

A HISTORY OF THE ILLINOIS STATE ACADEMY OF SCIENCE

PART 3. THE THIRD TWENTY-FIVE YEARS OF THE ACADEMY, 1957—1982

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Basic research and improved high school science became national priorities in the 1960's following the orbiting of Sputnik I. Academies of science supported a variety of programs in those areas, sometimes with the assistance of the National Science Foundation.

MEMBERS

Membership in the Academy peaked in 1959 with over 1,700 members. At the close of the third 25 years, membership stood at approximately 1,100.

Dues increased in 1959 from \$2 to \$5 for an annual membership, and from \$50 to \$100 for a life membership. Sustaining memberships remained at \$10-49 and patron memberships remained at \$50 or more. In 1960 student membership was re-established at a dues of \$2 per year. In 1968 sustaining and patron memberships were abolished following the incorporation of the Illinois Junior Academy of Science and contributing memberships with an annual dues of \$10 or more were added. Emeritus membership was also created in the 1960's. An emeritus member must have been a member of the Academy for at least ten years and be retired from his regular occupation. No dues are collected from emeritus members.

In 1971 a 50 percent increase in dues was approved effective in 1972 to help defray the costs of operation of the central office. The new dues were \$7.50 for a regular membership, \$3 for a student membership, \$150 for a life membership, and \$15 or more for a contributing membership. Effective in 1979, regular dues increased to \$10.

In the 1970's, honorary memberships were created to recognize outstanding scientists and those who had made exceptional contributions to society. The recipients in the 1970's were Roger Adams and John C. Sylvester, 1971; G. Robert Yohe, 1972; John Bardeen, 1973; George W. Beadle, Charles D. Hurd, Emanuel Merdinger, and Arthur S. Snider, 1974; Percy L. Julian and Harold M. Kaplan, 1975; John C. Bailar, Jr. and Herbert J. Dutton, 1976; Carl F. Cori and Carl S. Marvel, 1977; Teru Hayashi and Nelson J. Leonard, 1978; and Georg F. Springer, 1979.

ANNUAL MEETINGS

In 1958 both the Senior and Junior Academies met in Urbana. There were close to 1,000 exhibits at the 1958 Junior Academy state meeting. Few halls in the

State could handle that number of exhibits so the Junior Academy accepted an invitation from the University of Illinois to hold its state meeting, later called exposition, there every year. In 1959 the Senior Academy met at the Illinois Institute of Technology in Chicago while the Junior Academy met two weeks later at Urbana.

SECTIONS

At the 51st annual meeting the following sections met: Aquatic Biology; Archaeology and Anthropology; Botany; Chemistry; Geography; Geology; Physics; Science Education, Psychology and Social Science; Zoology; Collegiate; and the Junior Academy.

The Archaeology and Anthropology Section changed its name to the Anthropology Section in 1959. It met through 1966 and again in 1969 but was inactive for many years following. Volume 72, No. 4, 1980, of the *Transactions* on the archaeology and ethnohistory of the Greater Southwest resulted from a symposium of the Society for American Archaeology held in Tucson, May, 1978, and represented an attempt to revitalize the Anthropology Section.

The Conservation Section held its first program at the 1959 annual meeting; Meteorology held its first program at the 1960 annual meeting. The Meteorology Section became the Meteorology and Climatology Section in 1961.

The Collegiate Section in the late 1950's was poorly attended because few undergraduates were interested in hearing papers on such widely divergent topics. In 1959, therefore, instead of paper presentations, a panel discussion was held on the "Effect of Science on World Politics". In 1960 efforts to arrange a program failed, and in 1961 the Collegiate Section was abolished.

The Science Education, Psychology and Social Science Section became the Science Teaching Section in 1961 and it became the Science and Mathematics Teaching Section in 1973. In 1969 a collegiate subsection of the Chemistry Section met for the first time.

The Microbiology Section held its first meeting in 1961. In 1973 the name of this section was changed to Microbionics, although for a time the section was to be called Microbionics (Microbiology). The name of this section was changed back to Microbiology in 1980.

In 1973 an Astronomy Section was approved by the Council and met at the annual meeting. The Astronomy Section merged with the Physics Section in 1977 to form the Physics and Astronomy Section. At the November 1, 1975, Council meeting, approval was given to fuse the Conservation Section and the Aquatic Biology Section into the Environmental Sciences Section.

Other new sections in the 1979's and the first year in which each held a program at the annual meeting were Agriculture, 1976; Applied Science and Technology, 1976; Applied Mathematics and Mechanics, 1977; Medical Sciences, 1978; and Computer Science, 1979.

SYMPOSIA

In recent years the Academy has again sponsored symposia on topics of general interest, often with guest speakers. In 1970 the symposium was entitled "A New Role for the Academy". In 1971 there was a symposium on pre-college science education with the aid of a grant from Bradley University where the symposium was held. In connection with the 1972 Academy meeting, a symposium on

the societal problems of water resources was held in Macomb. In 1978 there was a symposium on coal; in 1979, a symposium on air pollution awareness; in 1980, a symposium on radiation biology; and in 1981, a symposium on genetic engineering.

TRANSACTIONS

From Volume 37, 1944, through Volume 50, 1957, one issue of the *Transactions* was published each year. Starting with Volume 51, 1958, the *Transactions* again had four numbers per year, although for several years some of the issues were combined.

Harvey I. Fisher took over the editorial duties from Jane V. Olson with Volume 48, 1955. He was succeeded by Paul C. Silva, University of Illinois, who edited Volume 53 and Wesley J. Birge, University of Illinois, who edited Volumes 54-55. Edwin C. Galbreath of Southern Illinois University edited Volumes 56-60; Darrel L. Lynch, Northern Illinois University, edited Volume 61-62, No. 3; Malcolm Jollie, Northern Illinois University, edited Volume 62, No. 4-Volume 65; Jacklyn B. Melchior, Chicago College of Osteopathic Medicine, edited Volume 66-68 No. 1; James E. House, Jr., Illinois State University, edited Volume 68 No. 2-Volume 72 No. 1; Basil Hedrick, State Museum, edited Volume 72 No. 2-Volume 73 No. 4; and Anthony Paparo and L. Richard Coulson of Southern Illinois University became joint editors with Volume 74.

In the 1970's the Academy again experienced financial difficulties in printing the *Transactions*. Some years no funds were available through the State Museum and attempts to secure legislation for the direct funding of the *Transactions* were unsuccessful.

NEWSLETTER

In an attempt to communicate Academy business and news to the membership rapidly, the Academy published the ISAS Newsletter from the first issue, October, 1971, through Volume 3 No. 2, dated September 1973. The editor was Nathan R. Brewer, the executive secretary of the Academy from 1971 to 1973.

The *ISAS Newsletter* (later *Illinois Science News*) started up again with Volume 1 No. 1, April, 1977. It was edited by James E. House, Jr., of Illinois State University through Volume 3 No. 2, March-April, 1979. He was succeeded by D.D. Hearn of Western Illinois University in 1979, and by Jack Bennett of Northern Illinois University in 1981.

COMMITTEES

In 1958 Norman D. Levine recommended the formation of a Planning Committee to review current programs and to suggest possible new directions for the Academy. This committee was created in 1958 with Levine as chairman.

In the 1970's the Committee on Animal Experimentation in Research worked to change Chapter 122, Section 27-14 of the Illinois School Code which states "no experiment upon any living animal for the purpose of demonstration in any study shall be made in any public school". The law was commonly ignored, but attempts to repeal it and allow experimentation with proper regulation were unsuccessful.

The Educational Films Evaluation Committee which had been formed in 1956 was discharged by Council action on April 29, 1967.

Walter B. Hendrickson, history professor at MacMurray College, researched the history of the Academy from 1959 until his resignation as Academy historian in 1967. A committee was appointed to help him in his work. Hendrickson authored three articles which were published in the *Transactions* between 1963 and 1966.¹

THE ILLINOIS JUNIOR ACADEMY OF SCIENCE

The phenomenal growth of the Junior Academy post-Sputnik strained the finances of the Senior Academy; the income from sustaining and patron memberships was not sufficient for the needs of the Junior Academy. In the late 1950's the Business Advisory Committee (later called the Industry Advisory Committee) was formed to raise contributions from industry for the support of the Junior Academy. Since the Business Advisory Committee took a while to become effective, the National Science Foundation was approached for assistance in the interim, and the Junior Academy was granted \$15,000 for the 1960-61 school year and \$15,150 for the 1961-62 school year from NSF. In the spring of 1962 when the grant was not renewed for the following year, school registration fees based on school enrollment were imposed to help support the Junior Academy.

In 1960 Lyell J. Thomas was honored by the Senior and Junior Academies as the founder of the Illinois Junior Academy of Science and of the junior academy movement in the United States.

On May 3, 1967, the Illinois Junior Academy of Science incorporated as a not-for-profit corporation. Its purpose as stated in its articles of incorporation is "to encourage and sponsor educational, patriotic and scientific activities among junior and senior high school students in the State of Illinois with particular emphasis on the scientific field." On May 20, 1968, its articles of incorporation were amended deleting the word "patriotic". In 1969, the articles of incorporation were again amended to assure the tax-exempt status of the Junior Academy. The Senior Academy later that year also amended its articles of incorporation to assure its tax-exempt status.

In 1969 the Senior Academy dropped its Junior Academy Committee although the Senior Academy still has a representative of the Junior Academy on its Council. The Senior Academy continues to offer the Frank H. Reed award for the outstanding paper submitted in the Science Talent Search and to provide certificates for all Science Talent Search winners and honorable mentions from Illinois and travel funds and banquet tickets for those who attend the Junior Academy annual banquet.

RESEARCH GRANTS

Until 1959 each academy affiliated with the American Association for the Advancement of Science received 50 cents from AAAS for each member who was also a member of AAAS. In 1959 the rebate increased to \$1 per member.² These funds were awarded for research at the discretion of the Academy although starting in the 1960's the AAAS recommended that high school students receive preference. 1979 was the last year that these funds were available from AAAS. Since then AAAS has funded proposals directly on a merit basis. In 1980, the Academy set aside \$1,000 from its own funds to support research requests.

VISITING SCIENTIST PROGRAM

For many years Academy members volunteered to present lectures and talk informally in schools. In the 1960's the National Science Foundation helped support this activity. A \$7,275 NSF grant for the 1965-66 school year resulted in 91 Illinois schools being reached and a \$9,520 NSF grant for the 1966-67 school year resulted in 128 visits to schools. The project director was Frederick W. Rolf, chemistry professor at Northern Illinois University. In October 1966 the Academy was informed that the National Science Foundation was dropping funding for the Visiting Scientist Program for Secondary Schools after that academic year.

SCIENCE SEMINARS

At the November, 1959, Council meeting, Norman D. Levine, chairman of the Planning Committee, proposed science seminars for high school teachers to bring them up-to-date on recent developments in the sciences. After adequate support was expressed, Levine proceeded with the planning and a series of four seminars on "Recent Advances in Biological Sciences" for high school teachers, sponsored by a NSF grant of \$14,090, was held on February 9-10, 1962, at the Lorado Taft Field Campus, Northern Illinois University; February 23-24, 1962, at Allerton House, University of Illinois; March 16-17, 1962, at Augustana College; and April 13-14, 1962, at Little Grassy Lake Campus, Southern Illinois University.

CENTRAL OFFICE

For many years some members of the Academy urged the establishment of a central office with a full-time executive secretary who would maintain the membership list, work toward increasing the membership, handle the Academy publications and financial affairs, coordinate volunteer help, and secure grants for Academy programs. The Ohio Academy of Science which had a paid executive and office staff since the 1950's served as a model for Illinois.

At the February 6, 1971, Council meeting a central office was approved as of May 1, 1971, with Nathan R. Brewer, University of Chicago emeritus professor of physiology, as the executive secretary. Brewer continued as executive secretary for two years but financial problems were never solved and as of May 1, 1973, the Academy office was located at the Illinois State Museum with a part-time secretary, Lettie Diekroeger. She was succeeded by Marilyn Bacon in 1974 and by Patricia Zimmerman in 1978.

LEGISLATIVE REFERENCE

From the beginning the Academy recognized its potential value as an information source. In Crook's presidential address in 1915, for example, he suggested that the Academy serve as a legislative reference bureau:

In return for State aid what could the Academy offer? Consisting as it does of experts in all departments of science it could most appropriately and safely be made a legislative reference bureau of the highest type for certain things, and in a short time could more than justify its existence by expert advice.³

In the 1960's and 1970's this proposed function of the Academy received renewed attention. At the April 27, 1968, Council meeting a decision was made to cooperate with the Illinois Legislation Council to explore the possibility of the use of Academy expertise in solving governmental problems.

In 1969, State Representative James D. Nowlan requested in Illinois Legislative Council Proposal 661 that the Illinois Legislative Council explore the possibility of developing liaison with such groups as the Academy, the Illinois Science Advisory Council which had been created in 1967, and the State Board of Higher Education, so that scientific information essential for good legislation could be readily available to legislators.

On April 24, 1970, the annual meeting included a symposium entitled "A New Role for the Academy". Aristotel J. Pappelis summarized the Academy's problems as he saw them, suggested the sponsorship and publication of symposia and the development of the Academy as an advisory group to state government as partial solutions, and introduced the speakers: State Senator Alan J. Dixon, Milton D. Thompson, and Andreas Paloumpis. Dixon heartily supported the Academy when he said

It is clear, ladies and gentlemen, that the Academy is the only statewide organization qualified to coordinate all of the various scientific interests of the state in undertaking the task of becoming an official advisory body to the state on scientific and technical matters. I propose for your consideration that the Academy undertake this critically important function.⁴

A resolution passed at the 1970 annual meeting designated Milton D. Thompson, director of the State Museum, the liaison between members of the Academy and state legislators and the executive office. George Sprugel, Jr., chief of the State Natural History Survey, in a June 2, 1970, letter to Rep. Nowlan supported the Academy liaison but also made clear that the state scientific surveys and the State Museum would always be available with technical expertise also.

In 1971 the Academy joined with the Legislative Council in applying to the National Science Foundation for an Intergovernmental Science Program Grant to support a legislative staff scientist who would serve as liaison between Illinois legislators and scientists. The proposal included partial funding for an executive secretary to serve as the assistant and primary contact for the legislative staff scientist. Illinois Public Act 77-122, Intergovernmental Science Program, was approved June 23, 1971, allowing the Legislative Council to accept and administer such grants from the federal government, but the grant application was never funded by NSF.

RELATIONSHIPS TO THE STATE MUSEUM AND THE STATE SCIENTIFIC SURVEYS

The Academy's close ties with the State Museum continued throughout its first 75 years. In 1925, Alja R. Crook referred to the symbiotic relationship which he had envisioned at the founding of the Academy and which quickly developed when he stated:

The Academy has always been helpful to the Museum.
Five members of our Board are members of the Academy.

Many members have striven in various ways to promote the interests of the Museum. The Academy as an institution has at various times taken action tending to increase the effectiveness of the Museum. For this relationship we are very grateful, and we hope that as in each succeeding year the younger members take the place of the older men of strength in our company, the younger members too may keep a watchful eye upon this institution and be always ready to lend their influence to the end that good work may be done here.⁵

Arthur S. Coggeshall succeeded Alja R. Crook as chief of the State Museum in 1931. Coggeshall resigned in 1937 and was succeeded by Thorne Deuel in 1938. During World War II, John C. McGregor served as acting head of the Museum. Deuel returned to the State Museum after wartime service and remained as director through 1962. He was succeeded by Milton D. Thompson in 1963 and Thompson was succeeded by R. Bruce McMillan, the current director, in 1977.

Three State Museum heads have served as Academy president: Alja R. Crook, 1914-15; Thorne Deuel, 1948-50; and Milton D. Thompson, 1967-68. In addition, many other Museum staff members have served as Academy officers and members of committees. The State Museum budget request to the Legislature includes funding for the Academy's *Transactions*, and the State Museum provides a staff member to serve as Academy librarian, as well as space for the Academy office in the State Museum building in Springfield.

The State scientific surveys and the board that administers them, the Board of Natural Resources and Conservation, have also supported the Academy. Three Geological Survey chiefs in the past 75 years have been president of the Academy: Frank W. DeWolf, 1913-14; Morris M. Leighton, 1929-30; and John C. Frye, 1962-63; and four Natural History Survey heads have been president: Stephen A. Forbes, 1909-10; Theodore H. Frison, 1941-42; Leo R. Tehon, acting chief of the Natural History Survey, 1946-47; and Harlow B. Mills, 1958-59. Many staff members of the scientific surveys have also been active in the Academy.

The State Museum and the three scientific surveys were transferred from the Department of Registration and Education to the new Illinois Institute of Natural Resources effective January 1, 1979.

RESOLUTIONS

The State Museum had been housed in the Centennial Building since the 1920's and space soon became inadequate for the staff and collections. The Academy on many occasions passed resolutions urging the Legislature to provide adequate space for the Museum. Finally funds were appropriated for a State Museum building and ground-breaking ceremonies were held on January 5, 1961. The Academy's State Museum Building Committee was therefore discharged on April 28, 1961.

Some of the issues that the Academy supported in its third 25 years, in addition to a new State Museum building, were the designation of Jackson Hollow as a natural and scientific area, the establishment of a state nature preserves system, continued efforts to save the prairie chicken, the use of unclaimed pound animals in research, the use of live animals in the public schools, regulation of air and

water pollution, protection of Lusk Creek Canyon, and preservation of scientific study areas neighboring the Oakley Reservoir.

SUMMARY

During its third 25 years, the Academy encouraged research and improved science education as it had in its first 50 years. The Illinois Junior Academy of Science became an independent organization in 1967. National Science Foundation grants helped support the Junior Academy for a time and also supported a visiting scientists program and a series of seminars for high school biology teachers.

CONCLUSIONS

The Academy's purposes, the promotion of scientific research, the diffusion of scientific knowledge, and the unification of the scientific interests of the State, are achieved primarily by its annual meetings and by the publication of its *Transactions*. The annual meetings provide a forum for scientists and students to present the results of their research, some of which is subsequently published in the *Transactions*. The papers in the *Transactions* are abstracted in many of the major indexing and abstracting services such as *Bibliography of Agriculture*, *Bibliography and Index of Geology*, *Biological Abstracts*, and *Chemical Abstracts* so they become known to the world scientific community.

The Academy's other major contribution has been to science education. A now independent Illinois Junior Academy of Science was formed by the Illinois State Academy of Science in the late 1920's. It was the first state junior academy in the nation and served as the stimulus for the junior academy movement in the United States.

The challenge to the Academy in the future is to increase its membership, maintain the quality of its annual meeting, symposia, and *Transactions*, and continue to encourage students in their professional development.

FOOTNOTES

1. W.B. Hendrickson, "Alja R. Crook and the founding of the Illinois State Academy of Science," *Trans. Ill. State Acad. Sci.*, 56 (1963), pp. 156-164; "The forerunners of the Illinois State Academy of Science," *Trans. Ill. State Acad. Sci.*, 56 (1963), pp. 105-128; "A history of science education in the Illinois State Academy of Science," *Trans. Ill. State Acad. Sci.* 59 (1966), pp. 108-113.
2. C.L. Baker, *History of Academy Conference, 1926-1970*. (Memphis, Tenn., 1971), p. 67.
3. A.R. Crook, "The relation of academies of science to the state," *Trans. Ill. State Acad. Sci.* 8 (1915), p. 30.
4. A.J. Dixon, "A new role for the Illinois Academy of Science," *Trans. Ill. State Acad. Sci.* 64 (1971), p. 220.
5. A.R. Crook, "Address of welcome," *Trans. Ill. State Acad. Sci.* 18 (1925), p. 24.