

A HISTORY OF THE ILLINOIS STATE ACADEMY OF SCIENCE

PART 1. THE FOUNDATION OF THE ACADEMY AND ITS FIRST TWENTY - FIVE YEARS, 1907-1932

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Until the middle of the nineteenth century, there were few scientists in Illinois. Those active as naturalists were often physicians or lawyers who became interested in natural history, taught themselves the fundamentals, and pursued scientific studies as an avocation. State support of science began in Illinois in 1851 with the creation of the State Geological Survey.

The opportunities for education and employment in the sciences increased in Illinois in the second half of the 1800's with the establishment of many colleges, universities, and normal schools, including Northwestern University in 1851, Illinois State Normal University in 1857, Illinois Industrial University (which became the University of Illinois in 1885) in 1867; and the University of Chicago in 1890.

Scientific associations were also organized in Illinois in the second half of the 1800's. These included the Illinois Agricultural Society in 1853, the Illinois Horticultural Society in 1856, and state natural history societies in 1858 and 1878.

Many local and state academies of science were established in the United State in the 1800's. The states neighboring Illinois which had active state academies before 1900 included Wisconsin, Indiana, and Iowa.¹ The Chicago Academy of Natural Sciences was formally organized in 1857 and incorporated as the Chicago Academy of Sciences in 1859.² The Academy of Science of St. Louis was established in 1856, although the Missouri Academy of Science was not established until 1934.

THE FORERUNNERS OF THE ILLINOIS STATE ACADEMY OF SCIENCE

Two statewide natural history societies were established in Illinois in the second half of the 1800's.

The first, the Illinois Natural History Society was proposed by Cyrus Thomas, a Carbondale lawyer who later became State Entomologist, in a letter read at the December, 1857, meeting of the State Teachers' Association in Decatur.³ The Society was organized at a meeting on June 30, 1858, at Illinois State Normal University. The Society was most active from 1858 to 1861, with the specimens collected by its members housed in a museum at the University. During the Civil War little was accomplished by the Society. Following the war, John

Wesley Powell returned to Illinois to teach geology at Illinois Wesleyan University in Bloomington and at Illinois State Normal University at Normal. In 1867 he succeeded in having the Legislature appropriate \$2,500 annually for Museum expenses and the salary of a curator, and he was named curator shortly thereafter by the State Board of Education and the directors of the Society. Powell's interest was in field work, and he led several expeditions to the Rocky Mountains and the Colorado River which were partially supported by his position as the Illinois Natural History Society curator.

In 1871 the Legislature, in passing an appropriation of \$2,500 for the Museum, required that the contents of the Museum be transferred to the State. The Society had no choice since it could not support the Museum from its own resources, and it agreed to the transfer at a meeting in Bloomington on June 22, 1871. The State Board of Education accepted the Museum on June 28, 1871.⁴

Stephen A. Forbes was appointed curator of the Museum by the State Board of Education in 1872 after Powell resigned to move to Washington, D.C. In 1877 when the State Natural History Museum at Springfield was established, the Natural History Society Museum at Normal became the State Laboratory of Natural History. When Cyrus Thomas resigned as State Entomologist in 1882 and moved to Washington, D.C., Forbes was also named the fourth State Entomologist, an office established by the Legislature in 1867. The State Laboratory of Natural History by law was located in Normal, although the State Entomologist's office was not so designated. Forbes accepted a position as zoologist at Illinois Industrial University in 1884, and in 1885 the Legislature passed a law transferring the State Laboratory of Natural History from Normal to Illinois Industrial University. So the museum that began as the Natural History Society Museum in time evolved into the State Laboratory of Natural History and was transferred from Normal to Urbana.

The second nineteenth century State natural history society, the State Natural History Society of Illinois, was an outgrowth of summer schools of natural history held at Illinois State Normal University in 1875 and 1878. The Illinois summer schools were patterned after the Anderson School of Natural History on Penikese Island off the Massachusetts coast which was established by Louis Agassiz, a Harvard University naturalist, in the summer of 1873. The Society was organized at a meeting held at the Springfield office of Amos H. Worthen, State Historical Library and Natural History Museum curator, on December 12, 1878. Its first general meeting was held in Chicago on January 16, 1879, with forty persons present. Worthen was elected president and Forbes secretary. Cyrus Thomas who had suggested the first Natural History Society was also involved in establishing the second and served as a member of its executive committee.⁵

In 1880 the Society decided not to broaden its scope to include the physical and mathematical sciences, and in 1882 the Society decided there was no need for it to establish a publication. The Society declined in membership following these decisions, and the Jacksonville meeting of 1885 was its last. As Forbes said 22 years later:

The active members of the last two years were chiefly collectors of specimens, and species-students of the old school—a few still glowing brands from the enthusiasms of the exploration period, with scarcely a spark to testify to the coming il-

lumination, in the midst of which it is our present privilege to live. And so the society passed, leaving no permanent material product of its work, except private collections and such papers of its members as were published here and there, as each individual thought best.⁶

THE ILLINOIS STATE MUSEUM OF NATURAL HISTORY

The Illinois State Museum of Natural History was instrumental in the creation and growth of the Illinois State Academy of Science.

The origin of the State Museum can be traced to the State Geological Survey which was authorized by the Legislature in 1851. Section 4 of the law establishing the Survey read in part:

It shall be the duty of said geologist to procure and preserve a full and entire suit of the different specimens found in the State and cause them to be delivered to the Secretary of State, who shall cause them to be properly arranged in a cabinet, and deposited in some apartment in, or convenient to, the capitol.⁷

Joseph G. Norwood, trained as a physician, but active in geological surveys under David Dale Owen, was named State Geologist, a position he held until 1858 when his former assistant, Amos H. Worthen, who had worked on the Iowa Geological Survey under James Hall, was named State Geologist. The specimens collected by the Survey staff were kept in New Harmony, Indiana, until 1854 when they were sent by boat to St. Louis and by rail from there to Springfield. There was not a suitable building for the collection in Springfield, and it was moved many times in the early years. By 1872 there was a general feeling that everything needed to be known about Illinois geology was known, and the Legislature abolished the Geological Survey, although special appropriations for it continued until 1875.

Worthen worked for two years without pay until 1877 when the Legislature passed a law creating a State Historical Library and Natural History Museum. The State Historical Library and Natural History Museum were to be managed by three trustees who would appoint a curator knowledgeable in geology. Worthen was appointed curator and served the State Historical Library and Natural History Museum until his death in 1888. He was succeeded by Josua Lindahl who was curator from 1888 to 1893. In 1889 a law was passed which separated the State Historical Library from the State Museum. Lindahl's successors at the State Museum included William F.E. Gurley, 1893-1897; C.H. Crantz, 1897-1906; and Alja R. Crook, who was curator from 1906 until his death in 1930. Crook was very active in establishing the Illinois State Academy of Science, an organization he hoped would strongly support the funding and development of the State Museum.

THE ORGANIZATION OF THE ILLINOIS STATE OF SCIENCE

The organizational meeting of the Illinois State Academy of Science was held in the Illinois Senate Chamber in Springfield, Saturday, December 7, 1907. The efforts of Alja R. Crook, the State Museum curator, to ensure wide representation

were highly successful.⁸ Over 100 scientists were present, representing fifteen colleges, universities, and normal schools, as well as representatives from high schools, state agencies, and various other organizations. Since the death of the second state natural history society in 1885, 22 years had elapsed, a time during which the number of scientists in Illinois had greatly increased. Comparing the Academy to the old Natural History Society, Forbes stated "there are more college specialists here today from one department of one institution than there were in our whole membership in 1879".⁹

Crook called the meeting to order followed by the election of Ulysses S. Grant, professor of geology at Northwestern University, as temporary chairman. In the absence of Governor Charles S. Deneen, Secretary of State James A. Rose welcomed the scientists and supported their efforts to form an organization to facilitate communication among its members as had been done by other professions in the state. Thomas C. Chamberlin, University of Chicago professor of geology, gave the opening address on "The Advantages of a State Academy of Science" followed by Stephen A. Forbes, State Entomologist, who spoke on the "History of the Former State Natural History Societies in Illinois".

In the afternoon the proposed constitution and bylaws, drawn up by a committee of nine, were revised and adopted and officers were elected. The first Academy officers were President Thomas C. Chamberlin, head of the Geology Department at the University of Chicago and president of the Chicago Academy of Sciences since 1897; Vice-President Henry Crew, physics professor at Northwestern University; Secretary Alja R. Crook, State Museum of Natural History curator; and Treasurer John C. Hessler, James Millikin University chemistry professor. A Council composed of the officers was in charge of the Academy affairs between the annual meetings.

Two standing committees were established, a Committee on Publication and a Committee on Membership. The Committee on Publication consisted of the president, the secretary, and a third member chosen by the Academy. The first Publication Committee included President Chamberlin, Vice-President Crew, and H. Foster Bain, State Geologist. The Membership Committee consisted of five members chosen annually. The first Membership Committee included Forbes, State Entomologist; Thomas W. Galloway, James Millikin University biology professor; John P. Magnusson, Augustana College chemistry professor; Charles H. Smith, Hyde Park High School physics teacher, and Benjamin B. James, James Millikin University physics professor.

A symposium entitled "The Outlook for Young Men in Various Sciences" followed. The speakers and their subjects were W.J. McGee, director of the St. Louis Public Museum, on anthropology; John G. Coulter, Illinois State Normal University, on botany; William A. Noyes, University of Illinois, on chemistry; H. Foster Bain, State Geologist, on geology; and Herbert V. Neal, Knox College, on zoology. The papers given at this symposium were published in Volume 1 of the Academy's *Transactions*, and all except McGee's also were published in *Science*.¹⁰ In the evening, McGee spoke on "Greater Steps in Human Progress" to an audience of 600.

All those who attended the organizational meeting (or expressed interest in participating but were unable to attend), signed the constitution, and paid the initiation fee and the annual dues for 1908 became charter members. A list of

Academy members appeared at the end of Volume 1 of the Academy's *Transactions* with the 114 charter members indicated as such. It was a distinguished group; 54 of the 114 charter members were listed in the 1910 edition of *American Men of Science*. Of the 100 charter members who indicated a specialty when they joined the Academy, 43 were in the biological sciences, 35 in chemistry and physics, 10 in geology, and 12 in miscellaneous other sciences.

The first annual meeting of the Illinois State Academy of Science was held on Saturday, February 22, 1908, at James Millikin University in Decatur with 96 people present. Nine papers were read in the morning and two in the afternoon, abstracts of which were published in Volume 1 of the *Transactions*. A symposium on the atmosphere was also held at this meeting. Only the opening address of the symposium by President Chamberlin was published in the *Transactions*. In the evening, Albert A. Michelson, a charter member of the Academy, delivered a lecture entitled "Recent Advances in Spectroscopy" which he had originally presented in Stockholm on December 12, 1907, when he received the Nobel Prize for physics.

THE FIRST TWENTY-FIVE YEARS OF THE ACADEMY 1907 - 1932

The Illinois State Academy of Sciences incorporated as a non-profit corporation on April 1, 1909. The incorporation papers were signed by Stephen A. Forbes, Academy president; Arthur N. Johnson, State Highway Engineer and a charter member of the Academy; and Alja R. Crook, Academy secretary. Written in Crook's hand, the object of the Academy was "the promotion of scientific research, the diffusion of scientific knowledge and scientific spirit, and the unification of the scientific interests of the State and not for pecuniary profit". The Academy worked toward these goals in its first 25 years by increasing its membership, by holding annual meetings, by publishing its *Transactions*, and by committee work.

MEMBERS

Five classes of membership and a dues structure were established in 1907: active (one dollar initiation fee and one dollar annual dues); non-resident (Academy members who had left Illinois, dues one dollar per year); corresponding (scientists chosen by the Academy who were exempt from dues); life (a one-time payment of twenty dollars); and honorary (distinguished scientists outside of Illinois who were exempt from dues). Corresponding and honorary memberships were dropped from the constitution by an amendment adopted in 1917.

The membership of the Academy within two years of its founding was over 300, where it remained until 1918-1919 when it dipped just below 300. During the 1920's the membership rose rapidly, and by 1932 there were over 1,100 members.

ANNUAL MEETINGS

The annual meetings were held in different locations each year in an effort to attract people from all regions of the state as members. Field trips were an important activity starting with the 14th annual meeting in Carbondale in 1921 and continuing for many years. The trips were to areas of anthropological, biological,

geological, or industrial interest. The State Geological Survey and the State Natural History Survey often planned the geological and biological field trips and provided leaders for them.

SECTIONS

The first few years the Academy had no sections—the membership was small and it was feared that the creation of sections would only fragment the young organization.

At the eighth meeting in 1915, for the first time there were section meetings in addition to the general sessions. The first two sections were Botany, Bacteriology, and Chemistry; and Zoology, Entomology, and Geology. By 1922 the following sections met at the annual meeting for the presentation of papers: Biology and Agriculture, Chemistry and Physics, Geology and Geography, Medicine and Public Health, and Psychology and Education. Geology and Geography held separate sessions beginning in 1928. A section on High School Science held its first meeting in 1923. In 1930, the Biology and Agriculture Section divided into two sections, Botany and Zoology. An Economics Section met for the first time at the 1931 annual meeting, and a new Agriculture Section and Anthropology Section met for the first time in 1932. There were eleven sections in 1932: Agriculture, Anthropology, Botany, Economics, Geology, Geography, Medicine and Public Health, Physics and Chemistry, Psychology and Education, Zoology, and High School Science and Clubs (Junior Academy).

SYMPOSIA

In Forbes' presidential address at the third annual meeting he stated: our own *special* mission is the aid and advancement of scientific research and the popularization and propagation of its results. For both these aims we need to bring the scientific men and the people of the state into closer and more frequent contact, in ways and under conditions to increase the popular respect for scientific work and the popular appreciation of its outcome, and also to interest our scientific men more strongly in problems affecting the general welfare. Especially we must remind the absorbed investigator that it is the part of science to understand its own environment, and to adapt itself thereto; that science is not, and perhaps can never be, wholly self-sustaining, especially in a democracy; and that without the broadest possible basis in popular gratitude and regard, the progress of science will be needlessly retarded and its development delayed. The happy thought of an annual symposium on some subject of primary importance and strong human interest is, I think, a great help to these ends.¹¹

In line with Forbes' views, the annual meeting in early years often included a symposium on some topic of general interest. Some of the participants in the symposia were invited from outside the Academy membership, and the symposia were open to the public.

Some of the section also sponsored symposia; for example, the Economics Section sponsored a symposium on the economic problems of the Illinois River Valley

at the 24th annual meeting in 1931. The papers presented at this symposium were published both in the *Transactions* and as Circular 12 of the Illinois State Water Survey.

TRANSACTIONS

At the May 8, 1908, Council meeting, three months after the first regular meeting, a decision was made to publish a volume of *Transactions* covering the organizational meeting, the first regular meeting, the constitution and bylaws, and a list of members. The first volume was printed in an edition of 500; the second and third volumes were printed in editions of 1,000 each.

The first four volumes were edited by the Publication Committee which consisted of the president, secretary, and a third member chosen annually by the Academy. From Volume 5, 1912, until 1929 when the office of editor was established, the editing of the *Transactions* was one of the responsibilities of the secretary. In 1929, H. Carl Oesterling of the Illinois Natural History Survey was appointed the first editor of the *Transactions*. He was followed by Dorothy E. Rose of the Illinois Geological Survey who edited Volumes 24-29, 1931-36, and Volumes 36-42, 1943-1949.

Most of the Academy income in the early years had to be set aside for the publication of the *Transactions*, although from the beginning the Academy attempted to get state funding. At the second annual meeting in 1909, a committee was appointed to "take charge of whatever legislative agitation the Academy thought wise", which at the time was support of a new State Museum building and state funding for the *Transactions*.¹² The committee consisted of Academy President Forbes, Vice-President John M. Coulter, Secretary Crook, and Treasurer John C. Hessler.

State funding for the *Transactions* was secured in 1911 with the passage of House Bill 675, approved June 10, 1911, which provided \$500 per year for the biennium to the trustees of the Illinois State Museum of Natural History for the publication and distribution of *Transactions* of the Academy.¹³ In 1915, however, the portion of House Bill 935 dealing with the Academy passed the Legislature, but was vetoed by Governor Edward F. Dunne.¹⁴ When Volumes 9 and 10 of the *Transactions* were sent to the printer in 1917, it was with the understanding that Governor Frank O. Lowden had signed House Bill 853 containing an appropriation of \$1,000 per year for the printing of the *Transactions*, but in December, 1917, the Academy discovered that the Academy item in the appropriations bill had been vetoed by the Governor because of the wartime economy.¹⁵

At the 1918 annual meeting, therefore, the Council was empowered to seek affiliation between the Academy and the State Museum, which was a division of the Illinois Department of Registration and Education following a government reorganization in 1917. The Academy secretary, John L. Pricer, and the director of the Department of Registration and Education, Francis W. Shepardson, corresponded throughout 1918 regarding the proposed affiliation. A letter from Shepardson to Pricer dated December 7, 1918, set forth a plan and closed with "I have already arranged for the inclusion in the budget of an item of a thousand dollars per annum for the Academy, this being contingent upon the closing of the arrangement on your part."¹⁶

The plan called for the Academy to be an affiliated division of the State

Museum, for the Board of State Museum Advisors (which replaced the Museum trustees in 1917) to oversee the relations between the Academy and the State Museum, for the chief (formerly known as the curator) of the State Museum to be the librarian of the Academy with responsibility for the distribution, sale, and exchange of the Academy's publications, for the librarian to be a member of the Academy Council, and for the Department of Registration and Education through the State Museum to seek state funding for the Academy publications.

Pricer wrote the other Council members, and all concurred in the affiliation which was ratified at the Jacksonville meeting, March 21, 1919. Thus began the practice of the State Museum including a request for funding of the *Transactions* in its proposed budget submitted to the Legislature, and beginning with Volume 11, the volumes of the *Transactions* read "Printed by Authority of the State of Illinois" on the title page.

The first 22 volumes of the *Transactions* were printed as single issues; Volume 23, 1930-31, was the first to be issued in four parts in order to qualify for the second-class postage rate. The four issues per volume continued through Volume 36, 1943.

Financial problems continued to beset the Academy, and Volume 25 contained only abstracts of the papers presented at the May, 1932, section meetings in order to save printing costs. Volume 25 was also the first volume to be printed without the membership list, again in an effort to save printing costs.

COMMITTEES

Among the committees the first twenty-five years, three were quickly discharged while two others were active for many years.

The three short-lived Academy committees were the Committee on Deep Drillings, the Committee to Influence Legislation to Restrict the Collection of Birds and Eggs Solely to Accredited Institutions, and the Committee to Influence Legislation in Favor of Increased Protection for Game Birds. The Committee on Deep Drillings was discharged in 1911 since the State Geological Survey, re-established in 1905, had taken over the work of collecting these records. The committee which investigated restricting the collection of birds and eggs solely to accredited institutions concluded that much valuable information was contributed by amateurs who would be hampered in their work by the proposed legislation, and the committee was discharged at the fifth annual meeting, 1912. The Committee to Influence Legislation in Favor of Increased Protection for Game Birds, chaired by Forbes, concluded that additional legislation regarding hunting was not the solution since a decline in game birds was caused instead by agricultural practices which reduced the habitat available. This committee was discharged at the fourth annual meeting in 1911.

One of the first projects the Academy actively supported was an ecological survey of Illinois. The project had been strongly endorsed by several ecologists at the first regular meeting in 1908, and at the May 8, 1908, Council meeting, a committee of five for an ecological survey was appointed: Stephen A. Forbes, chairman; Frank C. Baker, Chicago Academy of Sciences curator; Henry C. Cowles, University of Chicago botanist; Henry A. Gleason, University of Illinois botanist; and Thomas Hankinson, Eastern Illinois State Normal School zoologist.

At the third meeting of the Academy in 1910, Forbes, president of the

Academy and chairman of the Academy's Committee on Ecological Survey, as well as head of the State Laboratory of Natural History which was charged by law with conducting an ecological survey, included in his presidential address his views on the relationship between the Academy's Committee on Ecological Survey and the State Laboratory:

The principal, actual outcome of this experiment—for an experiment, of course it is—has thus far been a review and endorsement, by this committee, of the State Laboratory plans and operations, and a common understanding among the active investigators in this field as to their respective subjects, fields of operation, and interrelations, arrived at with a view to the coordination of all parts of this work and a fairly uniform and symmetrical final product. The publication of several papers on the ecology of the state by members of the committee has been provided for by the State Laboratory, and these papers are appearing as articles in its Bulletin. Both state and individual work have thus been stimulated and somewhat expanded, so far without increase of expense, and with notable addition to the scientific and educational value of their product.¹⁷

In 1917 the State Laboratory of Natural History and the State Entomologist's office united to form the Illinois Natural History Survey headed by Forbes. Forbes continued as chairman of the Academy's Ecological Survey Committee until 1920. His successors as chairman were Henry C. Cowles, University of Chicago botanist; Warren G. Waterman, Northwestern University botanist; Ernest L. Stover, Eastern Illinois State Teachers College botanist; and Arthur G. Vestal, University of Illinois botanist.

In 1912, a committee with the unwieldy name of "Committee on Legislation or Agreements Which Would Set Apart Certain Waste Lands, Railway Rights of Way, etc., for the Conservation, Propagation and Study of the Common Wild Flowering Plants" was formed. The Committee identified 24 possible areas for plant preserves along the Illinois Central Railway right of way from Jo Daviess to Alexander Counties and asked the railway to cooperate with the Academy by not mowing those areas until after the seeding season. The railway required the Academy to guarantee the railway against trouble by fire and run plowed furrows around the areas which the Academy did not feel it could undertake, so agreement was never reached. The committee's name was shortened to Committee on Conservation in 1913.

In 1927 the Academy discussed whether the Committee on Ecological Survey and the Committee on Conservation should be continued since the State Geological Survey, the Natural History Survey, and the State Water Survey had largely taken over this work, but it was decided that the committees should continue to exist so that they would be available to act in case of an emergency.

THE ILLINOIS JUNIOR ACADEMY OF SCIENCE

From its beginning the Academy expressed interest in contributing to the improvement of science teaching in the state. At the third annual meeting in 1910, for example, President Forbes stated that "our relations to the progress of scien-

tific investigation within the state, important as they may be, are really overshadowed, as it seems to me, by those which we bear, or ought to bear, to the progress and improvement of scientific education."¹⁸ He suggested the establishment of a committee to investigate what the Academy could do to improve high school science teaching, and the next day the Academy established such a committee.

The Committee on Assistance of the Academy to High Schools in Science Teaching the following year recommended the establishment of two committees, one to prepare leaflets on high school science and the other to investigate the teaching of pure and applied science in the high school. The Leaflet Committee met for several years, but finally went out of existence without accomplishing its purpose because of financial difficulties. The Committee on Pure and Applied Science in High Schools soon became the Committee on Secondary Science with a somewhat broader scope.

In 1917 John L. Pricer, Illinois State Normal University biologist and Academy secretary, suggested that high school science clubs should be encouraged to affiliate with the Academy.¹⁹ His suggestion did not take until 1919 when he again mentioned it in his annual report as secretary.²⁰ This time the Academy took action, and a Committee on Affiliation of High School Science Clubs with the Academy was formed with John L. Pricer as chairman, and Herman S. Pepon of Chicago's Lake View High School and Warren G. Waterman of Northwestern University as members.

Pricer died in 1920, and at the June 21, 1921, Council meeting, the Committee on Secondary Science and the Committee on High School Clubs merged into one, the Committee on High School Science and Clubs, with John C. Hessler, Knox College chemist, as chairman. The Academy continued to encourage the development of high school science clubs and their affiliation with the Academy throughout the 1920's. Although some high school science clubs did affiliate with the Academy, others were lost, and membership in the Academy did not rise dramatically as had been expected.²¹

In 1928 at the Bloomington-Normal meeting of the Academy, the orientation of the High School Science and Clubs Section changed from trying to involve the teacher to trying to involve the student, or as Lyell J. Thomas, then secretary of the Academy, later wrote:

In the 1928 Bloomington-Normal meeting of the Academy the attention of the secretary was drawn to what seemed to him the real objective—a high-school student presenting before the High-School Science Section a demonstration of what he was interested in,—a project study in the field of chemistry. That student's teacher, Miss Aleta McEvoy, of Rockford High School, was made chairman of the section for the following year.²²

Delegates from high school clubs first met with McEvoy at the Academy meeting in Macomb in 1929.

Louis A. Astell, an Illinois high school science teacher, made a presentation on "How State Academies May Encourage Scientific Endeavor among High School Students" at the Des Moines meeting of the Academy Conference of the American Association for the Advancement of Science on December 27, 1929. (The Academy Conference of AAAS had been formed in 1926 with representation

from each academy of science affiliated with AAAS.) Astell's paper was published in *Science* in 1930 and generated much interest throughout the country.^{2 3} Lyell J. Thomas, past secretary of the Academy, and Arthur C. Walton, then secretary of the Academy, also spoke on the Junior Academy at the 1929 Academy Conference meeting with a summary of their remarks published in the Academy's *Transactions*.^{2 4}

In May, 1930, 175 high-school students displayed 130 projects at the Urbana meeting.^{2 5} In December of that year, McEvoy spoke before the Cleveland meeting of the Academy Conference of AAAS on "The Illinois Junior Academy of Science, Accomplishments and Prospects".^{2 6} Also in December, 1930, *Illinois Junior Science* was published by the Junior Academy and sent to science teachers in high schools and normal schools throughout the state. It contained a history of the Junior Academy reprinted from the *Transactions*, articles by club sponsors and student, information about science projects, and an announcement of the 1931 meeting at Peoria. The cost of this publication, unfortunately, prevented any additional issues from being prepared.

The Senior Academy assisted the Junior Academy financially for many years, although from the beginning the Junior Academy's goal was to be self-supporting. The sources of funding for the Junior Academy, in addition to the help from the Senior Academy, were dues, commissions on pins, advertising, and annual contest entry fees.

AFFILIATIONS

The Academy sought affiliations not only with high school science clubs but also with other local and national scientific organizations.

In 1919 the Academy voted unanimously to affiliate with the American Association for the Advancement of Science (AAAS) which succeeded the Association of American Geologists and Naturalists in 1848. Since the terms of affiliation changed after the 1919 vote, again on February 20, 1920, the Academy voted unanimously to become affiliated with AAAS. Article III of the Academy constitution was changed to indicate two classes of members, national (Academy members who also belonged to AAAS) and local (those who belonged to the Academy only). AAAS dues were collected by the Academy and forwarded to the AAAS.

New affiliation relations with the AAAS became effective October 1, 1925. The Academy no longer collected the AAAS dues, but the AAAS gave 50 cents to the Academy for every annual and life member of the Academy who was also a member of AAAS.

RESOLUTIONS

Morris M. Leighton in his history of the Academy summarized some of the activities which the Academy supported during its first 25 years: birth and death registration legislation, proper quarters for the State Museum, use of the centigrade scale in government publications, duty-free importation of scientific equipment for use in educational institutions, use of the metric system, formation of state parks and forests, laws to reduce pollution of rivers and streams, establishment of a Department of Conservation, establishment of a national forest in Illinois, and the establishment by Congress of awards for scientific and technical achievements.^{2 7}

SUMMARY

In its first 25 years, membership in the Academy increased tenfold, from 114 charter members to over 1,100 members by 1932. Most of the prominent scientists in Illinois were counted among its members.

The Academy's annual meetings were well attended, often featuring public lectures, as well as symposia, and field trips beginning in 1921. By 1932 eleven sections met for the presentation of papers at the annual meetings.

The Illinois Junior Academy of Science was the first in the nation and it served as the spark for the junior academy movement in the United States.

The greatest problem in the early years was financial. With dues only \$1 per year the Academy could afford little other than printing its *Transactions* and even that was in small editions with often only abstracts of papers published.

The situation looked particularly bleak in 1915 and 1917 when appropriations for the Academy passed the Legislature but were vetoed by the Governors because of the war. John L. Pricer, the Academy secretary, in an address entitled "Is the State Academy of Science Worthwhile?" given at the 1918 annual meeting referred to the financial difficulties but concluded the Academy was important because

if science is to hold its place and perform its true mission in society, those who understand and appreciate it best must be organized and in a position to assert its rights and to advocate its cause at every turn, and in the most effective manner.^{2 8}

Pricer urged the members to continue to support the Academy, and he was confident that with time state funding would materialize. His faith was well justified because within a year the Academy affiliated with the State Museum, and its financial problems were somewhat alleviated.

At the close of the Academy's first 25 years, Morris Leighton, chief of the Geological Survey and past president of the Academy, foresaw an important future for the Academy:

We are entering a new order which calls for the Academy to bear its portion of responsibility—an order which will demand a change from extreme specialization in science to combined specialization and unified effort to solve problems which one science alone cannot solve, a change also which will demand a greater influence on the part of the scientific group of the nation on the solution of its great social, political and ethical problems.^{2 9}

FOOTNOTES

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3. N. Bateman, "The meeting at Decatur," *Illinois Teacher* 4 (1858), pp. 12-13.
4. H.G. Mills, "From 1858 to 1958," *Ill. Nat. Hist. Surv. Bull.* 27 (1958), p. 87.
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6. S.A. Forbes: "History of the former state natural history societies of Illinois," *Trans. Ill. State Acad. Sci.* 1 (1908), p. 29.
7. *Laws of Illinois*, 1851, p. 155.

8. W.B. Hendrickson, "Alja R. Crook and the founding of the Illinois State Academy of Science," *Trans. Ill. State Acad. Sci.* 56 (1963), p. 160.
9. Forbes, "History of the former," p. 28.
10. J.G. Coulter, W.A. Noyes, H.F. Bain, H. Crew, and H.V. Neal, "Opportunities for young men in science," *Science* NS 27 (1908), pp. 873-882.
11. S.A. Forbes, "Relations of the Illinois Academy of Science to the State," *Trans. Ill. State Acad. Sci.* 3 (1910), pp. 35-36.
12. "Second annual meeting," *Trans. Ill. State Acad. Sci.* 2 (1909), p. 13.
13. *Laws of Illinois*, 1911, p. 101.
14. *Laws of Illinois*, 1915, p. 14.
15. *Laws of Illinois*, 1917, p. 57.
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