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- Chairman.....ALAN C. YORK, Department of Entomology
Purdue University, West Lafayette, IN 47907
- Chairman-Elect.....MICHAEL J. SINSKO, Indiana State Board
of Health
133 W. Michigan Street, Indianapolis, IN 46206

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- Chairman.....JOHN H. CLEVELAND, Department of Geography/
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Terre Haute, IN 47803
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Chairman.....GARY C. STEINHARDT, Department of Agronomy
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Purdue University, West Lafayette, IN 47907
- Zoology
Chairman.....RICHARD C. MCCrackEN, Department of Biology
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Muncie, IN 47304

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COMMITTEE

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COOPER, R. H.	KNISLEY, B. C.	VAN ATTA, R. E.
CORY, W. A.	*LINDSEY, A. A.	WARNES, C. E.
CROVELLO, T. J.	LLEWELLYN, R. A.	WARREN, C. P.
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*DAY, H. C.	McREYNOLDS, H. E.	*WELCH, W. H.
*DINEEN, C. F.	*MELLON, M. G.	WINSLOW, D. R.
DOEMEL, W. N.	METZ, C. R.	YORK, A. C.
		*YOUSE, H. R.

* Past President of Academy

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 Chairman, Youth Activities Committee—DONALD R. WINSLOW
 Chairman, Academy Foundation—WILLIAM A. DAILY
 Chairman, Research Grant Committee—RALPH A. LLEWELLYN

ELECTED COMMITTEES**Academy Foundation**

WILLIAM A. DAILY, Chairman . . .	5884 Compton Street
(1979-80)	Indianapolis, IN 47220
CLYDE R. METZ	Department of Chemistry
(1978-79)	Indiana Univ.-Purdue Univ.
	10 East 38th Street
	Indianapolis, IN 46205

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DONALD R. WINSLOW	School of Education
(1980)	Indiana University
	Bloomington, IN 47405

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Chairman (1980)	Department of Physics
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	Terre Haute, IN 47809
DONALD R. BRANNON	Lilly Research Labs.
	Eli Lilly and Company
	Indianapolis, IN 46206

MARK RESHKIN	Department of Geology
(1981)	Indiana Univ. N.W. Campus
	Gary, IN 46408
GARY E. DOLPH	Department of Botany
(1983)	Indiana University at Kokomo
	Kokomo, IN 46901
ERNEST E. CAMPAIGNE	Department of Chemistry
(1983)	Indiana University
	Bloomington, IN 47405

* President and Secretary serve as *ex-officio* members of the Research Grants Committee.

STANDING COMMITTEES APPOINTED BY THE PRESIDENT

(The President and President-Elect are *ex-officio* members of all committees.)

Academy Representative to A.A.A.S.

Section and Delegate to A.A.S.

EARL A. HOLMES	Department of Biology
(1979)	St. Mary's College
	Notre Dame, IN 46556

Auditing Committee

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	Wabash College
	Crawfordsville, IN 47933
EUGENE P. SCHWARTZ	Department of Chemistry
	DePauw University
	Greencastle, IN 46135

Youth Activities Committee

DONALD R. WINSLOW, Chairman . .	School of Education
	Indiana University
	Bloomington, IN 47405
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	5 Indiana Square
	Indianapolis, IN 46204
KEITH HUNNINGS, Assistant Chairman and Director Junior Academy of Science	Science Department
	1300 Green Road
	New Haven High School
	New Haven, IN 46774
WALTER A. CORY, JR., Assistant Chairman and Director Indiana Science Talent Search	Coordinator for School Science
	Memorial Hall West 108
	Indiana University
	Bloomington, IN 47405

- LLOYD ANDERSON, Assistant
Coordinator of Science Fairs . . . Indianapolis Star and News
P.O. Box 145
Indianapolis, IN 46206
- F. KEITH AULT Department of Chemistry
Ball State University
Muncie, IN 47306
- JERRY M. COLGLAZIER Office of State Superintendent of
Public Instruction
State House 229
Indianapolis, IN 46204
- KENNETH BUSH West Lafayette Senior High School
Grant and Leslie Ave.
West Lafayette, IN 47906
- JANE TUCKER St. John the Baptist School
4500 Fairfield Ave.
Fort Wayne, IN 46807
- JOHN C. MOODY Division of Education
Indiana University Southeast
4201 Grant Line Road
P.O. Box 679
New Albany, IN 47150
- LEOTA SKIRVIN Brown Co. High School
P.O. Box 68
Nashville, IN 47448
- VIRGINIA RHODES East Noble High School
Kendallville, IN 46755
- RAY WEATHERHOLT Floyd Central High School
New Albany, IN 47150

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- LOIS BURTON, Chairman Indiana State Library
Indianapolis, IN 46204
- WILLIAM A. DAILY 5884 Compton Street
Indianapolis, IN 46220
- JOHN F. PELTON Department of Botany
Butler University
Indianapolis, IN 46208
- JAMES A. CLARK 5519 East 21st Street
Indianapolis, IN 46218

Nominations Committee

- FRANK A. GUTHRIE, Chairman . . . Department of Chemistry
Rose-Hulman Institute
Terre Haute, IN 47803
- BETTY D. ALLAMONG Department of Biology
Ball State University
Muncie, IN 47306

WILLIAM B. HOPP Department of Life Sciences
Indiana State University
Terre Haute, IN 47809

Program Committee

WILLIAM R. EBERLY,
Co-Chairman (Fall Meeting) . . Department of Zoology
Manchester College
North Manchester, IN 46962

DAMIAN V. SCHMELZ,
Co-Chairman (Spring Meeting) . Department of Biology
St. Meinrad College
St. Meinrad, IN 47577

L. DWIGHT FARRINGER Department of Physics
Manchester College
North Manchester, IN 46962

EDWARD MILLER Department of Chemistry
Manchester College
North Manchester, IN 46962

R. EMERSON NISWANDER Department of Zoology
Manchester College
North Manchester, IN 46962

Publications Committee

WILLIAM R. EBERLY, Chairman . . . Department of Zoology
Manchester College
North Manchester, IN 46962

WILLIAM B. BUNGER Department of Chemistry
Indiana State University
Terre Haute, IN 47809

LOIS BURTON Indiana State Library
Indianapolis, IN 46204

WALTER A. CORY, JR. Coordinator for School Science
Memorial Hall West 108
Indiana University
Bloomington, IN 47405

CLYDE W. HIBBS Department of Natural Resources
Ball State University
Muncie, IN 47306

MARION T. JACKSON Department of Life Sciences
Indiana State University
Terre Haute, IN 47809

PAUL C. MACMILLAN Department of Biology
Hanover College
Hanover, IN 47243

WILTON N. MELHORN Department of Geosciences
Purdue University
West Lafayette, IN 47907

- ELMER NUSSBAUM Department of Physics
Taylor University
Upland, IN 46989
- BENJAMIN MOULTON Department of Geography & Geology
Indiana State University
Terre Haute, IN 47809
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Earlham College
Richmond, IN 47374

Science and Society Committee

- WILLIAM BERANEK, JR.,
Chairman (1981) Holcomb Research Institute
Butler University
Indianapolis, IN 46208
- HAROLD CASSIDY (1979) Hanover College
Hanover, IN 47242
- DONALD J. COOK (1979) Department of Chemistry
DePauw University
Greencastle, IN 46135
- AUSTIN W. FERGUSON (1979) ... R.R. 8
Columbia City, IN 46725
- WILLIS H. JOHNSON (1979) Department of Biology
Wabash College
Crawfordsville, IN 47933
- CLARENCE DINEEN (1980) Department of Biology
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Notre Dame, IN 46556
- CHARLES E. WIER (1980) AMAX Coal Company
105 South Meridian Street
Indianapolis, IN 46225
- HOWARD R. YOUSE (1980) Department of Botany
DePauw University
Greencastle, IN 46135
- STANLEY L. BURDEN (1981) Department of Chemistry
Taylor University
Upland, IN 46989
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Memorial Hall West 108
Indiana University
Bloomington, IN 47405
- ROBERT MENKE (1981) St. Henry Road
Huntingburg, IN 47542
- CLYDE R. METZ (1981) Department of Chemistry
Indiana Univ.-Purdue Univ.
1201 East 38th Street
Indianapolis, IN 46205

- CRAIG E. NELSON (1981) Department of Biology
Indiana University
Bloomington, IN 47405
- JERRY J. NISBET (1981) Department of Biology
Ball State University
Muncie, IN 47306
- JOHN B. PATTON (1981) Indiana Geological Survey
611 North Walnut Grove
Bloomington, IN 47405

Membership Committee

- ROBERT E. HENDERSON, Chairman Indianapolis Center for Advanced
Research
1219 West Michigan Street
Indianapolis, IN 46202
- ROBERT H. COOPER, Emeritus
Membership Department of Biology
Ball State University
Muncie, IN 47306
- WALTER A. CORY, JR. Coordinator for School Science
Memorial Hall West 108
Indiana University
Bloomington, IN 47405
- JACKSON L. MARR Department of Biology
Indiana State University—Evansville
Evansville, IN 47712
- DONALD R. WINSLOW, Club
Membership School of Education
Indiana University
Bloomington, IN 47405

Fellows Committee

- RICHARD L. CONKLIN (1980),
Chairman Department of Physics
Hanover College
Hanover, IN 47243
- WILLIAM W. BLOOM (1979) Department of Biology
Valparaiso University
Valparaiso, IN 46383
- JOHN J. FAVINGER (1979) 640 Parkway
Whiteland, IN 46184
- JAMES C. LIST (1979) Department of Biology
Ball State University
Muncie, IN 47306
- WILLIAM G. KESSEL (1979) Department of Chemistry
Indiana State University
Terre Haute, IN 47809

- PAUL H. GEBHARD (1980) Institute for Sex Research
Indiana University
Bloomington, IN 47401
- RUSSELL K. STIVERS (1980) Department of Agronomy
Purdue University
West Lafayette, IN 47907
- EUGENE D. WEINBERT (1980) Department of Microbiology
Indiana University
Bloomington, IN 47405
- WILTON N. MELHORN (1981) Department of Geosciences
Purdue University
West Lafayette, IN 47907
- B. ELWOOD MONTGOMERY (1981) Department of Entomology
Purdue University
West Lafayette, IN 47907
- JOHN F. PELTON (1981) Department of Botany
Butler University
Indianapolis, IN 46208

Resolutions Committee

- HOWARD R. YOUSE, Chairman Department of Botany
DePauw University
Greencastle, IN 46135
- THOMAS R. MERTENS Department of Biology
Ball State University
Muncie, IN 47306

Invitations Committee

- PHILIP A. ST. JOHN, Chairman Department of Zoology
Butler University
Indianapolis, IN 46208
- GARY C. STEINHARDT Department of Agronomy
Purdue University
West Lafayette, IN 47907

Necrologist

- FAY K. DAILY 5884 Compton Street
Indianapolis, IN 46220

Parliamentarian

- CLARENCE DINEEN Department of Biology
St. Mary's College
Notre Dame, IN 46556

SPECIAL COMMITTEES APPOINTED BY THE PRESIDENT

Biological Survey Committee

- THEODORE CROVELLO, Chairman Department of Biology
University of Notre Dame
Notre Dame, IN 46556

- JOHN A. BACONE Division of Nature Preserves
Indiana Department of Natural
Resources
601 State Office Building
Indianapolis, IN 46204
- WILLIAM B. CRANKSHAW Department of Biology
Ball State University
Muncie, IN 47306
- JAMES R. GAMMON Department of Zoology
DePauw University
Greencastle, IN 46135
- JACK R. MUNSEE Department of Life Sciences
Indiana State University
Terre Haute, IN 47809
- GEORGE R. PARKER Department of Forestry & Con-
servation
Purdue University
West Lafayette, IN 47907
- VICTOR RIEMENSCHNEIDER Department of Biology
Indiana University—South Bend
South Bend, IN 46615
- JOHN O. WHITAKER, JR. Department of Life Sciences
Indiana State University
Terre Haute, IN 47809
- HARMON P. WEEKS Department of Forestry & Con-
servation
Purdue University
West Lafayette, IN 47907
- FRANK N. YOUNG, JR. Department of Zoology
Indiana University
Bloomington, IN 47405

Preservation of Natural Areas Committee

- MARION T. JACKSON (1981),
Chairman Department of Life Sciences
Indiana State University
Terre Haute, IN 47809
- DAMIAN V. SCHMELZ (1979) Department of Biology
St. Meinrad College
St. Meinrad, IN 47577
- ROBERT C. WEBER (1979) 3649 Algonquin Pass
Fort Wayne, IN 46809
- JAMES KEITH (1980) Director, Division of Nature Pre-
serves
Indiana Department of Natural
Resources
601 State Office Building
Indianapolis, IN 46204

- WILLIAM R. ORR (1980) Department of Geography & Geology
Ball State University
Muncie, IN 47306
- GEORGE R. PARKER (1980) Department of Forestry and Con-
servation
Purdue University
West Lafayette, IN 47907
- ROBERT R. PRIDDY (1980)
- CARL H. KREKELER (1981) Department of Biology
Valparaiso University
Valparaiso, IN 46383
- VICTOR RIEMENSCHNEIDER (1981) . Department of Biology
Indiana University—South Bend
South Bend, IN 46615
- WINONA H. WELCH (Honorary) . DePauw University
Greencastle, IN 46135
- CARROLLE MARKLE (Honorary) Ashfield, Massachusetts 01330

Newsletter Editor

- WALTER A. CORY, JR. Coordinator for School Science
Memorial Hall West 108
Indiana University
Bloomington, IN 47405

“Speaker of the Year” Selection Committee

- JOHN B. PATTON, Chairman
(1980) Indiana Geological Survey
611 North Walnut Grove
Bloomington, IN 47405
- NEIL V. WEBER (1979) Department of Earth Sciences
Indiana University—South Bend
South Bend, IN 46615
- NORMAN J. NORTON (1980) Department of Biology
Ball State University
Muncie, IN 47306
- ROBERT E. HALE (1981) Department of Physics
Huntington College
Huntington, IN 46750

Academy Representative on Indiana Natural Resources Commission

- DAMIAN V. SCHMELZ Department of Biology
St. Meinrad College
St. Meinrad, IN 47577

Emeritus Member Selection Committee

- ROBERT H. COOPER, Chairman R.R. 9—Box 242
Muncie, IN 47302

WINONA H. WELCH	DePauw University Greencastle, IN 47135
HARRY C. DAY	Department of Home Economics Indiana University Bloomington, IN 46405
HOWARD H. MICHAUD	301 East Stadium Drive Lafayette, IN 47906

SPECIAL APPOINTMENTS OF THE YOUTH ACTIVITIES
COMMITTEE

Indiana Science Talent Search Committee

WALTER A. CORY, JR., Director ...	Coordinator for School Science Memorial Hall West 108 Indiana University Bloomington, IN 47405
MARK BAMBENEK	Department of Chemistry St. Mary's College Notre Dame, IN 46556
ROBERT L. HENRY	Department of Physics Wabash College Crawfordsville, IN 47933
ALFRED SCHMIDT	Department of Mathematics Rose-Hulman Institute Terre Haute, IN 47803
HOWARD YOUSE	Department of Botany DePauw University Greencastle, IN 46135
HAROLD ZIMMACK	Department of Zoology Ball State University Muncie, IN 47306

Editorial Committee for *Proceedings*

BENJAMIN MOULTON, Chairman and Editor	Indiana State University
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CHARLOTTE BOENER (1979-1980) ..	Indiana State University
ERNEST COMPAIGNE (1979-1980) ..	University of Indiana
JAMES GAMMON (1979-1980)	DePauw University
JOHN PELTON (1979-1980)	Butler University
CARL SARTAIN (1979-1980)	Indiana State University
B. K. SWARTZ (1979-1980)	Ball State University

SPRING MEETING

MINUTES OF THE EXECUTIVE COMMITTEE MEETING

April 27, 1979

The meeting was called to order by President J. Dan Webster at 4:15 p.m. in Room 104, Benet Hall, at Saint Meinrad College, St. Meinrad, Indiana. The minutes of the Executive Committee and of the General Session of the Fall 1978 meeting were approved.

TREASURER'S REPORT

Treasurer John A. Ricketts presented a brief financial report for the period January 1 through April 25, 1979, a summary of which follows:

	Academy Accounts	Administered Accounts	Totals
Balance, January 1, 1979 -----	\$9,367.07	\$10,979.68	\$20,346.75
1979 Income -----	4,010.96	5,718.75	9,729.71
1979 Expenditures -----	6,319.05	3,284.25	9,603.30
Balance, April 25, 1979 -----	\$7,058.98	\$13,414.18	\$20,473.16

No information on current membership status was available. The Treasurer's report was approved.

ELECTED COMMITTEE REPORTS

Academy Foundation Committee. William A. Daily, Chairman, reported that the John S. Wright Invested Income Account, currently yielding over 10%, held \$47,000, and that the market values of the Foundation Account and John S. Wright Fund were \$25,240 and \$577,057, respectively, representing just over 5% increases.

Research Grants Committee. Ralph A. Llewellyn, Chairman, reported that 18 proposals had been received; 3 were funded in full and 15 were partially funded. A total of \$5,606 was awarded, with an average grant of \$312. The committee noted that the new proposal guidelines apparently had an important effect in improving overall quality of proposals.

Director of Public Relations. Walter A. Cory, Director, reported on present and future Newsletter status and related questionnaires.

PRESIDENTIAL APPOINTIVE COMMITTEE REPORTS

Publications Committee. William R. Eberly, Chairman, expressed some current interests of the committee: (1) whether or not *Proceedings* should be continued as an annual publication or in some other periodical form, (2) concern for procedures for review of manuscripts submitted for publication in *Proceedings*. After some discussion, the following motion was presented:

Motion: That an Editorial Board for the *Proceedings* be appointed by the President. The board shall consist of 6 to 10 members selected in consultation with the Chairman of the Publications Committee and the Editor.

The term of each board member shall be 3 years, concurrent with the term of office of the Editor; board members may be reappointed for additional terms. Editorial Board members will be selected for their knowledge of particular fields of science so that the total board may constitute a broad spectrum of scientific expertise.

The function of the Editorial Board shall be to assist and advise the Editor in editing and publishing the *Proceedings of the Indiana Academy of Science*. The board will assist the Editor in reading, selecting and refining papers submitted for publication; this activity shall not abrogate the Editor's right to submit any manuscript to additional reviewers inside or outside the membership of the Academy.

Seconded and *carried*.

The committee also announced that a manuscript entitled "Ecto-parasites in Mammals of Indiana", prepared by John Whitacre has been accepted for publication as Monograph No. IV.

Academy Representative to AAAS and AAS. Earl A. Holmes reported on the Houston meeting and current activities of Section X. He reported that the name change from AAS to NAAS (National Association of Academies of Science) was approved to remove confusion between AAAS and AAS.

Youth Activities Committee. Donald R. Winslow, Chairman, presented the list of 13 winners and 10 finalists who received certificates at the Indiana Science Talent Search, as well as the names of the two Thomas A. Edison and four Indiana Science Education Fund Scholarship winners. An interim report on the status of 8 of the 11 1979 Science and Engineering Fairs was also presented.

Library Committee. William A. Daily, reporting for Lois Burton, commented that *Proceedings* Volume 87 had been distributed to the membership and approximately 500 exchange agencies. The Volume 88 printing will again include 800 hard-bound and 525 paper-back copies, to be supported by an \$8000 state appropriation.

Program Committee. William R. Eberly reported that arrangements for the Fall meeting at Manchester College are well under way.

Science and Society Committee. Robert E. Henderson, Chairman, reported that the current interests of the committee include activities in conjunction with the Research Grants Committee, the prospect of arranging for speakers and special programs on affairs of current interest, and state action on PCB incidents.

Membership Committee. Robert E. Henderson reported that the committee is sending letters to former members, including the new membership brochure, in an attempt to encourage them to re-affiliate with the Academy.

NEW BUSINESS

Due to the press of time and other commitments of one of the members, a special item of new business was considered prior to completion of committee reports. Thad Godish presented an application for a new specialty section, which led to the following motion:

Motion: That the Executive Committee approve the establishment of a new section on *Environmental Quality*, to meet for the first time during the Fall 1979 meeting of the Academy. Seconded and *carried*.

President Webster appointed Thad Godish as 1979 Section Chairman of the newly approved section.

President Webster announced that there would be a brief meeting of the Fall Section Chairmen in Room 104, Benet Hall, at 8:00 p.m., following the dinner in St. Jude Guest House, and preceding the General Session Meeting.

The Executive Committee Meeting was temporarily adjourned at 6:00 p.m., to be reconvened in Room 106, Benet Hall, immediately following adjournment of the General Session Meeting.

The Executive Committee Meeting was reconvened at 8:55 p.m. in Room 106, Benet Hall, by President J. Dan Webster. Presidential Appointive Committee reports were continued as follows:

Invitations Committee. J. Dan Webster, reporting for Philip St. John, announced that the 1980 meeting will be held at St. Joseph's College the weekend of November 8th; Program Chairman is Dr. Duvall Jones of that college. The site of the Spring Meeting has not yet been determined. An invitation has been received from Wabash College for the 1981 Fall Meeting. The Executive Committee was reminded that the 1985 Centennial Meeting will be held at Butler University.

SPECIAL COMMITTEE REPORTS

Biological Survey Committee. J. Dan Webster, reporting for Theodore Crovello, Chairman, stated that the committee report had not been received by mail, but that the committee work continues on several projects.

Preservation of Natural Areas Committee. No report.

Speaker-of-the-Year Committee. John B. Patton reported that the committee had agreed upon a speaker, but that the selection was not yet confirmed. The speaker's name will be announced through the Newsletter. The committee is following past principles in its operations with regard to source, subject, and distribution of appearances of the speaker. His lecture will be presented at the Fall meeting as usual.

Emeritus Member Selection Committee. Robert H. Cooper, Chairman, reported that the following individuals have requested and are eligible for Emeritus Membership status (initial membership years shown in parentheses):

HERBERT C. BROWN (1949)
HAROLD W. CROWDER (1952)

MARGARET HODSON (1944)

WALTER J. WEBER (1954)

Motion: That the names presented for Emeritus Membership be approved.

Seconded and *carried*.

NEW BUSINESS

After brief discussion, the following motion was presented:

Motion: That the name of the Physics Section be changed to the *Physics and Astronomy* Section.

Seconded and *carried*.

Reports of all Elected, Presidential Appointive, and Special Committees were approved.

The meeting was adjourned at 9:20 p.m.

Respectfully submitted,

Robert E. Van Atta

Secretary

SPRING MEETING

Minutes of the General Session

April 27, 1979

The meeting was called to order by President J. Dan Webster at 8:10 p.m. in Room 106, Benet Hall, at Saint Meinrad College, St. Meinrad, Indiana.

President Webster introduced President Rector Rev. Thomas Ostdick of Saint Meinrad College, who welcomed the Academy and presented a brief description of Saint Meinrad College history and operations as the largest seminary school in the United States.

John B. Patton introduced the speaker, Dr. Donald D. Carr of the Indiana Geological Survey, who presented a stimulating slide-illustrated lecture entitled "The Third Coal Age".

The Secretary presented a brief summary of committee reports and actions taken by the Executive Committee at its meeting on April 27, 1979.

Howard R. Youse, Chairman of the Resolutions Committee, presented the following *Resolution*:

WHEREAS: The Indiana Academy of Science is deeply grateful to Saint Meinrad College for their invitation to hold its Spring Meeting on their campus, and

WHEREAS: Administration, faculty, and students alike have cooperated in providing us their facilities for this meeting, be it

RESOLVED: That the Academy members here assembled express their sincere appreciation to President Rector Rev. Thomas Ostdick, OSB, for all the courtesies that Saint Meinrad College has extended to the Academy during this first meeting on their campus.

We are especially grateful to Rev. Damian Schmelz, OSB, program chairman for the Spring Meeting, for all the arrangements of the entire program, and especially the excellent dinner provided by the staff at the St. Jude Guest House.

We also wish to thank Dr. Donald D. Carr for his address on "The Third Coal Age" and all members of the Academy that offered their services for the morning field trips.

We will long remember our first visit to Saint Meinrad.

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

Seconded and *carried*.

Several announcements regarding Saturday morning field trips were made by Damian Schmelz, Program Chairman.

The meeting was adjourned at 8:45 p.m.

Respectfully submitted,
Robert E. Van Atta
Secretary

FALL MEETING

MINUTES OF THE EXECUTIVE COMMITTEE MEETING

October 18, 1979

The meeting was called to order by President J. Dan Webster at 7:05 p.m. in Room S-100 of the Holl-Kintner Hall of Science at Manchester College, North Manchester, Indiana. The minutes of the Executive Committee and of the General Session of the Spring 1979 meeting were approved.

TREASURER'S REPORT

Treasurer John A. Ricketts presented a financial report for the period January 1, 1979 through October 6, 1979, summarized as follows:

	Academy Accounts	Administered Accounts	Totals
Balance, January 1, 1979 -----	\$ 9,367.07	\$10,979.68	\$20,346.75
1979 Income -----	11,645.58	19,062.99	30,708.57
1979 Expenditure -----	13,525.71	16,770.31	30,296.02
Balance, October 6, 1979 -----	\$ 7,486.94	\$13,272.36	\$20,759.20

The Treasurer's report listed 851 currently paid-up members, including 435 senior members, with 70 new member applications. The Treasurer's report was approved.

OLD BUSINESS

President Webster reported on two actions of the Council during the past Summer: (1) approval of a contract with the U.S. Fish and Wildlife Service for a grant of \$14,000 for investigation of endangered plant species in Indiana, Theodore Crovello, principal investigator, and (2) appointment of the Editorial Committee for Proceedings, as authorized by the Executive Committee at the last Spring meeting. Members of the committee, each appointed for a two-year term are:

BENJAMIN MOULTON, Indiana State University,
Chairman and Editor

RITA BARR, Purdue University

CHARLOTTE BOENER, Indiana State University

ERNEST CAMPAIGNE, Indiana University

JAMES GAMMON, DePauw University

JOHN PELTON, Butler University

CARL SARTAIN, Indiana State University

B. K. SWARTZ, Ball State University

STANDING COMMITTEE REPORTS

Academy Representative to NAAS. Earl A. Holmes reported that he will represent the Academy at the January 1980 meeting.

Auditing Committee. No report.

Youth Activities Committee. Donald R. Winslow, Chairman, briefly outlined current committee activities, announcing that four \$1000 university scholarships will be maintained by the Indiana Science Education Fund, Inc., and that the Indiana Science Talent Search will be supported by \$2500 in 1980 from Kappa Kappa Kappa, in addition to two new \$1000 scholarships to an outstanding young man and woman participating in the Talent Search. He also called attention to the extensive Junior Academy meeting scheduled concurrently with the Senior Academy event. Science Fair Coordinator Karl L. Kaufman reported that 11 regional fairs had been held during the past year and that Indiana students won the second highest number of awards by state at the International Fair. Walter A. Cory reported on the Science Talent Search and noted that Indiana student participation has not declined, in contrast with the national trend.

Library Committee. Lois Burton, Chairwoman, reported that *Proceedings*, Volume 87, had been distributed to 500 agencies, that 82 new titles had been received by the library, and that 264 volumes of the library's journals have been bound. During the past year 209 inter-library loan requests have been filled.

Nominations Committee. Frank A. Guthrie, Chairman, presented the committee report and made the following motion:

Motion: That the slate of candidates presented by the Nominations Committee and the indicated terms of office be accepted and presented to the membership at the General Session Meeting.

Seconded and *carried*.

Program Committee. William R. Eberly, Chairman, made a number of announcements concerning the current meeting. Duvall Jones, Chairman for the 1980 meeting at St. Joseph's College, announced that the Spring meeting will be held at the Geneva Center near Rochester on April 25-26; the dates for the 1980 Fall meeting are November 6-8.

Publications Committee. William R. Eberly, Chairman, reported that work is continuing on the John Whitacre monograph and some of the Academy Centennial publications. The committee continues to seek members who wish to prepare additional titles for the Centennial.

Science and Society Committee. Robert E. Henderson, reporting for Chairman William Beranek, Jr., called attention to the symposium program on "Science and Public Policy in Indiana," scheduled as a feature event in the Academy Program for October 19.

Membership Committee. Robert E. Henderson, Chairman, reported that the Academy has 1047 current members and that the new membership brochure has been made available.

Fellows Committee. Richard L. Conklin, Chairman, presented the committee report and made the following motion:

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

BYRON O. BLAIR

ROBERT HENDERSON

DELLA COLLINS COOK ALAN CHARLES YORK
WALTER CORY

Seconded and *carried*.

Resolutions Committee. No report.

Invitations Committee. Gary Steinhardt, reporting for Chairman Philip A. St. John, reminded the committee that invitations accepted for future meetings include: 1980 - St. Joseph's College, 1981 - Wabash College, 1982 - University of Notre Dame, and 1985 (the Centennial Year) - Butler University. Invitations for 1983 and 1984 are solicited.

Necrologist. No report.

Parliamentarian. Clarence Dineen, Parliamentarian, reported that work on the constitutional condensation and review has been completed in rough draft and, following editing, will be published in *Proceedings*.

The reports of the standing committees were approved.

ELECTED COMMITTEE REPORTS

Academy Foundation Committee. William A. Daily, Chairman, presented a report summarized as follows:

I. *Foundation Account*

Balance as of September 30, 1978	\$ 910.24
Income as of September 30, 1979	1,621.76
Disbursements to Academy	300.00
Transferred to Principal	2,000.00
	<hr/>
Cash balance as of September 30, 1978	\$ 232.00

II. *John S. Wright Fund*

Balance as of September 30, 1978	\$ 36,000.00
Income as of September 30, 1979	27,852.07
Cash balance as of September 30, 1979	1,119.34
Disbursements from Investment Income Account	
Research Grants	6,096.00
IAS <i>Proceedings</i> Volume 87	5,543.98
Indiana National Bank Fee	2,279.00
Cash balance	1,052.43
	<hr/>
Balance in Invested Income Account	\$ 50,000.00

III. Market Value of all Securities \$623,626.56

Mr. Daily noted that the Academy portfolio has increased by \$77,040 during the past year (14.1%), and that the Invested Income Account presently contains \$47,000, yielding about 11% annually.

Bonding Committee. No report.

Research Grants Committee. Ralph A. Llewellyn, Chairman, reported that 33 proposals had been received during the past year, of which five had been funded in full and 25 in part, representing 12 institutions and one private individual. A total of \$10,240 was granted, ranging from \$120 to \$960, averaging \$341 per grant. Three Secondary

School grants totaling \$673, jointly sponsored by the Academy (through the Indiana Science Education Fund) and the NAAS, were funded.

Editor's Report. Benjamin Moulton, Editor, reported that *Proceedings, Volume 88*, will be off the press in late December and that the 10-year index is being prepared.

Director of Public Relations. Walter A. Cory, Director, renewed his appeal for newsletter items from members. He also read a biographical sketch of Herbert C. Brown, Nobel Laureate in Chemistry for 1980, and an emeritus member of the Academy.

The reports of the elected committees were approved.

SPECIAL COMMITTEE REPORTS

Biological Survey Committee. Theodore Crovello, Chairman, distributed a report summarizing current activities of the committee on the Literature Project, the Endangered Species Project, the Flora Indiana Project, the Indiana Vascular Plant Atlas, Indiana Trees, and Indiana Birds. He called attention to the on-line demonstration of computerized information about the state's plants, animals, and their environment, which would be accessible throughout the meeting.

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

ERNEST E. CAMPAIGNE (1946)
SEARS CROWELL (1950)
WILFRID C. GETTELFINGER (1928)
FELIX HAUROWITZ (1949)
WILLIAM D. INLOW (1950)
VIVIAN A. JOHNSON (1949)
RALPH L. SEIFERT (1949)
HAROLD B. THOMPSON (1934)

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

Preservation of Natural Areas Committee. Marion Jackson, Chairman, reviewed the background of the committee and briefly outlined current attempts to renew its activities and establish its role in the future of the Academy.

Speaker-of-the-Year Committee. John B. Patton reported that Dr. Damian V. Schmelz, Academic Dean at St. Meinrad College, had been selected Speaker-of-the-Year. He will speak on the topic, "Stewardship of Indiana's Natural Resources," at DePauw, Evansville, and Vincennes Universities and at Franklin and Hanover Colleges, as well as at the 1980 Spring Meeting of the Academy.

Academy Representative on Indiana Natural Resources Commission. J. Dan Webster, reporting for Damian Schmelz, reported that State Senator John Bruggenschmidt has been appointed by Governor Bowen to replace John Hillenbrand, recent Commission chairman, who resigned

from the Commission to become a candidate for governor. The Governor has appointed Mr. Leahy to the chairmanship.

The reports of the Special Committees were approved.

NEW BUSINESS

President-Elect Robert E. Henderson set the 1979 Budget Committee meeting for Saturday, December 8, 1979 in Indianapolis.

The meeting was adjourned at 9:00 p.m.

Respectfully submitted,
Robert E. Van Atta
Secretary

FALL MEETING

MINUTES OF THE GENERAL SESSION

October 19, 1979

The Business Session of the 95th Annual Meeting of the Academy was called to order by President J. Dan Webster at 11:25 a.m. in Cordier Auditorium at Manchester College, North Manchester, Indiana.

Dr. A. Blair Helman, President of Manchester College, welcomed the Academy on behalf of the college.

President Webster briefly commented on the organization of the Academy and explained the mechanism of the Executive Committee operations in dealing with Academy business. He then introduced the Secretary of the Academy, who presented a summary of committee reports and informed the membership of official actions taken by the Executive Committee on October 18, 1979.

The Secretary informed the Academy that the usual announcement of divisional election results could not be made at the meeting due to a necessary change in program format and that the list of chairmen and chairmen-elect of the divisions for 1980 would be published in the next Newsletter and published in the minutes of the meeting. That list follows:

ANTHROPOLOGY

Chairman: FRANCIS X. GROLLIG
Chairman-Elect: CHARLES P. WARREN

BOTANY

Chairman: GARY DOLPH
Chairman-Elect: CHARLES T. HAMMOND

CELL BIOLOGY

Chairman: STANLEY N. GROVE
Chairman-Elect: KARA W. EBERLY

CHEMISTRY

Chairman: EDWARD MILLER
Chairman-Elect: DONALD G. CLEMENS

ECOLOGY

Chairman: HERBERT W. SENFT
Chairman-Elect: RICHARD W. GREENE

ENGINEERING

Chairman: DONALD D. GRAY
Chairman-Elect: MARK H. HOUCK

ENTOMOLOGY

Chairman: MICHAEL SINSKO
Chairman-Elect: DAVID K. REED

ENVIRONMENTAL QUALITY

Chairman: HOWARD DUNN
 Chairman-Elect: DAVID PETERSON

GEOLOGY AND GEOGRAPHY

Chairman: KENNETH R. BREHOB
 Chairman-Elect: HENRY H. GRAY

HISTORY OF SCIENCE

Chairman:
 Chairman-Elect: EVERETT F. MORRIS

MICROBIOLOGY AND MOLECULAR BIOLOGY

Chairman: DONALD A. HENDRICKSON
 Chairman-Elect: DOROTHY ADALIS

PHYSICS AND ASTRONOMY

Chairman: GERALD P. THOMAS
 Chairman-Elect: L. DWIGHT FARRINGER

PLANT TAXONOMY

Chairman: JOHN A. BACONE
 Chairman-Elect: ROBERT J. JENSEN

SCIENCE EDUCATION

Chairman: WILLIAM G. WERT
 Chairman-Elect: CHARLES GEHRING

SOIL AND ATMOSPHERIC SCIENCES

Chairman: DONALD P. FRANZMEIER
 Chairman-Elect: ROBERT F. DALE

ZOOLOGY

Chairman: ROBERT R. PINGER
 Chairman-Elect: LARRY GANION

The Secretary presented the following motions:

Motion: That the individuals 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*.

Richard L. Conklin, Chairman of the Fellows Committee, presented certificates to the newly-elected Fellows who were present.

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

EARLE BROWN	JACK SOVERN MCCORMICK
WALTER GINGERY	JOHN E. ORGAN
ARTHUR E. HALLERBERG	NICHOLAS A. PURICHIA
BLANCHE MCAVOY	DARL F. WOOD

Frank A. Guthrie, Chairman of the Nominations Committee, placed the following slate in nomination:

President-Elect	RALPH A. LEWELLYN, 1980
Secretary	JOHN H. MEISER, 1980-82
Academy Foundation	CLYDE R. METZ, 1980-81
Research Grants Committee	ALICE S. BENNETT, 1980-84

No nominations were made from the floor.

Motion: That the slate presented by the Nominations Committee and approved by the Executive Committee be declared elected.

Seconded and *carried*.

Howard Youse, Chairman of the Resolutions Committee, presented the following:

RESOLUTION:

Whereas: It is rare that a member of the Indiana Academy of Science is recognized for his outstanding research by being awarded the Nobel Prize; and

Whereas: This recognition has brought honor to the Academy; be it

Resolved: That the Academy members here assembled wish to recognize and congratulate Dr. Herbert C. Brown, Emeritus member of this Academy, for his Nobel Prize in Chemistry; and be it further

Resolved: That the secretary of the Academy be instructed to transmit this resolution to Dr. Brown, Professor Emeritus, Purdue University.

RESOLUTION:

Whereas: The Indiana Academy of Science is deeply grateful to Manchester College for their invitation to hold its 95th annual meeting on their campus; and

Whereas: Administration, faculty, and students alike have cooperated in providing us their facilities for this meeting; be it

Resolved: That the Academy members here assembled express their sincere appreciation to President Dr. A. Blair Helman for all the courtesies that Manchester College has extended to the Academy during the meeting. We are especially grateful to Dr. William R. Eberly and his committee for the arrangements of the entire program and the comfort and conveniences provided the membership. We also express our sincere thanks to Dr. William Beranek, Jr., and members of the Symposium panel for the informative symposium on "Science and Public Policy in Indiana."

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

Seconded and *carried*.

President Webster and Program Chairman Eberly made several announcements in connection with the remainder of the activities of the meeting.

The meeting was recessed at 12:05 p.m. and reconvened at 1:30 p.m. with Mr. William Beranek, Jr., Chairman of the Science and Society Committee, presiding for the Symposium entitled "Science and Public Policy in Indiana." Members of the Symposium Panel were Dr. John B. Patton, State Geologist, Chairman; William J. Andrews, Deputy Director of the State Department of Natural Resources, on "Land Use"; William Watt, Executive Assistant to the Governor, on "Energy"; and Dr. Joseph R. Hartley, Department of Transportation, Indiana University School of Business, on "Transportation." The symposium presentations were completed, with limited audience discussion, at 3:00 p.m. Further discussions were continued until 4:00 p.m. concurrently with Divisional meetings.

The General Session Meeting was concluded with the Annual Banquet, held in the upper level of the Manchester College Union Building, with President-Elect Robert E. Henderson presiding.

Following introduction of Academy officers, spouses, and other distinguished guests, Dr. Henderson introduced President J. Dan Webster, who presented the Annual Presidential Address, entitled "The Distribution of Indiana Birds and Birdwatchers."

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

Respectfully submitted,
ROBERT E. VAN ATTA, Secretary

FINANCIAL REPORT

JANUARY 1-DECEMBER 31, 1979

I. ACADEMY ACCOUNTS

	Income	Budgeted	Expenditures	Budgeted
Dues	\$ 7,834.00	\$ 7,110.00	-----	-----
Reprints: Vols. 85, 86, 87	3,899.74	3,400.00	\$ 3,586.20	\$ 3,000.00
Interest	1,071.72	1,000.00	-----	-----
Miscellaneous	107.00	-----	30.00	100.00
Secretary	-----	-----	726.59	500.00
Treasurer	-----	-----	603.37	400.00
General Office	-----	-----	0.00	250.00
Officer Travel	-----	-----	175.00	225.00
Membership Committee	-----	-----	466.16	250.00
Transfer Administered Accounts	-----	-----	3,450.00	3,450.00
President's Fund	-----	-----	387.74	150.00
Newsletter	-----	-----	500.00	500.00
Speaker of the Year	-----	-----	500.00	500.00
Program Committee	-----	-----	2,254.21	1,300.00
Editor's Expenses	-----	-----	700.00	700.00
Youth Activities	-----	-----	0.00	50.00
Biological Survey Committee	-----	-----	2,300.00	2,300.00
AAAS Representative	-----	-----	300.00	300.00
Public Relations	-----	-----	238.40	250.00
Section Chairman Expenses	-----	-----	0.00	50.00
CPA Fees	-----	-----	1,200.00	400.00
Lawyer's Fee	-----	-----	0.00	100.00
	\$12,912.46	\$11,510.00	\$17,417.67	\$14,775.00

II. ADMINISTERED ACCOUNTS

	January 1 Balance	1979 Income	1979 Expenditures	December 31 Balance
Junior Academy	\$ 810.20	\$ 1,000.00	\$ 356.19	\$ 1,454.01
Science Talent Search	165.75	2,903.00	2,765.16	303.59
Science and Society	2,732.09	500.00	497.18	2,734.91
Research Grants	-7,060.40*	12,102.72	11,490.00	-6,447.68
Natural Areas	0.00	0.00	0.00	0.00
J.S. Wright Library Fund	134.28	0.00	0.00	134.28
Lilly Library Fund III	2,632.76	0.00	0.00	2,632.76
Lilly Library Fund V	4,513.20	0.00	0.00	4,513.20
Library Binding	2,396.85	1,200.00	1,349.55	2,247.30
Science Fairs	0.00	0.00	0.00	0.00
Publications—Printing	1,588.89	6,293.98	5,481.98	2,400.89
Publications—Mailing	707.04	0.00	0.00	707.04
Publications—Sale	1,859.02	440.00	0.00	2,299.02
Natural Areas	0.00	0.00	0.00	0.00
Publications—Clerical	500.00	0.00	0.00	500.00
	\$10,979.68	\$24,439.70	\$21,940.06	\$13,479.32

* In 1977 and 1978 some payments of research grants were made using Academy operating funds.

III. SUMMARY

	Academy Accounts	Administered Accounts	Total
Balance 1/1/79 -----	\$ 9,367.07	\$10,979.68	\$20,376.75
Income -----	12,912.46	24,439.70	37,352.16
Expenditures -----	17,417.67	21,940.06	39,357.73
Balance 12/31/79 -----	4,861.86	13,479.32	18,341.18

IV. BANK BALANCE 12/31/79

First Citizens Bank and Trust Co., Greencastle, IN -----		\$ 1,637.77
Savings Accounts -----		16,703.41
Great Western Savings (matures 4/1/80) -----	\$ 6,774.60	\$18,341.18
First Western Savings (matures 6/16/80) -----	4,706.16	
First Western Savings (matures 4/22/80) -----	2,089.02	
First Western Savings (matures 4/29/80) -----	3,133.63	
	<u>\$16,703.41</u>	

V. SUMMARY OF TRUST FUNDS

A. Foundation Account (00430-00-0)			
Income Balance (1/1/79) -----		\$ 158.02	
Total dividends and interest for 1979 -----		1,709.79	
Disbursements for 1979:			
Research Grants -----	\$ 300.00		
Transfer to Principal -----	1,000.00	-1,300.00	
	<u>\$ 1,300.00</u>	\$ 567.81	
Income Cash Balance (12/31/79) -----			\$ 567.81
Principal Cash -----			53.40
Investments:			
Stocks -----			10,340.00
Bonds -----			13,125.00
Total Market Value -----			<u>\$24,086.21</u>
B. John S. Wright Fund (00430-01-9)			
Income Balance (1/1/79) -----		\$ 1,856.67	
Total dividends and interest for 1979 -----		24,953.28	
Disbursements for 1979:			
Fiduciary Fees -----	\$ 2,279.00		
Transfer to (00430-02-8) -----	20,000.00		
Transfer to Principal -----	3,000.00	-25,279.00	
	<u>\$25,279.00</u>	\$ 1,530.95	
Income Cash Balance (12/31/79) -----			\$ 1,530.95
Principal Cash Balance (1/1/79) -----		214.38	
Income for 1979 -----		23,000.00	
Disbursements for 1979:			
Purchase of Investments -----	\$23,000.00	-23,000.00	
		<u>\$ 214.38</u>	
Principal Cash Balance (12/31/79) -----			\$ 214.38
Total Value of the Account (12/31/79) -----			<u>\$620,784.88</u>
C. John S. Wright Invested Income Account (00430-02-08)			
Income Cash Balance (1/1/79) -----		\$ 430.52	
Interest Income for 1979 -----		4,653.79	

Disbursements for 1979 :			
Transfer to Principal -----	\$ 4,279.98	-4,273.98	
	<hr/>	<hr/>	
	\$ 4,273.98	\$ 810.33	
Income Cash Balance (12/31/79) -----			\$ 810.33
Principal Cash Balance (1/1/79) -----		0.00	
Investments Balance (1/1/79) -----		41,000.00	
Receipts for 1979 :			
Transfer from Income Cash -----	4,273.98		
Transfer from (00430-01-9) -----	20,000.00		
	<hr/>		
	\$24,273.98	24,273.98	
		<hr/>	
		\$65,273.98	
Disbursements for 1979 :			
Research Grants -----	10,710.00		
Printing <i>Proceedings</i> -----	5,543.98		
	<hr/>		
	\$16,273.98	-16,273.98	
		<hr/>	
Balance (12/31/79) -----		\$49,000.00	49,000.00
			<hr/>
Total Value of the Account (12/31/79) -----			\$49,810.33
			<hr/>
			<hr/>

VI. NOTES

Membership for 1979 :

- 951 active members (18 sustaining, 501 senior, 270 regular, 67 students, 13 clubs, 77 emeritus, and 5 other)
- 91 members on file as paid for 1978 but not as yet paid for 1978.
- 110 new members
- 115 members dropped from roles for non-payment of 1978 dues.

Dues Structure for 1979 :

- \$ 2.00 for student memberships
- 5.00 for regular memberships and club memberships
- 10.00 for senior memberships
- 25.00 for sustaining memberships
- 2.00 for additional family memberships
- 1.00 additional for initiation or reinstatement fee
- Special memberships include: Life membership (\$300.00), Corporate memberships (\$150-\$500), Institutional memberships (\$50-\$150).

Reprints :

Reprint charges for Volume 87 were \$3,586.20; reprint charges collected from authors amounted to \$3,899.74.

Research Grants :

\$11,490.00 was distributed to support research activities to the following persons: Barry Knisley (Franklin), Celestine Okagbue and Terry West (Purdue), Harmon Weeks (Purdue), Kenneth Traub (Notre Dame), Elise Porter and Robert Wintsch (Indiana), Robert Pinger (Ball State), Gary Dolph (Indiana at Kokomo), Joseph Siefker (Indiana State), Timothy Storbeck and Charles Heiser (Indiana), William Chaney and Phillip Pope (Purdue), Eugene Wagner (Ball State), Stuart Kelly (Indiana), Jay Jones (Indiana), Roland Usher (Butler), Steven Manchester (Indiana), P. J. Madison (Indiana State), Joseph Chowattukunnel (Indiana at South Bend), Ted Godish (Ball State), Uwe Hansen (Indiana State), Robert Jacobson (Butler), Robert Hale (Ball State), Zaphar Iqbal (Indiana U. School of Medicine), Gene Kritsky (Tri-State), Robert McDaniel (Purdue), Stephen Madigosky (Ball State), John Meiser (Ball State), Richard Pflanzner (IUPUI), Jacqueline Sherris (Purdue), James Streater (Manchester), Dana Kincaid (a high school student), Scott Stuckey (high school student), and Jamie Sibbitt (high school student).

Publications:

Sales during 1979 amounted to \$497.00. The cost of publishing Vol. 87 of the *Proceedings* was \$13,481.98 of which \$8,000.00 was paid by the State of Indiana.

VII. BUDGET FOR 1980

The following budget was approved by the Budget Committee on December 8, 1979.

Academy Accounts**Anticipated Income**

Dues	\$ 7,350.00
Reprint Charges to Authors	3,500.00
Interest on Savings	1,000.00

\$11,850.00

Budgeted Expenditures

Publishing Charges for Reprints	\$ 3,250.00
Secretary	500.00
Treasurer	400.00

General Office (includes \$500 transfer from Administered Account, Publications-Clerical)	750.00
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Officer Travel, AAAS Dues	225.00
Membership Committee	250.00
President's Contingency Fund	150.00
Newsletter	500.00
Speaker of the Year	700.00
Program Committee	1,500.00
Publication Editor's expenses	700.00
Youth Activities	50.00
Biological Surveys Committee	2,250.00
Representative to AAAS	300.00
Public Relations	150.00
Section Chairman expenses	50.00
C.P.A. Fees	750.00
Lawyer's Fees	100.00
Miscellaneous	100.00

\$12,675.00

Administered Accounts

Junior Academy	\$ 300.00
Science Talent Search	200.00
Science and Society	500.00
Library Binding	1,500.00
<i>Proceedings</i> : Postage	100.00
<i>Proceedings</i> : Publication	750.00

\$ 3,350.00

Transfer from <i>Proceedings</i> : Clerical to General Office	—500.00
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Total Expenditures	\$15,525.00
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Endowment Funds**Anticipated Income:**

IAS Foundation	\$ 1,600.00
J. S. Wright Invested Income	27,000.00
Invested Income Carry-over	47,000.00

\$75,000.00

Expenditures:

Bank Fee	\$ 2,500.00
Research Grants (including \$300 from IAS Foundation)	12,500.00

Publications: <i>Proceedings</i> Vol. 88 (\$15,000, \$8,000 from State of Indiana, \$750 Administrative transfer) -----	6,250.00
Publications: Special for Centennial -----	5,000.00
	<hr/>
	\$26,250.00

Restricted Accounts

Anticipated Income:

Science Talent Search Funds from Tri Kappa -----	\$ 4,400.00
Department of Interior Grant 14-16-0003-79-133 -----	13,925.00
	<hr/>
	\$18,325.00

Expenditures:

Science Talent Search -----	\$ 4,400.00
Grant 14-16-0003-79-133 -----	13,925.00
	<hr/>
	\$18,325.00

Respectfully submitted,
John A. Ricketts, Treasurer

We, the undersigned, have audited the Treasurer's records for the Indiana Academy of Science for the year 1979 and have found them to be accurate and in order.
_____, _____, 1980

THE INDIANA JUNIOR ACADEMY OF SCIENCE

47th Annual Meeting, Friday, October 19, 1972
Manchester College, North Manchester, Indiana

The forty-seventh annual Indiana Academy of Science meeting was held on Friday, October 19, 1979 at Manchester College, North Manchester, Indiana. Nine clubs and 127 members were in attendance.

Cheryl Barbati, president of the Junior Academy of Science, opened the morning meeting by greeting everyone and explaining the activities for the rest of the day. Cheryl then introduced the candidates for next year's officers. They were as follows:

President: Jamie Sibbitt—Paoli Jr.-Sr. High School
Richard Bush—Marquette High School
Vice-President: Ernie Tseng—Highland High School
Secretary: Jody Sibbitt—Paoli Jr.-Sr. High School

President Barbati introduced Jamie Sibbitt, secretary of the Junior Academy of Science and Jamie read the minutes of the last year's meeting. After the minutes were read and approved, the morning session was adjourned.

Paper presentations, paper plane sailing contest, junior scientist interviews, and the science club polemic were the activities that took place during the morning. At noon a special luncheon was held with the Senior Academy of Science members which was a new addition added to the meeting.

After the luncheon, a Junior Academy business meeting and awards session was held in the Winger Auditorium. The first order of business taken up was the election of officers for next year's meeting. Each candidate gave a brief speech on why he or she should be elected and then the voting took place. Elected as president was Jamie Sibbitt of Paoli Jr.-Sr. High School, vice-president was Ernie Tseng of Highland High School and secretary was Jody Sibbitt of Paoli Jr.-Sr. High School. The awards session began right after the election of officers. The following people received awards:

Junior Division

Paper Planes, Distance

- 1st place—Tom Tottem, Marquette High School
- 2nd place—Greg Tiesay, Marquette High School
- 3rd place—David Madura, Highland High School

Junior Division

Paper Planes, Target

- 1st place—Steve Shiparski, Marquette High School
- 2nd place—Pat Bobillo, Marquette High School

Senior Division

Paper Planes, Distance

- 1st place—Mark Long, Brown County High School

2nd place—Steve Wallace, Brown County High School

3rd place—Paul Worthington, Marquette High School

Senior Division

Paper Planes, Target

1st place—Pat Sim, Marquette High School

2nd place—Brett Pipper, Marquette High School

3rd place—James Praire, Brown County High School

Junior Division

Paper Presentations

Life Sciences

1st place—Ernie Tseng, Highland High School

2nd place—Jody Sibbitt, Paoli Jr.-Sr. High School

3rd place—Colleen Quinlan, St. John the Baptist School

Junior Division

Paper Presentations

Physical Sciences

1st place—Norman Ramion, Marquette High School

2nd place—Matt Hoevel, St. John the Baptist School

Senior Division

Biological Sciences

Paper Presentations

1st place—Cheryl Barbati, Highland High School

2nd place—Daniel Gorski, Gavit High School

3rd place—David Lazarek, Marquette High School

Senior Division

Paper Presentations

Physical Sciences

1st place—Thomas Beutner, Marquette High School

2nd place—Steve West, Paoli Jr.-Sr. High School

Junior Division

Science Fiction Stories

1st place—Pat Bobillo, Marquette High School

2nd place—Jennifer Darman, Marquette High School

3rd place—Chris Donaldson, Marquette High School

Senior Division

Science Fiction Stories

1st place—Susan Brach, Gavit High School

2nd place—David Clancy, Marquette High School

3rd place—Kelly Hansen, Highland High School

Junior Division

Science Club Polemic

1st place—Highland High School

2nd place—Marquette High School

3rd place—St. John the Baptist School

Senior Division

Science Club Polemic

1st place—Highland High School

2nd place—Franklin Central High School

3rd place—New Haven High School

Outstanding scientist for the Junior Division was Norman Ramion from Marquette High School. In the Senior Division two outstanding scientists were named. They were Scott Rathgabar from New Haven High School and Cheryl Barbati from Highland High School. The traveling trophy for top club was presented to Marquette High School for Junior Division and to Highland High School for Senior Division.

The forty-eighth annual Indiana Junior Academy of Science meeting will be held at St. Joseph's College in Rensselaer, Indiana.

The Junior Academy would like to thank Dr. Eberly and crew from Manchester College for granting permission to our members to use the College facilities Thursday night before our meeting.

BIOLOGICAL SURVEY COMMITTEE REPORT
NEW LITERATURE AND WORKS IN PROGRESS ABOUT
THE BIOTA OF INDIANA: 1979

BSC Members

THEODORE J. CROVELLO, Chairman, University of Notre Dame
JOHN A. BACONE, Indiana Department of Natural Resources
WILLIAM CRANKSHAW, Ball State University
JAMES R. GAMMON, DePauw University
JACK R. MUNSEE, Indiana State University
GEORGE R. PARKER, Purdue University
VICTOR RIEMENSCHNEIDER, Indiana University
JOHN WHITAKER, Indiana State University
HARMON P. WEEKS, Purdue University
FRANK N. YOUNG, JR., Indiana University

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, in addition we now simultaneously add these contributions to the Indiana Academy's computerized literature and works in progress register. It provides updated, integrated bibliographies on particular topics in response to specific requests. Contact Professor Crovello for further details or to submit literature or project information to the data bank. The data bank contains more information about each reference than is presented in this printed summary. Items omitted include: Higher taxa (common names) to which organisms belong; Classes or orders of organisms; Families; Genera or species; Subjects describing each work; and Name, address and telephone number of person to contact for further information on each entry.

The following literature references and works in progress were obtained by circulating requests and questionnaires to chairpersons of 69 Life Science departments throughout the State, and to participants at the Academy's Fall Meeting. Next year's report also will include the results of a search of the computerized files of Bioabstracts from 1969 to the present. The Committee welcomes suggestions on ways to increase the number of contributions to this annual survey, and to increase awareness of its customized computer search capabilities.

Each literature reference or work in progress may contain the following, separated by semicolons: author(s); date; title; citation; and Indiana counties in which the work was performed. If any of these are absent, the contributor did not provide it. Counties are abbreviated by using their first five letters. The exception is Saint Joseph, which is abbreviated StJoe. An "ALL" in the county field indicates that the work applies to all 92 Indiana counties. A "MANY" indicates the work applies to many counties. In both cases up to five of the most important counties also may be included.

Each citation begins with a letter which has one of the following meanings:

- P: Formal Publication (PIAS refers to Proceedings, Indiana Academy of Science)
 I: In Press in a formal publication
 T: Thesis
 O: Other (semi) published work, e.g. park checklists, maps
 E: Environmental Impact Statement
 W: Work in Progress

- ABNEY, T. S., F. A. LAVIOLETTE, and J. R. WILCOX; 1979; Indiana soybean disease and crop condition survey 1979; P: Purdue Agricultural Experiment Station Bull. 246:1-8; ALL.
- AKRE, R. D., A. GREENE, J. F. MACDONALD, P. LANDOLT, and H. G. DAVIS; 1980; Yellow-jackets of America north of Mexico; P: USDA Agricultural Handbook #552; ALL.
- ALBY III, T.; 1979; Spatial and temporal distribution of nematodes in a soybean field; W: Purdue University, J. M. Ferris; MANY.
- BALOCH, H.; 1979; Behavioral studies on food preference and hostplant selection of black cutworm, *Agrotis ipsilon*; W: Entomology Dept. Purdue Univ., F. T. Turpin; Tippe.
- BAUSS, S.; 1977; A waterfowl survey along the Ohio River from Madison to Vevay; T: B.A. Hanover College, J. D. Webster; Jeffe Switz.
- BLEDSON, L. W., C. R. EDWARDS and R. U. FLANDERS; 1979; Search behavior of the parasitoid *Pediobius foveolatus* (Eulophidae); T: Purdue Univ., C. R. Edwards.
- BRATTAIN, R. M.; 1979; The Histeridae of Indiana; W: Private Individual, 3206 Longlois Dr., Lafayette, IN 47905, #317/447-3627; ALL.
- BROWN, K. M.; 1979; The adaptive demography of four fresh water pulmonate snails; I: Evolution; Allen Whitl Noble.
- BROWN, K. M.; 1979; Ecology and population dynamics of aquatic organisms; W: K. M. Brown, Purdue; Noble Whitl Allen.
- BUSING, R. et. al.; 1979; Breeding bird census #84, Suburban Cemetery; P: American Birds 33:78; Wayne.
- CALDWELL, D. L. and D. L. SCHUDER; 1979; The life history and description of *Phylloxera caryaecaulis* on shagbark hickory; P: Annals of the Entomological Soc. of America 72(3):384-390; Tippe.
- CHMIEL, S. M. and M. C. WILSON; 1979; Estimating threshold temperature and heat unit accumulation required for meadow spittlebug egg hatch; P: Environmental Entomology 8(4):612-614; Warre.
- CHMIEL, S. and M. C. WILSON; 1979; Estimation of the lower and upper developmental threshold temperatures and duration of the nymphal stages of meadow spittlebug, *Philaenus spumarius*; P: Environmental Entomology 8(4):682-685; Warre.
- CORRIGAN, R. M.; 1979; Management of nuisance big brown bats (*Eptesicus fuscus*) in Indiana; W: R. M. Corrigan; MANY, Tippe Montg Parke Elkha Hanco.
- COUTURE, M. R. and D. M. SEVER; 1979; Egg mortality in *Ambystoma tigrinum* (Amphibia Urodela) in northern Indiana; I: PIAS. 88; StJoe.
- CROVELLO, T. J.; 1979; Survey of federally endangered plants in Indiana. W: T. J. Crovello, Notre Dame (U.S. Fish and Wildlife contract to Indiana Academy of Sciences); ALL.
- CROVELLO, T. J. and L. HAUSER; 1979; Hoosier National Forest rare plant study: final report; O: USFS, Bedford Indiana: R. K. Landes; MANY, Brown Crawf Jacks Lawre Marti Monro Orang Perry Duboi.
- CRUZ, I.; 1979; Effect of fall armyworm on different corn growth stages; W: Entomology Dept., Purdue Univ. F. T. Turpin; Tippe.
- CURRY, K. D. and A. SPAEVE; 1978; Distribution of stream fishes in Tippecanoe county, Indiana; P: PIAS 87:182-187; Tippe.

- DAVIS, J.; 1978; Fall territorial behavior of the mockingbird, *Mimus polyglottos*; T: B.A. Hanover College, J. D. Webster; Jeffe.
- DEYRUP, H.; 1979; The Scolytidae of Indiana; W: Entomology Dept., Purdue Univ., Mark Deyrup; ALL.
- DILL, J. F.; 1979; Biology and management of the corn flea beetle, *Chaetocnema pulicaria* Melsheimer, relative to the incidence of Stewart's disease in corn; T: Purdue Univ., F. T. Turpin; ALL, Tippe Posey.
- DINEEN, C. F.; 1959; Bottom types and bottom organisms of the Saint Joseph drainage in Indiana; O: Fisheries Research Report, Statewide Fisheries Investigators, Indiana Dept. of Conser. 3(2): 2-27; StJoe Elkha LaGra Noble.
- DINEEN, C. F.; 1970; Changes in the molluscan fauna of the Saint Joseph River, Indiana, between 1959 and 1970; P: PIAS 80; MANY, StJoe Elkha LaGra Noble.
- DINEEN, C. F.; 1977; History of a river; P: PIAS 87:72-80; MANY, StJoe Elkha LaGra Noble.
- DINEEN, C. F.; 1979; 316 (a & b) Demonstration Logansport City Electric Light Co., Logansport, IN; E: TEN-ECH, South Bend, IN; Cass.
- DINEEN, C. F. and P. S. STOKELY; 1954; Osteology and the central mudminnow, *Umbra limi*; P: Copeia, 1954, :169-179; StJoe.
- DOLPH, G. E.; 1971; A comparison of local and regional leaf characteristics in Indiana; P: PIAS 80:99-103; Monro.
- DOLPH, G. E. and R. L. KIRKPATRICK; 1979; Leaf size variation in Cook's Woods; I: PIAS; Miami.
- FEINGOLD, J.; 1978; The Indiana Natural Heritage Program; W: Dept. of National Resources, J. Feingold; ALL.
- GEHRING, K. L.; 1979; Winter bird population study #'s 102 (abandoned stone quarry) & 114 (fallow field); P: American Birds 33:48 & 51-52; Jeffe.
- GRAFTON-CARDWELL, E. E.; 1979; Ovipositional behavior of *Meteorus leviventris* (Hymenoptera: Braconidae); W: Purdue Univ., H. D. Vail; ALL.
- GRAFTON-CARDWELL, E. E. and H. D. VAIL; 1979; Factors influencing the number of eggs laid during each ovipositional attack by *Meteorus leviventris* (Hymenoptera: Braconidae); I: PIAS; ALL.
- GRAY, L. M. and D. R. CHAMBERLAIN; 1979; Birds of Spring Mill State Park" Information Brochure; O: Park Checklist, Department of Natural Resources; Lawre.
- HELLENTHAL, B. and T. J. CROVELLO; 1978; Indiana trees (revision of Deam and Shaw's "Trees of Indiana"); W: Univ. of Notre Dame, T. J. Crovello; ALL.
- HILL, G. D.; 1979; The seasonal abundance of syenthropic flies and associated manure fauna of the egg laying houses in north-central Indiana; W: Purdue Univ., R. Williams; Carro Kosci.
- HOFSTETTER, A. M., C. F. DINEEN and P. S. STOKELY; 1958; Skeletal differences between the black and white crappies; P: Trans. Am. Micro. Soc. 77; StJoe.
- HOFSTETTER, A. M., P. S. STOKELY and C. F. DINEEN; 1957; The auditory organ and its relation to the skull bones of a fresh water teleost; P: The Anatomical Record 129; StJoe.
- HUGHES, W., *et al.*; 1979; Breeding bird census #82; abandoned field and pasture; P: American Birds 33:77-78; Wayne.
- IVERSON, J. B.; 1979; Reproductive biology of the common mud-turtle; W: Earlham College, Richmond, Indiana; Kosci.
- IVERSON, J. B.; 1979; Demography of painted turtles; W: Earlham College, J. B. Iverson; Kosci.
- JANSEN, M. H. and H. D. VAIL; 1979; The swarming behavior of *Chironomus riparius* (Diptera; Chironomidae): initial data and life history; I: PIAS; MANY, Tippe.
- JUDY, F. J., JR.; 1979; Life History of *Chionaspis pinafolae* (Fitch) and *Chionaspis heterophyiiae* cooley; T: Purdue, Dr. D. Schuder; MANY.
- KELLER, C.; 1979; Quantitative techniques for the determination of phytogeographic areas; T: Univ. of Notre Dame, Prof. Crovello; ALL.

- KELLY, S. T. and C. M. KIRKPATRICK; 1979; Evaluation of a ruffed grouse reintroduction in northern Indiana; I: Wildlife Society Bulletin; Jaspé Pulas.
- KEPHART, S. R.; 1979; The floral ecology and reproductive isolation of three sympatric species of *Asclepias*; T: Indiana Univ., Dr. C. Heiser; Monro.
- KREKELER, C. H.; 1979; Biological resources of west branch of Little Calumet River wetlands; W: Northwest Indiana Regional Planning Commission, D. Gardner; Lake Porte.
- KREKELER, C. H.; 1979; Baseline studies—Indiana Dunes National Lakeshore; W: Indiana Dunes National Lakeshore, W. Hendrickson; Lake Porte LaPor.
- MACDONALD, J. F.; 1979; Biology, recognition, medical importance, and control of Indiana social wasps; P: Purdue Agricultural Experimental Station Bulletin 219:1-22; ALL, Tippe Mario Allen StJoe.
- MACDONALD, J. F., R. W. MATTHEWS and R. S. JACOBSON; 1980; Nesting biology of *Vespula flavopilosa* (Hymenoptera: Vespidae); I: J. Kansas, Entomology Society; Tippe.
- MARENCHIN, G. L. and D. M. SEVER; 1979; Preliminary survey of the fish of the Saint Joseph River drainage; W: Saint Mary's College, D. M. Sever; StJoe Elkha.
- MCCAIN, T.; 1979; The role of blood-sucking arthropods in the transmission of *Eperythrozoon suis* Splitter in swine; W: Entomology Dept., Purdue Univ., R. Williams; Tippe.
- MCREYNOLDS, M.; 1978; Parasites of the yellow bass, *Morone mississippiensis*, from two locations in southern Indiana; T: B.A., Hanover College, J. D. Webster; Gibso Monro.
- MEYER, R. W.; 1979; Insects and other arthropods of economic importance in Indiana during 1979; I: PIAS; ALL.
- OWENS, J. M.; 1977-80; Some aspects of German cockroach population dynamics in urban dwellings; T: Purdue Univ., G. W. Bennett; Mario.
- PARMAN, V. R. and M. C. WILSON; 1979; Full season impact of meadow spittlebug, *Philaenus spumarius*, feeding on first cutting alfalfa; W: Entomology Dept., Purdue Univ.; Tippe.
- PECKHAM, R. S. and C. F. DINEEN; 1955; Spring migration of salamanders; P: PIAS 64; StJoe.
- PECKHAM, R. S., and C. F. DINEEN; 1957; Ecology of the central mudminnow; P: American Midland Naturalist, 58:222-231; StJoe.
- PECKHAM, R. S. and C. F. DINEEN; 1963; Development of the caudal fin in the central mudminnow, *Umbra limi* (Kirtland); P: Copeia 1963:586-588; StJoe.
- PITCHER, E. B.; 1979; Breeding bird census #35: black oak—sassafras woods; P: American Birds, 33:65; Porte.
- RICHESON, M. L.; 1979; Parasites, biochemistry, and identification related to agricultural plants; W: Purdue Univ. at Fort Wayne, M. L. Richeson; Allen.
- SEVER, D. M.; 1979; Male secondary sexual characters of the *Eurycea bislineata* (Amphibia, Urodela, Plethodontidae) complex in the southern Appalachian Mountains; P: Journal of Herpetology 13:245-253; Montg Owens.
- SEVER, D. M. and C. F. DINEEN; 1977; Reproductive ecology of the tiger salamander, *Ambystoma tigrinum*, in northern Indiana; P: PIAS 87:189-203; StJoe.
- SHANER, G.; 1979; Projects in agriculture, etc.; W: Purdue Univ., G. Shaner; Tippe.
- SLODERBECK, P. E. and C. R. EDWARDS, 1979; Effects of soybean cropping practices on Mexican bean beetle and redlegged grasshopper populations; I: Journal of Economic Entomology; Lawre.
- SPENCER, J. S., JR.; 1969; Indiana's timber; P: USDA Forest Service Resources Bulletin NC-7.6; ALL.
- SQUIERS, E. R.; 1979; Taylor University natural area survey; W: Biology Dept., Taylor Univ., Dr. E. R. Squiers and Dr. G. W. Harrison; Grant.
- SQUIERS, E. R.; 1979; Effect of time of fallowing on community development in an early secondary succession system; W: Taylor Univ., Dr. E. R. Squiers; Grant.
- STOKELY, P. S. and C. F. DINEEN; 1953; Analysis of growth in the central mudminnow, *Umbra limi*; P: Copeia 27:232-234; StJoe.

- STORMER, F. A., C. M. KIRKPATRICK and T. W. HOEKSTRA; 1979; Hunter-inflicted wounding of white-tailed deer; P: Wildlife Society Bulletin 7:10-16; Marti Lawre Monro.
- TEKLEHAIMANOT, A.; 1979; Impact of swine waste lagoon on mosquito production; W: Entomology Dept., Purdue Univ., R. E. Williams; Tippe Carro Clint.
- TESSLER, S.; 1979; A study of the retreat-sites of jumping spiders (Araneae: Salticidae) nesting on queen anne's lace, *Daucus carota carota* L.; T: Purdue Univ., H. D. Vail; Tippe.
- TORREY, D. S.; 1979; Effects of submersed aquatic plant control with Aquathol at Purdue Wildlife area; T: Purdue Univ., C. M. Kirkpatrick; Tippe Warre.
- VAIL, H. D.; 1979; Examination of forest tent caterpillar, *Malacosoma disstria* Hübner, populations in south central Indiana, 1977-78 (Lepidoptera: Lasiocampidae); W: Purdue Univ., H. D. Vail; Lawre Marti Monro Brown.
- WALKER, G. L. and R. E. WILLIAMS; 1979; A unique fly problem in an industrial bio-filter system; W: Entomology Dept., Purdue Univ., G. L. Walker; Tippe.
- WALTZ, R. D. and W. P. MCCAFFERTY; 1979; Freshwater springtails (Hexapoda: Collembola) of North America; P: Purdue Univ. Agricultural Experimental Station Research Bulletin 960:32pp; ALL.
- WEBSTER, J. D.; 1979; Winter bird population study #44, old field with brush patches; P: American Birds 33:30; Jeffe.
- WEBSTER, J. D.; 1979; Breeding bird census #83, old field with brush patches; P: American Birds 33:78; Jeffe.
- WILLIAMS, R. E., F. W. KNAPP, and J. L. CLARKE, JR.; 1979; Aerial insecticide applications for control of adult mosquitoes in the Ohio River basin; P: Mosquito News 39:622-6; Vande.
- WILLIAMS, R. E. and E. S. WESTBY; 1979; Horse barns, housefly control, 1978; P: Insecticide and Acaricide Tests 4:216; Hanco.
- WILSON, M. C., J. K. STEWART and H. D. VAIL; 1979; Full season impact of the alfalfa weevil, meadow spittlebug and potato leafhopper in an alfalfa field; I: Journal of Economic Entomology; Harri.
- YONKER, J. W.; 1978-79; The biology of the zimmerman pire moth, *Dioryctria zimmerman*, and its associated damage in Indiana landscapes and Christmas tree plantations; W: Purdue Univ., Dr. D. L. Schuder; Tippe Miami Fulto Fount Porte.
- YOUNG, F. N.; 1979; A key to the Nearctic species of *Celina* with descriptions of new species (Coleoptera: Dytiscidae); P: J. Kans. Ent. 52:820-830; Monro Brown Green.
- YOUNG, F. N.; 1979; Water beetles of the genus *Suphisellus* Crotch in the Americas North of Colombia; P: Southwestern Naturalist 24:820-830; Monro Brown Green.

NECROLOGY

FAY KENOYER DAILY, Butler University

EARLE BROWN

Washington County, Indiana
December 25, 1902

Washington County, Indiana
December 25, 1978

Mr. Earle Brown was born in Washington County, Indiana, on Christmas day, 1902. His early education was acquired in the public school at Mount Carmel and the high school at Campbellsburg, Indiana, where he graduated in 1921. He then studied at Indiana University and Indiana State Teacher's College and received a teacher's certificate in 1923. His early ambition was to become a doctor, but he could not afford any further training.

For 19 years, Earle Brown taught school in Washington County, Indiana. From 1954 to 1971, he was supervisor of the Salem, Indiana, Water Purification Plant. He was also interested in furniture refinishing, and was owner of the Brown and Davis Furniture Refinishing Shop at Salem, Indiana.

Mr. Brown joined the Indiana Academy of Science in 1960 and was co-author with Dr. C. M. Palmer of a paper on *Pectodictyon* and other unusual algae from Indiana which was presented at the society's annual meeting. He was also past Master of the Masonic Lodge 282 in Campbellsburg, member of the Washington County Scottish Rite, and member of the chapter and council of the Washington County Past Masters Club. A nice article about Mr. Brown appeared in the December 27, 1978, *Salem Leader and Salem Democrat*.

Mr. Brown was a kind, unassuming man who played host to phycologists interested in the algae of the region. In speaking of him, Mr. Kenneth Brown (not related), present superintendent, of the Salem Water Purification Plant said, "Earle was a friend of mine. I worked with him for six years and knew him for more than fourteen years. He was one of the finest persons I have ever known." Earle Brown, age 76, born on Christmas day in Washington County, Indiana, died on Christmas day, 1978, in the same county.

WALTER GEORGE GINGERY

Copley, Ohio
August 30, 1884

Sun City, Florida
July 30, 1979

Walter George Gingery was known as "The Father of George Washington High School" since he was the first principal of the Indianapolis school where he taught for 24 years. He was born on a farm near Copley, Ohio, August 30, 1884, and was of German-English ancestry. His father was a grocer. An oral history tape in the manuscripts division, Indiana Section of the Indiana State Library, records an interview with Mr. Gingery by his daughter, Edith Walden, in which the quality of life in early rural Ohio and later experiences are described in much detail by Mr. Gingery.

Mr. Gingery attended Bluetown Grade School (Summit County, Ohio) and worked his way through high school at Copley, Ohio, by driving a milk truck. He graduated in 1902. He was then apprenticed to a mechanic for a year or two. However, he decided to go on to Mount Union College at Alliance, Ohio. He was encouraged to do this by his high school principal who made arrangements with the college president to grant Walter Gingery free tuition the first year despite difficult financial straits at the college. He also taught school at Darrowville and New Baltimore, Ohio, to help finance his education. He graduated with a B.S. degree in 1911.

Graduate training was then interspersed with other teaching assignments. He became acting professor at Wittenberg College from 1911 to 1913 and taught at Newark, Ohio, public schools from 1913 to 1916. While there, he took summer classes at the University of Chicago and received an M.A. degree in Mathematics and Astronomy from that school in 1916. From 1916 to 1917, he was a special lecturer at McMaster University at Hamilton, Ontario.

Mr. Gingery came to Indiana in 1917 to head the Mathematics Department at Shortridge High School and was assistant principal from 1925 to 1927. He became the first principal at George Washington High School in 1927 where he taught for 24 years retiring in 1951. Realizing his innovative teaching ability, educators from several colleges asked him to teach for seven more years. These included: Knox College, Galesburg, Illinois; Otterbein College of Westerville, Ohio; Hanover College and Indiana University in Indiana. He gained special recognition for his air age Centric World Projection Map. It was a new development in map making and was designed to tell air mileage at a glance from a flattened globe map. He also wrote a pamphlet on atomic energy which was used in science courses throughout the country. He wrote the lyrics to the George Washington High School Hymn.

Mr. Gingery joined the Indiana Academy of Science in 1918 and became a fellow in 1946. He was a member 61 years. He served on the Library Committee as chairman and thereby became a member of the Executive Committee from 1938 to 1948. He was a member of

the Library Committee several more years. He was a member of the new committee, the Budget Committee, formed in 1941 and for several years after that. Mr. Gingery was affiliated with several other professional organizations: the Central Association of Science and Mathematics (President in 1930 and Vice President in 1928); Indiana Schoolmen's Club (Executive secretary in 1945); committee member on research and service, North Central Association of Colleges and Secondary Schools; National Education Association; Mathematics Association of America; Indiana Astronomical Society; Indiana Teachers Retirement Association; Phi Beta Kappa; and Indiana Historical Society. He is listed in *Leaders in Education* (1948) and has been the subject of numerous articles in Indianapolis newspapers.

Mr. Gingery received the Silver Beaver Award from the Indiana Council of Boy Scouts. In 1947, he was honored in ceremonies at Washington High School by teachers, parents and school personnel for his outstanding service with the city public schools for 30 years. The highlight was the unveiling of a portrait of Mr. Gingery painted by Ruth Pratt Bobbs.

Mr. Gingery finally retired from teaching to Sun City, Florida, but he kept busy there at his hobby, making violins. He lived to be 92 years old and died July 30, 1979. He was noted for his modesty, integrity and high ideals.

ARTHUR EDWARD HALLERBERG

Farmington, Missouri
June 9, 1918

Valparaiso, Indiana
November 23, 1978

Dr. Arthur E. Hallerberg died November 23, 1978, of a heart attack at his home in Valparaiso, Indiana. He was a professor of mathematics at Valparaiso University.

Born at Farmington, Missouri, on June 9, 1918, his higher education was obtained at Illinois College (A.B., 1940), University of Illinois (A.M., 1941) and the University of Michigan (Ed. D. in mathematics, 1957). He also studied at the University of Chicago.

His teaching career was launched when he became an instructor in the public schools in Illinois from 1941 to 1942. From 1942 to 1944 he was an instructor of mathematics at Illinois College. He was acting head of the Mathematics Department of Mac Murray College, Jacksonville, Illinois, in 1944. He moved from associate professor to professor and head of the mathematics department at Illinois College from 1946 to 1960. In addition, he served as director and instructor for National Science Foundation Institutes during 1959 to 1960 and for summer institutes at Illinois College for junior high school teachers of mathematics in 1961 to 1966 and 1968 to 1970. He also served as visiting lecturer in education at the University of Michigan in the summer of 1960 and taught the history of mathematics in the summer of 1967. He returned during a sabbatical leave in 1970 and 1971 as visiting professor in mathematics for elementary teachers.

Dr. Hallerberg came to Indiana in 1960 to teach mathematics at Valparaiso University. He became chairman of the department from 1965 to 1970. He was well known in the state, especially for his interest in the history of mathematics. He was a specialist in mathematics education and was given a Distinguished Alumni Citation by Illinois College in 1977 for this endeavor. He was elected to the honor societies of Phi Beta Kappa, Sigma Xi and Pi Mu Epsilon.

Dr. Hallerberg joined the Indiana Academy of Science in 1961 and was a senior member. He presented and published two papers for the society. One was on the liaison between high school and college mathematics (given before the Mathematics Section in 1960). The other one was a lengthy article on the history of the movement to legislate a new value for pi, the "circle number" in 1897 which was presented at the History of Science Section in 1974. Another research interest concerned geometrical constrictions. Other professional memberships were in the Mathematical Association of America, National Council of Teachers of Mathematics, School Science and Mathematics Association, *Historica Mathematica*, and the Lutheran Academy for Scholarship. He is listed in *American Men and Women of Science* and *Who's Who in America*.

In addition to professional activities, Dr. Hallerberg found time to serve as assistant treasurer for the Lutheran Human Relations Asso-

ciation of America since 1975 and was program coordinator for the society institutes in 1975 and 1976. A memorial fund has been established in his name at Valparaiso University in favor of that society or the Immanuel Lutheran Church.

Dr. Hallerberg was also a lecturer and author. He was co-author with his wife, Katherine nee Rausch, of a book called *Think Metric—Cook Metric*. This was designed for teaching adult education groups.

Dr. Arthur Edward Hallerberg was just 60 years old when he died suddenly that Thanksgiving day after a commendable, full, productive life.

JACK SOVERN MCCORMICK

Indianapolis, Indiana
January 19, 1929

Bethesda, Maryland
February 12, 1979

Dr. McCormick was seated at his desk, busy as usual, when he had a sudden heart attack in his home at Bethesda, Maryland, February 12, 1979. Dr. Jack Sovern McCormick was a well-known ecologist who specialized in environmental management. He was born in Indianapolis, Indiana, January 19, 1929, the son of an attorney, James Albert McCormick, and his wife Betty (Sovern-Smith). He was raised in Indianapolis and attended public school and Howe High School there. He received a B.S. degree at Butler University in 1951 and then went to Rutgers University receiving a Ph.D. degree there in 1955.

Dr. McCormick's professional experiences started when he served as botanical councilor at the children's museum in Indianapolis from 1948 to 1949. He was then a state park naturalist for the Indiana Department of Conservation from 1949 to 1951. He served as Field Hydrologist for the United States Department of the Interior, Geological Survey at Trenton, New Jersey, from 1951 to 1955. He also became a consultant at the American Museum of Natural History from 1954 to 1955. In 1955 to 1961, he was Director of Vegetation Studies there during which time he designed the Hall of American Forests. From 1961 to 1963, he was Assistant Professor of Botany and Research Associate in the Institute of Polar Studies at Ohio State University. From 1963 to 1971, he was curator and chairman of the department of ecology at the Academy of Natural Sciences at Philadelphia. He became president of his own company, Jack McCormick and Associates, ecological consultants, in 1970. Wampora, Incorporated, obtained the firm in 1976, but Dr. McCormick remained president until death.

Several other concurrent positions were held. He was research associate at the American Museum of Natural History from 1961 to 1974; member of the research advisory committee of the Northeastern Forest Experiment Station, United States Forest Service, from 1962 to 1973; lecturer at the University of Pennsylvania from 1963 to 1972; landscape architect 1965 to 1974; Barnes Foundation lecturer in 1964; member of the highway research board, National Research Council from 1970 on.

Through Dr. McCormick's efforts in conservation, an entire oak forest in New Jersey was once moved to preserve it. He was involved with preservation of New Jersey's pine barrens, natural features of the coastal zone and other wetland studies such as the Alaskan wetlands for the Army Corps of Engineers. He was also concerned with Fish and Wildlife Legislation on Tinicum Marsh in Pennsylvania. He was well-known among Indiana scientists for his continuing interest in preserving natural areas in this state, especially Pine Hills. Related to this interest in preservation of natural areas of North America, his research was three-fold: vegetation analyses, nature and cause of vegetation

changes on disturbed sites, and vegetation mapping. For these studies, he received a number of fellowships, grants and awards: Pine Region Fellowship from Rutgers, the state university of New Jersey; Oak Leaf Award from the Nature Conservancy; Oak Leaf Award from the Indiana Chapter of the Nature Conservancy; and grants for scientific research from the National Science Foundation, Whipple-Heublein Foundation, Phoebe Waterman Foundation, and Hass Community Funds.

Dr. McCormick wrote the books: *Atoms, Energy and Machines, an illustrated textbook of chemistry and physics* in 1957, revised in 1962 and 1967; *The Living Forest*, 1959; and *International Bibliography of Vegetation Maps*. Volume 1, *North America*, and was a contributor to others. There are about two hundred titles of journal papers and reviews written by him.

Dr. McCormick joined the Indiana Academy of Science in 1950. He was co-author with W. A. Daily of a paper presented before the Botany Section in 1951. It was on the phytoplankton of the lagoon at Shades State Park. He was a member of numerous other societies including: the Ecological Society of America, Sigma Xi, American Association for the Advancement of Science (fellow), Nature Conservancy, Ohio Academy of Science (fellow), New Jersey Academy of Science (president in 1970 to 1972 and fellow), New York Academy of Science (life member), Pennsylvania Academy of Science, Torrey Botanical Club, Philadelphia Botanical Club, Pacific Science Association, International Society of Biometeorology (charter member), International Society for Tropical Ecology, International Society of Plant Geography and Ecology.

Among other biographic references, he is listed in *Contemporary authors, American Men and Women of Science*, and *Indiana authors and their books*.

Dr. McCormick directed around 100 environmental impact statements according to federal, state and local guidelines, two of which resulted in national honor awards to his company. The American Society of Landscape Architects gave the awards for an ecologically based design for a development on Amelia Island, Florida, and the master plan for the Cuyahoga National Recreation Area between Cleveland and Akron, Ohio. During the 1970's he worked for the Iranian government in Tehran on a proposed national history museum to include a zoo and planetarium.

It is evident that Jack McCormick's days had to be filled to capacity. In the last year of life, he traveled the Caribbean, botanized in Alaska, and commuted between Pennsylvania, New Jersey and Maryland on various projects. His life of 50 years was crammed with activity. This is the remarkable career of a well-liked friend.

JOHN EWING ORGAN

Branchville, Indiana
June 1, 1905

Mesa, Arizona
March 16, 1978

Mr. John E. Organ was a geologist with offices in Sullivan, Indiana. His business dealt with real estate, coal and oil interests. He was born in Branchville, Perry County, Indiana, June 1, 1905, and was of Irish-Scotch descent. Branchville was formerly called Oil Creek and is located in Oil Township. Oil, coal and gas deposits are to be found in the area. With this background, it is interesting that John E. Organ and his brother, James, both became geologists. Their father, James Franklin Organ, was superintendent of schools at Cannelton, Indiana. One can find a brief history of this illustrious family and a personal sketch of John E. Organ in *Indiana from Frontier to Industrial Commonwealth* (Lewis Historical Publications Company, N.Y., 1954).

John E. Organ attended grade school at Vincennes, Indiana, and Lake Worth, Florida. High school at Vincennes and Fort Lauderdale, Florida, were also attended. One year was spent at Vincennes University and the rest at Indiana University to receive a B.A. degree in 1928. Then he attended George Washington University where he received an M.A. degree in 1929. He also completed part of the work for a Ph.D. degree there, too.

In his early professional career, he was engaged in survey work. He was with the United States Geological Survey for about a year. Then he worked for an oil company at Owensboro, Kentucky; the Johns Manville Company in New York; and then the Maumee Collieries.

In 1933, Mr. Organ moved to Sullivan, Indiana. There he bought the Sherman block, a fine office building. He established his own offices in 1938 to provide headquarters for his business activities. He was particularly interested in the Sun Spot Coal Mine at Clinton, Indiana and the Shasta Coal Mine at Bicknell.

Mr. Organ joined the Indiana Academy of Science in 1967 as a regular member and expressed interest in the Geological Section of the society. In addition to our society, he belonged to the Rotary Club, Benevolent and Protective Order of Elks, Sigma Chi and Sigma Gamma Epsilon.

Mr. John Ewing Organ, a successful businessman and excellent geologist, was 73 years old when he died in Mesa, Arizona, March 16, 1978. He was buried on Indiana soil with services at Sullivan.

NICHOLAS ANGELO PURICHIA

Indianapolis, Indiana
November 22, 1941

Indianapolis, Indiana
August 24, 1979

Dr. Nicholas A. Purichia was a biologist on the Marian College, Indianapolis, faculty. He collapsed August 24, 1979, while visiting the locker room of a football team at game halftime. His brother was coach of the team. Within two hours, he was dead at the hospital where he was taken.

Dr. Nicholas Purichia was born in Indianapolis, Indiana, November 22, 1941. He was a member of a famous Hoosier football family which produced six quarterbacks including Nicholas. His father, Angelo Purichia, was born in Macedonia and had seven sons and two daughters. Nicholas attended grade and high schools in Indianapolis graduating from Washington High School in 1959. He then obtained a B.S. degree from Indiana State University in 1963; an M.S. from Miami University (Oxford, Ohio) in 1965 and a Ph.D. degree from the university in 1972.

Dr. Purichia had held the positions of instructor at Marian College, Indianapolis, from 1966 to 1968; teaching assistant, University of Cincinnati, from 1968 to 1971; research assistant, University of Cincinnati, from 1971 to 1972; assistant professor, Marian College, from 1972 to 1977 and associate professor, Marian College, from 1977 to 1979.

Dr. Purichia joined the Indiana Academy of Science in 1967 as a regular member. He served on the Youth Activities Committee and in 1974 was co-director with Dr. Lewis Sharp of the Central Indiana Regional Science Fair held at Marian College. He was also a member of the American Institute of Biological Sciences, Indiana College Biological Teachers Association, Holy Family Council, Knights of Columbus, Sigma Chi, Lambda Alpha, Indianapolis Zoological Society, Committee of Pro-life Organization, and University of Cincinnati Alumni Association.

The research interests of Dr. Purichia included the effects of dichlorophenamide, zinc and manganese on otolith development in mice. He published a paper as a co-author on this subject in *Developmental Biology* in 1972 and presented papers also on the subject. He was co-author of one in 1971 presented at the Teratology Society meeting. In 1973, at the Second International Symposium of Trace Element Metabolism in Animals at Madison, Wisconsin, he spoke on manganese, zinc and genes in otolith development. He was co-author of a paper presented in 1979 at the Association for Otolith Research on radioassay for carbonic anhydrase of the inner ear of mice.

A memorial tribute was held for Dr. Nicholas Angelo Purichia on October 11, 1979, at Marian College. A tribute was also paid to him in an *Indianapolis News* article by Jimmie Angelopolous on August 28, 1979. The dignity and devotion as a father, attributes of Dr. Purichia, were praised particularly in that article as well as his ability as an athlete. He was considered a quiet, deep thinker and successful teacher.

HELEN EVELYNE REED

Clinton, Indiana
March 16, 1908

Terre Haute, Indiana
April 18, 1979

Miss Helen Evelyne Reed died April 18, 1979, in the Union Hospital at Terre Haute. She was a retired high school teacher who had been residing in Greenwood, Indiana for 15 years.

Miss Reed was born at Clinton, Indiana, on March 16, 1908. She attended Indiana State Teacher's College where she received an A.B. degree in 1928. An A.M. degree was obtained from Indiana University in 1956. She was also certified in literature and library science.

Miss Reed's teaching experience was extensive. She taught at a Westervelt, Illinois, high school from 1928 to 1931; Oakland, Illinois, High School from 1931 to 1933; Clinton, Indiana, High School from 1933 to 1938; Brookville, Indiana, High School from 1938 to 1944; Noblesville, Indiana, High School from 1944 to 1949; Attica, Indiana, High School from 1949 to 1952; Lebanon, Indiana, Junior-Senior High School from 1952 to 1957; Lebanon Junior High School where she was chairman of the Science Department from 1957 to 1962; Emmerich Manual Training High School, Indianapolis, Indiana, from 1962 to 1972 when she retired.

In 1952 while teaching at Lebanon, Indiana, Miss Reed joined the Indiana Academy of Science. Her chief interests were in the Botany, Zoology and Secondary Science Teaching Sections. The next year, she sponsored a new Indiana Junior Academy of Science Club, the Junior Explorers of Science, from Lebanon High School. She was sponsor of the club for 10 years and served on the Junior Academy Council from 1962 to 1970. She was co-sponsor of the Emmerich Manual Training High School Junior Academy Club, Saturday Morning Science, in 1963. She announced the Best Girl, Best Boy Awards at the 1964 Junior Academy meeting at Indiana Central College where the Junior Explorers were host. She was a member of the Youth Activities Committee of the senior Academy in 1966 and 1967 and was editor of the Junior Academy journal, *The Retort*.

Miss Reed was active in other organizations and was honored in 1959 as chairman of the Biology Teachers Section and in 1964 as president of the Secondary Section of the Indiana Teachers Association; Indianapolis Education Association membership chairman from 1963 to 1967; and she was state membership chairman of the National Association of Biology Teachers 1956 to 1961. She was also a member of the American Association for the Advancement of Science, National Science Teacher's Association, National Education Association, Classroom Teachers Association, American Institute of Biological Sciences, Indiana School Librarians Association, American Association of University Women, Parent Teachers Association, Alpha Beta Alpha, Delta Kappa Gamma (chapter president). She is listed in *Leaders of American Science*, *Who's Who of American Education*, *Who's Who of American*

Women, Who's Who in the Midwest and *Dictionary of International Biography*. She participated in National Science Foundation financed Institutes in 1956 and 1966 and National Science Foundation financed research in 1959.

Miss Helen Evelyne Reed was 71 years old when she died. Services were held in Clinton, Indiana, her birthplace, and burial was in the Roselawn Cemetery at Terre Haute.

NEW MEMBERS INDIANA ACADEMY OF SCIENCE—1979

- DR. HANS O. ANDERSEN, 204 Education Bldg., Indiana Univ., Bloomington, IN 47401
- MRS. MARGARET BEAVER, Dept. of Microbiology, Univ. of Notre Dame, Notre Dame, IN 46556
- DR. GARY W. BENNETT, Dept. of Entomology, Purdue Univ., West Lafayette, IN 47907
- DR. ORLAND BLANCHARD, Biological Sciences, Purdue Univ., West Lafayette, IN 47907
- DR. MICHAEL BLAZ, Dept. of Psychology, Tri-State University, Angola, IN 46703
- DR. JAMES A. BRENNEMAN, Dept. of Biology, Univ. of Evansville, Evansville, IN 47702
- MRS. EDITH BRUCKNER-KARDOSS, Dept. of Microbiology, Univ. of Notre Dame, Notre Dame, IN 46556
- DR. MARSHALL P. CADY, JR., Dept. of Chemistry, Hanover College, Hanover, IN 47243
- MR. STEPHEN M. CHMIEL, P.O. Box 385, Mobay Chemical Corporation, Howe, IN 46746
- DR. ALLAN H. CLARK, Science Administration, Math Bldg., Purdue University, West Lafayette, IN 47907
- MR. DONALD R. COCHRAN, Dept. of Anthropology, Ball State Univ., Muncie, IN 47306
- DR. ROBERT A. COLYER, I.U. Medical Center, 1100 W. Michigan St., Indianapolis, IN 46223
- JAMES H. DOTY, 5537 Jayne Dr., Elkhart, IN 46514
- DR. DOUGLAS DUFF, Dept. of Biology, Ind. Univ. South Bend, South Bend, IN 46615
- DR. KARA W. EBERLY, Biology Dept., St. Mary's College, Notre Dame, IN 46556
- MRS. JOYCE B. GLOMAN, 1300 E. Washington Ctr. Rd., Bishop Dwenger High School, Ft. Wayne, IN 46825
- MISS NANCY J. GLOMAN, U.S. Fish & Wildlife Serv., 406 So. College, Bloomington, IN 47401
- DR. ALAN GOLICHOWSKI, 1000 W. 10th St., Indiana Univ. Med. Center, Indianapolis, IN 46202
- DR. ELVA R. GOUGH, P.O. Box 763, Peabody College, Nashville, TN 37203
- MS. BETH GRAFTON-CARDWELL, Dept. of Entomology, Purdue Univ., W. Lafayette, IN 47907
- DR. DONALD D. GRAY, School of Civil Engineering, Purdue Univ., W. Lafayette, IN 47907
- MR. HAROLD E. GROSSMAN II, 2719 Stringtown Rd., Evansville, IN 47711
- DR. CHARLES T. HAMMOND, Dept. of Biology, St. Meinrad College, St. Meinrad, IN 47577
- MR. FRANCIS M. HARTY, 110 James Rd., Spring Grove, IL 60081
- MR. WOLFE A. HATTERY, 802 Maxwell Lane, Skokie, IL 60076
- DR. MARK H. HOUCK, Civil Engineering Building, Purdue Univ., W. Lafayette, IN 47907
- DR. CALVIN JAMES, Dept. of Earth Sciences, Univ. of Notre Dame, Notre Dame, IN 46556
- MR. MARK H. JANSEN, Entomology Dept., Purdue Univ., W. Lafayette, IN 47906
- DR. JO ANN JANSING, I.U. Southeast, New Albany, IN 47150
- DR. RICHARD JENSEN, Dept. of Biology, St. Mary's College, Notre Dame, IN 46556
- DR. ANDREW D. JORGENSEN, Indiana State Univ.-Evansville, 8600 University Blvd., Evansville, IN 47712
- MR. HAL STEPHEN KIBBEY, Ind. Univ. News Bureau, 306 N. Union St., Bloomington, IN 47405
- DR. WILLIAM KRAMER, St. Joseph College, Dept. of Chemistry, Rensselaer, IN 47978
- MR. MICHAEL R. LANGONA, Biology Dept., Ball State Univ., Muncie, IN 47306
- DR. J. T. LONDERGAN, Dept. of Physics, Indiana University, Bloomington, IN 47401
- DR. R. DOUGLAS LYNG, Dept. Biological Sciences, IU-PU, 2101 Coliseum Blvd. E., Ft. Wayne, IN 46805
- DR. TIMOTHY F. LYON, Dept. of Natural Resources, Ball State Univ., Muncie, IN 47306
- DR. ROBERT A. MCDANIEL, Dept. of History, Purdue Univ., W. Lafayette, IN 47907

- DR. DANA P. McDERMOTT, Indiana University East, 2325 Chester Blvd., Richmond, IN 47374
- MR. WILLIAM D. MACKLIN, Dept. of Biology, Indiana University, Bloomington, IN 47401
- MR. STEVEN MANCHESTER, Dept. of Biology, Indiana Univ., Bloomington, IN 47401
- MRS. JO ANN MEUNIER, Biology Dept., Ball State Univ., Muncie, IN 47306
- DR. RICHARD W. MILLER, Dept. of Zoology, Butler Univ., Indianapolis, IN 46208
- MR. STEPHEN W. MOORE, Terre Haute North High School, 3434 Maple Ave., Terre Haute, IN 47804
- MRS. MARY ANN MORSE AND FAMILY, 2325 Chester Blvd., Indiana Univ. East, Richmond, IN 47374
- MR. ALAN K. NELSON, Entomology Dept., Purdue Univ., W. Lafayette, IN 47907
- DR. MARTIN J. O'CONNELL, Dept. of Chemistry, IUPUI, Indianapolis, IN 46205
- MR. MARSHALL OVERLEY, Frontier High School, Chalmers, IN 47929
- MR. ERIC L. PANG, Dept. of Entomology, Purdue Univ., W. Lafayette, IN 47907
- DR. GEORGE W. PENDYGRAFT, 975 Carmen Court, Greenwood, IN 46142
- DR. DENNIS G. PETERS, Dept. of Chemistry, Indiana University, Bloomington, IN 47405
- MR. WALTER H. PIERCE, Dept. of Geology, Ball State Univ., Muncie, IN 47306
- MR. PAUL L. RONEY, 103 Keenan, Univ. of Notre Dame, Notre Dame, IN 46556
- DR. ROBERT K. ROSE, Dept. Biological Sciences, Old Dominion Univ., Norfolk, VA 23508
- MR. JEFFREY R. SAMPSON, 6619 Eden Roc Crest, Indianapolis, IN 46220
- DR. ROGER L. SCOTT, Dept. of Physics & Astronomy, Ball State University, Muncie, IN 47306
- MS. KATHY SHACKELFORD, Biology Dept., IUPUI, Indianapolis, IN 46205
- DR. JAMES M. SHULER, Ind. State Bd. of Health, 1330 W. Michigan St., Indianapolis, IN 46206
- MR. ALBERT W. SHULTZ, Dept. of Geology, Indiana Univ., Bloomington, IN 47405
- DR. GARY A. SOJKA, Jordan Hall, Indiana Univ., Bloomington, IN 47405.
- MR. DANNY F. STROPES, 1330 W. Michigan St., Indianapolis, IN 46206
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- MS. CAROL A. SUMMERS, 922 Campus View, Bloomington, IN 47401
- MISS DIANE M. SYMBER, Dept. of Geology, Indiana Univ., Bloomington, IN 47401
- MS. IRENE TANEFF, 3400 Broadway, Biology Dept., I.U. NW, Gary, IN 46408
- MR. JOSEPH N. TATAREWICZ, 130 Goodbody Hall, Indiana Univ., Bloomington, IN 47401
- MR. ROLAND W. USHER, Holcomb Research Institute, Butler Univ., Indianapolis, IN 46208
- MS. MARGARET VANGUNDY, Div. of Curriculum, Rm. 229, State House, Indianapolis, IN 46204
- MR. MARK E. WAGNER, 7200 N. College, Park-Tudor H.S., Indianapolis, IN 46240
- MR. DARRELL WAKE, Clevenger Hall, Ball State Univ., Muncie, IN 47306
- DR. RICHARD WHITMAN, Div. Science & Math, I.S.U.-Evansville, Evansville, IN 47712
- MR. LYMAN H. WOLFLA II, 9652 E. 86th St., Indianapolis, IN 46256
- MRS. JUDITH E. WOOD, Pike Co. School Corp., R.R. 3, Petersburg, IN 47567
- DR. RONALD F. WUKASCH, Civil Eng. 308, Purdue Univ., W. Lafayette, IN 47907
- MR. W. GORDON WYLIE, 8940 Ellington Dr., Indianapolis, IN 46234
- DR. GERALD W. ZIMMERMAN, Dept. Physiology MS 304, Ind. Univ. School of Medicine, Indianapolis, IN 46223
- BROWN CTY. CHAP. IND. JR. ACADEMY OF SCIENCE, c/o Mrs. Leota Skirvin, Brown Cty. H.S., Nashville, IN 47448
- PARK-TUDOR SCIENCE CLUB, c/o Mark E. Wagner, 7200 W. College, Indianapolis, IN 46240
- GAVIT HIGH SCHOOL SCIENCE CLUB, c/o Michael Kobe, 1670 175th St., Hammond, IN 46321

INDIANA ACADEMY OF SCIENCE CONSTITUTION AND BY-LAWS

Adopted at the Fall Meeting, 1964
(Reprinted Incorporating Amendments to Date)

Article I. Name, Purposes, and Official Publication

Sec. 1. The Indiana Academy of Science (herein referred to as The Academy) is organized under the laws of the State of Indiana as a non-profit corporation devoted to scientific and educational purposes.

Sec. 2. The objectives of The Academy shall be to promote scientific research and the diffusion of scientific information; to encourage communication and cooperation among scientists, especially in Indiana; to prepare for publication such reports of investigation and discussion as may further the aims and objectives of The Academy as set forth in these articles; and to improve education in the sciences.

Sec. 3. Inasmuch as the State makes an annual appropriation to assist in publication, The Academy shall, upon request of appropriate officials, act through its Executive Committee as an advisory body in the direction and execution of any investigation within its province as stated. The Academy shall assume no responsibility for expenses incurred in the prosecution of any such investigation except as provided for in its annual budget.

Sec. 4. The official publication of The Academy, known as the Proceedings of the Indiana Academy of Science, insofar as it is published by the State, shall become a public document and shall be circulated by the Indiana State Library as agreed upon by the Library and the Committee on Relation of The Academy to the State.

Article II. Membership

Sec. 1. The membership of The Academy shall consist of: Members, Student Members, Fellows, Club Members, Emeritus Members, Life Members, Senior Members, Honorary Members, Sustaining Members, Corporate Members, and Institutional Members. Nomination for membership in any one of these classes shall be submitted to the Executive Committee, and those approved by this committee shall be referred to the membership present at any annual or spring meeting, where those nominees receiving a majority vote shall be declared elected to membership. The privileges and obligations of members of each class shall be determined by the Executive Committee.

Sec. 2. *Members.* Any person interested in any aspect of science and in accord with the objectives of The Academy may be elected to Membership.

Sec. 3. *Student Members.* Any graduate or undergraduate college or university student may be elected to Student Membership, but the tenure of this class of membership shall be limited to five years.

Sec. 4. *Senior Members.* Any person interested in science may be elected to Senior Membership.

Sec. 5. *Sustaining Members.* Any person interested in science may, on payment of substantially higher dues, be elected to Sustaining Membership.

Sec. 6. *Club Members.* Any junior or senior high school science club in Indiana may, on recommendation of the Director of the Junior Academy of Science, be elected to Club Membership.

Sec. 7. *Life Members.* Any member of the Academy in good standing may, by making a substantial single payment of dues, be elected to Life Membership.

Sec. 8. *Fellows.* Any member of The Academy may, on recommendation of the Committee on Fellows, be elected a Fellow of The Academy. The title is awarded as an honor and is independent of the class of membership.

Sec. 9. *Emeritus Members.* Any member who, after 25 consecutive years of membership, is 65 years of age or retired, petitions the Emeritus Membership Selection Committee may, on approval of that committee, be elected to Emeritus Membership.

Sec. 10. *Honorary Members.* In exceptional cases any person may be elected to Honorary Membership.

Sec. 11. *Corporate Members.* Any corporation organized and operated for profit in Indiana may be elected to Corporate Membership.

Sec. 12. *Institutional Members.* Any college, university or non-profit organization in Indiana may be elected to Institutional Membership.

Article III. Officers

Sec. 1. The officers of The Academy shall be: President, President-Elect, Secretary, Treasurer, Editor, and Director of Public Relations.

Sec. 2. The term of office of the President and President-Elect shall be one year. They shall not be eligible for reelection. The terms of the other officers shall be three years, and they may be reelected. Each officer shall continue to hold office until his successor has been duly elected and qualified.

Sec. 3. *Election of Officers.* Officers shall be elected at the annual fall meeting, and each shall assume his duties on January 1 of the following year. For the election of officers, the Committee on Nominations shall submit to The Academy nominations for the offices at that time becoming vacant. Additional nominations may be made from the floor. Election shall be by majority vote of the members present and voting.

Sec. 4. *President.* The President shall have been a member of The Academy for at least five years. He shall preside over all meetings of The Academy, the Executive Committee, the Budget Committee, and the Council, and shall be responsible for the administration of the

business of The Academy during his term of office. He shall appoint all standing committees not otherwise provided for and such other committees as he may deem necessary. He may, with approval of the Council, call such special meetings as to him seem necessary.

Sec. 5. *President-Elect.* The President-Elect shall have been a member for at least four years. He shall have the ordinary status of vice-president. He shall familiarize himself with the duties of the presidency and shall accede to that office the following year.

Sec. 6. *Secretary.* The Secretary shall have been a member for at least three years. He shall serve as secretary of all meetings of The Academy, the Executive Committee, the Budget Committee, and the Council. He shall keep permanent records of the activities of these bodies and shall issue notices of all meetings. He shall maintain a correct and up-to-date list of members in good standing and shall be prepared at all times to provide officers and committees with membership lists necessary to their operation.

Sec. 7. *Treasurer.* The Treasurer shall have been a member for at least three years. He shall have custody of all funds of The Academy except as otherwise provided. He shall issue statements and receive payment of dues and assessments and shall pay bills chargeable to The Academy. He shall promptly submit his records for audit and shall report to the Executive Committee annually on the financial standing of The Academy. He shall be responsible for filing such financial reports as may be required by State or Federal offices.

Sec. 8. *Editor.* The Editor shall have been a member for at least three years and shall be familiar with procedures of publication. With the advice of the Publications Committee, he shall have charge of assembling, editing, and publishing the Proceedings of The Academy and shall be responsible for other duties assigned to his office by the Executive Committee.

Sec. 9. *Director of Public Relations.* The Director of Public Relations shall provide notices of meetings and any other information which will acquaint the public with the work of The Academy.

Sec. 10. *Vacancies.* Except as otherwise provided, a vacancy occurring in any office shall be filled until the next annual meeting by appointment by the President, with approval of the Council.

Article IV. Sectional Organization

Sec. 1. The organization of Sections, defined by subject matter, may be authorized by the Executive Committee when such action is requested. A Section may be dissolved by the Executive Committee on becoming inactive or with the consent of members of the Section. Any member of The Academy may register as a member of any Section or Sections by notifying the Secretary of The Academy and meeting the requirements and obligations imposed by the Section.

Sec. 2. At the annual meeting, each Section shall elect, by vote of its members present, a chairman to preside at its meetings the fol-

lowing year and to serve as a member of the Executive Committee. The chairman of a Section shall appoint a proxy for any temporary emergency. Subject to approval of the Executive Committee, each Section may provide for its own organization and conduct its own meetings.

Sec. 3. Expenses incurred by a Section shall in no way become a financial obligation of The Academy except as provision has been made for them in the annual budget of The Academy.

Sec. 4. The following are hereby recognized as Sections de facto and authorized to continue operation, subject to the provisions of this Article, without further action by The Academy: Anthropology, Microbiology and Molecular Biology, Botany, Chemistry, Entomology, Geology and Geography, History of Science, Mathematics, Physics and Astronomy, Psychology, Soil Science, Plant Taxonomy, Zoology, Ecology, Cell Biology, Science Education, Engineering, and Environmental Quality.

Article V. Committees

Sec. 1. *Standing Committees Appointed Annually.* The following named committees shall be appointed by the President, to serve for one year, except as noted otherwise below and except as rotation is provided. Except as otherwise provided they shall be announced at the beginning of his term of office. He shall designate one member of each committee as chairman. All appointees to membership on committees shall be members of The Academy in good standing.

(1) *The Academy Representative on the Council of the American Association for the Advancement of Science.* This person shall serve for a three-year term beginning 1 January 1972 and every 3 years thereafter.

(2) *Auditing.* The Auditing Committee shall audit the books of the Treasurer and of any other officers or committee having custody of funds of The Academy. It shall report such audits at the annual meeting or at other times as required by the Executive Committee.

(3) *Youth Activities.* The Youth Activities Committee shall consist of 12 members representing diverse scientific backgrounds and about equally divided among colleges, universities, and secondary schools, and including the directors of the various youth activities related to The Academy. The duties of this Committee shall be to coordinate the Academy-sponsored programs in science for secondary schools, to formulate general policies for such activities for which The Academy has accepted some responsibility, and to advise the President on the appointment of persons to lead such activities.

(4) *Library.* The Library Committee shall have charge of all matters concerning the John Shepard Wright Memorial Library and its relation to the State Library.

(5) *Nominations.* The Committee on Nominations shall consist of at least three members selected from past presidents of The Academy. At the annual meeting, it shall submit nominations for the elective officers of The Academy. At the discretion of the President, announce-

ment of the membership of this committee may be withheld until the time of its report.

(6) *Program.* The Program Committee shall prepare the programs and make all arrangements for regular or special meetings of The Academy and its various Sections.

(7) *Publication.* The Committee on Publication shall advise the Editor in matters pertaining to the publication of the Proceedings of The Academy and to other duties assigned to the Editor's office by the Executive Committee. The Editor shall serve as Chairman of this Committee.

(8) *Science and Society.* The Committee on Science and Society shall consist of 9 to 12 members of the Academy, including representatives of industry, serving staggered three-year terms. This Committee may maintain a permanent office with a Director and supporting personnel, and it is authorized to solicit financial support for its work from foundations or other sources.

The duties of this Committee shall be:

To bring to the attention of the Governor and General Assembly of Indiana the nature and activities of The Academy, indicating that its State Charter and its continued support from the State place upon it the obligation to serve the State in every way possible;

To develop procedures for disseminating scientific information and offering scientific information and scientific advice to citizens of the State through the establishment of a Speaker's Bureau and the use of the various news media; and

To mobilize the membership of the Academy in support of these efforts.

(9) *Membership.* The Membership Committee shall receive applications for membership and submit reports and recommendations on such applications at regular meetings of The Academy.

(10) *Fellows.* The Committee on Fellows shall be composed of Fellows, one from each subject-matter Section. The regular term of membership shall be three years, except, that on the adoption of this constitution, the President shall appoint approximately one-third of the members for terms of three years, one-third for two years, and one-third for one year. Any interim vacancy shall be filled by appointment for the remainder of that term.

This committee shall review the membership, receive nominations, and, at least two weeks before the date of annual meeting, submit to the Secretary, for transmittal to the Executive Committee, nominations for the rank of Fellow.

(11) *Resolutions.* The Committee on Resolutions shall prepare and submit resolutions at meetings of The Academy.

(12) *Invitations.* The Committee on Invitations shall receive invitations from institutions which offer their facilities and services as hosts for meetings of The Academy and shall make recommendations to the Executive Committee as to places for future meetings.

(13) *Necrologist*. The Necrologist shall report annually on the loss of members by death and shall offer memorial resolutions.

(14) *Parliamentarian*. In addition to the performance of the regular duties of this office, the Parliamentarian shall make his services available, in an advisory capacity, for the formulation of proposed amendments to the Constitution and By-Laws and shall keep these documents up to date by incorporating in them all amendments adopted by The Academy.

(15) *Preservation of Natural Areas*. The Committee on the Preservation of Natural Areas shall consist of nine members appointed for three-year rotating terms from the fields of Botany, Geology-Geography, and Zoology, and with as wide a geographic distribution in the State as practicable. This committee shall serve as a channel through which suggestions made by members as to the conservation and preservation of natural areas may be referred to the Executive Committee in the form of recommendations.

(16) *Emeritus Members*. The Committee on Emeritus Members shall take steps to implement ARTICLE II, Section 4, by recommending members eligible for this status.

Sec. 2. *Elected Committees*. The following are recognized as de factor elected standing committees, and vacancies as they occur in the rotating membership shall be filled by election by the Executive Committee. Interim vacancies shall be filled by appointment by the President for the remainder of the terms.

(1) *Academy Foundation*. The Trustees of The Academy Foundation (two members, with rotating two-year terms) shall have custody of the funds and investments of The Academy Foundation and shall report, annually or on demand, to the Executive Committee on the state of these resources.

(2) *Bonding*. The Bonding Committee (two members, elected annually) shall be responsible for the adequate bonding of all officers and committees having charge of funds or investments of The Academy.

(3) *Research Grants*. The Research Grants Committee (five members, elected for five-year rotating terms, with the President and Secretary as members ex-officio) shall receive applications and make research grants from funds designated by The Academy for that purpose. This Committee shall report annually to the Executive Committee.

Sec. 3. Special committees may be appointed by the President at his discretion or by order of the Executive Committee.

Sec. 4. Expenses incurred by committees shall in no way become a financial obligation of The Academy except as provision has been made for them in the annual budget.

Article VI. Executive Committee, Council, and Budget Committee

Sec. 1. The *Executive Committee* shall consist of the past presidents, the current officers, the chairmen of the Sections, the chairmen

of all committees, the directors of the programs of the Youth Activities Committee, and representatives of affiliated organizations. (See By-Laws, Art. VI.) This Committee shall be responsible for all matters of policy and shall supervise all activities of The Academy not expressly provided for otherwise.

Sec. 2. The Executive Committee shall hold regular meetings preceding the fall and spring meetings of The Academy. The members of the Committee present at any meeting shall constitute a quorum, provided that notice of the meeting has been given at least 15 days in advance of the meeting.

Sec. 3. The *Council* of The Academy shall consist of the current officers, with the chairman of the Committee on Relation of the Academy to the State as a member ex-officio. The Council shall transact all emergency business of The Academy that cannot be postponed until the next regular meeting of the Executive Committee. The Council may be called in session at any time by the President. He may submit specific questions to the Council by correspondence at any time. The Council may invite committee chairmen or other members to meet with it at any time.

Sec. 4. The *Budget Committee* of The Academy shall consist of the following who will hold the specified positions for the next calendar year: (1) The Council; (2) the retiring President and the retiring Secretary and Treasurer (in the year in which these officers change); (3) the Director of the Junior Academy of Science; (4) the chairman of the Program Committee; (5) the chairman of the Library Committee; (6) the chairman of the Youth Activities Committee; and (7) chairman of the Academy Foundation Committee. Other committee chairmen and members, retiring or current, may be present by invitation. The Budget Committee shall meet between the Fall Meeting and December 15th each year.

Article VII. Meetings

Sec. 1. The Academy shall hold two regular meetings each year, one to be known as the *annual* (or *fall*) *meeting* and one to be known as the *spring meeting*. The place of the annual meeting shall be determined by the Executive Committee on recommendation of the Committee on Invitations. The exact time of both meetings and the place of the spring meeting shall be determined by the Program Committee in consultation with the President.

Article VIII. Amendment

Sec. 1. This constitution may be amended at any annual meeting of The Academy by affirmative vote of three-fourths of the members in attendance and voting, provided that the amendment has been approved by the Executive Committee and has been submitted to the membership at a previous regular meeting, or by mail, at least 30 days prior to the date on which the amendment is presented for adoption.

Article IX. Adoption and Continuance of Powers

Sec. 1. This constitution may be adopted by affirmative vote of three-fourths of the members of The Academy present and voting at any annual meeting, provided that it has been approved by majority vote of the Executive Committee of that body and has been presented to the membership by mail at least 60 days prior to the date on which it is presented for adoption.

Sec. 2. All actions taken by The Indiana Academy of Science previous to adoption of this constitution, and not in conflict with it, are hereby specifically confirmed until changed by formal action under the provisions of this constitution.

BY-LAWS

Article I. Dues

Sec. 1. Initiation fees, reinstatement fees and dues for the various classes or types of memberships shall be determined annually by the Executive Committee.

Sec. 2. Initiation fees are payable only once; reinstatement fees are payable each time a lapsed membership is reactivated. Annual dues are based upon the calendar year.

Sec. 3. A student discount in the amount of 50% of the normal annual dues will be awarded to undergraduate and/or graduate students certified to be eligible for this discount by an Academy member on the faculty of the student's college or university. The student discount is limited to a maximum of five years.

Sec. 4. Advance payment of annual dues, beyond the current year, may be made at the existent rate for a period not to exceed three years, or in the case of students only through the calendar year in which studies should normally be completed, whichever occurs first.

Sec. 5. Annual dues billings shall be made by the Treasurer prior to the spring meeting. Delinquent members shall be rebilled prior to the fall meeting. Members delinquent on December 20th shall be sent a third dues billing before December 31st, and if still delinquent on January 31st shall be dropped from the membership rolls. A former member, dropped for lack of dues payment, may be reinstated by payment of both the reinstatement fee and dues for the year in which he wishes to resume membership.

Sec. 6. Each senior and sustaining, life, emeritus, honorary, corporate, institutional member is entitled to one copy of the Proceedings of the Academy, and any other publications of the Academy distributed to the membership of the Academy, that are published in the year for which dues have been paid.

Sec. 7. Former senior and sustaining members who were dropped for non-payment of dues may obtain one copy of the Proceedings, or other publications, published in a year in which they were inactive by either of two methods, provided copies are still available:

- a. They may pay the reinstatement fee and dues for the year of years of interest.
- b. They may purchase one or more copies at the established non-member price.

Article II. Bonding

Sec. 1. On recommendation of the Bonding Committee, the Executive Committee shall determine the amounts for which officers or committees having responsibility for the custody of funds or investments of The Academy shall be bonded.

Article III. Expenditures

Sec. 1. The Treasurer is authorized to issue checks in payment of bills submitted by officers or committees for which provision has been made in the budget for that year.

Article IV. Operation of Committees

Sec. 1. The operation of committees shall be conducted by correspondence as far as practicable, but meetings may be called by the chairmen. Except as otherwise provided, each committee shall determine its own policies and operational procedures.

Sec. 2. The President and President-Elect shall be members ex-officio of all committees.

Article V. Youth Activities

Sec. 1. The Youth Activities Committee shall advise the President of The Academy on policies agreed upon by its authorized representatives concerning any program for secondary school students for which The Academy has assumed any degree of sponsorship. At present, these programs include: (1) The Indiana Science Talent Search, (2) The Indiana Science Fairs, and (3) The Indiana Junior Academy of Science.

Sec. 2. Each of these programs shall have a Director and an Advisory Committee, appointed by the President of The Academy on advice of the Youth Activities Committee. The Director of each program shall report to the Executive Committee of The Academy and to the Youth Activities Committee at the annual meeting of The Academy.

Sec. 3. The Advisory Committee of the Junior Academy shall be called the Junior Academy Council. At least four members of this Council shall have been acting science club sponsors for at least three years. Each member of the Council shall serve for five years, and the terms shall be staggered. The Council shall include representatives from as many geographical regions of the State as possible. It shall administer the program of the Junior Academy and shall work cooperatively with the Youth Activities Committee in determining policies and in appointment of new Council members. The Council shall designate one of its members as Director of the Junior Academy of Science.

Sec. 4. The Visiting Scientists' Program, a temporary enterprise, dependent upon grants from the National Science Foundation, shall have a Director, appointed by the President to The Academy, on consultation with the Youth Activities Committee. He shall be free to select his own steering committee.

Sec. 5. The financial support and working policies of the various youth activities shall be the responsibility of their respective directors and advisory committees, with the assistance of the Youth Activities Committee. No financial obligation shall be incurred in the name of The Academy.

Article VI. Affiliated Organizations

Sec. 1. The Academy may, by act of the Executive Committee, offer its services to any other organization whose objectives are essentially the same as those of The Academy and which may petition to be affiliated with it.

Sec. 2. The Academy shall not be held responsible for any expenses incurred by any affiliated organization beyond those specifically provided for in the annual budget of The Academy.

Article VII. Quorum

Sec. 1. Twenty-five members in good standing shall constitute a quorum for the transaction of business in any regular meeting of The Academy or in any special meeting, notice of the time, place, and purposes of which has been given to the membership by mail at least 30 days in advance.

Article VIII. Rules of Procedure

Sec. 1. The procedure of meetings of The Academy and of the Executive Committee shall be governed by Robert's Rules of Order.

Article IX. Amendment

Sec. 1. These By-Laws may be amended at any annual meeting of The Academy, provided that notice of the proposed amendment has been given to the membership at a previous meeting of The Academy, or by mail, at least 30 days in advance of the meeting.

Article X. General Provisions

Notwithstanding any provision of this Constitution or these By-Laws which might be susceptible to a contrary construction:

- (1) The Academy shall be organized and operated exclusively on a non-profit basis for scientific and educational purposes;
- (2) No part of the net earnings or other resources of The Academy shall or may under any circumstances inure to the benefit of any private shareholder or individual;
- (3) No substantial part of the activities of The Academy shall consist of carrying on propaganda or otherwise attempting to influence legislation;

- (4) The Academy shall not participate, by publication or circulation of statements or other intervention, in any political campaign on behalf of any candidate for public office; and
- (5) The Academy shall not:
 - (a) lend any part of its income or corpus without the receipt of adequate security and a reasonable rate of interest to:
 - (b) pay any compensation, in excess of a reasonable allowance for salaries or other compensation for personal services actually rendered to:
 - (c) make any part of its services available on a preferential basis to:
 - (d) make any substantial purchase of securities or other property, for more than adequate consideration in money or money's worth to:
 - (e) sell any substantial part of its securities or other property, for less than an adequate consideration in money or money's worth to: or
 - (f) engage in any other transaction which results in a substantial diversion of its income or corpus to:
a person who has made a substantial contribution to The Academy.

Article XI. Distribution on Dissolution

Upon dissolution of The Academy, its assets shall be distributed by the Executive Committee to one or more organizations qualifying under Section 501 (c) (3) or Section 501 (c) (6) of the Internal Revenue Code of 1954.