturalist from Friday evening to Sunday evening. He was considered an authority on plants, animal tracks and birds. His nature hikes and visual aid programs were very successful and were praised by many participants. He had hoped to write a book on the origin of the Dunes, its characteristics, flora and fauna, but did not realize this accomplishment. He was also a Boy Scout leader for many years in East

Chicago, creating an interest in nature and ecology among youngsters in his troop. He spent two summers in Rochester, Indiana, with Scout troops on a reforestation project. He was also a volunteer in the Red Cross. He served two years as an X-ray technician in the United States 5th Army in France during World War II with the 132nd Evacuation Hospital.

Mr. Amidei joined the Indiana Academy of Science in 1926 while a student at Indiana University. He was also affiliated with the First United Prebysterian Church in which he was an elder. He was also a member of the Sons of Italy; Dante Allghieri Lodge No. 1220 of Gary; National Retired Teacher's Association; Indiana University Alumni Association of Gary, Indiana; and the Lake County Retired Teachers Association.

Mr. Amidei died January 17, 1977, in Gary after a successful teaching career. He had been praised by supervisors and principals for his dedication, quality of teaching and creativity. He was kind, gentle and noted for helping those in need.

GLENN G(ARDNER) BARTLE

Borden, Indiana
February 7, 1899

Johnson City, New York
September 14, 1977

Dr. Glenn Gardner Bartle was the founder of Triple Cities College of Syracuse University in 1946 at Endicott, New York. The 200 students of the college, mostly returning servicemen on the GI bill, went to classes held in Quonset huts. In 1950, Triple Cities College was incorporated into the State University system and Dr. Bartle became the first president. The university was soon renamed Harpur College which was headed by Dr. Bartle until his retirement in 1964. He arranged the move in 1961 to the Vestal Parkway campus west of Binghamton. It has developed into a sprawling \$200 million university center with around 9,000 students. Dr. Bartle pressed for the incorporation of the college into the state university system with the aid of a committee of community leaders and friends with connections in banking and political fields. Their united efforts against the opposition fulfilled his dreams of a fine university. The story of Dr. Bartle's years at the college is told in a book, *Harpur College in the Bartle Era* (1975, available on campus).

Dr. Bartle was born in an Indiana farmhouse near Borden February 7, 1899. His father was a teacher and later a minister and was a descendent of Palatine Germans. He studied at Indiana University where he received an A.B. degree in 1921, M.A. in 1923 and Ph.D. degree majoring in stratigraphy and economic geology in 1932. He also attended Chicago University from 1924 to 1925 where he was an assistant.

His professional career began as a school superintendent in Illinois from 1922 to 1924. He became an instructor in Geology at Kansas City Junior College from 1925 to 1933. He was also a consulting geologist with Panhandle East Pipe Line Company from 1929 to 1942. He was Chairman of the Geology and Geography Department of the University of Kansas City from 1933 to 1938, professor of geology and dean of liberal arts from 1938 to 1942. He was with the United States Army in 1918 and served the United States Navy as lieutenant commander from 1942 to 1945 commanding an officer's training school at Swarthmore College in Pennsylvania. When he returned from the navy, the saga of the Triple Cities College of Syracuse University began in 1946 as he became dean and professor of geology. He was also a consulting geologist with the Australian Oil and Gas Company in 1957 and after. After leaving Harpur in 1964, he continued with his usual energy and enthusiasm to another assignment as full-time consultant to the Agency for International Development for the U.S. Department of State at Washington, D.C. Later with some partners, he was active in gas and oil well explorations, chiefly in Texas.

Dr. Bartle joined the Indiana Academy of Science in 1923, the year he received his M.A. degree at Indiana University. The next year while in Illinois he presented a paper at the Indiana Academy of Science fall meeting on the change of drainage of Raccoon Creek, Indiana. He was at Mateno, Illinois, then. He was honored as fellow in 1931 and was a senior member at death. His research interests covered stratigraphy and natural gas reserves. Dr. Bartle was also a

member of the American Association for the Advancement of Science; Association of Petroleum Geologists; Institute of Mining, Metal and Petroleum Engineers; Association of Economic Geologists and Phi Beta Kappa. He was on the board of directors of the Binghamton Savings Bank, Roberson Center for the Arts, Endicott Rotary Club and Broome County Council on Anti-Discrimination.

When Dr. Bartle died September 14, 1977, at Johnson City, New York, after a short illness, many memorials were written. His founding of Harpur was viewed as a great legacy for posterity, achieved by his dedication, great energy, tirelessness, wisdom and humor. The fondness for the man was evident all through the many tributes.



NELLIE MAE COATS

Lafayette, Indiana
October 26, 1888

Indianapolis, Indiana
January 11, 1977

Miss Nellie M. Coats was born on a farm in Tippecanoe County near Lafayette, Indiana, October 26, 1888. She was of Scottish and French Huguenot ancestry. She graduated from the red brick Battle Ground High School and continued education at Purdue University receiving a B.S. degree in 1915. She pursued a course in home economics at first but became interested in library work. She was an apprentice in the Purdue library from 1916 to 1917. In 1918, she worked briefly as a government clerk in Washington, then returned to Purdue as librarian for the Purdue Agricultural Experiment Station. She did post-graduate work at the University of Illinois Library School from 1919 to 1920 and worked there as Serials Librarian. She was Assistant Reference Librarian for the Indiana State Library from 1923 to 1929 and Chief of the Catalog Division 1930 to 1959 when she retired. She then continued as Librarian of the John Shepard Wright Memorial Library at the Indiana State Library for the Indiana Academy of Science which she had done since 1934. For her

An *Indianapolis Star* photo reprinted by permission of Indianapolis Newspapers, Inc.

outstanding performance in this capacity, she was made Honorary Member of the Indiana Academy of Science in 1937 and was the only honorary member of the society for many years. She was made a fellow in 1948.

This was one professional side of Nelle Coats, but another was her great interest in history, especially of Indianapolis and Indiana; but in general, human kind. In an excellent sketch of her activities by Lotys Benning Stewart (*They Achieve, Indianapolis Star*, October 12, 1947) her study of libraries in England, Scotland and France was discussed and the article concluded with a quote from Miss Coats, "Working with many people, seeing books covering the history of the race since records began, I am made extremely conscious of the continuity of man's effort, the universality of human experience." This combination of interest in history and humanity by Miss Coats resulted in some great benefits for Indianapolis. She conducted sightseeing tours of the city for visitors covering sites of historical interest and helped compile the Riley trail map setting up a scenic tour route of the city. She also briefed tour guides and received high praise for training new hostesses. She was the second woman to serve on the board of directors of Greater Indianapolis Information Incorporated and was vice president of the board. She received a Certificate of Achievement from former Mayor Richard G. Lugar for her efforts on behalf of the city. Her research efforts also established some "forgotten facts" (*League's Tribute to Nell Coats, Indianapolis Star*, February 13, 1971) about Woodruff Place in Indianapolis helping obtain the listing as a national landmark. She was dedicated to its restoration and stimulated community pride when she disclosed interesting historical facts gleaned from correspondence with relatives of the founder, Mr. James Woodruff, and interviews with former and present prominent members of the community.

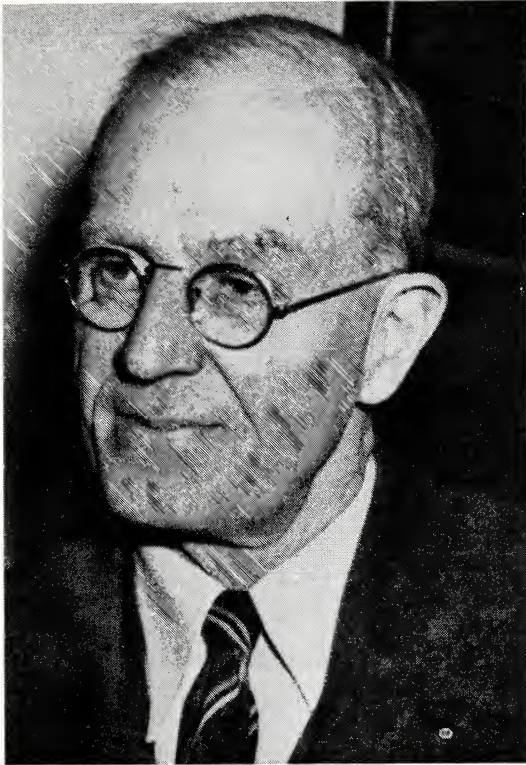
After retirement, she was distinguished as "Woman of the Year" in 1962 by the Hoosier Chapter of American Women in Radio and Television. This was in recognition of her successful production of the popular and enlightening half-hour radio interviews with local personalities first on station WAIV and then WFMS. The programs were entitled "Indianapolis Now and Then" and "Our Community".

As mentioned at the beginning of this article, Miss Coats was made an honorary member of the Indiana Academy of Science for her work on the John Shepard Wright Library. She was on the Academy Library Committee beginning in 1938 and chairman from about 1949 to 1970. She often brought an exhibit of new materials from the Academy library to the fall meetings and displayed stamps taken from materials received showing the geographical scope of exchanges. During these years she also served on the Budget Committee and Executive Committee. Other committees upon which she served were Sesquicentennial, Publicity and Membership. She suggested preparation of the valuable cumulative index for the *Proceedings of the Indiana Academy of Science* and gave valuable advice on format and subject matter. She served on the 50 year Index Committee and then the Index Committee for almost twenty years. She was chairman of the History of Science Section in 1965. In 1953, Miss Coats gave a paper before the History of Science Section on the history of the

Academy's John Shepard Wright Memorial Library and work of the librarian (Proc. I.A.S. 63: 248-252).

Miss Coats was equally as active in other organizations. She was program chairman of the 1962 international Zonta meeting; president in 1926 of the Indiana Library Association and honorary member publishing various check lists in the *Library Occurrent*. She was twice chairman of the Ohio Valley Regional Group of Cataloguers, member of the National Association of State Libraries, life member of the American Library Association and headed the Committee on State Author Headings. She was a member (life) of the Children's Museum, Alpha Xi Delta, Indiana Historical Society, Marion County Historical Society, director and member of Historic Landmarks Foundation, International Center, Indianapolis Museum of Art, Tippecanoe County Historical Society, Hoosier Folklore Society (president 1949 to 1950). Biographies can be found in *Who's Who of American Women* and *Indiana Lives*.

Miss Nellie M. Coats died January 11, 1977, in Indianapolis at 88 years of age. Her friendship, service, dedication, integrity, sense of propriety and background in Indiana Academy of Science history made her a reliable aid and source of advice to members of the society. This was sincerely appreciated and esteemed.



WILL(IAM) E(DMUND) EDINGTON

Rantoul, Illinois
December 8, 1886

New Castle, Indiana
March 12, 1977

Dr. Will E. Edington was retired from head of DePauw University Mathematics and Astronomy Department since 1953. He was a past president of the Indiana Academy of Science and wrote memorials for the society over 35 years. He also supplied considerable material to *Indiana Scientists* (Visher, 1951) and was a frequent contributor of papers in the History of Science Section of our society so that he has written more probably than anyone else about the history of the Academy, scientists of Indiana and other Indiana scientific societies.

He was the son of a Rantoul, Illinois, barber and was born December 8, 1886. He was considered in some ways a self educated man. There was a spread of twelve years between an A. B. degree received at Indiana State Normal School at Terre Haute in 1909 and his Ph.D. degree in 1921 from the University of Illinois. The necessity for earning money to finance his education and the increasing necessity for academic credits in teaching positions led to continuing education mixed with several teaching assignments and service to his country. He first taught mathematics and physics at an early age at a Brazil, Indiana, high

school. Then he was a mathematics instructor at Indiana State Normal School from 1911 to 1912. He then went to the University of Colorado from 1913 to 1914 where he was also an assistant. Subsequently, he was a professor and head of the department of mathematics at the University of New Mexico from 1914 to 1917. He went to the University of Illinois and was a graduate assistant in mathematics in 1917. His education was interrupted in 1918 by World War I service to the United States Army Signal Corps in which he was a Sergeant 1st Class. After the war, he resumed education at the University of Illinois and received an M.A. degree in 1919 and a Ph.D. degree in mathematics in 1921. He taught briefly at Pennsylvania State University from 1921 to 1922 and then at Purdue University from 1922 to 1930. He moved to DePauw University as professor and head of the Mathematics and Astronomy Department in 1930 where he taught until 1953. During World War II, he was Captain and Commanding Officer of the Civil Air Patrol in 1945. He became Emeritus Professor but continued to teach at DePauw from 1953 to 1955 and was visiting professor at Coe College from 1955 to 1957. He returned to teach at DePauw from 1957 to 1959.

Dr. Edington received a number of honors for his excellent teaching and service to organizations or universities. He was selected "Best Teacher" by the students of DePauw in 1952, and in 1960 Indiana State University (formerly Indiana State Normal School) bestowed on him the distinguished alumni service award. He also received the Silver Beaver Award from the Boy Scouts of America in 1941 and the Veterans of Foreign Wars Medal for Service to Colored People in 1946 and received the twenty-five year service plaque from Pi Kappa Phi in 1951. He is listed in *Who's Who of America*, *Who's Who in Indiana*, *Indiana Scientists* and *American Men of Science*.

Dr. Edington joined the Indiana Academy of Science in 1924 and was very active in the society from the beginning of his membership. He was soon made fellow in 1927. He submitted a paper the same year as joining giving suggestions for research in mathematics. All but a few volumes of the *Indiana Academy of Science Proceedings* after that until 1965 contained articles by him on mathematics, mathematics education, biographical sketches, memorials or more than one of these subjects. One of the most famous of his writings is *There Were Giants in Those Days*. His mathematical research interests included group theory, high voltage transmission, elementary differential equations, mathematical physics and corona losses in high voltage transmission lines. His service on committees and in the offices of the Academy began soon after joining the society, too. He was chairman of the Auditing Committee 1928 to 1930; press secretary 1930 to 1934; Anniversary Publicity and Research Committee in 1933; Library Committee and Research Committee in 1934; vice president, Library Committee and Research Committee in 1935; Library Committee and Research Committee in 1936; and president in 1937. His presidential address was entitled *Science and Modern Thought*. With the exception, then, of 1936, he was on the Executive Committee, by virtue of his assignments and past presidency, from 1928 until death. He missed very few executive committee meetings and was often vocal in his convictions helping mold our society through the years. Even after serving as press secretary once, he served again from 1938 to 1941. He was

chairman of the Mathematics Division in 1941 and 1943 and chairman of the History of Science Division in 1946. He served on several other committees not already mentioned as *Indiana Scientists*, Nominating, Resolutions, Correlation of the Duties of Officers and in 1938 a special committee to promote attendance by secondary school teachers. The committee sent letters to principals all over the state recommending that teachers be excused so that they could attend Academy meetings. The response was disappointing.

Dr. Edington was also active in several other societies. He was former president of the Rotary Club of Greencastle and was awarded a lifetime membership, charter member of the Mathematics Association of America and American Association of University Professors. He was national scholarship chairman of Pi Kappa Phi Fraternity; fellow of the American Association of Science; member of the American Mathematics Society, Phi Beta Kappa, Sigma Xi, Alpha Phi Omega, Gold Key; Deacon, financial secretary and elder in the Greencastle Presbyterian Church.

Dr. William E. Edington was ninety years old when he died after a brief illness in New Castle, Indiana, on March 12, 1977. His dedication to the Academy, teaching, mathematical research and history of science was outstanding. There were giants in our day, too!

WALDEMAR C(ARL) GUNTHER

Grand Rapids, Michigan
May 25, 1918

Valparaiso, Indiana
March 22, 1977

Dr. Waldemar C. Gunther was a biology professor at Valparaiso University when he died March 22, 1977. He had received recognition for his research in sex endocrinology, general embryology, vertebrate anatomy and mental retardation.

Dr. Gunther was born in Grand Rapids, Michigan, May 25, 1918. He served in the United States Army from 1942 to 1945 and then pursued his higher education at the University of Chicago receiving a B.S. degree in 1949, and an M.S. and Ph.D. Degree with a Zoology major in 1955. He was an associate zoologist at the University of California, Davis, California, from 1949 to 1954. He then came to Indiana and progressed from instructor to associate professor from 1954 to 1961. He was made professor in biology from 1961 on at Valparaiso University. He served as director of research there for many years. In addition to these positions, he was: a visiting lecturer; research biologist on an NSF grant to study sex endocrinology; was a member of the Institute of Developmental Biology at Williams College; was an instructor of desert ecology at the University of Wyoming; was a fellow in the mental retardation section of the Institute of Mental Health, U.S. Department of Health, Education and Welfare; was an intern in the United States Office of Education at the University of Minnesota; and received a Grass Foundation grant for the study of mental retardation.

Dr. Gunther joined the Indiana Academy of Science in 1954 and was a senior member at death. He was the author or co-author of a number of papers given before the Zoology Division at Academy meetings. They dealt with the effects of high incubator temperatures and environmental stress on the blood chemistry, behavior and variability of chick embryos and chicks. Other papers were on a study of the effects of rodent diet and other subjects. Dr. Gunther was also a member of the American Association for the Advancement of Science and American Society of Mammalogists. He is listed in *American Men of Science* and *American Men and Women of Science*.

Dr. Gunther was only 58 when he died, but as one can see his accomplishments were many.

NECROLOGY



EDWARD L(AUTH) HAENISCH

Chicago, Illinois
August 9, 1911

Crawfordsville, Indiana
December 28, 1977

Dr. Edward L. Haenisch was retired from teaching at Wabash College when he died in his home December 28, 1977. He had been chairman of the chemistry department and chairman of the science division. He was born in Chicago, Illinois, August 9, 1911, and took his advanced education at Chicago University receiving a B.S. degree in 1930 and a Ph.D. degree in 1935.

Dr. Haenisch began his professional career also at Chicago University as an instructor in chemistry from 1932 to 1934. He taught at Montana State College from 1934 to 1936. He was an assistant professor at Villanova College from 1936 to 1938, associate professor 1938 to 1943, professor and head of the department from 1943 to 1949. He then came to Wabash College at Crawfordsville, Indiana, in 1949 as professor and chairman of the chemistry department retiring in the spring of 1976. He continued to teach general chemistry courses on a part-time basis after that. He had been a lecturer at Rosemount College from 1946 to 1949 and in the summer of 1957 at Columbia University. He was also the summer institute director of the National Science Foundation in Washington, D. C. from

1958 to 1959 and was head of the institutes division. He had been chairman of the College Entrance Examination Board's chemistry examination committee.

Dr. Haenisch had a distinguished teaching career and was widely recognized for his innovations. He received an award in chemical education from the American Chemical Society in 1963, the first McClain-McTurnan Award for distinguished teaching at Wabash in 1965, the James Flack Norris Award in chemical education from the Northeastern Section of the American Chemical Society in 1967, and the Manufacturing Chemists Association college chemistry teaching award in 1975. In 1971, he was made an honorary alumnus of Wabash College, and in 1975 an honorary doctor of humane letters at Villanova College.

Dr. Haenisch was a seventeen year member and chairman of the American Chemical Society's accreditation division and often traveled as much as 70,000 to 100,000 miles a year in this capacity. He also worked about ten years in the society's visiting scientist program. He was a consultant for the DuPont Corporation and was a leader of the Chemical Educational Material (CHEM) study program which was adopted in many schools of the United States and Canada. For this program he contributed material to the book, *Chemistry An Experimental Science*. He was a co-author of nine textbooks and contributor to six others including *Quantitative Analysis* in its fourth edition and *Fundamental Principles of Physics and Chemistry*, a new direction in that disciplines are integrated.

Dr. Haenisch was particularly proud of the achievements of his former chemistry majors and corresponded with over two hundred of them. Over one hundred became professors or research chemists with a Ph.D. degree and over fifty become medical doctors.

Dr. Haenisch joined the Indiana Academy of Science in 1949 when he came to Wabash College and was made a fellow in 1954. He was chairman of the Chemistry Division in 1952 and then served on the Invitations and Resolutions committees. In 1963, he was elected vice president and was president in 1964. His presidential address was entitled "Johnny and Relativity". It described some experimental methods which have been used for teaching relativity and other scientific subjects to school children. A number of organizations and individuals are mentioned as pressing for new methods. He presented other papers at Academy meetings on chemistry education. He also served on the Special Constitution Revision Committee and a special committee on finance in 1964. He further served on the Youth Activities Committee a couple of years and on the Emeritus Member Selection Committee from 1968 on. His research interests included physical and analytical chemistry, spectrographic analysis and absorption spectrum of samarium tungstate and samarium molybdate at low temperature.

Dr. Haenisch was also a member of the American Association for the Advancement of Science, was founder and former president of the Midwestern Association of Chemistry Teachers in Liberal Arts Colleges, member of the American Chemical Society, Electrochemical Society and fellow of the Institute of Chemists.

Dr. Haenisch was sixty-six years old at his death. Just the year before at his retirement from Wabash College, he had reflected on his past twenty seven years there. He said, "The sciences have always been a strong aspect of the college, and I am pleased to have had a part in planning, staffing, equipping and teaching in the science department, which will continue to insure a strong future at Wabash."



ELI LILLY

Indianapolis, Indiana
April 1, 1885

Indianapolis, Indiana
January 24, 1977

Mr. Eli Lilly was born in Indianapolis, Indiana April 1, 1885, where he died January 24, 1977. However, his influence encompasses the world. His profession was manufacturing chemist in the family owned business where he worked over eighty years. The eulogies poured out from friends in all walks of life after his death and their words tell more about him in a much better way than can be covered here in this short space. A book is needed to cover his life adequately. Tributes from Indiana leaders, including Governor Bowen and Mayor Hudnut, appeared in the *Indianapolis News*, January 25, 1977. Mr. Lilly's basic goodness, modesty, kindness, generosity and genuine interest in other human beings as well as his great business leadership were recognized. Some of the eulogies were found in the *Lilly News* (a special edition), college publications, etc. Newspapers articles covered his business ability, civic service, a book collection made in his honor by Orchard School children, a party of nine hundred youngsters at Conner Prairie farm near Fishers in honor of Mr. Lilly for his generosity to Conner Prairie. Eulogies came also from publications and letters to the members in organizations to which he contributed generously with time and money.

The wealth that he inherited and had earned was used for the benefit of mankind in generous amounts strengthening values which he considered of great importance. One of the latest articles expressed sadness that Mr. Lilly did not live to see the complete renovation of the historical 150-year old Indianapolis City Market dedicated last September (1977) and financed for \$4.7 million by Lilly Endowment (Lilly family foundation). Mr. Lilly initiated the establishment of Lilly Endowment Incorporated in 1937. It has contributed over \$300 million to charitable causes. Colleges and universities throughout the nation, historical projects such as the restoration of the pioneer village at Conner Prairie farm, religiously oriented programs, etc. have received support from the foundation.

Mr. Eli Lilly was the elder son of Josiah K. Lilly and namesake of Col. Eli Lilly who founded the family business in 1876. He was educated in Indianapolis public schools graduating from Shortridge High School in 1904 where he received a letter in track and was president of the junior class. He received a pharmaceutical chemist degree in 1907 from the Philadelphia College of Pharmacy and Science.

Mr. Lilly formally joined Eli Lilly and Company June, 1907. However, he had worked for the company since he was about ten years old on Saturdays and summers before becoming permanently employed. He was an efficiency expert at the company until becoming superintendent of the manufacturing division from 1909 to 1915, general superintendent from 1915 to 1920, vice president from 1920 to 1932, president from 1932 to 1948, chairman of the board 1948 to 1961 and again from 1966 to 1969. He then became honorary chairman of the board until death.

Mr. Lilly was instrumental in transforming Eli Lilly and Company into a world enterprise making significant contributions to medicine and agriculture. Some major drugs were developed during his administration including insulin, liver extract for anemia, barbiturates, penicillin and other antibiotics and salk polio vaccine. Agricultural products for weed control and animal health were also developed. He had a sincere interest in Lilly employees. He stated, "the first responsibility of our supervisors is to build men then medicines." He was very proud that during the depression years of the 1930's none was fired because of the depression and no salaries were cut at Lilly's. His striving for excellence and his sense of integrity made for fair and stable management. He instituted the bonus system and suggestion awards which reward employees for innovative ideas with cash amounts. A key to his business success is found in his own words, "Foolish indeed is the business organization that measures its success solely with the profit yardstick and ignores its most valuable assets: the faith and good will of those whom it seeks to serve and the faith and loyalty of those who are dependent on it for happiness."

Indiana University named Mr. Lilly author of the year in 1961. He was the author of *Prehistoric Antiquities of Indiana*, 1937; *The Little Church on the Circle*, 1957; *Early Wawasee Days*, 1960; and *Schliemann in Indianapolis*, 1961. He prepared a bibliography of Indiana archeology in 1932 which was published by the Indiana Historical Bureau. He was largely responsible for the acquisition of the Angel Mounds site on the Ohio River by the Indiana Historical Society

and the subsequent study and publication on it. He supported site surveys and excavations. Excavations by the society and Indiana University led to the publication of *Angel Site, an Historical, Archeological and Ethnological Study* by Glenn A. Black. Other publications of the historical society were directly supported by Mr. Lilly or grants from Lilly Endowment, Inc. The Indiana Historical Society's new Conference and board of Trustees Room is to be a memorial to Mr. Lilly enhanced by gifts from the members.

Mr. Lilly received many honors among them were honorary degrees from the following colleges and universities: the Philadelphia College of Pharmacy and Science, Wabash College, University of Kentucky, Indiana University, University of Pittsburgh, Ball State University, University of the South, Butler University, Transylvania University, Union College, DePauw University and Kenyon College. He was also honored by China for donations of medicines in 1942 and he received Olav's Medallion in 1948 from Norway. Other honors included being placed on the honor roll at Union College; an alumni medal from Philadelphia College of Pharmacy and Science; Centennial Award from the Indiana Dental Association; Remington Honor Medal from the American Pharmaceutical Association; merit award from the American Association for State and Local History; a testimonial from the Trowel and Brush Society for his archeological contributions; alumni merit award from Wabash College; William Henry Harrison citation from Vincennes University; Bishop Case Medal for distinguished service to the Protestant Episcopal Church from Kenyon College; award for service to the deaf from the Alexander Graham Bell Association. He was honorary chairman of the Marion County Tuberculosis Society's Christmas seal campaign from 1932 through 1947 and headed a drive for new units of the Boy Scouts of America conducted by the Central Indiana Council in 1952. He was named philanthropic man of the year in 1951 by the Indianapolis Community Chest. He helped organize the Indianapolis United Fund and was board chairman and subsequently honorary co-chairman of the United Way of Indianapolis, Incorporated. He was honorary chairman in 1965 and 1966 for the successful debut in Indianapolis of the Metropolitan Opera National Company. In 1969, Governor Whitcomb proclaimed April 1 (Mr. Lilly's birthday) Eli Lilly Day in Indiana in honor of his contributions to the state and its citizens. In March, 1976, he received the Robert L. Stringer award for good citizenship and a key to the city of Indianapolis from the Lilly American Legion Post and Mayor William Hudnut, respectively, and March 19 was declared Eli Lilly Day in the city.

Mr. Lilly joined the Indiana Academy of Science in 1930 and he was honored as fellow in 1937. He gave several papers at Academy meetings chiefly on archeological studies. He was president of the Academy in 1938 and gave an address on *A Plan for Accomplishing More Effective Research*. The plan for interdisciplinary expertise coordinated for a more effective approach to a research problem had been used with great success by Mr. Lilly in his business. Besides the Academy Executive Committee, Mr. Lilly served on a number of other committees such as Archeological Survey, Relation of the Academy to state, and the Library Committee for a great number of years. In 1975, the Executive Committee of the Indiana Academy of Science granted honorary

membership to Mr. Lilly in recognition of his lifelong interest in and contributions to the society.

Mr. Lilly was also honorary member of Phi Beta Kappa, honorary president of the American Pharmaceutical Association; member of the American Anthropological Society, American Chemical Society, Phi Delta Chi; honorary commander in chief of the Military Order of the Loyal Legion of the United States; fellow of the Rochester (N.Y.) Museum of Arts and Sciences, a trustee of The Indianapolis Museum of Art and of Wabash College, trustee and past president of the Indiana Historical Society, and chairman emeritus of the Historic Landmarks Foundation of Indiana. He was former director of the American Foundation for Pharmaceutical Education, English Foundation, Indiana Manufacturers Association, Indianapolis Symphony Orchestra and Purdue Research Foundation. Biographic material can be found on Mr. Lilly in *Who's Who in the Midwest*, *Who's Who in Indiana*; *Indiana Lives* and other references.

Mr. Lilly was ninety one at his death. His long and exemplary life had an impact on millions of people.

ARMIN WILLIAM MANNING

Milwaukee, Wisconsin
August 22, 1913

East Marion, New York
July 17, 1977

Dr. Armin Manning died July 17, 1977, at his summer home in East Marion, New York, after suffering a heart attack. He was chairman of the Physics Department of Valparaiso University. His specialty was nuclear physics.

Dr. Manning was born in Milwaukee, Wisconsin, August 22, 1913. He received a B.A. degree from Valparaiso University in 1936; a B.D. degree from Concordia Seminary in 1937; an M.A. degree from the University of Michigan in 1938 and a Ph.D. degree from Fordham University in 1957. At Fordham, Dr. Manning studied under Nobel Prize winner Dr. V. F. Hess.

Dr. Manning began teaching as a professor of mathematics and modern physics at Concordia College, Bronxville, New York, from 1938 to 1956. He was also an instructor in the evening school at City College of New York from 1947 to 1956. During World War II, he served three years in a restricted war laboratory. He was an associate research physicist at Brookhaven National Laboratory on Long Island from 1957 to 1958 and worked summers from 1959 through 1962 at the Aberdeen Proving Ground in Maryland. He also spent a sabbatical leave there, too, during the fall semester of 1963 to 1964 in the nuclear ballistics laboratory. There, also, he was a consultant to the Terminal Ballistics Laboratory from 1964 to 1972. He did part time research from 1945 to 1946 for Associated Metalcrafts of Philadelphia.

Dr. Manning came back to Valparaiso University in 1956 to be associate professor and co-chairman of the physics department. He was professor and chairman of the department from 1961 on. He obtained a sub-critical nuclear reactor for the campus and in 1970 the United States Atomic Energy Commission designated the school "a model for all small universities wishing to provide excellent training in the field of undergraduate physics". Dr. Manning had also become a clergyman in the Lutheran Church, Missouri Synod. According to a news release from Valparaiso University, President Huegli said of him, "Dr. Manning was a respected and beloved colleague who combined the insights of a theologian with the scholarship of a physicist. He brought strength to the faculty and wholehearted dedication to teaching and research in his discipline. The university is a better place of learning, because he was a part of it, and many generations of students will remember him with grateful hearts."

Dr. Manning joined the Indiana Academy of Science in 1956, the year he came to Valparaiso University. At a fall meeting in 1961, he presented a paper co-authored by men from the Terminal Ballistics Laboratory, Aberdeen Proving Ground, on a method to measure neutron flux by a paraffin oil bath technique. He was the author or co-author of a number of other articles published in educational, scientific or army journals. His specific field of research was in reactor physics and radioactivity. He was also a member of the American Association for the Advancement of Science; American Association of Physics Teachers; American Geophysical Union; Indiana State Health

Department's radiological section; American Institute of Electrical Engineers, physics section. Biographic material can be found in the *National Faculty Directory* and *American Men and Women of Science*.

Dr. Manning's death at sixty four was a great loss.

DORSEY P. MARTING

Branchville, Indiana
October 3, 1894

Tucson, Arizona
April 28, 1977

Mr. Dorsey P. Marting was a retired meteorologist and newspaper reporter. He was a native of Indiana having been born near Branchville, Indiana, October 3, 1894. He was reared and educated in the state and received a bachelor's degree from Ball State Teacher's College, Muncie, Indiana. He taught high school science in the public school system of Indiana. Then he served during World War I aboard the U.S.S. *Antigone* with the rank of Ensign. He was transferred to the U.S. Army Quarter Master's Corps until the end of the war.

Mr. Marting served in the United States National Weather Bureau as Meteorologist in charge of the station for thirty-six years. The stations were in Roseburg and Astoria, Oregon; Denver, Colorado; and Winslow, Arizona. He retired in 1964. He received considerable publicity in newspapers and magazines and his scientific contributions have been incorporated into a novel (in manuscript) by Mr. Marting and his wife, Dorila, which they composed over a period of twenty-five years.

Mr. Marting was a free lance reporter contributing news and feature stories to the *Arizona Republic* of Phoenix, the *Arizona Daily Sun* of Flagstaff and *Winslow Mail* of Winslow, Arizona, from 1962 through 1968. His excellent photography was well-known and was pursued as a hobby in later years. His wife, Dorila, is also a free lance reporter.

Mr. Marting joined the Indiana Academy of Science in 1926 and was a faithful member through the years even though his life work was out-of-state. He was also a member of the American Meteorological Society, Masonic Lodge of Eckerty, Indiana, and Arizona Press Club.

A niece, Dr. Barbara Marting, of Evansville, Indiana, wrote a loving tribute to her uncle, Dorsey P. Marting. It was printed in the notice of death on April 28, 1977 and private services for Mr. Marting conducted on top of Mount Lemmon overlooking Tucson, Arizona. In part, she said, "He cared deeply for others, yet never gave the impression of having any problems of his own. He was always concerned with the comfort of others, but asked nothing more of life than what he daily received. He was always cheerful, interesting and interested. . . . He has added zest to our lives and given us an example to live by. . . ."



FERNANDUS PAYNE

Shelbyville, Indiana
February 13, 1881

Frankfort, Indiana
October 13, 1977

Dr. Fernandus Payne was a native of Indiana, born in a log cabin near Shelbyville February 13, 1881. At his death, he was an internationally famous scientist and had lived to be ninety-six years old. For many years he was dean of the Indiana University Graduate School, dean of the Indiana University College of Arts and Sciences and chairman of the zoology department.

Dr. Payne's early education was obtained in the Hoosier state and the ensuing years of struggle for his advanced education prompted him to set up a scholarship fund in 1965 at Indiana University for students in the life sciences. He obtained a B.S. degree from Valparaiso University in 1901. From Indiana University, he received an A.B. in 1905 and an M.A. in 1906. From Columbia University, he received a Ph.D. degree in 1909. In 1912, he was a student at the Biological Station at Naples and the University of Würzburg.

Dr. Payne began his teaching and administrative career at Indiana University in 1909 as an assistant professor of zoology and held that title until 1912. From 1912 to 1919, he was an associate professor of zoology and then full professor until 1951 when he became emeritus professor. Dr. Payne helped guide the zoology department when the health of Dr. Carl H. Eigenman, the chairman, failed. After Dr. Eigenman died, Dr. Payne became chairman in 1927 serving in that capacity until 1948. He was assistant dean of the Graduate School from 1925 to 1927 and dean from 1927 until 1947. He was acting dean from 1943 to 1946. Other administrative positions during this period included being vice chairman of the division of biology and agriculture of the National Research Council from 1931 to 1932 and chairman from 1932 to 1933. Dr. Payne had the ability to discern great potential in people then guide with a light touch while they achieved to the fullest of their abilities. He was able to attract a number of distinguished scientists to the Indiana University campus. These included Herman J. Muller, a Nobel Prize winner; R.E. Cleland; Tracy M. Sonneborn; S.E. Luria and Alfred C. Kinsey. Eminent students taught by this group included at least one Nobel Prize winner. After retiring in 1951, he returned to the work he loved best, his research, in which he remained active for more than twenty more years. He was widely acclaimed for work on blind fish, cytology and genetics.

Dr. Payne was assistant director of the National Science Foundation from 1952 to 1953. He wrote an autobiography, *Memories and Reflections (Indiana University Press, 1975)* to which the reader is referred for further information about this great man. He is also listed in *Indiana Scientists, Who's Who in the Midwest*, and *American Men of Science*.

Dr. Payne joined the Indiana Academy of Science in 1913, and was honored as fellow in 1916. He was an emeritus member at death and had been a member of the Academy for sixty four years. He served as editor in 1919 and 1921 and also on the Publication of Proceedings Committee. He was vice president in 1923, and president in 1932. He also served on the Nominations Committee and was a member of the Executive Committee for over fifty years. He was the author of quite a few papers (some given by title) and memorials presented to the Academy. Some of the papers were on blind fish, genetics of *Drosophila* and other genetic studies, the occurrence of fresh-water medusae in Indiana, etc. He was also a fellow of the American Association for the Advancement of Science (member of the executive committee for many years), vice president in 1929; past president of the American Society of Zoologists; member of the Genetics Society; American Society of Naturalists; Association of American Universities (chairman of the committee on classification from 1934 to 1946); American Association of University Professors (member of the council from 1935 to 1938); Sigma Xi and Phi Beta Kappa.

Dr. Fernandus Payne died October 13, 1977, in Frankfort, Indiana, where he had resided. His life span was just four years short of a century, a century witnessing an astonishing development in science. During that time, he had developed the Indiana University Zoology Department and Graduate School

into one of the nation's best. In the *Indiana Alumni Magazine* announcement of a third volume of a history of the university, a caption "IU's rise to greatness" is followed by comments on hiring Dr. Payne and others. With that it states, "A new era began for Indiana University. . ."

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