PROCEEDINGS

OF THE

ROCHESTER ACADEMY OF SCIENCE

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ROCHESTER ACADEMY OF SCIENCE--THE FIRST HUNDRED YEARS

By Reginald Hartwell

BEGINNINGS

OUR REAL BIRTHDAY

Any chronicle of an organization's first hundred years properly should begin at the beginning. In the case of the Rochester Academy of Science ' however, a difficulty arises in pinpointing the exact date of that beginning. In other words, when is our birthday? We could say January 1, and quote from our Articles of Incorporation, namely, "The names of the directors of said association for the first year of its existence beginning January 1, 1881 are...." Or we could call it may 11, 1881, the date those articles of incorporation officially were executed. Perhaps it should be February 14 (Valentine's Day). On that date in 1881 the Rochester Microscopical Society, a thriving two-year-old organization with 119 members and a cash balance of $35.11, met to hear a report of a committee appointed to consider a constitution and by-laws. That report was "in favor of enlarging the scope of the Society under the name of the Rochester Academy of Science to include various departments not connected with microscopy."

The most likely birth date, however, seems to be March 14, 1881. On that day the Rochester Microscopical society, meeting in the Rochester Free Academy building on Fitzhugh Street, adopted the report of the committee on constitution and by-laws. Surely our real beginning--the actual moment of our birth--comes to light in this statement in the minutes of that meeting: "By adoption of the committee report the Society will be known henceforth as the Rochester Academy of Science."

In order to conform to provisions of the new constitution, a corresponding secretary and three trustees were elected at that meeting, to be added to the incumbent president, vice-president, secretary, and treasurer who had been elected the previous January.

OUR FIRST OFFICERS

Now let us meet the first officers of our newly fledged Rochester Academy of Science.

The President: The Reverend Myron Adams, Jr., Pastor of Plymouth Congregational Church at Troup Street and Plymouth Avenue South. Why would an Academy of Science choose a clergyman to be its first president? Perhaps the

best explanation is to be found in a eulogy published in 1895 by the Reverend Samuel Hopkins at the time of Mr. Adam's death. "He had a hearty love of nature. He rejoiced in butterflies and beetles. Until he made his fine instrument a present to Hamilton College, he delighted in microscopic investigations of diatoms and rotifers." Furthermore, the views of the Reverend Mr. Adams generally supported Charles Darwin's revolutionary theories, causing considerable controversy among local churchmen of that day. Late in 1880 he was called before the ruling Congregational body and "disfellowshipped" because of those views and others deemed equally heretical. Freed of his obligations to that ruling body, he continued his popular pastorate of Plymouth Church, most of whose members locally supported him. Mr. Adams I son, 10 years old at the time, was Samuel Hopkins Adams who grew up to become the well known author of many best-selling stories, including the delightful "Grandfather Stories" that tell so much about Rochester's "Ruffled Shirt Ward."

The Vice-President: Mr. H. Franklin Atwood, who is listed in the city directory as a "Special Agent" with offices at #12 Rochester Savings Bank Building.

The Secretary: Mr. Henry Clay Maine, editor of the Rochester Democrat & Chronicle.

The Treasurer: Dr. Charles E. Rider, a physician whose home and office-were at 60 Fitzhugh Street. It was there that the organizational meeting of the Rochester Microscopical Society was held on January 13, 1879.

Trustee: Professor Samuel A. Lattimore, Professor of Chemistry at the University of Rochester. He was the first president of the Rochester Microscopical society.

Trustee: Major William Streeter, a superintendent at Sargent & Greenleaf, the nationally known maker of locks and safes. He was a charter member of the Microscopical society and it was at his home at 11 Scio Street that the Botany Section was organized on April 13, 1881.

Trustee: Cyrus F. Paine, the druggist whose famous Paine Drug store in the Reynolds Arcade building was for many years the only true drug store anywhere in our area. There were no fancy sidelines such as a soda fountain--just drugs and surgical instruments.

OUR ANCESTRY

Looking a bit further into our ancestry, let us consider briefly that January 13, 1879, meeting which resulted in the formation of our parent organization, the Rochester Microscopical Society. About 25 people met in the home of Dr. Charles E. Rider. Among them were 8 physicians, 3 lawyers, 2 dentists, 2 University of Rochester students, 2 opticians, 2 jewelers, a hardware merchant, a professor, a minister, a pharmacist and an astronomer. The opticians

were E. E. Bausch and Thomas Dransfield, of the firm of Bausch & Dransfield located in the Reynolds Arcade. They also dealt in "philosophical instruments" (meaning microscopes). The subsequent firm, E. E. Bausch & Son, is doing business here today. Bausch & Lomb's Edward Bausch and Captain Henry Lomb apparently were not at that first meeting but became active members both of the Society and the Academy.

The astronomer was Dr. Lewis Swift, whose home and headquarters was the famed Warner observatory at the corner of East Avenue and Arnold Park. Dr. Swift's son, Lewis, Jr., grew up to become president of Taylor Instrument Company. one of the lawyers was George B. Selden, the patent attorney whose claims to the invention of the automobile resulted in long legal battles that made automotive history. one of the students was James S. Watson, who lived at 28 North Clinton Avenue. His subsequent activities gave rise to the giant corporation we know now as IBM.

In addition to the election of Professor Lattimore as president of the new society, other officers were elected. Vice-president was Corydon C. Merriman, who lived at the corner of East Avenue and South Goodman Street. Dr. Rider was elected treasurer, an office he held through the first year of the Academy's existence. The secretary was Dr. J. Edward Line, a dentist with an office at 20 West Main Street. (In those days West Main Street began at the west bank of the Genesee River).

Meetings of the new Society were held monthly in the Rochester Free Academy on Fitzhugh Street. Their work naturally was a study of microscopes and a consideration of their various uses. Their annual exhibitions, called soirees, were occasions of great public interest and they were continued on into the first years of the Academy's existence.

OUR FIRST YEARS

Here, then, in the spring of 1881 was a brand new Rochester Academy of Science, an already going concern with an active membership of 110, plus 9 honorary members and a modest cash balance. Article II of its new constitution read: "The purpose of this society shall be to promote scientific study and research, and especially a thorough knowledge of the natural history of that part of the State of New York in the vicinity of Rochester, and to make permanent collections of objects illustrative of the different branches of science." That last clause suggests that our founders had in mind the making of a general museum. Meetings and work naturally continued in the same general pattern as that of the parent society. The annual Soirees continued to attract much public attention. There were occasions when as many as 2500 to 3000 tickets were issued

to one of those affairs, which were held in places like the Arsenal or Washington Rink. Annual dues at first were $1.00, later increased to $2.00. The Academy Seal was designed by member William Rebasz, a watchmaker at 11 State Street, and officially adopted in 1884. General meetings were held, rent free, in an assembly room in the Reynolds Arcade, through the generosity of Mortimer Reynolds, owner of that famed and unique structure.

The Academy's first new section was the Botany Section, which was organized on April 13, 1881, at the home of Trustee Major Streeter, with 11 charter members, including Academy Secretary Henry C. Maine. There has been a Botany section in existence ever since. No other section can make that claim. Other sections came and went; records of their activities are fragmentary. By 1886 there were sections in Botany, Literature, Entomology, Art, Astronomy, Photography, Microscopy, Anatomy, Hygiene and Electricity. The work of the sections was largely in the nature of classes led by more experienced workers. As time went on in many cases there were not enough professional scientists available to keep some sections alive. When enthusiasm waned and section work became more of a duty than a pleasure, attendance dwindled and a section became inactive. In 1888, the only sections remaining were Art, Botany, Microscopy and Photography. In that year, attendance at the general meetings had diminished to a point where a special committee was appointed to adjust Academy affairs.

REORGANIZATION

A New Constitution

That special committee went right to work. Dr. M. L. Mallory was its chairman. Others were Sylvanus A. Ellis, James E. Whitney and a newcomer to the area, University of Rochester Professor Herman Leroy Fairchild, whose impact on Academy affairs was to become far reaching and long lasting, as will be seen. At the 10th annual meeting, on January 12, 1889, the election of new officers was postponed until the committee's report could be heard and a revised constitution adopted. On February 25, 1889, a special meeting was called to hear that report. It was an in-depth analysis of the needs of a viable local Academy of Science. The committee then presented a new constitution and by-laws incorporating those proposals and these were adopted provisionally.

Many of that constitution's provisions are still in effect today. There were four classes of members: active, corresponding, honorary and fellows. Corresponding members were those who lived outside the Rochester area, some as

close as Scottsville or Newark, N.Y.; others were scattered nationwide. They paid no dues and could not vote and their numbers were limited to l00. Active and honorary members were chosen much as they are today. Fellows were a new class, chosen from active members whose scientific interests were professional or permanent, or who had given outstanding service to the Academy. There seem never to have been any further hard and fast requirements for a fellowship. They were elected by ballot on recommendation of the Council.

The Council, as it does today, consisted of the officers, the section chairmen and 6 elected councilors at large. There was a requirement, however, that a majority of the Council must be fellows. The idea, apparently, was to insure that Academy affairs remain on a strictly scientific level and never become reduced to those of a mere recreational or entertainment organization. Section membership was specifically restricted to active Academy members, fellows, and corresponding members. Any contribution to a section was treated as a contribution to the Academy for use by that section. Dues were increased to an annual $5.00 ($2.00 for women). Also, each member was required to pay an initiation fee of $5.00 ($2.00 for women). That provision, however, did not last long; it was rescinded at a meeting in April, 1890. Further, it was provided that each member could be assessed up to $5.00 ($2.00 for women) additional in case of dire financial need. That appears never to have happened. one interesting communication involving dues came on the letterhead of the Eastman Dry Plate & Film Co., dated October 19, 1889. Addressed to E. Ocumpaugh, Jr., Treasurer, it said in copperplate handwriting:

"Dear Sir, Enclosed please find a check to pay my dues for 1888 & 1889. I have no time to attend these meetings and I hereby tender my resignation as a member. Yours truly, Geo Eastman."

Meetings were required to be held twice each month, on the 2nd and 4th Mondays. Provisions were made for maintaining a library and collections illustrating the natural history of the Rochester area, and for the appointment of a librarian and curators of the various collections. Finally, and possibly the most important new development, provision was made and the way cleared for the publication of the Proceedings, a scientific journal of the Academy.

It is interesting to note that the two meetings following that special meeting had to be adjourned because of lack of a quorum. On April 19, 1889, however, the new constitution officially was adopted and the new officers for that year were elected. They were Professor Herman L. Fairchild, President; J. Edward Line, 1st Vice-President; Abram S. Mann, 2nd Vice-President; A. L. Arey, Secretary; Sylvanus A. Ellis, Corresponding Secretary and E. Ocumpaugh, Jr. , Treasurer. Elected Councilors at large were Edward

Bausch, S. A. Lattimore, Florence Beckwith, J. E. Whitney and M. L. Mallory. So began a period of Academy development under the leadership of Professor Fairchild, who served as president for the next 13 years. Events in those years did much to shape the course of Academy affairs in the 20th century.

EARLY MEETINGS

Just what went on in some of those early twice-a-month meetings? Let us sit in on one or two. The stated meeting of May 14, 1894, was held in Anderson Hall on the University of Rochester Prince Street Campus. Forty-five, people were present and President Fairchild was in the chair. First, the report of the Council was heard. They recommended that at the next business meeting an election be held to fill the vacancy caused by the recent death of Dr. M. L. Mallory, 2nd Vice-President. They also recommended that the Academy lend its support and cooperation to a movement initiated by the Scientific Alliance of New York City to secure lower rates of postage on scientific material. Both recommendations were adopted. Mr. J. Y. McClintock, the City Surveyor, exhibited a photographic copy of a topographic map of Rochester made by the cooperation of the U.S. Geological Survey and the New York State Engineer and Surveyor. Later in the meeting a resolution was adopted urging the desirability of extending the sheet northward to the shore of Lake Ontario to include a shoreline entirely across the sheet. Then came the reading of three papers. "A Memorial to Maitland L. Mallory, M.D." was read by Major William Streeter. Professor S. A. Lattimore read a paper entitled "The Recent Epidemic of Typhoid Fever in Buffalo." "The Pitch Lake of Trinidad" was the tit of the third paper, read by Adelbert Cronise.

The following meeting on May 28, also in Anderson Hall, was not a business meeting. There was 30 people present, with Professor Fairchild presiding. Mr. F. W. Warner read a paper entitled "Notes on ophidians of the Southern States." Mr. Charles H. Ward then exhibited and described some living specimens of the Gila Monster, and also two so-called "alcoholic specimens:" (preserved) of the Surinam Toad, Pipa americans. Professor C. W. Dodge described the life history, physiology and respiration of that species. The remainder of the evening was devoted to informal reviews in various departments of science. Professor Dodge reported on new information on the fatigue of nerve cells. Mr. E. J. Putnam remarked on the new dynamos of the Citizens Light & Power Co., "a novelty, furnishing both a continuous and an alternating current with the same armature and winding-" City Surveyor J. Y. McClintock reported on a trip up the Genesee River following the "third greatest flood which has

occurred in 30-40 years." He gave results of studies made on the speed of the flood waters down river, and spoke of the storage capacity of the projected flood control dam to be built at Mt. Morris. It was not until 1952 that the dam was built to finally bring flooding along the lower Genesee under control.

WE HOST THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

Two years earlier, in 1892, Rochester was host to the 41st annual meeting of the American Association for the Advancement Of Science (AAAS). Planning for the event, which was in August, began in February when President Fairchild appointed a Special Committee on the AAAS Meeting. On it were Professor Albert L. Arey, Dr. J. Edward Line, Mr. Joseph O'Connor, Dr. E. M. Moore, the Reverend C. B. Gardner and Professor Samuel A. Lattimore. That committee immediately notified other scientific, educational and business groups with the result that soon there came into existence a city-wide organization dedicated to planning the event, at which about 1000 visitors were expected, down to the last tiny detail. At the head of that organization were Dr. Moore, as president, Professor Fairchild as secretary and Mr. David Hoyt as treasurer.

Under them were 13 committees consisting of anywhere from 10 to 50 members each. The list read like a roster of Rochester's business, professional, educational and social leaders. There was a Women's Reception Committee, a Finance Committee and a Committee on Invitations and Receptions. There were committees on Excursions, Transportation, Hotels and Lodgings, Rooms, Mail, Telegraph and Express, Printing, Membership and Press. The American Microscopical Society and the Botanical Club were not yet sections of the AAAS but held their own separate meetings and committees were organized to take care of their needs.

There were 8 sections of the AAAS: Mathematics and Astronomy; Mechanical Sciences and Engineering; Geology and Geography; Biology; Anthropology; and Economic Sciences and Statistics. They all had to be provided with meeting rooms for their own separate sessions. Most of the sessions were held in buildings at the University of Rochester, generally in Anderson or Sibley Hall. Closing sessions for the full membership were held in the YMCA Music Hall, then located at the corner of Court Street and South St. Paul Street (now South Avenue).

Every evening a new 25-page schedule of events for the following day was printed for distribution. On Monday evening, August 22, the Rochester Academy of Science held a special "Complimentary Meeting" for their AAAS guests in the Music Hall. Speaker of the evening was Dr. G. Karl Gilbert, Chief Geologist for the U.S. Geological Survey. His subject

was "Coon Butte and the Theories of Its Origin." No sessions were held on Saturday or Sunday but on Saturday, August 20, guests had a choice of four free excursions.

They could go to Niagara Falls and Lewiston on a New York Central train. or they could board a Western New York & Pennsylvania train for a trip to Portage and Mt. Morris, or they could continue on to Stony Brook Glen via the same train. Or they could go by the Auburn Road to Canadaigua Lake, boarding a steamer there for a trip around the lake with a stop at Seneca Point for lunch. At the end of the last full day of sessions, August 23, guests took a short excursion by Buffalo, Rochester & Pittsburgh Railroad to the new fish hatchery at Mumford. Elaborate plans for an overnight Adirondack excursion beginning the last day, August 24, had to be cancelled because "Dr. Webb's new Adirondack Railway was not yet completed." Guests, however, were offered a round trip to Montreal for $13.00 if 50 people could be signed up to go.

The outstanding success of this event was due in no small measure to the efforts of Professor Fairchild as Executive Secretary. His incredible energy and ability to organize and get things done were to pervade Academy affairs for the next 50 years.

THE PROCEEDINGS

Probably the most significant development in all those early years was the publication of the Proceedings. Volume 1 came out in 1891 and 1892 in two separate parts, called brochures, that covered the years 1889-91. It was edited by a Publication Committee consisting of Professor Fairchild, Frank L. Baker, George W. Rafter and Dr. M. L. Mallory. There were 216 pages. All Academy transactions were there: minutes; reports of officers and sections; and a total of 38 papers of varying lengths. Subjects covered included Archeology (4), Astronomy (5), Bacteriology (1), Biology (1), Botany (8), Geography (5) and Geology and Paleontology (14). Costs of that first volume totaled about $580.00. With an active Academy membership of about 102, that left an exceedingly small balance in the treasury.

Yet somehow they managed, and by June 1896, two complete volumes had been published, plus 150 pages of Volume 3. According to Professor Fairchild, a considerable strain on Academy resources resulted. That, plus effects of the financial panic of 1893, forced the suspending of publication for a time. But by 1902 all of Volume 3 had been published plus 66 pages of Volume 4. However, they were 6 years behind in publishing the business transactions and Volume 4 was begun on a new plan whereby the scientific papers were to be published in separate brochures with the business transactions to be appended at the end of each volume in condensed form. That practice has continued ever

since, with the transactions becoming more and more condensed, forcing a historian to dig ever deeper into the original minutes and archives.

PROFESSOR FAIRCHILD "RETIRES"

At the annual meeting in January, 1902, Professor Fairchild ended 13 years of outstanding leadership as President. To mark the occasion, he read a paper entitled "History of the Society." This appeared as the last article in Volume 3 of the Proceedings and it is the basis of much of the material you have been reading so far. In summarizing accomplishments since the 1889 reorganization, he noted an average of 16 meetings per year with an attendance ranging from 25 to one or two hundred. Scientific papers read at those meetings numbered 226, not a few of which were published in the Proceedings.

With the single exception of Botany, section activity played a very minor role during those years. There was a Geology Section in 1890 that lasted about 3 years. A Zoology Section was organized in 1890 but it only survived one year. In 1896 there was an Engineering Section that lasted 2 years. Professor Fairchild gave special praise to the Botany Section, noting that its herbarium already had over 15,000 specimens and that much of its voluminous published material represented vital information about the flora of this area. He attributed the section's outstanding success partly to the fact that many of its workers were women and partly to the hospitality of Major and Mrs. William Streeter and the use of the Streeters' unsurpassed microscopical apparatus and material and their extensive library.

Professor Fairchild cited the extensive Academy library, with its 500 volumes and pamphlets deposited in the University of Rochester library, many of which resulted from the Proceedings exchanges with 200 U.S. and 300 foreign scientific societies. Besides the botanical collections, the Academy had acquired an outstanding collection of Mollusca on deposit in the University of Rochester zoological museum and a collection of local fossils housed in the geological museum. The Robert Bunker collection of insects was displayed in the vestibule of Sibley Hall. He stressed the Academy's good fortune in never having to pay rent for any of its meeting rooms. The Reynolds Arcade, the Reynolds Library, Mechanics Institute, and the University of Rochester all had generously provided space for the meetings as needed. In expressing appreciation, he quoted a remark attributed to Talleyrand that gratitude often is expressed with a lively expectation of favors to come.

Professor Fairchild never relinquished the idea that the Academy should require an initiation fee of all new members. He said, "The Academy should restore the initiation fee of $5.00, thus requiring payment of $10.00 for

perfect membership. And the cost to women should be the same as to men instead of $2.00 as at present. A scientific society should be thoroughly democratic and show no favors." He was given a rising vote of thanks for his invaluable leadership and his intense devotion to Academy affairs over the years. But the initiation fee never was restored.

EARLY TWENTIETH CENTURY

20th CENTURY COUNCIL

While that January, 1902, annual meeting marked the end of Professor Fairchild's 13-year leadership as Academy President, it by no means marked the end of his influence on Academy affairs. He was elected as a Councilor that year, and he continued to serve in that or a similar capacity for the next 30-odd years. Let us meet the newly elected slate for 1902.

The new President was Professor Charles Wright Dodge, of the University of Rochester Biology Department. He had served as Corresponding Secretary from 1892 to 1901. First Vice-President was Dr. Charles R. Sumner, a physician with offices at 33 Clinton Avenue South. Second Vice-President was Dr. George W. Goler, Rochester's militant health officer whose continual campaigning for city sanitation often was more vigorous than tactful. Re-elected as Secretary was Dr. Montgomery E. Leary, a physician at 397 West Main Street. He had served as Secretary since 1898. His minutes are notable for their conciseness and lack of embellishment. Notices of meetings were sent to members on printed penny postcards. Often the minutes of a meeting consisted of one of those postcards pasted on a page with a brief note or two about attendance and what business was transacted.

Corresponding Secretary was Dr. William D. Merrell, who is listed in the 1902 City Directory as an instructor at the University of Rochester. He served as the Academy's Corresponding Secretary for the next 20 years and his Biology Professorship at the University of Rochester lasted many more. The Treasurer was Mr. Joseph E. Putnam, an electrical engineer with headquarters in the so-called Chamber of Commerce Building. We know it today as the Commerce Building (recently demolished to make way for redevelopment of the "crossroads" downtown area). Besides Professor Fairchild, the Councilors were Dr. Eveline P. Ballintine, an assistant physician at the Rochester State Hospital; Dr. Charles T. Howard, a dentist; Mr. George H. Chadwick whom the 1908 City directory lists as a student but who in

due course became known as Professor Chadwick of the University of Rochester Geology Department; and John M. Davison, who already had served as 1st Vice-President from 1893 to 1898 and as a Councilor in 1890 and 1899. Finally there was Miss Florence E. Beckwith, a charter member of the Botany Section. She was editor of the famous Vicks Magazine, published by the James Vick Seed Company and she served as Chairman of the Botany Section from 1897 until her death in 1929. During most of that time she also served as an Academy Councilor. A delightful account of her life appears in Volume 8 of the Proceedings.

It was these people and their successors who carried Academy affairs on into the 20th Century. There were problems. Membership numbers were declining. In 1907 there were 53 active members compared to 160 in 1895. By 1910 this figure had reached only 63. There were also financial problems. At the Council meeting of April 14, 1901, the treasurer had been directed to write a "pathetic" letter to 14 members who were considerably in arrears, asking their assistance, stating the Academy's need for money and pointing out the large amount of outstanding unpaid dues (over $700). No record appears as to the results of that letter, but when the 1902 slate of officers took over there was a cash balance in the treasury of $297.81 after paying bills amounting to $270.23. No special concern about the low membership appears in the Council minutes of those years and the Academy remained solvent and extremely active.

THE PROCEEDINGS

By 1910 Volume 4 of the Proceedings had been completed and published. It contained articles on birds, meteorites, botany and fossils. The authors of several of these articles became, or already were, widely known authorities in their fields. "Birds of Western New York," by Elon Howard Eaton, appeared in 1901 as the first so-called "brochure" (now called "numbers") of Volume 4. Eaton, as all birdwatchers known, went on to produce the monumental 2-volume "Birds of New York," published in 1910 by the State of New York, a classic still considered the authoritative work on early ornithology of the state. In 1902, however, Eaton was a teacher at the Bradstreet School For Boys, located in the Cutler Building on East Avenue. He was an elected Councilor of the Academy in 1903 to 1905 and served as 1st Vice-President in 1907. From here he went to Hobart College where he remained as the distinguished Professor of Biology for the rest of his life.

Meteorites, in these early years of the 1900's, were much in the news. New ones were continually being discovered and much was being learned about them. No less than 9 articles about meteorites appeared in Volume 4 of the Proceedings. They were written by two local men who already

were widely known in that field. One was Professor Henry A. Ward, the founder and head of the world-renowned Ward's Natural Science Establishment located on College Avenue His worldwide collecting trips included far more than meteorites and encompassed the whole spectrum of natural history. He was made a Fellow of the Academy in 1891. The other writer was Mr. H. L. Preston, who also was connected with Ward's and who also was a Fellow. His tragic death by suicide in June 1904 cut short a distinguished career as a mineralogist.

"Crataegus In Rochester" is the title of still another article in Volume 4 that appeared in 1903 as Brochure No. 7. It was written by Charles Sprague Sargent, of Boston's Arnold Arboretum. His classic Manual of the Trees of North America had not yet been published. It became, however (and it s-till is) the standard reference work in the field of Dendrology. Crataegus is the generic name for the Thorn-apples, or Hawthorns. Milton Baxter and other members of the Botany Section earlier had called Sargent's attention t the unusual number of species of that genus in the Rochester area. The article lists nine new species of Crataegus, all of which Sargent named for various members of the Botany Section, the Highland Park staff and the nursery firm of Ellwanger & Barry. Thus there is Crataegus Baxteri, C. Beckwithae, C. Ellwangeriana, C. Dunbari, and so on.

SOME ACADEMY MEETINGS-1902-1910

With active Academy membership in those early years ranging from 53 to 79 (there were 120 by 1920), attendance at the regular bimonthly meetings ranged from less than 20 to upwards of 100, a remarkable ratio that surely reflects the efforts of a hard working program committee. There were special occasions when a joint meeting with another organization would attract an audience of several hundred. Lectures covered a wide range of subjects that often reflected how it was in those pre-radio, pre-TV days when such things as electric power, automobiles and movies still were in various stages of development and had not become the indispensable components of our way of life that they are today.

At the meeting of February 14, 1902, 33 people heard 2nd Vice-President Dr. Goler give an illustrated lecture on "Smallpox In and Around Rochester." That Dr. Goler still was militantly pursuing his goal of city sanitation 14 years later is shown in the minutes of the January 24, 1916, meeting when he secured approval of a petition to the Common Council of the City of Rochester to "take further action without delay to exterminate the housefly and eradicate its breeding places within the city and in this undertaking they are justified in incurring any necessary expense to insure its thorough and permanent accomplishment."

In 1903, 100 people came to the March 23 meeting at Mechanics Institute to hear Mr. L. B. Elliott read a paper on "Recent Developments in Projection Apparatus and Methods." But on November 9 of that year only 17 showed up to hear City Surveyor J. Y. McClintock lecture on the "Unique Possibilities of Water Power Development Throughout New York State." Mr. McClintock was opposed to construction of the New York State Barge Canal but favored a huge ship canal that at the same time would develop the state's tremendous potential for water power. At the next meeting, November 23, Elon Howard Eaton spoke on "This Year's Migration of Shore and Water Birds Near Rochester." He noted that in this area about 20 of the 35 species of shorebirds were "taken" in a season, and about 24 species of ducks. His talk was illustrated with 60 or 70 study skins of ducks, geese, shorebirds and gulls. It should be remembered that in those days most bird study was done with a shotgun and the occurrence anywhere of any species was not accepted officially without a properly labeled specimen to prove it. At a later meeting in March, 1904, Mr. Eaton secured approval of a resolution urging the governor to veto a bill pending before the state legislature that would permit duck and waterfowl shooting in the spring.

There was a joint meeting with the Rochester Chamber of Commerce on December 12, 1904, when a "large audience" heard Dr. John M. Clarke, the New York State Geologist, speak on "The Commercial Invasion of Niagara Falls." At a special meeting held in East High School on April 5, 1906, 200 people heard a lecture on "The Color of Animals" by Professor W. C. Dudley of the University of Chicago. Much work in color photography was being done even in those days and Academy member Charles C. Zoller was actively involved in its development. On April 8, 1908, 75 people met in the Eastman Building to hear him explain and demonstrate the Lumiere process. Again on May 23, 1910, there was an "unusually large attendance" when he spoke on "Color Photography by the Autochrome Process."

The 1909 Annual Meeting took place on January 11 with 28 present. The Treasurer reported finances "in better shape than for several years," with a balance of $213.70 and outstanding unpaid dues of $50.00. Speaker for that meeting was Professor Fairchild, whose subject was "New Facts Relating to the Disappearance of the Ice Sheet in New York State." In spite of the fact that it was Washington's Birthday, the February 22, 1910, meeting commemorated the 100th anniversary of Charles Darwin's birth and the 50th anniversary of the publication of his "Origin of Species." one hundred and fifty people attended and heard Professor Charles Wright speak on the "Life and Work of Darwin." Professor Fairchild also spoke on "Darwin and Geology" and Mr. Merrell on "Darwin and Botany."

"Americanization of the Filipino", was the subject of an April 25, 1910, lecture. It should be born in mind that at that time the Philippine Islands were a United States Territory, acquired only 12 years earlier in the Spanish-American war. On May 9, 1910, Professor Howard D. Minchin lectured to 50 people on "Comets." The famous Halley's Comet was visible here that year. Perhaps a few who read this will remember seeing it. Apparently there had been earlier unrecorded discussions about a need for a new constitution and at a meeting on March 13, 1911, Professor Dodge, a Councilor, and Dr. Charles W. Hennington were appointed to serve with Professor Fairchild and Dr. Charles T. Howard, President, as a Constitution Revision Committee. At the May 8, 1911, meeting 75 people came to hear Dr. George Fell of Buffalo lecture on "Lake Erie Currents and Their Effect on the Sanitation of Buffalo and Niagara Falls."

MORE ACADEMY MEETINGS--1912-1916

At the beginning of 1912 the Academy membership stood at 5 Honorary, 36 Corresponding and 76 Active, of whom 24 were Fellows. On March 1, 1912, there was a "large attendance" at a special meeting in the University of Rochester Audubon Hall to hear the famous explorer-preparator, Carl Akeley, speak on "Hunting Big Game in Africa," describing his third collecting trip. Akeley surely was remembered by many in that audience for he had been born on a farm in Clarendon and at the age of 19 went to work for Ward's Natural Science Establishment where he spent the next 14 years acquiring the skills in taxidermy and exhibition techniques that led to his subsequent unique accomplishments in those fields. At the meeting on April 8, 1912, Councilor Florence Beckwith introduced a motion to appoint a Bergen Swamp Committee to "investigate and determine what action could be taken in the matter of cooperating with the Genesee County organization to preserve that tract of land." Miss Beckwith was named chairman of that committee, whose other members were Rudolf Schmitt, Milton S. Baxter, and Dr. Charles W. Hennington. At the May 27 meeting members heard a program on "Bergen Swamp, Its Physical Features, Animals, Birds and Flowers and the Desirability of Preserving Such A Tract." Papers were read by Miss Beckwith and by Professor Elon Howard Eaton, then of Hobart College.

In 1913 the Academy met jointly with the American Chemical Society on April 7 when 200 came to hear a lecture on the "History and Development of Gas Lighting." On December 8 of that year there was a discussion at the Council meeting entitled, "Does the Academy Need A Change?" reflecting a feeling by some that only a few people carried the load of providing programs and other responsibilities. Professor Fairchild said failure to publish was a chief cause of lack of interest. Miss Beckwith pointed out the

need for funds and the desirability of an endowment for publications. Dr. Lucius Button, the 2nd vice-president, felt it was difficult to keep together people of such diversified interests. Councilor Milton Baxter's opinion was that the Academy was doing quite well, all things considered. A Program Committee was then appointed, consisting of the president, Victor J. Chambers, the secretary, Harrison E. Howe, and Professors Dodge and Fairchild.

Attendance at 1914 meetings ranged from a low of 11 (3 visitors and 8 members, 7 of whom spoke) to a high of 75 when Mr. Zoller spoke again on color photography. At the December 14 meeting the question of reducing dues was discussed but no action taken. Two joint meetings early in 1915 boosted attendance figures. On January 4, 300 came to a joint meeting with the American Chemical Society to hear Dr. Arthur L. Day, of the Geophysical Laboratory, speak on "Kilauea In Action", and 300 came again on January 7 to a joint meeting with the University of Rochester in Catharine Strong Hall when Professor W. M. Davis of Harvard lectured on "The origin of Coral Reefs". On March 19, 1915, came the first indication in Academy records that World War I was going on. There was a special public lecture by Professor Douglas W. Johnson of Harvard on "Surface Features of Western Europe As A Factor in the War." One hundred people attended. Again on March 13 1 1916, at a meeting labeled a "Scientific Miscellany" attended by only 13 people, Dr. Victor J. Chambers discussed the disarrangement of the chemical industry by the shutting off of supplies from Germany, France and England and the excessive demands from other nations, including those at war, for munitions.

ADDITIONAL PROCEEDINGS.

Six brochures of the Proceedings came out in the years 1910 to 1919 to complete volume 5, with a total of 288 pages. Two papers on Botany were "Supplementary Lists to the Plants of Monroe County" and two on Geology titled "Eskers in the Vicinity of Rochester" and the "Evolution of the Irondequoit Valley." "Early Botanists of Rochester and Vicinity" by Florence Beckwith, came out in 1912 as Brochure No. 2. It makes delightful reading even today, as does "Biographic Memoirs of Deceased Fellows" by Professor Fairchild, which appeared in 1919 as Brochure No. 6, and which has fascinating accounts of the lives of such men as Henry A. Ward, G. Karl Gilbert and 10 others.

NEW SECTIONS

With the single exception of Botany, section activities continued to play a very minor role in Academy affairs in the years from 1902 to 1920. At least there are no records left to indicate otherwise. in 1899 Mr. Eaton had suggested

organizing an ornithology Section and several said they would join. On February 9, 1903, the meeting heard the first annual report of the ornithology Section, signed by a W. L. Dobbin and

read by the Secretary pro tem, Dr. Merrell. There are no further records of such a section. At the April 13, 1903, meeting a petition was received for the formation of a Geology Section and the petition was granted. No further records of the matter are in the Archives. At a council meeting on December 13, 1915, the secretary announced a newly organized Mycology group and hoped they would become a section. The 1917 membership list, however, lists them as "being organized" and the 1919 list does not mention them.

A petition for an Entomology Section was granted at the meeting of December 11, 1916, and it was officially organized on December 14 with George A. Franck as Chairman and George Wendt as Recorder. There were 22 active members who met monthly on second Thursdays. On March 12, 1917, again the formation of a Geology Section was approved, with Professor George H. Chadwick as Chairman and Cogswell Bentley as Recorder.

NEW CONSTITUTION

A revised constitution was approved at the meeting of October 23, 1916. There were no drastic changes. Chairmen and Recorders of the active Sections were added to the Council and a junior membership was created. Dues still were $5.00 ($2.00 for women) and members could be assessed up to $5.00 ($2.00 for women) each in case of dire financial need. Control of Academy affairs remained firmly in the hands of Fellows. The president, vice-presidents and secretaries had to be Fellows and at least three of the councilors. All business matters were handled by the Council and presented to the Academy at its regular business meetings. The Council could decline to present business at any Academy meeting where Fellows did not constitute a majority.

MORE ACADEMY MEETINGS--1917-1919

It should be remembered that in the years just previous to the 1920's a World War was going on. People were preoccupied with many other things besides Academy affairs and the records of those years are meager. Nevertheless, regular meetings took place twice each month from October to May. The only war-related meeting in 1917 was on October 22, when Mr. Dhan G. Mukerji spoke on "British Rule In India--What India Is Doing In The Great War And Why." "Geological Problems and Discoveries of the Catskill Aqueduct" was the subject of the January 22 meeting that year, presented by Prof. Charles P. Berkey of the New York State Aqueduct Commission. Homer D. House, New York State Botanist and

author of the Monumental two-volume Wild Flowers of New York, spoke on "Botanizing With A Camera" on March 26, and on April 23 Dr. E. Howard Eaton was here again to speak on "Some Rare Birds of Western New York."

Perhaps the most memorable meeting in all of 1918 was the one when nobody came. Postcards had gone out announcing a Summer Experience Night for November 11. That, as you know, turned out to be the world's first Armistice Day. The announcement of the following meeting on November 25, sent out by Secretary Cogswell Bentley, is eloquent in its understatement: "Our last meeting had strong competition from News From The Front. Very few were present. We expect a large attendance on the 25th to hear Dr. W. H. Jordan of the New York State Experiment Station at Geneva speak 'Government Aid to Agriculture'."
On March 11 of that year, Captain F. C. Hamilton of the University of Rochester spoke to the Academy on "Modern Warfare--From Personal Experience" and at the next meeting on the 25th Dr. Robert G. Cook of Canandaigua spoke on "Aircraft in War." On May 26, 1919, the Academy heard Kodak's Director of Research, Dr. C.E.K. Mees ' lecture on the "The Camera in War" and on October 13 Dr. Louis A. Pechstein, University Of Rochester Psychology Professor, spoke on "Military Psychology."

Therefore, during those World War I years we find a Rochester Academy of Science with a membership totaling 121 (5 Honorary, 29 Corresponding, and 87 Active, of whom 27 were Fellows). There were three working sections: Botany with 33 members, Entomology with 22, and Geology with 18. The Academy had published, since 1902, two more volumes of the Proceedings totaling 529 pages of vital local scientific information. For nearly 20 years the Academy had staged many meetings of concern to local scientists in many fields, and it was solvent!

THE NINETEEN-TWENTIES

THE 1920 COUNCIL

Accounting for Academy events in the 1920's, 1930's, and 1940's must be done under difficulties because the secretary's minutes for those years are missing. Apparently they never were deposited in the Archives and so far no trace of their whereabouts has been found. Fortunately, other records provide much information but many exact dates and details are lost. Here are some of the officers who took on Academy responsibilities during those boom and bust years of the 1920's. Some of their terms extend for many years before and after the 1920's.

President from 1919 through 1921 was George L. English, mineralogist at Ward's Natural Science Establishment, whose

worldwide travels in search of mineral specimens gained him and Rochester much renown in geology circles. He was succeeded in 1922-25 by Professor Frederick W. C. Meyer, of the Rochester Theological Seminary. Cogswell Bentley served as president in 1926-27. Mr. Bentley operated the Fairport Ice and Cold Storage Company for many years. President in 1928-29 was Mr. William H. Boardman, a photographer with headquarters at 1060 South Avenue.

First Vice-President in 1919-20 was Mr. Florus R. Baxter, of the Vacuum Oil Company. He had served before in that capacity from 1910 to 1914. Second Vice-President during those same years was Dr. J. Livingston Roseboom, a physician with offices at 672 Main Street East. Secretary was Milroy N. Stewart, who was destined to serve in that capacity for the next 29 years. It is his minutes that are missing from the Archives. Many of his letters in the correspondence files indicate what a tremendous service he rendered the Academy over all those years. He appears to have been practically a one-man program committee and many other Academy problems seem to have found their way into his hands for disposition. If those minutes were kept as meticulously as his other records indicate, their loss to the Academy is indeed most unfortunate.

In 1921 Dr. William D. Merrell ended 20 years of service as Corresponding Secretary. Those duties at first were concerned largely with maintaining correspondence with Corresponding Members and with various groups exchanging publications with the Proceedings. Corresponding memberships dwindled and that class eventually was discontinued. Exchange publication matters came to be dealt with directly by the Librarian. Dr. Merrell was not replaced and an amendment to the constitution in 1922 virtually eliminated that office. It was not restored until 1946. Dr. Merrell, however, remained active for many more years and in 1937 was the senior author of an article in the Proceedings on the flora of Bergen Swamp.

The Academy treasurer was George Wendt, a Vice-President of Mechanics Savings Bank, who served in that capacity from 1916 until 1944. The Academy indeed was fortunate in having its finances in such capable hands during those difficult years that included two world wars and the Great Depression. (A 1921 letter indicates that at one time we held a mortgage on a farm in Alberta that was on the point of failing.) On the Council were other long-term officers whom we already have met. Florence L. Beckwith was chairman of the Botany Section from 1897 until her death in 1929 and she also served as Councilor from 1902 until 1929. Professor Fairchild's terms as Councilor extended nearly continuously from 1902 until 1938.

A PATRON IS MADE

At the end of 1920, Professor Fairchild retired from active teaching at the University of Rochester. At the Academy meeting on December 13, 1920, a special ceremony was marked by the reading of a document entitled "An Appreciation" that had been signed by all the members of the Academy Council. We quote the last two paragraphs of that document:

> "The Academy owes a great debt to Professor Herman Leroy Fairchild for the continuance of its existence, for his untiring perseverance in working for its welfare, and for the inspiration of his enthusiasm, wide knowledge and genial personality.
>
> The highest honor which the academy can confer upon a member is to make him a PATRON, a title which is given for eminent services. To show our appreciation of the work he has done for the Society, the Council recommends that the title of PATRON be given by the Rochester Academy of Science to Professor Herman Leroy Fairchild."

The recommendation was adopted by a unanimous rising vote.

VIRTUALLY FREE MEETING PLACES

A 1920 letter from University of Rochester President Rush Rhees to Secretary Milroy Stewart points up one aspect of the good fortune we enjoyed in our close relationship with the University of Rochester. Dr. Rhees states that "It is agreeable to the University of Rochester for you to meet in the Biology Lecture Room as heretofore, provided you arrange meeting schedules with Professor Dodge and pay a janitor for opening the building." For many, many years the Academy enjoyed virtually free meeting places at the University of Rochester. That close relationship, of course, was due in no small measure to the active involvement in Academy affairs of members of the University of Rochester faculty. Besides Professor Fairchild and others we already have met, these included Dr. Harold L. Alling and Dr. J. Edward Hoffmeister of the Geology Department, Dr. Sherman C. Bishop of the Biology Department and Dr. Floyd C. Fairbanks, Professor of Physics and Astronomy.

Another aspect of that close relationship came about in 1929 when an agreement was signed by President Rhees and Academy President William H. Boardman whereby all Academy library material is deposited permanently in the University Library and receives the same treatment as material belonging to the University, yet Academy ownership is retained. The University Librarian automatically becomes

the Academy librarian ex-officio. Also, Academy members in good standing are granted the same privileges throughout the University library as are enjoyed by University students. That agreement continues in effect today.

SOME MEETINGS IN THE 1920's

Regular Academy meetings continued to be held twice a month until 1927 when they were reduced to one a month, possibly because of attendance problems. Titles of some of the papers read at those meetings often point up the great changes (as well as similarities) in concerns and attitudes that have taken place in the 50-odd years since. On February 23, 1920, Raymond N. Arnot spoke on "The Economic Supremacy of America." On May 5, 1922, Dr. Merrell spoke on "The Present Status of the Evolutionary Theory." Only three years later came the famous trial involving William Jennings Bryan and Clarence Darrow, when John Scopes, the Kentucky school teacher, was convicted and fined, $100 for teaching the theory of organic evolution. Other subjects heard by Academy audiences in 1922 included "Life history and Habits of the Lake Lamprey," "Our Fast Dwindling Forest Resources," and in a joint meeting with the Optical Society of America, "The Atomic Theory and Astrophysics."

Roswell H. Ward, a grandson of Henry A. Ward, read a paper in 1924 on "The Development of the Airplane and Its Application to Commercial Aviation" and another one in 1925 dealing with the same subject. Later, Mr. Ward wrote the complete story of his grandfather's career and the development of Ward's Natural Science Establishment. It appeared as a volume in the Centennial History of Rochester in 1933. At another joint meeting with the Optical Society of America on April 28, 1925, the subject was "Transmission of Pictures by Wireless" presented by Herbert E. Ives.

A PROPOSED ACADEMY-MUSEUM PARTNERSHIP

In 1926 came the news of the successful conclusion of an aggressive financial and membership campaign by the Buffalo Society of Natural Sciences which resulted in the fine new museum building they were then in the process of erecting. In May of that year a committee consisting of Academy President Cogswell Bentley, 2nd Vice-President A. C. Hawkins, and Treasurer George Wendt met with Dr. Arthur C. Parker, Director of the Municipal Museum at Edgerton Park. They discussed in depth the possibility of the Rochester Academy of Science launching a similar effort in Rochester. Dr. Parker especially was highly in favor of such a move by the Academy since he then was having a membership drive for the Municipal Museum. In a letter of June 3, 1926, to Mr. Bentley he suggests "a similar aggressive campaign for new members with a similar goal of establishing a museum,"

and he offers to furnish space for an Academy headquarters including library, laboratory, and exhibit space.

At the regular Academy meeting on February 28, 1927, Dr. Parker read a paper, "The Relation of an Academy of Science to a Museum," in which he proposed a course of action whereby the Academy would function as a general clearing house for all local scientific societies and would coordinate their programs for less conflict of date and place. The Academy would enlist those other societies as sectional members paying a per capita amount to be used to publish a joint program to be mailed to all. He suggested he call a general meeting of all the local scientific societies, such as the Optical society of America and the American Chemical Society, to discuss a plan for coordinating the various bodies under Academy leadership as a centralized institution through which all could function.

Dr. Parker served the Academy as 2nd Vice-President in 1927 and as Councilor from 1928 to 1936. No records are left to indicate the reactions of the Academy or the Council to his suggestions, except for a letter to him from Cogswell Bentley in which he expresses the feeling that "unless the Rochester Academy of Science can become aggressively active it will continue to become more aggressively passive." Dr. Parker's proposals, however, appear to add up to a fairly close picture of the Academy today with its five active, working sections, except that the Optical Society and the American Chemical Society are not among those sections. In due course a new building and increased membership came to the Museum through a somewhat different course of events.

THE PROCEEDINGS

The 1920's also saw the completion of Volume 6 of the Proceedings. Its 300 page included five papers on the geology of the Rochester area, four of them by Professor Fairchild. The other was "Minerals of the Niagara Limestone," by Albert W. Giles. There was also a paper titled "Aboriginal Cultures and Chronology of the Genesee Country" by Dr. Arthur C. Parker and two papers on mycology by Charles E. Fairman, "Fungi of our Common Nuts and Pits" and "New Or Rare Fungi From Various Localities." Publication expenses were met in part by the results of a Publication Fund drive undertaken in 1920 with a goal of $5,000. Records of final results of the drive are missing but as of December 13, 1920, $6,000 had been raised, much of it due to the personal efforts of Professor Fairchild.

THE NINETEEN-THIRTIES

THE LEAN YEARS

As they were for everyone, the 1930's were difficult years for the Rochester Academy of Science. Membership figures reflect the extent of those difficulties. In 1930 the Academy had 89 members; in 1935 there were only 48. By 1940 the figure had climbed back to 107. Those were the years of THE DEPRESSION. Annual dues had been reduced to $2.00, yet many still were unable to afford them. The fact that the Academy managed accomplishments beyond mere survival is due to the efforts of those on the Council who were willing to assume the responsibilities involved. Some of them served for many years, possibly because no one else was available to replace them.

Elected President in 1930 was Dr. Floyd C. Fairbanks, Professor of Physics and Astronomy at the University of Rochester. He was destined to continue the responsibilities of that position for the next 15 years. Re-elected Secretary and Treasurer were Milroy Stewart and George Wendt, whom we already have met and who already had served in those positions through the 1920's and who would continue them well into the 1940's. Four of the Councilors also served continuously all through the 1930's. That situation gave rise to occasional comments to the effect that the Academy was a closed corporation whose officers kept succeeding themselves. That probably was the case to some extent and it probably was a reflection of the times and the extremely small membership. Nevertheless it is to those people we owe the fact that the Academy did more than survive the difficult years of the 1930's.

THE PROCEEDINGS

Not the least of those accomplishments was the publication of Volume 7 of the Proceedings, covering the years 1929 to 1937. In its more than 200 pages were 9 papers, 7 of which were written by Academy members. Four of those seven dealt with the geology and glaciology of western New York and were written by (who else?) Professor Fairchild, who, it should be noted, was in his 80's. Milton S. Baxter and Thomas P. Maloy were the authors of "Arboriculture at Rochester, N.Y." which traces the development of Rochester's extensive nursery industry and of its park system. It makes interesting reading even today. "Petrology of the Niagara Gorge Sediments" was by Dr. Harold L. Alling, who was a grandson of Professor Samuel A. Lattimore, the first president of the Academy's parent group, the Rochester Microscopical Society. Dr. William D. Merrell was the senior

author with Paul A. Stewart of "The Bergen Swamp: An Ecological Study."

ANOTHER FAIRCHILD HONOR

The Academy's annual meeting of 1932 was a very special one, held on January 14 in Todd Union at the University of Rochester River Campus. It was preceded by a dinner in honor of Dr. Fairchild, whose title by then had become Professor Emeritus of Geology. Many widely known educators and scientists were there and to quote from the newspaper account, they "heaped acclaim on the honored guest." Highlight of the meeting was the unveiling in Chester Dewey Hall of a life size bust of Professor Fairchild, which was presented to the University by the Rochester Academy of Science. The bust had been cast in bronze from an original done by Blanca Will, a local artist and sculptor who also was Director of Instruction at the Memorial Art Gallery. Speaker of the evening was Dr. Heinrich Ries of Cornell. His subject was "Industrial Applications of Geology." Somehow, during all the festivities, it was kept in mind that officially this was the annual meeting of the Rochester Academy of Science and Dr. Fairbanks and the rest of the incumbent officers were re-elected.

THE ACADEMY THE BEGINNINGS OF A NATIONAL PARK

In 1933 a proposal for the establishment of an Everglades National Park was being considered by committees of the United States Congress. Acting on a request by the Ecological Society of America, Secretary Milroy Stewart had written our congressmen urging their approval of such a measure. In the Archives are letters from Representatives James W. Wadsworth and James L. Whitley, both to the effect that the matter of an Everglades National Park was unlikely to reach the floor for consideration by that Congress, the 73rd. They were too busy with measures concerned with recovery from the Depression. In 1934, however, the next Congress did approve an Everglades National Park but they failed to appropriate the necessary funds. It was not until 1947 that the Park finally was dedicated by President Truman.

WE HOST THE GEOLOGICAL SOCIETY OF AMERICA

In 1934 the Geological Society of America held its 47th annual meeting in Rochester on December 27-29. Members of the Academy's Geology Section and the University of Rochester geology faculty were active in hosting the visitors and making the local arrangements. Sessions were held at the University of Rochester River Campus. Headquarters were at the old Seneca Hotel on Clinton Avenue South. The hotel is

long gone and the site is now occupied by parts of the Midtown Plaza complex. An indication of how times have changed is revealed in the fact that on December 28 the sessions were followed by the Geological Society's Annual Smoker.

THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

In 1936 Rochester was host for the second time to the American Association for the Advancement of Science when their 98th meeting was held here on June 16-18. Responsibilities for the local arrangements were assumed largely by members of the University of Rochester faculty, not all of whom were Academy members. Professor Fairchild was named Honorary Chairman of the local committee. Dr. J. Edward Hoffmeister was Chairman. Secretary was University of Rochester Professor W. R. Line and Treasurer was University of Rochester Treasurer Raymond L. Thompson. Under them were the several subcommittees that arranged for matters such as Program, Publicity, Meeting Rooms and Equipment, Field Trips, and Entertainment. The various sections of the AAAS had increased since 1892 from 8 to 12. Arrangements for their individual sessions were under the direction of various faculty members. Dr. Harold L. Alling managed the sessions of the Geology and Geography Section. Dr. Merrell did the same for the Section on Botanical Sciences and Dr. Walter R. Bloor for the Section on Chemistry. Other sessions were overseen by other faculty members not members of the Academy.

Headquarters were at the Seneca Hotel and practically all the sessions were held at the University of Rochester River Campus and at the School of Medicine and Dentistry. One event at this meeting was a comparatively new AAAS development, an Annual Symposium, that year sponsored by the Ecological Society of America. The subject chosen was "Scientific Aspects of Flood Control." We quote from the record of the event published in Science for July 31, 1936. "A violent storm broke before the hour of the meeting and lasted several hours. it interfered seriously with the assembly of an audience."

All the evening general sessions were held in the Eastman Theater. Presiding at the Tuesday evening session was AAAS President Edwin G. Conklin. In his introductory remarks he spoke of the last meeting here 44 years ago in 1892 and he had much to say in praise of the accomplishments of Professor Fairchild, who was ill and could not attend. Speaker for that meeting was Dr. C. E. Kenneth Mees, whose subject was "Color Photography." Speaker for the Wednesday evening general session was Dr. Charles Causell of Canada's Department of Mines. He described "A 4000 Mile Flight Over Northwest Canada." Following that session a reception was held in the corridors of the Eastman School of Music.

Perhaps a few were there who remembered that 44 years ago the AAAS general sessions were held in the YMCA Music Hall at the corner of South Avenue and Court Street.

Speaker at the last general session on Thursday evening was Dr. Carl Snyder, statistician for the Federal Reserve Bank in New York. His subject was "The Role of Capitalism in Civilization. At a special luncheon on Thursday noon the Bausch & Lomb Optical Company presented its 250,000th microscope to Dr. Frederick G. Novy of the University of Michigan, who had been chosen to receive it by the AAAS for his research in bacteriology. Field trips were arranged for all the delegates. There were industrial tours and exhibits at Bausch & Lomb, Eastman Kodak, Delco, Gleason Works, Taylor Instrument Company, Ward's Natural Science Establishment, Will Corporation and Stromberg Carlson. Botanists were taken to Bergen Swamp, Mendon Ponds and Highland Park and the geologists were able to visit the many points of their special interests. Radio Stations WHAM and WHEC furnished complete radio coverage for most of the sessions.

A CONCERN FOR THE FUTURE

A mounting concern for the Academy's future manifested itself during the 1930's. The extremely small membership meant a corresponding lack of financial income, and it was felt that the Academy's world-wide reputation as an outstanding organization for the advancement of scientific knowledge was declining. In an effort to address this problem, in January 1939, President Fairbanks appointed a special committee to explore ways of improving and restoring some of those important Academy activities. Serving on that committee were Dr. Sherman C. Bishop and William S. Cornwell. At the end of February they submitted their report. It had high praise for the Academy's educational work in disseminating scientific knowledge among its members, as exemplified in the functioning of its several sections. It recommended extension of that work as much as possible.

As for the Academy's other important function, that of encouraging the advancement of scientific knowledge by qualified individuals in Rochester, the committee found a definite lack of attention. They noted the exceptionally large number of highly qualified scientific personnel connected with Rochester's photographic, chemical, optical and other industries and they noted the exceptionally small proportion of those people who were Academy members. They felt that the Academy's program was insufficiently broad to attract such people. There was high praise for success of the Proceedings but the committee felt that a continued lack of original contributions to scientific knowledge by Academy members to be published in their own journal might even lead to "complete extinction of that activity."

Several recommendations for improving those defects were proposed for consideration. They can be summarized as follows: (1) Compile and maintain a mailing list of Rochester scientific personnel, whether or not members of the Academy and plan monthly programs designed especially to attract them. (2) Establish a special section for qualified scientists whose interests and attainments are beyond that of a mere interest in science. (3) Appoint a carefully chosen Ways and Means Committee to make concrete proposals leading to a fund raising program. (4) Promote Academy membership among members of other specialized scientific groups in Rochester. Those recommendations led to the formation later of a short-lived Research section and to a successful membership campaign in the 1940's about which we will hear more in due course.

THE NINETEEN-FORTIES

SOME GENERAL MEETINGS

The 1940's were years of great change for everyone. Fully half of the decade was concerned with World War II and it marked the beginning of the Atomic Age. It was a time when people had many priorities other than Academy affairs, yet Academy meetings continued much as usual on the third Thursday of each month, October to May. The meeting of April 27, 1941, was a special one held to celebrate the 60th anniversary of the founding of the Botany Section. The Academy welcomed as its speaker Dr. Josiah Lowe of the State College of Forestry at Syracuse. His topic was "Lichens." Present in the audience that evening was a Miss Isles, who 59 years before had presented a paper on that very same subject. She had joined the Academy and its Botany Section less than a year after their founding in 1881. Volume 8, Number 4 of the Proceedings, which appeared in September 1941, was dedicated to the Botany Section and to the memory of Milton S. Baxter, the eminent local botanist whose death had occurred in 1938.

A joint meeting on November 25, 1941, with the Rochester Astronomical Society and the Optical Society of America was held on the University of Rochester River Campus. The speaker was the distinguished astronomer of the Yerkes Observatory, Dr. Chandrasekhar, whose subject was "The Dynamics of Stellar Systems." Less than four years later the Rochester Astronomical Society became the Astronomy Section of the Rochester Academy of Science. Another joint meeting, on February 16, 1942, with the Morgan Chapter of the New York State Archeological Association, was held in the new Bausch Hall of the Rochester Museum of Arts and Sciences on East Avenue. It was the first public lecture to

be held in the building, which was not yet completed. The speaker was Dr. Arthur C. Parker, Director of the Museum and, as we have seen, also active in Academy affairs. His topic was "Revivals of Material Culture Among the Iroquois." On May 11 of that year the Academy heard Dr. Dudley S. DeGroot, football coach and Professor of Physical Education at the University of Rochester. His topic was "Bird Migration" but he digressed from that title to recount his various experiences in acquiring his extensive bird's egg collection of over 10,000 specimens. Undoubtedly some members of the Genesee Ornithological Society were at that meeting but it was not until four years later that the group became the Ornithology Section of the Rochester Academy of Science.

THE PASSING OF A PATRON

Overshadowing other Academy events was the death on November 29, 1943, of Herman Leroy Fairchild at the age of 93. He has been referred to often in these pages but it is doubtful if an adequate idea of the full impact of his influence on Academy affairs has been conveyed. Far beyond the local and western New York region his reputation as a leading geologist and scientist was nationwide and indeed worldwide. To say that the Academy's international reputation as an important scientific body is due largely to Professor Fairchild's efforts is surely no exaggeration.

Volume 9, No. 1 of the Proceedings , published in 1946, was dedicated to Professor Fairchild. Its leading article, "Herman Leroy Fairchild, Geologist," by Dr. J. Edward Hoffmeister, gives an excellent and appreciative account of his life, especially of his accomplishments locally for the Academy and the University. In the Proceedings of the Geological Society of America for 1944 there is a long "Memorial To Herman Leroy Fairchild" by George Halcott Chadwick, who was one of Fairchild's students and who became a distinguished geologist in his own right. It chronicles a complete account of Fairchild's life, with more details about his incredible achievements nationally and internationally.

In the Academy Archives is a typewritten undated document entitled "Herman Leroy Fairchild 1851-1943." Whether or not it was ever published anywhere is not clear from any records available. As an eloquent eulogy it seems appropriate to reproduce it here.

"HERMAN LEROY FAIRCHILD 1851-194311

"In the passing of Herman Leroy Fairchild the Rochester Academy of Science has lost its first Patron. We gave him that title when every other honor we could confer was

already his. He had been President of the Academy; he was a Fellow and a Life Member; a perennial Councilor. Each station he had filled and fulfilled.

To the Academy, Dr. Fairchild was a Patron in the truest sense. He had saved its life in a critical time and fostered its growth in better days. Ever zealous for the spread of knowledge, he believed in the Academy's power for good as a sponsor of right-thinking, and the diffusion of

scientific information. Always practical in his viewpoint, he worked hard at laying a financial foundation for our publications and guarded our resources with wise counsel.

When speakers disappointed, it was Fairchild who helped out the Program Committee. When manuscripts were not forthcoming, it was Fairchild who succored the Publications Committee. When funds were low, it was again Fairchild who saved the financial structure from dissolution. When--since Maecenas--has there been a truer Patron?

Much praise has been justly given to Dr. Fairchild's discoveries in geology--to his teaching skill--to his important writings--to his influence as a public spirited citizen of Rochester--still more to his personal merits as a friend. All of this we second and applaud. To it we can add only our mite.

Yet this we can say as members of the Academy of Science: At the end of a long and fruitful life, it was to his beloved Academy that his thoughts returned, and it was in accord with his expressed wishes that when his ashes were finally scattered on the Genesee, they were entrusted to the hands of its secretary and its treasurer, while the Academy's president committed that' great soul to its Creator. May he rest in peace!.”

Milroy Stewart, Secretary

FAIRCHILD MEMORIALS

In 1944 it was decided to establish an on-going series to be called the Fairchild Memorial Lectures, one to be given every other year. The first one occurred on February 17, 1944. It was given by Dr. J. Edward Hoffmeister, whose subject was "The Nature of the Ocean Bottom." The affair was sponsored by the Mineral Section. The second one was given on May 16, 1946. The speaker was Professor 0. D. Engelen of Cornell's Geology Department. His topic was "The Finger Lakes East; The Finger Lakes West," and it supported a theory somewhat different from the theory supported by Professor Fairchild on the evolution of the north-flowing outlets of the Finger Lakes. Fairchild Memorial Lectures have been given every other year since.

On June 25, 1946, the capital funds of the Academy were given the name Fairchild Memorial Fund. we quote from the News & Notes section of the Proceedings, Volume 9, No. 2,

June 1948, page 142: "The earnings of this fund may be used at the discretion of the Council to defray publication expenses or any other suitable academic purpose. The Publication Account of the Academy is part of this fund and into it are paid $1.00 of the annual dues of each active member, not less than half of payments for Life Membership, all voluntary contributions, the earnings from investments and the receipts from the sale of publications. From time to time surpluses over and above current publication needs are permanently invested in bonds considered suitable as security for trust funds. These investments are recommended to the Council by the Finance Committee of which Mr. George Wendt is Chairman. On January 16, 1948, the invested portion of this fund totaled $5,853.00. It is hoped that the Fund may be rapidly augmented by contributions from individuals and from industrial and other organizations so that the income from the Fund will eventually be sufficient for basic publication needs and permit the granting of scholarships or prizes to stimulate and reward individual research and other contributions to science."

PRESIDENT FAIRBANKS RETIRES

In the spring of 1945, when Professor Fairbanks retired as Professor of Physics and Astronomy at the University of Rochester, he also relinquished the presidency of the Academy. It marked the end of 15 years of the responsibilities of that office. He had guided the Academy through a depression and a world war, with all the accompanying problems of membership, programming and finances. The May 17, 1945 meeting was planned especially to honor him. It was held at the Rochester Museum of Arts and Sciences and the speaker of the evening was Dr. J. Edward Hoffmeister, whose subject was "Landing Problems in Pacific Warfare" Tributes to Professor Fairbanks' services both to the University and to the Academy were read as he was awarded an honorary Life Membership. A reception in the Museum's craft room followed the meeting.

NEW SECTIONS

Succeeding Professor Fairbanks as Academy president was Dr. Sherman C. Bishop, Professor of Vertebrate Zoology at the University of Rochester. He served during 1946 and 1947 and was succeeded by Dr. Robert L. Roudabush, then on the staff at Ward's Natural Science Establishment, who served in 1948 and 1949. one of the outstanding developments of the 1940's was the formation of new working sections. In 1942 there were three sections: Botany, Mineralogy, and Research. The latter was formed in 1941 and ceased operations in 1943.' By the end of the decade there were nine active sections. A Photography Section was organized in 1943. In

1945 the Rochester Astronomical Society became the Astronomy Section of the Academy and the Weather Science Section was organized. The Genesee ornithological Society (GOS) became the Ornithology Section in 1946 and the Entomology Section was reactivated in that same year. 1947 saw the formation of a Physical Anthropology Section and a second Botany Section called Botany "B" to pursue botanical matters other than the strictly taxonomical work of the original Botany "A" Section. The impact of those new sections is reflected in membership figures. In 1940 there were 107 members; in 1945, 181; in 1946, 365; in 1947, 383, and in 1948, 460.

MEMBERSHIP DRIVE

Much of the success of the above developments was due to the efforts of David E. Jensen, who was chairman of the Committee on Sections and Membership and the mineralogist at Ward's Natural Science Establishment. Besides his activities in the Mineral Section, he served as councilor in 1938 to 1940 and in 1947 and As Vice-president in 1948 and 1949. In 1947 he organized a membership drive whose watchword was "Every Member Get a Member." Competition between sections was also encouraged. An astonishing amount of newspaper publicity was achieved, largely through the efforts of a Publicity Committee consisting of Elizabeth Keiper, Recorder of the Entomology Section and Garden Editor of the Rochester Times-Union, and Mrs. David E. Jensen, Corresponding Secretary of the Academy.

Concurrent with the membership Drive was another one for contributions to the Fairchild Memorial Fund, under the direction of Mrs. Harold L. Alling. Figures on the results of that effort are not available at this writing but the correspondence files are full of letters written to Rochester's major industries and leading businessman. Many of them were written by Cogswell Bentley, who served on Mrs. Alling's committee and frequently reported to her. The replies to those letters form a fascinating collection of polite, tactful, eloquent, regretful but firm refusals. They should be preserved as reference material. That drive could not have been a success.

NEW CONSTITUTION

A revised constitution and a new set of by-laws were adopted in 1946. The size of the previously unwieldy Council was limited to the five elected officers, the six councilors and the chairmen of each section. Formerly the section recorders were on the Council. The by-laws also changed the election procedure which previously had been by balloting at the January annual meetings. It was changed to the method now in use whereby the balloting is by mail and the officers chosen take office the following June. The

office of Corresponding Secretary was restored after having been in abeyance since an amendment in 1922 specified the office of "Secretary or Secretaries." Mrs. David E. Jensen was chosen for the post and she served in that capacity for the next 30 years.

BIRTH OF THE BULLETIN

Ever since the mid-thirties Academy mailings had been taken care of at Ward's Natural Science Establishment through the generosity of Dr. Dean A. Gamble, the president of Ward's, who made their mailing facilities available to the Academy at cost. Dr. Gamble, was Academy Vice-President from 1937 to 1944 and a Councilor in 1945 and 1946, besides serving on the Publications Committee for the Proceedings. For various reasons it became necessary for Ward's to discontinue Academy mailings. Consequently it devolved upon the Corresponding Secretary to maintain an up-to-date mailing list and send out notices of meetings and the dues notices for the Treasurer. That led to the birth of the Bulletin.

With the formation of all the new working sections, postcards became inadequate for the news that needed to be circulated. So, in October 1946, members received Volume 1 Number 1 of the Academy Bulletin, a quarterly of six mimeographed pages covering October, November and December events. Mrs. David Jensen had gathered the material, typed the stencils and mailed the finished product, all of which, with around 400 members, was no small undertaking. Volume 1 Number 2 was also a quarterly covering January through March 1948. After that the Bulletins were issued monthly, partly because it was difficult to get people to plan events three months ahead. The mimeograph format and another arrangement with a spirit duplicator continued for about three years until arrangements were made with the Commercial Controls Corporation to do the printing on their newly developed Justowriter apparatus. That continued until 1959 when the Bulletin appeared in its present format.

"EXCURSIONS IN SCIENCE"

Early in 1946 the Academy became involved in the development of an elaborate organization of various Rochester scientific groups into a program called "Excursions in Science," designed to aid young people in their understanding of science and the opportunities it offers as a vocation. Its first programs included several on optics and microscopy, one on plastics and one on the vocational opportunities in photography. They were well attended and appeared to be considered worthwhile by the many participating groups. Records are lacking as to the subsequent activities and success of the project. The idea persisted, however, and took shape in such future projects as the

Rochester Committee for Scientific Information designed to give aid to students, scientific projects in the schools, and the American Association for the Advancement of Science program of grants to students.

A SYMBIOTIC RELATIONSHIP

Many Academy events and developments do not fit easily into arbitrary time periods such as the 40's or 50's or 60's. One such development began in 1942 with the completion of the new Bausch Hall of the Rochester Museum of Arts and sciences on East Avenue. As we have seen, the first meeting in the building was a joint one of the Academy and the Morgan Chapter when Dr. Parker, the Museum's director, was the speaker. Then there is a letter dated January 16, 1946, to Secretary Milroy Stewart from Dr. Parker's successor as director of the Museum, Mr. W. Stephen Thomas. In it he expresses the certainty that the cordial relations established with Dr. Parker will continue. He speaks of his keen interest in science clubs and assures his cooperation in regard to meeting places, subject to commitments already made.

Over the next 25 and more years those cordial relations and that cooperation developed into practically a symbiotic relationship. Gradually Academy and section meetings formerly held elsewhere moved to the Museum facilities. There were Craft Rooms A and B in the basement, with an adjoining kitchen, and for a while there was a smaller meeting room on the 3rd floor with an attached kitchen. For larger general meetings there was the Small Auditorium on the first floor. All were available at very nominal costs not only for Academy and section meetings but to other groups comprising the Hobby Council. As an example, the general meeting of May 19 1949, took place in the Small Auditorium. The speaker was Dr. Walter C. Muenscher of Cornell and his subject was "Some Aspects of Plant Distribution in the State of Washington." Following the meeting a reception was held in one of the downstairs craft rooms in honor of Milroy Stewart who was retiring after 29 years of service as Academy Secretary. That was typical of the hundreds of Academy meetings that took place in the Museum over the years to come. Many meetings were sponsored jointly by the Museum and the Academy and on some occasions the Burroughs Audubon Nature Club.

Dr. Edward T. Boardman, the Museum's assistant director, became very active in Academy affairs, serving a term as President and two terms as a Councilor, besides working with the various sections, especially Botany and Entomology and ornithology. His active involvement played a big part in the continuing mutually agreeable relations between the Museum and the Academy that lasted into the 1970's. Both he and Mr. Thomas were awarded Academy Fellowships in 1950 and

1951. Truly the relationship between the two organizations was close to being symbiotic. The Museum furnished the meeting places and the Academy , furnished the nucleus of nature-oriented people needed to populate and enliven the Museum's halls and to man some of its projects.

THE PROCEEDINGS

The 1940's also saw the publication of Volume 8 of the Proceedings and the first three numbers of Volume 9. Editing was done by a Publications Committee that included Dr. Gamble, Dr. Hoffmeister, Dr. Goddard, Dr. Fairbanks, Mr. Russell, Dr. Bishop and several others. They rotated the chairmanship of the committee so that responsibility for producing every issue did not fall on any one person. William S. Cornwell edited Volume 9, No. 2, that appeared in 1948.

Volume 8 appeared in the years 1941 to 1943. Its 299 pages included articles ranging from one on the "Fireflies of Jamaica" to one on "The Flora of Mendon Ponds Park." The latter was by Dr. Richard Goodwin of the Botany Section. It appeared in the single issue numbered 5 and 6, together with "Notes on the Flora of Monroe County, New York," by Dr. Goodwin and Dr. Royal E. Shanks. Those articles, and a series on "The Vegetation of Bergen Swamp" that appeared in Volume 9, added significantly to the massive amount of material already published in the Proceedings on the plant life of the Rochester area. Volume 8, No. 4, was dedicated to the Botany Section and to the memory of Milton S. Baxter, whose contributions to the work of that Section were outstandingly valuable.

THE NINETEEN-FIFTIES

OFFICERS AND SOME "FIRSTS"

Perhaps a good way to begin an account of the 1950's is to introduce the officers who were elected in 1950. President was Dr. Robert J. Bloor of the University of Rochester School of Medicine and Dentistry. Vice-President was David E. Jensen, whom we already have met. The Secretary was Dr. John Russell of the Kodak Research Laboratory--not to be confused with Mr. John R. Russell of the University of Rochester Library, who served as Academy Librarian from 1941 through the 1950's. Dr. Robert E. Stauffer of the Kodak Research Laboratories, was elected Treasurer. These people took office in June 1950, and served until June 1951. They were re-elected in January 1951, to serve until June 1952, except for Mr. Jensen, who was replaced as Vice-President by Paul W. Stevens.

That Annual Meeting of January 18, 1951, was an especially significant "first." Instead of a formal lecture the program consisted entirely of reports, exhibits and demonstrations by members of each of the Sections as they described their activities during the past year. The meeting was especially well attended and the program so well received that its format generally has been followed, with variations, at annual meetings ever since.

Another "first" actually was a "first and only." Beginning in 1952 there was a series of four consecutive one-term presidents. Robert E. Stauffer served in 1952-53 (remember the terms run from June to June). He was followed by Dr. Babette I. Brown in 1953-54 and she by Dr. Edward T. Boardman in 1954-55. Reginald W. Hartwell was fourth and last of the series. Except for George H. Chadwick, who left town in 1918, there have been no other one-term presidents in the Academy's 100-year history. No special reason for the phenomenon is evident. Records do not indicate that the Academy gained any special benefits from it or that any particular damage was done, except perhaps to hard-working nominating committees.

DUES ARE RAISED

An extraordinary accomplishment was brought off by the Academy Councils of 1951-52 and 1952-53. They raised the annual dues twice in less than one year. At its meeting of November 9, 1951, the Council, headed by Dr. Bloor, discussed the matter of raising dues from $2.00 to $3.00, and they passed a resolution to present the matter to the membership. This was done in the manner prescribed by the Constitution and at the January 17, 1952, Annual Meeting the By-Laws were amended (by a ballot vote of 30 to 8) so as to raise the dues to $3.00. When the new Council, headed by Dr. Stauffer, met on August 8, 1952, further discussion of revision of the By-Laws took place and decisions were made that resulted in the passage of three amendments at the general meeting of October 29, 1952. First, the former junior membership class was changed to a student membership at $1.00 per year available to any student enrolled in a duly accredited educational institution. Second, annual dues were raised to $5.00. Third, the number of general meetings required to be held per year was reduced from eight to four.

DR. BISHOP DIES

Members were saddened by the death in the summer of 1951 of Dr. Sherman C. Bishop, who was Academy president in 1946 and 1947. For most of the 1940’s he was active on the

Publications Committee responsible for publishing the Proceedings. In fact, Volume 9, No. 3, consists entirely of his paper titled "The Phalangida (Opiliones) of New York." Opiliones are a group that includes the creatures we know as Daddy-longlegs. During his years as Professor of Vertebrate Zoology at the University of Rochester, Dr. Bishop became a widely known authority on the Amphibians, as well as the Arachnids. His Handbook of Salamanders became a standard reference work. In 1953 a collection of thirteen volumes on ornithological subjects that had belonged to Dr. Bishop was given to the Academy by Cogswell Bentley and deposited in the University of Rochester library.

SOME GENERAL MEETINGS

On November 19, 1953, the general meeting took the form of a symposium conducted entirely by Astronomy members on the general subject of photographing eclipses. It ended with a star party held on the Museum roof where several telescopes were focused on various celestial objects of interest in a sky that happened to be clear that night. Those were the days before the Planetarium. The program of December 18, 1954, consisted of two movies: "Insect Catchers of Bog and Jungle" and "How Trees Grow." The films were made by Dr. William M. Harlow, the widely known botanist and author of handbooks on trees. Commentary was by Botany Section member Clair Smith.

The Council for 1955-56 decided to plan the program for that year around a central theme and they chose "Atomic Energy" as the general subject. Since the Atomic Age was in its infancy then (as it still is), we list those five meetings to give an idea of the thinking on the subject 25 years ago.

November 18, 1955. "Facts About Hazards and Research on the Fallout From Nuclear Radiation." Dr. Maynard E. Smith, meterologist of the Brookhaven Laboratories.

January 6, 1956. "What Happens When A Star Is Born." Dr. Malcolm Savedoff, of the University of Rochester.

February 16, 1956. "Hazards of Radiation To Our Hereditary Material." Dr. August H. Doerman, of the University of Rochester.

March 9, 1956. "The Structure of Nuclear Emulsions and Their Application In Physics and Medical Research." Dr. John Spence, of Kodak Emulsion Research Laboratory.

April 9, 1956. "Some Biological Aspects of Radiocarbon Dating." Dr. E. S. Deevey, of Yale's Osborn Zoological Laboratory.

The 1956-57 Council continued the central theme idea and chose as their general subject "The International Geophysical Year" (ICY). We list those programs, too. One of them carried over into 1958.

January 17, 1957. "Aurora Research In The IGY." Dr. C. W. Gartlein, of Corneli's Physics Department.

March 14, 1957. "Migration of Birds." Dr. William Muchmore, of the University of Rochester. (Much study was being done on how birds navigate).

April 12, 1957. "Antarctica--Studies To Be Carried On in the IGY." Dr. Earl T. Apfel, of the Syracuse University Geology Department.

May 3, 1957. "Observing The Earth Satellites." Dr. Armand N. Spitz, of the Spitz Laboratories in Yorklyn, Delaware.

March 28, 1958. "Oceanography In The IGY." Mr. Jan Hahn, of the Woods Hole Oceanographic Institute.

THE ANNUAL PICNIC IS BORN

There is a letter in the Archives dated March 23, 1956, that might well be labeled the gleam-in-the-eye that brought into being the first Annual Academy Picnic. It was from Paul Stevens to President Reginald Hartwell and it suggested the idea in such glowing terms that it was discussed and approved at subsequent Council meetings. So, on the first Saturday in September 1956, more than 60 Academy members and their families came to the Burroughs-Audubon Nature Club Sanctuary to celebrate the first Annual Academy Picnic. The Botany Section conducted flower walks. The Ornithology Section led bird walks. The Mineral Section had specimens on display. The Astronomy Section set up an imposing array of telescopes that came into popular use after dark for observing the stars in a clear sky that the Weather Science Section undoubtedly claimed credit for. During the ensuing 23 years the Picnic has became a tradition that hardly ever has had to be omitted.

THE PROCEEDINGS

Numbers 1 and 2 of Volume 10 of the Proceedings were combined into one issue that appeared in December 1953. For the first time in its more than 60 years of publication the Proceedings listed an Editor at the head of its Publications Committee. He was H. Lou Gibson and for the next 20 years the Proceedings was to have the benefit of his painstaking attention to detail and his able editorship. In that issue were several articles by Academy members. "The

Cyperacease (Sedges) of Monroe and Adjacent Counties" was by Warren A. Matthews and Douglas M. White. It is a work that still is consulted by investigators of that group of plants and it represents another important addition to the knowledge of area natural history that has been recorded in the pages of the Proceedings. "Plantae Dubrovivensis" by Bernard Harkness describes a rare tree closely related to the Mountain Ash that grew on Argyle Street. "Notes on Astronomical Photography," by Paul W. Davis, featured photographs of planets and the moon, an eclipse, an aurora, and a nebula, made with comparatively simple equipment available to any amateur astronomer.

Another article in that first issue of Volume 10 became briefly notorious when it got read into the U.S ' Congressional Record. "Two Studies Concerning The Level Of The Great Lakes" by Melissa E. Bingeman appeared shortly after Lake Ontario levels had reached an all-time high of 249.4 feet above sea level in 1952 after several years of steady increase. Those were years before there was an International Joint Commission or a St. Lawrence Seaway, but property damage on the Lake' s south shore gave rise to a great outcry that something be done about it. Miss Bingeman served on the Academy Council from 1937 to 1945 and she was the mainstay of the Weather Science Section for all of its existence. For many years she was on the staff of the Rochester Chamber of Commerce.

Miss Bingeman was the owner of some 600 feet of lakeshore property just east of Pultneyville which she called Wonderwood. Over the years she had watched the progressive destruction of her property, including a 100-year-old red maple that once had stood 70 feet back from the water's edge. Rather than merely join the outcry, Miss Bingeman chose to do something constructive and the result was those two scientifically excellent studies that should be required reading today for all concerned with lakeshore damage. The first study considers the relationship between lake levels and precipitation. The second analyzes the relationship between lake levels, winds and shore damage. Kenneth Keating, who then was our Congressman, was so impressed with its value that he had it read into the Congressional Record.

SCIENCE IN THE SCHOOLS

At the Annual Meeting on January 21, 1954, a new twist was given to the general format begun in 1951. Instead of section members speaking about their activities, high school students gave talks on Astronomy, Weather Science, Minerals and ornithology. The affair was organized by Paul Stevens in cooperation with Clarence W. Evaul, consultant in science for the curriculum department of the Rochester Board of Education. It was a reflection of a concern among various Rochester scientific organizations for cooperating with the

schools in fostering science education. Later in the spring of that year those groups, including the Rochester Engineering Society, the American Chemical Society, the Optical Society of America, the Rochester Academy of Science and others organized themselves into a Rochester Council of Scientific Societies (RCSS) with the purpose of aiding students in their understanding of science and encouraging them to undertake science projects of their own. By 1959, the RCSS listed a roster of some 200 consultants available to students for advice and help with nearly any scientific project. The Academy still supports and participates in the Council's activities. A speakers' bureau is maintained and the valuable advice and assistance of many highly qualified scientists continues to be available today for the encouragement of students in scientific research.

In April 1955, and for several ensuing years, the Academy joined other RCSS groups in furnishing judges and otherwise assisting at the annual Science Congress held at what was then the New York State Teachers College in Brockport. Those events were sponsored by the New York State Science Teachers Association. All those activities were forerunners to the time in 1958 when science education grants from the American Association for the Advancement of Science (AAAS) became available to the Academy.

AAAS SCIENCE RESEARCH GRANTS

January 1958, saw the beginning of the Academy affiliation with the AAAS, which continues today. Accompanying the welcoming letter was the notification that the Academy would be eligible to receive $50 annually from the AAAS, to be used for local research grants. The grants would be given to students, preferably in high school, chosen by the Academy. No grants were awarded in 1958 so the $50 carried forward into 1959, when the AAAS raised the annual award to $100.

Finding itself with $150 to give away, the Academy set about doing it. The job of administering the grants fell ' to a committee consisting of Miss Grace Murray, Mr. Gerald Rising and Mr. Bernard Harkness. City high school science teachers were contacted and asked for recommendations. When the returns were tallied, it was decided to award grants to 13 students in Monroe and McQuaid High Schools in amount ranging from $5 to $15. Among them two telescope builders received $10 each and two students building cloud chambers received $5 each.

Of those initial 13 grantees, nine were boys and four were girls. one of them received $10 towards his mechanical robot project. His original design required so many small motors that the cost was prohibitive, so he settled for making a well designed hand and forearm. The project really

worked, much to the amazement and amusement of visitors to the Brockport Science Congress that year.

The Academy continued to receive $100 annually from the AAAS and to give out grants. All Monroe County high schools were invited to submit applicants, beginning in 1960. Projects became more complicated. For example, "Testing Plant Growth Responses to Audible Frequency Changes from a Radio Oscillator" was awarded $5 in 1960. Most students receiving grants submitted brief reports to the Academy president. Larger grants also appeared: $20 in 1962; $65 in 1964; and a grant for $85 in 1965 to a student in Rush-Henrietta High School for "Breeding of Mystery Fishes." A selection process did occur, however; the files contain applications which did not receive grants. In the early 1960's Miss Grace Murray became Science Awards Chairman, a job she still does today. Her many years as a science teacher at Monroe High School and later at Monroe Community College have given her a special insight into the value of this program. She feels that the stimulating effects of these awards on students to become involved in science research made them eminently worthwhile, especially during the 1960's. Grantees exhibited at various science congresses; some won awards in national contests; and at least two received top awards in the Westinghouse Talent Search. Several have became doctors and others have chosen career in other science fields.

Toward the end of the 1960's there occurred a decline in the number of high school students applying for AAAS grants. Reasons for it are not altogether clear but probably among them are the unfortunate developments in those years that made it necessary for school buildings to be strictly closed at the end of each school day, to the considerable curtailment of some after-school projects. As a result, in 1970 the focus of the grants shifted to college students. A student of Dr. Melvin Wentland at St. John Fisher College received $100 to study pollution in Irondequoit Bay. Council minutes indicate that in 1971 $200 was donated to the Museum to be used for grants by its Educational Division. Another St. John Fisher student, Bruce Gilman, received $100 in 1972 to study the Thousand Acre Swamp. He returned the favor to the Academy in 1979, when as a faculty member at Community College of the Finger Lakes, he served as Chairman of the Sixth Annual Fall Scientific Papers session.

The grant program was funded by AAAS through 1978. After that year, an AAAS ruling that grants must go to high school students took effect. The Academy council discussed changing the program to conform to that ruling and they decided against it. They further decided to fund the grants from existing income or from the Fairchild Fund, if necessary. Self-funding was followed in 1978 and 1979 when $544 was distributed to 15 college students in 11 separate grants. From the beginning of the program in 1959, approximately $2700 has been awarded to a total of 97 individuals.

THE NINTEEN-SIXTIES
MUSEUM YEARS

If the 1960's could be characterized by any one thing, they might be thought of as the Years of the Museum. During the 1950's and 1960's a whole Academy generation grew up to think of the Rochester Museum as home. Problems were mainly those of scheduling. Academy Public Lectures, section meetings and meetings of other Hobby Council groups, added to regular Museum meetings, made for a very tight schedule. There were times when, for example, the regular Wednesday night Museum meetings conflicted with Ornithology Section (GOS) meetings and members had to choose which one to attend when they might have preferred to attend both. Sometimes such difficulties were solved by joint meetings. One such occasion occurred on November 8, 1961, when the Academy and the Rochester Museum Association together sponsored a lecture by Dr. Roman Vishniac, who was a pioneer in the development of cine-photomicrography. By means of time-lapse photography, Dr. Vishniac was able to show his audiences movies of living cells actually dividing, which he did that evening to the great delight of those present. No one could know then that just 10 years later, in 1971, his son, Dr. Wolf Vishniac, would be made an honorary member of the Academy for his work at the University of Rochester in developing the famous Wolf Trap, designed to bring back from the planets any signs of life, or that still later he would lose his life in Antarctica, looking for signs of life in another inhospitable environment.

In 1963 long range plans for a new Museum building were unveiled and Academy sections were invited to submit plans for rooms and quarters they would like to have for their use. Some did so. The only plans to bear permanent fruit, however, were those of the Astronomy Section, whose cooperative arrangements with the Planetarium are detailed elsewhere in this chronicle. In 1964, in the Museum exhibit room on the second floor, the Academy set up a series of exhibits illustrating the work of each section. The display stayed on view all during January and February of that year and drew much favorable comment.

SOME GENERAL MEETINGS

Although changes in the by-laws had reduced the required number of general meetings from eight to four, the Academy during the 1960's held five each year, with the

annual business meeting generally in January or February and the induction of new Fellows in April or May. we list a few of those meetings, taken at random. on March 30, 1962, in a lecture sponsored by the Mineral Section, Professor John Wells of Cornell's Geology Department spoke on "The Great Barrier Reef of Australia." Dr. W.W.H. Gunn, of the Federation of Ontario Naturalists and an early pioneer in bird song recording, brought his records to us on March 23, 1963, and an audience of about 200 came to hear them. The event was sponsored by the Ornithology Section and the BurroughsAudubon Nature Club (BANC). Another joint meeting with the BANC was on April 10, 1964, when Albert W. Bussewitz spoke on "The Story of Stony Brook Nature Center," of which he was the curator. Mr. Bussewitz was a former active Academy and BANC member who had left Rochester some years earlier to assume that curatorial post with the Massachusetts Audubon Society.

On February 26, 1965, there occurred another jointly sponsored meeting when Dr. Richard H. Pough, author of the famed Audubon Field Guide, spoke on "Preserving Nature's Treasures." That meeting was sponsored jointly by the Academy, the Bergen Swamp Preservation Society, the BANC, and the Federated Garden Clubs New York Seventh District. Dr. Pough was a dedicated conservationist, and the records indicate that about 100 came to hear him in spite of the bad weather that evening. Probably it is just as well that those involved with the meeting of May 5, 1968, were unable to see 11 and 12 years into the future. On that evening Dr. V. Ben Meen, curator of gems and minerals at the Royal Ontario Museum in Toronto, gave a beautifully illustrated lecture on "The Crown Jewels of Iran." On April 15, 1969, at another joint meeting, the lecture was given by Dr. Arthur W. Galston, Professor of Biology at Yale, on "Pesticides and Herbicides In Our Environment." The Botany Section and the BANC were the sponsors.

MEMBERSHIP AND DUES

At a Council meeting held in August 1961, it was decided to raise Academy dues to $5.00 for individual members, $6.00 for families and $2.00 for students. Total membership for 1960 was 460. By 1963 it had risen to 536. In 1968 the total stood at 516 and as of December 31, 1969, the end of the decade, there were 529 members.

THE BULLETIN

Shortly before the 1960's considerable thought was given to a change in the format of the Academy Bulletin. All through the 1950's it had been printed free of charge through the generosity of Commercial Controls Corporation, on **81-2 x 11** sheets, one or two sheets per issue. In February 1959, the new Bulletin, Volume 13, No. 5, appeared in

much the same general style that we now know it. Don Ray, the printer who first produced it, still is its printer. Mrs. Helen Dakin was the editor who worked out the idea of short articles contributed by each section. She continued that service, not the least problem of which was getting the material turned in on time, until 1963, when Mrs. Florence Ulgiati took over the responsibility. She continued until July 1966, when Mrs. Trudie Brown replaced her. Mrs. Brown's able editorship lasted into the mid-1970's. Mrs. Katherine Jensen, who quietly had done all the editing and mailing during the 1950's continued to be responsible for the mailing. All through the minutes of the 1960's there appears an occasional note to the effect that an addressograph is badly needed. Finally, in the minutes of October 5, 1970, we find the notation that the offer of Mr. and Mrs. David Jensen to buy an addressograph for the Academy was accepted with thanks.

THE PROCEEDINGS

The 1960's saw the publication of several significant issues of the Proceedings. Volume 10, No. 6, which appeared in 1962, consisted of a single paper, "A List of the Aphids of New York" by Dr. Martin D. Leonard. The paper, 140 pages long, included many plates and required much editorial work by editor H. Lou Gibson. Through the efforts of President George Keene, the Shell Oil Company was persuaded to contribute a large share of the cost of printing that issue. The last issue of Volume 11, appearing in 1968, contained "A Supplement to the Aphids of New York" by the same author. An interesting footnote to that paper reveals that editor Gibson collected 350 specimens of aphids of 70 different species in his own garden as a contribution to that list. One of them proved to be new to New York State and another was a completely new species.

Another significant paper to appear in Volume 11 was "An Ecological Survey of the Vegetation of Monroe County" by Royal E. Shanks. Originally intended as a bulletin of the New York State Museum, the manuscript had lain unpublished in Albany for more than 20 years. Complicated negotiations for a number of years were required for it to be released to the Proceedings. The survey covered woodlots remaining in Monroe County in the 1930's and early 1940's and from those data Dr. Shanks reconstructed the probable distribution of plant life in the region before the white man came.

Three other papers in Volume 11 were by Academy members. "Notes on Bird Photography" was by H. Lou Gibson, and "The Christmas Bird Census In Rochester" was by Richard T. O'Hara. Dr. Robert G. Sutton of the University of Rochester Geology Department was the senior author with N. A. Rukvana and E. L. Towle of "Changes in the Level of Lake Ontario-Inferred from Offshore Sediments at Braddock Heights."

GUIDE BOOKLETS

At the Council meeting of December 3, 1962, a suggestion was made that the Academy publish a series of booklets describing our local natural history with the purpose of acquainting the uninitiated with what is to be found in Rochester and the Genesee Country and where to find it and how to enjoy it. The idea took root and grew into the series of three "Getting Acquainted" booklets that the Academy published in 1965, 1966 and 1968. Getting Acquainted with Mendon Ponds Park appeared in 1965. A booklet of 56 pages, it has a chapter on the geology of the area, followed by chapters on wildflowers through the seasons, a trip through Kennedy Bog and an account of the park's aquatic vegetation. Getting Acquainted with Birds in Genesee Country appeared in 1966. Its 73 pages have chapters describing in detail 11 popular birding spots in the area, and an additional chapter with shorter accounts of 11 more. In 1968 the Mineral Section's booklet, Getting Acquainted with the Geological Story of the Rochester and Genesee Valley Areas, was published. It has sections on the rocks, the glacial geology, the rivers and lakes, the fossils and the minerals to be found in this local area. All three booklets are still available at $1.00 each. All three are concisely written and well illustrated with photographs and line drawings and maps. All three are entirely the work of the Botany, Ornithology and Mineral Sections. The Mendon Ponds booklet was revised and updated in 1974.

DISSOLUTION

At the Council meeting on January 29, 1968, it was learned that legal adviser Henry Byers had received a postcard from a member living in the deep south that referred to the dissolution of the Rochester Academy of Science in 1952. Mr. Byers, on checking with the City Clerk's office, was advised that there is nothing to indicate that the Academy is not listed as a corporation. Subsequent checks in March and October received the same assurance. The Council minutes of May 12, 1969, however, reveal that it was learned that in 1948 the New York State Legislature sent notices to all corporations in the state requesting them to file a certificate of existence, along with a $5 fee. Notice to the Rochester Academy of Science went to the three people who signed the original papers in 1881 and who, by the very nature of things, had long since departed, leaving no forwarding address. In 1952 the legislature published a list of those not filing a certificate of existence and by proclamation of the Secretary of State those corporations were formally dissolved. The Rochester Academy of Science was not alone on that list, which also included the Rochester Bar Association. Academy President Neil Moon, therefore,

had to take immediate steps to get the Academy back into business as a corporation. That he did so successfully is attested to by a certificate signed by Secretary of State, John P. Lomenzo, which states that "such dissolution proceedings were annulled and the existence of the corporation revived, reinstated and continued.... 11 Thus it was heartening to know, as the Academy was on the eve of entering its 10th decade, that even though legally it had been out of existence for 17 years and didn't know it, it still was in business and that dissolution had no place whatever in its future.

THE TENTH DECADE

ACADEMY PUBLIC LECTURES

Having recounted happenings through the years back to 1881, things that occurred in the 1970's seem recent enough to be called current events. Many who read this account of 1970 events will be the ones that made them happen. Time and space (especially time) will not allow more than highlights of those years and credit may not be given where much credit is due. The first half of the decade continued essentially the same routine as in the 1960's, with at least four and generally five public lectures each year, sponsored by each of the sections in turn. Let us list a few. Many will remember them.

One which occurred on April 18, 1970, was not strictly an Academy affair but the Academy sponsored it, along with the Rochester Chamber of Commerce, the Junior League, the Rochester Garden Club, the Landmark Society and the Rochester Committee for Scientific Information. It was billed as "Now, Not Tomorrow--A Conference on Environment in Monroe County," and it was held at Nazareth College. The featured keynote speaker was Dr. LaMont Cole, Professor of Ecology at Cornell University. He was followed by Dr. Paul Morrow who spoke on "Air"; Dr. George Berg who spoke on "Water" and by Dr. Stuart Denslow, on "Land", after which the meeting broke up into three discussion groups. Surely that was a meeting that marked the beginning of serious action on the mounting problems of pollution and energy and environmental health that are part of today's way of life.

"The Effects of Air Pollution on Plants and Animals in Urban and Suburban Communities" was the title of the January 12, 1971, lecture sponsored by the Botany Section, which was held at St. John Fisher College. The speaker was Dr. Michael Schaedle, Professor of Forest Botany at Syracuse. April 2, 1971, was the date of an annual Fellows Night when Dr. Wolf Vishniac was awarded an Honorary Membership in the Academy. Dr. Vishniac's lecture was entitled "Exobiology and the

Certificate not scanned.

FIGURE 2. Certificate of Annulment of Dissolution of the Academy and Reinstatement of its Corporate Charter by John P. Lomenzo, Secretary of State, June 4, **1969.**

unity of Cosmology and Biology." It was less that two years later, on December 14, 1973, that he met his tragic death in Antarctica. April 18, 1972 was the date of a Fairchild Memorial Lecture, and it also was a Fellows Night. Dr. Cornelius Hurlbut of Harvard was the speaker. His subject was "Travels of a Mineralogist from New Zealand to East Africa," and he was awarded an Honorary Membership that evening. Dr. Anthony Aveni, of Colgate University, delivered the Academy Public Lecture on May 5, 1973, which was sponsored by the Astronomy Section. His topic was "Mayan and Aztec Astro-Calendars.11

The April 28, 1974, lecture was held in Cutler Union on the Prince Street Campus. It was sponsored jointly by the Ornithology Section (GOS) and the Burroughs-Audubon Nature Club. Speaker was Dr. Maurice Broun, famed former curator of Hawk Mountain Sanctuary. The title of his lecture was "Ecological Ecstasy." Dr. Broun's death in late 1979 saddened the many GOS members who had known him for many years. He had been an Honorary Member of the Academy since 1961. Another Fairchild Memorial Lecture took place on April 17, 1975. This one was held in connection with the Mineral Section's Second Annual Mineral Symposium, a four-day affair with headquarters at the Holiday Inn Downtown. The Fairchild lecturer was Dr. Vincent Manson, whose subject was "The Gems of the American Museum of Natural History." That evening also was an annual Fellows Night and Honorary Memberships were conferred on Dr. Manson and Dr. Paul E. DeSautels, Supervisor of Minerals at the Smithsonian Institution.

MEETING ROOM PROBLEMS

In January of 1976 came word from the Rochester Museum and Science Center that the basement craft rooms no longer would be available for Academy section meetings because the space was urgently needed for the preparation of Museum exhibits. Rates, too, had to be increased in keeping with rising costs of everything else, all of which caused many problems of adjustment to new meeting locations and of budgeting to meet increased costs. The Museum was most cooperative in arranging for other space in the School of Science and man and the multi-purpose room in the Strasenburgh Planetarium. Then in late 1976 came the massive cut by the county legislature of about one-third of the Museum's financial support which resulted in the necessity, for reasons of economy, to close Bausch Hall to all evening meetings. That ruled out use of the Small Auditorium for Academy Public Lectures and for certain section meetings. During those years a special committee, headed by William Coons, investigated possible alternative sites, as did the several sections, a search which still is not altogether completed. At this writing the Botany-Entomology Section meets in the Lavery Library at St. John Fisher College, the

Mineral Section at Asbury First Methodist Church, the Ornithology Section (GOS) at the University of Rochester Eastman Dental Center and the Microscopy Section in members homes. The Astronomy Section continues its cooperative arrangement with the Strasenburgh Planetarium.

The Academy, not altogether for reasons of meeting room problems, has reduced the requisite number of Public Lectures from four to two, plus the required annual business meeting. As we all know, public lectures lately have been held in such various places as the First Federal Statesmens' Club, the Holiday Inn Downtown, the Inn On The Campus, St. John Fisher College, the University of Rochester and others. It is to be regretted that nearly 30 years of having a home base at the Museum could not continue. It also is a matter of some satisfaction that developments have occurred to compensate and that the Academy's role as a force in the scientific life of the community is in no way diminished.

MEMBERSHIP PROBLEMS

In 1974 and 1975 the problem of some section members not being members of the Academy became a matter that had to be dealt with. It was not altogether a new problem. It had occurred back in 1895 when the Engineering Section seceded from the Academy to become the Rochester Engineering Society. This time, however, it gradually came to light that a very considerable number of Ornithology Section (GOS) members had never joined the Academy, sometimes because they never had been asked. The process of correcting the situation was a long and torturous one that lasted for more than a year. There were proposals and counter-proposals for establishing various types of associate relationships that would not involve Academy dues. Opinions within the section were sharply divided and there were arguments that resulted in hurt feelings on both sides. The problem was resolved, however, and the Ornithology Section (GOS) membership continues to outstrip by far that of any other section.

A NEW DUES COLLECTION SYSTEM

A direct result of settling the membership matter was the revision of the method of collecting dues that resulted in the system in use today. All section and all Academy dues are paid at one time to the Academy treasurer, who passes on to each section its dues as received. That involves a tremendous amount of detail work--so much so that

at one time it was difficult to find a person willing to take on the treasurer's job. The late Arthur S. Hamilton, Jr. was the treasurer who worked out the procedural details of the changeover. Now the Academy treasurer, the section treasurers and the membership chairman have a system of working together that minimizes the endless details.

CONSTITUTION REVISED

Another result of settling the membership difficulty was that the constitution and by-laws were re-examined and things were found that needed clarifying and updating. A Constitution and By-Laws Committee, headed by Henry Byers, was appointed. As a result of their nearly two years of research, revised versions of those documents were adopted in 1979. Chief among the five changes to the constitution was the replacement of the time-honored Council with a Board of Directors whose make-up is essentially the same except for the addition of the immediate past president. The change of name is taking some getting used to, after nearly 100 years of a Council and Councilors. The by-laws received 18 changes, details of which are best learned by consulting that document.

PUBLICATIONS

Volume 12, No. 2, of the Proceedings appeared in 1971, the last of a series under the full editorship of H. Lou Gibson. Number 3, which appeared in 1974 was edited jointly by Mr. Gibson and Dr. Neil S. Moon. Number 4, under the full editorship of Dr. Moon, was published in late 1975. It contains abstracts of the papers presented at the Academy's First Annual Fall Session for Scientific Papers. Dr. Moon continued as editor. Increasing printing costs posed problems and much investigation was undertaken towards holding them within acceptable limits. As a result, Volume 13, No. 1, appeared in October 1976, in a slightly smaller format. The rest of Volume 13 (Nos. 2, 3, and 4 all in one issue), edited by Dr. Lawrence King, and comprising abstracts of the papers of the Third (1976), Fourth (1977), and Fifth (1978) Annual Scientific Papers Sessions was issued in November 1980.

Mrs. Trudie Brown, after 9 years as editor of the Bulletin, was forced to resign because of illness. Dr. Neil Moon edited the November 1974 issue and Mrs. Sarah Talpey took over from December 1974, through May 1975, when it became clear that Mrs. Brown could not resume. Mrs. Donna Groth then assumed the responsibility and served as editor through January 1980; since then it has been in the capable hands of Ms. Karen Riggs.

THE MINERALOGICAL SYMPOSIUMS

A very important development in Academy affairs is the series of annual Mineralogical Symposiums begun by the Mineral Section in 1974 when the first one was held in Canandaigua. Details of these affairs are recounted in the Mineral Section's history elsewhere in this issue. They generally are four-day affairs held each spring in various inns or hotels in the area. In recent years they have attracted upwards of 200 mineralogists, both amateur and professional, who come from as many as 16 states as well as Mexico and Canada and Europe. Internationally known mineral dealers have specimens on display and for sale and the symposia cover a variety of subjects of interest to both the novice and the more serious mineral collector. On several occasions the Academy's annual Fellows Night has been held in connection with one of these symposiums.

THE ANNUAL PAPERS SESSIONS

In 1973, when Dr. Lawrence King accepted the chairmanship of a long-range planning committee, he suggested the possibility of an Academy-sponsored annual session for reading scientific papers. The idea received such enthusiastic approval that he soon found himself the co-chairman, with Dr. Melvin Wentland, of a committee that developed the Academy's First Annual Fall Session for Scientific Papers. It was hosted by the State University College at Geneseo on October 26, 1974, and it was such an outstanding success that it has been repeated every autumn since. There were 32 papers presented by both faculty and students of neighboring colleges and universities and by Academy members. The twelve schools and colleges represented were Alfred University, SUC Brockport, Canaseraga Central School, Eisenhower College, SUC Geneseo, Houghton College, St. Bonaventure College, Monroe Community College, Rochester Institute of Technology, St. John Fisher College, Syracuse University, and the University of Rochester. Academy members who presented papers were H. Lou Gibson, Dr. Lawrence King, Miss Grace Murray, William Pinch, Mrs. Mildred Stauffer, Dr. Leo Tanghe and Dr. Melvin Wentland. Abstracts of the papers were published in Volume 12, No. 4, of the Proceedings.

The enthusiastic reception given the first session insured that it would become an annual event, as indeed it has. The second annual session was held at SUC Brockport, the third at St.John Fisher College, the fourth at Monroe Community College and the fifth at SUC Geneseo again. Abstracts of all the papers presented at those sessions appear in Volume 13 of the Proceedings. The sixth session

took place at Community College of the Finger Lakes on November 3, 1979, and Nazareth College was host to the seventh session on November 8, 1980. Abstracts of those papers will appear in a forthcoming issue of the Proceedings -

The enthusiastic support given these annual sessions marks them as one of the most significant developments in recent Academy history, for they continue to reveal and bring together more and more information to add to the "thorough knowledge of the natural history of the State of New York in the vicinity of Rochester." The quotation marks enclose a phrase from the Academy's first constitution, adopted in 1881.

A NATURAL HERITAGE WEEKEND

In the fall of 1977, the Academy was approached by the Rochester Museum and Science Center about participating in a proposed Natural Heritage Weekend at the Museum's Cumming Nature Center in late May 1978. Following planning discussions with Ralph Campbell, Director of the RMSC's Cumming Nature Center, arrangements were made for the Academy's participation in the program during the Memorial Day weekend, May 27 and 28, 1978. Display tables were set up in the grove of red pines adjacent to the Center's reception building. Each Academy Section provided educational material and specimen displays for tables and bulletin boards. Members were on hand to explain Academy programs to the visitors. The Botany-Entomology Section provided naturalist guides for visitors on walks along the Center's nature trails during both days. On Saturday evening, Dr. James Wishart from the Mineral Section delivered a lecture on the local geology of the Bristol Hill country, and several members of the Astronomy Section set up and manned telescopes to permit visitors to view planets and stellar objects in the clear night sky. This attracted many enthusiastic viewers who lingered long past the Center's customary closing hours enjoying the brilliant skies far from urban polluting lights. Very early, on Sunday morning, the ornithology Section provided expert guides to identify and spot the bird life along the Center's trails. It was an ideal weekend for such an activity coming at the height of spring migration.

other special exhibits were provided by conservation organizations at the Cumming Nature Center during the weekend. Museum records indicated that about 700 persons visited the Center for the Natural Heritage Weekend.

LOOKING BACKWARD AND FORWARD

by William F. Coons, President

As one reads the history of the Academy for its first 100 years, one cannot avoid being impressed by the varied fortunes of the organization. Under the leadership of 35 different presidents (two of whom presided over more than a quarter century of its existence) the Academy membership rose, fell and rose again. It is at present at its highest level. As more events are held by both the parent Academy and its sections, more people learn of the Academy programs and join its rolls. One of the keys to continued existence and expansion of the Academy in its second century is more exposure to the general public and more programs to attract persons with a range of scientific interests.

Readers will note that in its early history, the Academy meetings were the focus for its activities. As sections developed, frequency of Academy meetings decreased as monthly section meetings took over much of that role. Modern day officers have faced the question of the need for continuance of the Academy when the sections, with their own dues and officers, could possibly operate as separate clubs. The answer to this question is another key to the future of the Academy. The section structure is common to most of the other academies in the United States. The Academy provides the corporate structure, and incidentally the tax exempt status. The Rochester Academy programs which benefit all sections have been well described in the history. They include the public lectures, the scientific paper session, the student research grants, the Proceedings, and provision for section meeting space. Future Boards of Directors would do well to seek to expand those activities that are multisectional and stress the Academy as a whole.

A surprising revelation of the History is that Academy dues, while decreasing during the lean years in the '30's and 40's, have only risen to their original level of a century ago. Since the cost of operating has increased considerably over the century, one wonders what slight of hand has permitted this fiscal bargain. The answer lies buried within the pages of our History. Public meetings (and therefore honoraria) have been reduced. Proceedings are published less frequently. It is becoming more difficult to find people with time to perform the volunteer duties required to operate the organization. The third key to the future is a realistic fiscal policy that recognizes (a) the need for increased activities that relate to the members and the public, and (b) that it may become necessary to pay for more of these activities. This does not imply that officers-would be paid, but rather the possibility of

such things as a computerized membership and mailing list, professional typing of Proceedings manuscripts, and even a part-time executive secretary. These are not far-fetched ideas for a

growing organization of over 700 members and several active sections, and they are normally not free. If the Academy is good for its members and the community, then they should be the source of its fiscal support.

All of the thoughts in the preceding paragraphs will probably be considered among the challenges of future Academy Boards of Directors. Academy members and friends should take comfort in the fact that many challenges have been met in the past, as has been so interestingly described by our centennial historian Reginald Hartwell. Future Academy leaders will hopefully be as well, or better equipped to deal with their challenges. In 1981, we thank those that came before for their legacy, and wish good fortune to those that will guide the second century.

Officers of the Rochester Academy of Science

1881-1888

President: The Rev. Myron Adams, 1881-82; H. F. Atwood, 1883-84; Adelbert Cronise, 1885-86; The Rev. N. M. Mann, 1887; Sylvanus A. Ellis, 1888.

Secretary: H. C. Maine, 1881-83; J. Edward Line, 1884, H. H. Turner, 1885-86, H. T. Braman, 1887-88.

Treasurer: Charles E. Rider, 1881; Porter Farley, 1882-83, J. E. Whitney, 1884-86; E. Ocumpaugh, Jr., 1887-88.

1889-1901

President Herman Leroy Fairchild, 1889-1901.

lst Vice-President: J. Edward Line, 1889; S. A. Ellis, 1890; Albert L. Arey, 1891-92; J. M. Davison, 1893-98; George W. Goler, 1899-1901.

2nd Vice President: Abram S. Mann, 1889-90; J. E. Whitney, 1891, 1895-97; J. E. Line, 1892; M. L. Mallory, 189394; George W. Goler, 1898; C. W. Dodge, 1899-1900; Shelley G. Crump, 1901.

Secretary: A. L. Arey, 1889-90; Frank C. Baker, 1891-92; A. L. Baker, 1893-97; Montgomery E. Leary, 1898-1901.

Corresponding Sec. : S. A. Ellis, 1889; George W. Rafter, 1890-91; C. W. Dodge, 1892-1901.

Treasurer: E. Ocumpaugh, Jr. 1889; E. E. Howell, 1890-91; J. E. Whitney, 1891-93; F. W. Warner, 1894-97; J. E. Putnam, 1898-1901.

Councillors: (term 3 years from date of election)

Edward Bausch, 1889; S. A. Lattimore, 1889, Florence Beckwith, 1889, 1891, 1901; J. E. Whitney, 1889, 1894; M. L. Mallory, 1889; William Streeter, 1889, 1892; J. M. Davison, 1890, 1899; C. F. Paine, 1890; J. L. Roseboom, 1891, 1894, 1897; H. L. Preston, 1891, 1893; Henry A. Ward, 1892; F. W. Warner, 1893; Mary E. Macauley, 1894; J. Y. McClintock, 1894, 1896; C. C. Laney, 1895; George W. Goler, 1895; Adelbert Cronise, 1896; Eveline P. Ballentine, 1897, 1900; Edwin A. Fisher, 1898; H. E. Lawrence, 1898; Emil Kuichling, 1899; C. F. Howard, 1900; Charles R. Sumner, 1901.

President: Charles Wright Dodge, 1902-1903; Charles R. Sumner, 1902-05; Charles T. Howard, 1906-10; Victor J. Chambers, 1912-14; Florus R. Baxter, 1915-17; George H. Chadwick, 1918; H. L. Fairchild, 1918; George L. English, 1919.

First Vice-President: Charles R. Sumner, 1902-03; Charles T. Howard, 1904-05; H. L. Fairchild, 1906; Elon H. Eaton, 1907; Richard M. Moore, 1907; Milton S. Baxter, 1909; Florus R. Baxter, 1910-14; Victor J. Chambers, 1915-16; Ivan C. Jaggar, 1917-18; Florus R. Baxter, 1919.

Second Vice-President: George W. Goler, 1902; Charles T. Howard, 1903; C. W. Dodge, 1904; H. L. Fairchild, 1905; Milton S. Baxter, 1906, 1908; Richard M. Moore, 1907; Franklin Hanford, 1909; William Streeter, 1910-1911; Frank A. Stecher, 1912; Lucius L. Button, 1913-16;
V. J. Chamgers, 1917-18; J. L. Roseboom, 1919.

Secretary: Montgomery E. Leary, 1902-03; George H. Chadwick, 1904-05, 1915-17; Harry A. Carpenter, 1906-07; Milton B. Bunnet, 1908-09; Gilbert S. Dey, 1910-11, Charles W. Hennington, 1912; Harrison E. Howe, 1913-14; Cogswell Bentley, 1918; Harold L. Alling, 1919.

Corresponding Secretary: William D. Merrell, 1902-19.

Treasurer: Joseph E. Putnam, 1902-04; Kenneth S. Howard, 1905; Rudolph Schmitt, 1905-15; George Wendt, 1916-19.

Librarian: William D. Merrell, 1902-04; Herman K. Phinney, 1905-16; Alice H. Brown, 1917-19.

Councillors: Eveline P. Ballintine, 1902-08; Charles T. Howard, 1902, 1913-15; Florence E. Beckwith, 1902-19; H. L. Fairchild, 1902-04; 1907-19; John M. Davisen, 1902-05; George H. Chadwick, 1902-03, 1906; E. H. Eaton, 1902-05; Charles W. Dodge, 1905-17; Charles R. Sumner, 1906-12; Milton S. Baxter, 1908-19; Mrs. J. H. McGuire, 1908-10; Herbert W. Hoyt, 1909-11; J. Merton Taylor, 1912-14; George Wendt, 1914-16; Ellsworth P.Killip, 1916-18; Ivan C. Jaggar, 1916; George L. English, 1917-18; Charles C. Zoller, 1918-19; Avery A. Ashdown, 1919; Warren A. Matthews, 1919.

1920-1929

President: George L. English, 1920-21; F.W.C. Meyer, 192225; Cogswell Bentley, 1926-27; William H. Boardman, 1928-29.

First Vice-President: Florus Baxter, 1920; J. L. Roseboom, 1921, John R. Murlin, 1922-24; H. H. Covell, 1925-27; L. E. Jewell, 1928-29.

Second Vice-President: J. L. Roseboom, 1920, John R. Murlin, 1921; H. H. Covell, 1922-24; A. C. Hawkins, 1925-26; Arthur C. Parker, 1927; Charles Messerschmitt, 1928-29.

Secretary: Milroy N. Stewart, 1920-29.

Treasurer: George Wendt, 1920-29.

Librarian: Alice H. Brown, 1920-29

Corresponding Secretary: WilliamD. Merrell, 1920-21

Councillors: Florence E. Beckwith, 1920-29; Herman L. Fairchild, 1920-29; Warren A. Matthews, 1920-27; Charles C. Zoller, 1920-22; John R. Murlin, 1920; Florus Baxter, 1921-25; William H. Boardman, 1923-27; A.C. Hawkins, 1923-25; F.W.C. Meyer, 1926-29; William D. Merrell, 1926-28; Arthur C. Parker, 1928-29; William L.G. Edson, 1928-29; George L. English, 1929.

1930-1949

President: Floyd C. Fairbanks, 1930-45; Sherman C. Bishop, 1946-47; Robert L. Roudabush, 1948-49.

First Vice-President: A. J. Ramaker, 1930-35; Dean L. Gamble, 1930-44; Sherman C. Bishop, 1945; Gordon M. Meade, 1946; Robert L. Roudabush, 1947; David E. Jensen, 194849.

2nd Vice-President: Charles Messerschmitt, 1930-35, 1937; Dean L. Gamble, 1936. -

Secretary: Milroy **N.** Stewart, 1930-48; Dr. John Russell, 1949.

Corresponding Secretary: Katherine Jensen, 1945-49.

Treasurer: George Wendt, 1930-44; William S. Cornwell, 11945-49.

Assistant Treasurer: William S. Cornwell, 1942-44.

Librarian: Alice H. Brown, 1930; Donald B. Gilchrist, 1931-39; John R. Russell, 1941-49.

Councillors: William D. Merrell, 1930-39; Arthur C. Parker, 1930-36, 1943-45; Herman L. Fairchild, 1930-38; George L. English, 1930-31, 1935-37; F.W.C. Meyer, 1930-41, 1944; William L. G. Edson, 1930-44; Melissa E. Bingeman, 1937-45; David E. Jensen, 1938-40, 1947; Richard L. Post, 1939; William S. Cornwell, 1940-42; Edwin G. Foster, 1940-41, 1945-47, 1949; Sherman C. Bishop, 1941-44, 1948-49; Gordon M. Meade, 1942-44; Dean L. Gamble, 1945-46; Robert L. Roudabush, 1945-46; Paul Davis, 1947; Mrs. H. L. Alling, 1947-49; Clarence W. Carroll, 1947-49; Walter A. Swan, 1947-49; Robert E. Stauffer, 1949; Fred Hall, 1949; Paul W. Stevens, 1949; H. Lou Gibson, 1949.

1950-1960*

President: Robert J. Bloor, 1950-52; Robert E. Stauffer, 1952-53; Babette I. Brown, 1953-54; Edward T. Boardman, 1954-55; Reginald W. Hartwell, 1955-56; Henry C. Staehle, 1956-58; Joel T. Johnson, 1958-61.

Vice-President: David E. Jensen, 1950-51; Paul W. Stevens, 1951-52, 1953-54; Leo J. Houlihan, 1952-53; Reginald W. Hartwell, 1954-55; Henry C. Staehle, 1955-56; Bernard Harkness, 1956-59; George Keene, 1959-61.

Secretary: Dr. John Russell, 1950-52; Mrs. Edward T. Boardman, 1952-53; Helen M. Foster, 1953-54; Dr. Ethel French, 1954-55 (Dr. Babette Brown served as acting secretary for that entire term); Grace L. Murray, 1955-57; Reginald W. Hartwell, 1957-62.

Corresponding Secretary: Katherine Jensen, 1950-60 et seq.

Treasurer: Robert E. Stauffer, 1950-52; Ralph K. Dakin, 1952-60 et seg.

*Following the adoption of the 1946 revised constitution and by-laws, officer- elected in January served from the following June to June of the next year. Therefore, in this and subsequent lists, 1952-53 for example, indicates that the officer served only one year. Previously, officers served from January to January and 1946-47, for example, indicated the officer served two years.

**Councilors: Sherman C. Bishop, 1950; Walter A. Swan, 1950; H. Lou Gibson, 1951, 1955; Paul W. Stevens, 1951; Robert J. Bloor, 1952; Edward T. Boardman, 1952, 1955; Babette I. Brown, 1953, 1957, 1960; Robert L. Roudabush, 1953, 1959; Reginald W. Hartwell, 1954; William B. Muchmore, 1954; Henry C. Staehle, 1955; William F. Jenks, 1955, 1957; Bernard Harkness, 1956; Robert E. Stauffer, 1956; Milton R. Goff, 1958; Joel T. Johnson, 1958; Alfred Stellar, 1959; Allen E. Kemnitzer, 1959; Robert H. Roudabush, 1959; David E. Jensen, 1960.

1960-1970

President: Joel T. Johnson, 1958-61; George T. Keene, 196163; Ralph K. Dakin, 1963-65; Stephen C. Weber, 1965-67; Dr. Neil S. Moon, 1967-69; Dr. Clarence Gehris, 196971.

Vice-President: George T. Keene, 1959-61; Bernard Harkness, 1961-62; Clair F. Smith, 1962-63; Stephan C. Weber, 1963-65; Udell B. Stone, 1965-67; Kenneth J. Brown, 1967-68; Clarence W. Gehris, 1968-69; Frank Myers, 1969-71.

Recording Secretary : Reginald W. Hartwell, 1957-62; Barbara Sprenkle, 1962-66; Dorothy Lind, 1966-75.

Corresponding Secretary: Katherine Jensen, 1945-76.

Treasurer: Ralph K. Dakin, 1952-63, 1967-70; John Foster, 1963-67.

Councilors: Dr. Babette Coleman, 1960; David K. Bulloch, 1961; Robert G. Sutton, 1961; Gerald Rising, 1961; Donald Yeager, 1962; Vera Boardman, 1962; Allan S. Klonick, 1963; Robert C. McGillicuddy, 1963; Stephen C. Weber, 1964; Fred C. Amos, 1964; Udell B. Stone, 1965; Louise M. Zeitler, 1965; William H. Fitzgerald, 1966; Thomas Tetlow, 1966; William Pinch, 1967; Mildred Stauffer, 1967; Richard Karlson, 1968; Albert C. Smith, Jr., 1968; Clarence W. Gehris, 1969; Joel T. Johnson, 1969; Sarah Talpey, 1969; Charles F. Wray, 1970.

1970-1981

President: Clarence Gehris, 1969-1971; Frank A. Myers, 1971-1973; Mary Ann Sunderlin, 1973-1975; Elizabeth Pixley, 1975-1978; William F. Coons, 1978-1981.

Vice-President: Frank A. Myers, 1969-1971; Mary Ann Sunderlin, 1971-1973; Elizabeth Pixley, 1973-1975;

**Dates after Councilors' names indicate when their 3-year (or less) terms expired.

Lawrence J. King, 1975-.977; William F. Coons, 19771978; William L. Hollingsworth, 1978-1980; Marion Schneider, 1980-1981.

Recording Secretary: Dorothy Lind, 1966-1975; Isabelle Bacon, 1975-1976; Susan Spahn, 1976-1978; Barbara MacIntyre, 1978-1979; Evelyn Wishart, 1979-1981.

Corresponding Secretary: Katherine Jensen, 1945-1976; Barbara Walters, 1976-1981.

Treasurer: Stephen C. Weber, 1970-1975; Arthur S. Hamilton, Jr., 1975-1977; William C. Colsman, 1977-1979; John E. Jones, 1979-1980; Dr. Hugh Butler, 1980-1981.

Associate Treasurer: Merlin Groff, 1976-1978.

Councillors (Directors, as of 1979): Gerhard Leubner, 1970; Charles F. Wray, 1970; John Foster, 1971; Robert G. McKinney, 1971; Sarah Talpey, 1972; *N.* Joseph Klingensmith, 1972; Laura W. Moon, 1973; James Wishart, 1973, 1982; Kenneth J. Brown, 1974; Melvin Wentland, 1974, 1980; Edwin S. Barnitz, 1975; Lawrence J. King, 1975; Robert D. Coffee, 1976; Jack H. Smith, 1976; William L. Hollingsworth, 1977; Warren L. Lloyd, 1977; Richard E. Albrecht, 1978; Gordon M. Meade, 1978; Archibald Reid, 1979; Katherine Jensen, 1979; Florence Byers, 1980; Alfred E. Vragel, 1981, John E. Jones, 1981; Robert Plass, 1981; William Colsman, 1982.

ACADEMY HONORS

HONORARY MEMBERS

"Honorary members shall be such outstanding scientists as the Academy, upon recommendation of the Board of Directors, may elect to receive this honor. It shall not be conferred upon members of the Academy" .... from Chapter I of the Academy by-laws. Below are listed those who have been made Honorary Members of the Rochester Academy of Science during the last 100 years.

From 1881 to 1891: Dr. G. Karl Gilbert, Washington, D.C.; Rev. John D. King, Edgerton, Pa.; Professor Samuel A. Lattimore, Rochester, N.Y.; Dr. E. M. Moore, Rochester, N.Y.; Professor Albert R. Leeds, Hoboken, N.J.; Professor John S. Newberry, New York, N.Y.; Rev. Augustus H. Stron, Rochester, N.Y.; Rev. Francis Wolfe, Rochester, *N.Y.*

1895: Charles D. Walcott, Washington, D.C.

1911: Professor Lester A. Ward, Washington, D.C.

From 1911 to 1919: Professor Charles P. Berkey, Columbia University; Dr. John M. Clark, New York State Museum, Albany, N.Y.; Professor Arthur P. Coleman, Toronto University; Professor William Morris Davis, Harvard University; Rear Admiral Franklin Hanford, Scottsville, N.Y.; Professor Heinrich Ries, Cornell University; Dr. Charles Sprague Sargent, Arnold Arboretum, Mass. ; David White, U.S. Geological Survey, Washington, D.C.

1929: Dr. William H. Jordan, N.Y. State Agricultural Experiment Station, Geneva, N.Y.

1942: Dr. Liberty Hyde Bailey, Cornell University.

From 1942 to 1948: Dr. George H. Chadwick, Catskill, N.Y. Dr. Arthur C. Parker, Naples, N.Y. ; Mr. Karl P. Schmidt, Chicago, Ill.

From 1948 to 1955: Dr. W. C. Muenscher, Ithaca, *N.Y.;* Richard E. Horsey, Rochester, N.Y.; George B. Cressy; W. F. Foshag; V. Ben Meen, Toronto, Canada; Edwin Reiber, Rochester, N.Y.

From 1955 to 1958: Dr. Ralph J. Holmes, Columbia University; Dr. T. Howard James, Rochester, N.Y.; Dr. Robert E. Marshak, Rochester, N.Y.

1959: Dr. Robert L. Nichols, Tufts College.

1960: Dr. L. L. Pechuman, Cornell University.

1961: Maurice Broun, Hawk Mountain Sanctuary, Kempton, Pa.

1962: Sister Muriel, S.S.J., Nazareth Academy, Rochester, N.Y.

1964: Mr. Albert W. Bussewitz, Norfolk, Mass.

1965: Dr. Peter Paul Kellogg, Cornell University.

1966: Dr. Warren H. Wagner, Jr., University of Michigan.

1967 : Wayne Harris, Fairport, N.Y., Dr. T. J. Wilson, University of Toronto.

1971: Dr. Wolf Vishniac, Rochester, N.Y.

1972: Dr. Cornelius Hurlbut, Harvard University

1975: Paul E. DeSautels, Smithsonian Institution, Washington, D.C.; Dr. Vincent Manson, American Museum of Natural History, New York, N.Y.

1976: Dr. Clifford Frondel, Harvard University; Dr. Judith Frondel, Harvard University; Charles Key, Canton, Conn.

1977: Mr. Harold D. Mitchell, Williamsville, N.Y.

1979: Peter G. Embry, London, England, Curator of Minerals at the British Museum of Nature History.

1980: Dr. Robert F. Smith, Cornell University.

FELLOWS OF THE ROCHESTER ACADEMY OF SCIENCE (FRAS)

Over the years there has come about a change in the concept of Academy Fellows. We have noted how, from 1889 on through the 1920's, Fellows were chosen in rather wholesale fashion from Active Members whose interests in science were "professional or permanent" or who had rendered distinguished service to the Academy. At the June 1889, meeting 29 Fellows were elected all at once. The constitution provided that they be a majority on the Council and in general be in firm control of Academy affairs. Professor Fairchild occasionally referred to "attaining perfect membership," by which he apparently meant becoming a Fellow. Generally about one-fourth to one-third of the Active Members were Fellows. Apparently this was to insure that the Academy never would deteriorate into a mere recreational or entertainment organization in the hands of amateurs. Nowhere in the records is there an account of any special ceremony connected with the award of a Fellowship.

The revised constitution of 1946 appears to reflect a change in outlook. Fellows are not listed as a separate class of members. Chapter 1 of the by-laws says, "active members (including Life members and Fellows) shall be those over 21 years of age who wish to take an active part in the affairs of the Academy" and it goes on to specify how Fellows are to be chosen (the way they are today). Due to the lack of secretary's minutes for the 1940's it is impossible to determine when the first ceremony for the awarding of a Fellowship occurred or who received it or who read the citation. It could have been 1948 when Dr. Dean Gamble and Dr. Richard H. Goodwin received the honors.

At any rate, somewhere in the late 1940's or early 1950's there began the delightful annual custom of the

special ceremony of conferring Fellowships and Life and Honorary memberships. Typical of these affairs was the one on April 23, 1953, which followed the Fairchild Memorial Lecture held in the Museum's Small Auditorium. The lecturer was Dr. Patrick Hurley, of Massachusetts Institute of Technology, who spoke on "Radioactivity and Geologic History." Then came the formal presentation of Fellowships to Miss Louise Zeitler, Dr. Wallace 0. Fenn and Dr. Henry C. Staehle. The citations were beautifully written and read by William S. Cornwell. Following the ceremony there was a reception in the Museum library on the second floor, complete with receiving line, floral decorations, refreshments and gracious ladies serving punch. Variations on that theme have occurred nearly every year since.

Below are listed all those who have received Academy fellowships during the last 100 years.

MEMBERS OF THE ROCHESTER ACADEMY OF SCIENCE MADE "FELLOWS"

For Period 1889 to 1900: Myron Adams; James W. Allis; Prof. Albert L. Arey; H. F. Atwood; Prof. Arthur L. Baker; Frank C. Baker; Edward Bausch; Florence C. Beckwith; Robert Bunker; Adelbert Cronise; Shelley G. Crump; John M. Davison, Prof. Charles Wright Dodge; A. M. Dumond; Dr. S. A. Ellis; Herman Leroy Fairchild; Dr. Charles Forbes; Dr. P. Max Foshay; Joseph B. Fuller; Rev. C. B. Gardner; H. Roy Gilbert; E. H. Giffith;l George H. Harris; David Jayne Hill; Edwin E. Howell; Emil Kuichling; Samuel A. Lattimore; Dr. J. Edward Line; S. A. Lowe; Mary Macauley; Henry C. Maine; Dr. Maitland L. Mallory; A. S. Mann; Mrs. James H. McGuire; Dr. Franz Muecke; H. L. Preston; George W. Rafter; William M. Rebasz; J. 0. Roe; Dr. J. L. Roseboom; Charles W. Seelye; Walter B. Smith; Dr. E. V. Stoddard; Major William Streeter; J. Nelson Tubbs; Dr. M. A. Veeder; Rev. John Walton; Charles H. Ward; Frank A. Ward; Prof. Henry A. Ward; Prof. Z. F. Westervelt; James Eugene Whitney.

From 1900 to 1911: Dr. Eveline P. Ballintine; Florus R. Baxter; Milton S. Baxter; Prof. V. J. Chambers; Vincent Dewing; Gilbert S. Dey; Rear Admiral Franklin Hanford; Dr. Charles **W.** Hennington; Dr. Charles T. Howard; Dr. Herbert **W.** Hoyt; Dr. William D. Merrell; Dr. Richard M. Moore; Milton B. Punnett; Dr. Charles R. Sumner.

From 1911 to 1919: Dr. Harold L. Alling; B. Edmund Angell, M.D.; Avery Allen Ashdown; Prof. Guy A. Bailey; Cogswell Bentley; Fred *S.* Boughton; Julia R. Brewington; Ernest Brown; Schuyler Bull; Harry A.

Carpenter; George H. Chadwick; Leighton R. Cornman, M.D.; Henry H. Covell; Alvin H. Dewey; Charles A. Dewey; John Dunbar; George L. English; William V. Ewers, M.D.; Charles C. Hopkins; Ivan C. Jaggar; Ellsworth P. Killip; Warren A. Matthews; C. E. Kenne th Mees; Louis A. Pechstein; Herman K. Phinney; Fred W. Ross; Anna B.

Suydam; J. Foster Warner; George Wendt; Miss Frances G. West; Douglas M. White; Charles C. Zoller.

From 1919 to 1929: Melvin D. Andrews; William H. Boardman; Alice Harris Brown; Elizabeth Dunbar; William L. G. Edson; Prof. Floyd C. Fairbanks; L. E. Jewell; Charles Messerschmitt; Prof. F.W.C. Meyer; Dr. Arthur C. Parker; Joseph H. Sinclair; Milroy N. Stewart; Robert C. Vance; Harry C. Wardell.

1942: Dr. Dean. L. Gamble

1948: Dr. Richard H. Goodwin; John E. Hartfelder

1949: Miss Melissa E. Bingeman; Dr. Sherman C. Bishop; Dr. Grace A. B. Carter; William S. Cornwell; Edwin G. Foster; Dr. John Edward Hoffmeister; John R. Russell.

1950: H. Lou Gibson; David E. Jensen; W. Stephen Thomas.

1951: Dr. Edward T. Boardman; Mrs. Katherine H. Jensen; Dr. Robert L. Roudabush.

1952: Dr. Babette I. Brown Coleman; Janet H. Clark; Paul Davis; Charles F. Hutchinson; Dr. John Russell; Frank Hawley Ward.

1953: Dr. Wallace 0. Fenn; Dr. Henry C. Staehle; Miss Louise Zeitler.

1954: Leo J. Houlihan.

1955: Dr. E. E. Jelley; Floyd Slater; Mrs. Elizabeth Slater; Dr. Robert Eliot Stauffer.

1956: Mrs. Vera Boardman; Bernard Harkness; Paul Stevens; Leo J. Tanghe; Dr. James S. Wishart.

1957: Ralph K. Dakin; Allan S. Klonick; Dr. William B. Muchmore; Fred Raetz.

1958: Reginald W. Hartwell; George T. Keene.

1959: H. Everest Clements; Dr. Alexander L. Dounce; Robert M. Eaton; Mrs. Walter Slifer.

1960: Russell E. Jenkins.

1961: Dr. Robert G. Sutton.

1962: Mrs. Helen Dakin; Joel Johnson; Stephen C. Weber.

1963: Miss Grace L. Murray; Charles F. Wray.

1964: Dr. Gerhard Leubner; Fred C. Amos; Dr. Harold Hodge; Mrs. Mildred Stauffer.

1965: Robert McKinney; Wendell Mohr.

1966: John W. Brown; Harry E. Gordon; Donald R. Yaeger.

1967: Howard S. Miller; Dr. Neil S. Moon; Dr. Henry E. Paul; Dr. Udell B. Stone.

1968: Chester Carlson; Joseph W. Taylor; Walter Whyman.

1969: John McMaster; Dr. Albert C. Smith, Jr.; Dr. E. T. Wentworth.

1970: Henry E. Byers; Ian C. McLennan; Mrs. Laura Moon.

1971: Mrs. Gertrude Brown; Kenneth J. Brown; Miss Dorothy Lind.

1972: Dr. Clarence W. Gehris; Richard G. Hoppe; Mrs. Mary Ann Sunderlin.

1973: Frank A. Dlyers; Allen E. Kemnitzer.

1974: Dr. Leslie R. Bacon; Mrs. Isabelle Bacon; Dr. Gordon M. Meade.

1975: Dr. Lawrence J. King; William W. Pinch.

1976: Alvin R. Grant; Floyd T. King.

1977: Dr. Robert D. Coffee; Mrs. Elizabeth Y. Pixley.

1978: William Leo Hollingsworth; Warren Lewis Lloyd; Mrs. Marion Fish Schneider.

1979: William F. Coons; Mrs. Sarah M. Talpey.

1980: James Lowell Orbison, M.D.; Alfred E. Vragel.

THE ASTRONOMY SECTION

by William Hollingsworth

The local group of astronomy enthusiasts was formally organized into an Academy Section on May 31, 1945 with 22 members. Paul Stevens was elected Chairman and Merlin Groff recorder. Three lectures were given during that year, entitled "Optical Lenses and Prisms," "Photography of the Sun and Moon," and "Eclipses of the Sun and Moon." Two observing sessions were also held to observe the three cornered conjunction of the moon, Mars and Saturn on October 23 and November 23 and one session to observe the total eclipse of the moon on December 18.

Stevens and Groff continued as officers during 1946. At the May 1947 meeting Mark Caulkins became chairman and Edward M. Root recorder. Guest lecturers during that year included W. F. Swann of Eastman Kodak on "Sun Spots and the Aurora," H. W. Southgate of the Democrat and Chronicle on "Random Thoughts on Stars" and Dr. Henry Paul of Norwich, New York on "Development of the Schmidt Camera."

The section has participated in many interesting projects, including: watching the full moon during times of bird migrations and attempting to determine species and flight height by timing wing beats and length of time to cross the moon's face; determining meteor heights by triangulation from two or more stations; conducting star parties to increase public interest in the heavens; locating and timing artificial satellites; conducting astrophotographic competitions; and operating public observing programs using telescopes at the Bausch Museum and the Strasenburgh Planetarium of the RMSC.

The following pages include specifics on these projects and other reminiscences by present section members.

The Astronomy Section had its beginning as a group in the mid-nineteen twenties. It is impossible to determine precisely, as there are only two surviving members of those long-gone years who strained their uncertain memories so that this chronicle might be written. In the early years there was no election of officers, no dues were collected, and no minutes of meetings were written down. It is hardly surprising that virtually no events can be pinpointed.

It seems that it all began with Dr. Floyd Fairbanks, Professor of Astronomy at the University of Rochester. He began by offering monthly evening lectures of a popular nature in the Physics Building of the Prince Street Campus. Anyone interested was welcome to attend, and as Professor Fairbanks was a gifted and inspiring lecturer he soon collected a small but loyal group of followers. Among these early members of Fairbanks' "class" (nearly ten years were

to pass before the group formalized themselves into a club) were: Leo Houlihan, an optician at Wollensak Optical Company; Robert Crosby, a man of many talents including stone cutting and engraving, and a teacher of mechanical drawing and machine shop practice at Edison Technical High; and Louise Zeitler, who was employed by the Lincoln Alliance Bank.

As Professor Fairbanks' class grew and became better known other stalwarts were attracted. There was Rev. John Betlem, sometime sheet metal worker and later a Baptist minister, who used his skill in metal fabrication to advantage in building his telescope and observatory. still later, in 1934 Paul Davis joined the group. Paul was a well known commercial photographer who quickly turned his photographic skill to astronomy.

By the mid-thirties Professor Fairbanks retired from teaching and the group formally organized itself into the Rochester Astronomical Society, with Fairbanks the unanimous choice as President. Louise Zeitler was elected SecretaryTreasurer, a post she was to occupy for the next 30 years. For many years there were no other offices. Monthly meetings were held at the old Edgerton library for some time, and when that was torn down, the group held meetings in each others homes.

In 1945 the group became affiliated as a section of the Rochester Academy of Science. From then on for the next 29 years monthly meetings were held in the Bausch Museum, while monthly observing meetings continued to be held in members' homes.

All through these years the organization continued to attract a succession of talented people. Paul Stevens, a recent graduate of MIT arrived in 1939 and immediately immersed himself in a host of activities. He was a skilled mathematician and especially enjoyed assisting other members with their telescope-making problems of a mathematical nature. It was largely through Paul’s efforts that the section members were privileged to hear lectures by and meet with a succession of world renowned astronomers. Among them were: Ira S. Bowen, Director of Mt. Wilson and Palomar Observatories; Harlow Shapley of Harvard; Bart J. Bok of Palomar; George Gamow, a leading exponent of the "Big Bang" theory of the origin of the universe; and Sir Harold Spencer Jones, Astronomer Royal of Great Britain.

Later came Henry Paul and Ralph Dakin and George Keene, all superbly versatile instrument men. Dr. Paul even built a fine quartz monochromator, an instrument intended to make solar prominences visible at any time, without the necessity of visiting the site of a total solar eclipse. It was probably the most difficult instrument any member of the section ever attempted to fabricate. And George Keene built a series of telescopes culminating in one with a 20 inch f/5

mirror, the largest scope ever built by an amateur in this part of the country.

Through all these years many of the members made at least one, others many annual pilgrimages to Stellafane, that mecca of all amateur astronomers in Springfield, Vermont, where amateur telescope making originated. Several of the members even got to know the old originator himself, Russell W. Porter. Even after Porter left Springfield to take a hand in designing the 200-inch telescope and in selecting Palomar Mountain as the site to build the observatory, he returned every year to Stellafane to counsel the amateurs gathered there and to make a progress report on the big telescope. He died in 1949, soon after it was completed. Ralph Dakin has set a record that few, if any, are likely to beat--he has not missed a gathering at Stellafane in 45 years. He first went there while still a student in high school.

With completion of the Strasenburgh Planetarium the Section shifted its monthly meeting place to the Planetarium. A cooperative arrangement was made with the planetarium director whereby members of the section would hold open house for public viewing during the summer months with telescopes on the roof tower of the building in return for use of the facilities of the planetarium for meeting purposes. Several of the members have also taught evening courses in elementary astronomy, telescope making and astrophotography at the Planetarium.

Throughout its history, the section has always maintained its amateur status. Anyone who had an interest in astronomy or telescopes was welcome to join.

And what of the future? The section looks forward someday to having an observatory of its own on a plot of land owned by the section, or on suitable public land in an area unpolluted by the lights of shopping plazas, freeways, golf driving ranges and streets. The proliferation of these sky pollution sources, especially in the last 20 years make the prospect discouraging. However, Academy astronomers can look and hope, perhaps indeed they may some day have a place such as sister astronomy clubs have in Syracuse and Buffalo. Otherwise, the section expects to continue pretty much as in the past to serve its members, and in its own way to serve the entire community.

REMINISCENSES--ROCHESTER MOONWATCH by Russell E. Jenkins

The Rochester Moonwatch team was a group of volunteer visual observers of artificial earth satellites. Most members were associated with the Astronomy Section. It was one of 90 teams worldwide organized by the Smithsonian Astrophysical Observatory in 1956. Rochester continued active for the duration of the program which ended in 1975. The Rochester team logged 5,796 observations of 542 space

objects in this time interval starting with Sputnik I and ending with the Salyut/Soyuz space laboratory.

The observations were used for a variety of purposes. The Smithsonian required highly accurate positional data of a certain few objects for their studies of the earth's shape and gravity fields. The Western Satellite Research Network, composed of Rochester and 11 other teams, made visual observations to supplement radar data for such purposes as proper separation of launch components, tumble rates, balloon inflation, decay characteristics, and orbit maintenance of objects inaccessible to radar because of range (Molniya, Paegos I) or crossection (60 Iota 4).

The Rochester Moonwatch team was formed by Ralph Dakin and led for most of its existence by Russell Jenkins. They operated from six registered sites at the homes of Dr. Alex Dounce, Clark Butler, Russell Jenkins, Ray Newell, Walter Whyman and Dr. John Cain. The precise geographic location of each registered site was filed with the Smithsonian and other tracking agencies.

More than 60 people served the team at one time or another as either observers, equipment builders, or data handlers. Those who made substantial contributions, in addition to the on-site leaders, were Ralph Dakin, George Schindler, Richard Karlson, George Gibbs, Cliff Field, Wally Rust, Sam Tuccio, Jerry Durand, Ed Root and George Keene.

The Rochester team attended several conferences with the users of their data: in Cambridge, Massachusetts, at the Smithsonian Astrophysical Observatory; in Colorado Springs, with NORAD; in Denver, Colorado, with the Western Satellite Research Network; in McAllen, Texas, with a university group; and at Bedford, Massachusetts, with SPACE TRACK. As a result of improved timing, BD Chart positions, larger aperture and higher power telescopes, Rochester earned the ,reputation for making precise, reliable observations with a timing accuracy of 0.2 sec and position accuracy of 41 of arc.

NASA and the Smithsonian Institute commended the Rochester team for their contributions. The Academy awarded a fellowship to Russell Jenkins, citing his leadership of the local effort.

The Rochester team was visited frequently for consultation and demonstration of their equipment and techniques. The several Smithsonian Moonwatch section chiefs all made one or more visits.

Many exciting moments stud the history of the Rochester team. George Schindler is not likely to forget being thrust into the limelight in August 1960. As temporary leader of the team on the night of the launch of Echo I, the first readily visible United States satellite, he was beseiged by newspaper reporters, the general public and the Smithsonian. Dick Karlson discovered Sputnik 4's breakup in orbit in a failed recovery attempt in May 1960. Alex Dounce remarked

after the first observation of Explorer I, "devilishly faint." Other notable events in the team's history include: the decay of Sputnik 2; the location of the Vanguard I rocket one year after launch in a search organized by Gary McCue; the tracking of four components of the Echo I launch for 11 months until radar took over; and the many "first ever" observations (Skylab, Vostok III, Vostok IV, Salyut II, Apollo enroute to the moon, Echo II, Vanguard III, etc.). The team was consulted often by local authorities to identify UFO's and to provide local circumstances for Sputnik, Echo and Skylab passes.

TELESCOPE MAKING ACTIVITIES (Ralph K. Dakin)

Most of the home-made telescopes used by section members were made by the members themselves in their own workshops. The only formal mirror grinding and polishing class was held in the 1960's at Edison Technical High School under the direction of Robert Crosby, section member and teacher at the school. Several mirrors were finished and nearly all were installed in operational, mounted telescopes.

IN THE DAYS BEFORE THE PLANETARIUM

Beginning in late 1961, the Astronomy Section conducted a regular public observing program in the Bausch Museum every Friday night during July through September. A 4-inch William Mogey refractor which had been donated to the museum by the widow of Dr. Homer Harvey of Canandaigua was used. It was reconditioned and painted by George Keene and Ralph Dakin, and was then installed on the rear roof of the Museum inside a small rollaway building. The telescope was used on clear evenings, while one of a series of talks on Astronomy which had been generated by section members was used on cloudy nights. The talks became almost as popular as the telescopic observations and included "Five Great Astronomers" by Bennett Cleveland, "The Sun" by Robert Crumrine, "Telescope Making" by Ralph Dakin, "Astronomical Photography" by Alexander Dounce, "Comets and Their Tales" by George Gibbs, "Artificial Satellites" by Russell Jenkins, "Stonehenge" by Richard Karlson, "Color Astrophotographyll by George Keene, "Finding stellar Objects" by Martin Senour and a "General Astronomy" slide talk by Stephen Weber.

WHEN PLANETARIUM FACILITIES BECAME AVAILABLE, SEPTEMBER 1968

The Strasenburgh Planetarium was provided with an observing platform and an observatory building with roll-off roof suitable for housing the 12 l-, inch Cave Newtonian telescope donated by Bausch and Lomb Inc. At a later date an 8-inch Criterion Newtonian telescope was donated by section member Fred Tompkins and mounted on the platform. When not in use,

the 8-inch telescope tube is stored in the observatory building on a bracket made by Kenneth Brown. Since their installation, both instruments have been operated by the senior and junior section members and open to the public every clear Monday and Thursday night from May through the end of October. Contributions in memory of Edward Root were used to purchase an observing ladder and a Barlow lens. A small public address system and a spotlight pointer were donated by Ralph Dakin.

THIRTY YEARS OF SOLAR ECLIPSES (George T. Keene)

The sight of a total solar eclipse is an awe inspiring sight, and has served as a spectacular excuse for many section members to take long trips--even around the world-to see one. Bad weather, however, often results in standing in the rain as well as in the moon's shadow. Memories of some past eclipse-chases follow: (1) 1951 Annular eclipse at Chapel Hill, N.C., Ralph Dakin and George Keene--cloudy ' (2) 1954 Upper Michigan, Ralph Dakin--clear; Iceland, Air Force Expedition, Bill Hollingsworth--clear; Missinaibi River, Canada, George Keene--black flies, giant mosquitoes ' drizzle. (3) 1959 Salem Massachusetts, Chuck Spoelhof, Dick Karlson, Bill Hollingsworth, Steve Weber and George Keene-rain. (4) 1963 Crono, Maine, Bill Fitzgerald, Ralph Dakin, Steve Weber and George Keene--rain; Cadillac mt., Maine, George Schindler and Bill Hollingsworth--clear. (5) 1970, Mexico, Jack Paris and Bill Fitzgerald--clear; Virginia, Chuck Spoelhof and Steve Weber--clear; Valdosa, Georgia, Carlton Cain and George Keene--rain. (6) 1973 At Sea off Mauritania: The flexibility of a ship in response to weather satellite information allowed George Keene and 1800 others aboard the "Canberra" 7 minutes of clear eclipse observing ' (7) 1977 At sea 1500 miles southeast of Acapulco, Ralph Dakin and George Keene--clear eclipse, surrounded by storm clouds. (8) 1979 Lavina, Montana, George Keene--clear; Keenes's photograph of this event appeared on the cover of Life magazine, April 1979. (9) 1980 Kenya, Africa, Chuck Spoelhof and George Keene--clear.

THE BOTANICAL SECTION

by Marion Schneider and Babette Coleman

The Botanical Section is as old as the Academy. It was organized in 1881 with eleven charter members. George T. Fish, the Section's first president, was the man who "discovered" Bergen Swamp and made known what a wealth of plant life was growing there. That is where he collected, in

1864, a specimen of the Small White Lady's-Slipper (Cypripedium candidum), the first time it was reported for New York State. That specimen still is preserved in the Academy Herbarium that is maintained by the section. It is reproduced as the frontispiece of this issue of the Proceedings.

Early records of the section give interesting glimpses of what Rochester was like nearly 100 years ago. The section's first field trip was to Mount Hope Cemetery where the members found Pink Moccasin Flowers (Cypripedium acaule) growing. Transportation was mostly by horse and buggy or foot, yet the early botanists discovered most of the unusual and rich localities of the lower Genesee River Valley, the common as well as rare species of the area. A large tract of marshy woods east of what is now Seneca Park yielded many rare plants as did the thick woods where now stands the University of Rochester Memorial Art Gallery.

From the beginning, the section's whole reason for being was to make a collection of the plants of Rochester and western New York and to make known the flora of the region. All energies were directed to collecting, preserving, mounting and identifying specimens. Members' collections were combined to form the Academy Herbarium and Joseph B. Fuller was appointed Curator in Botany of the Academy And of its Herbarium. In 1896 the Academy published in volume 3 of its Proceedings an annotated list titled "Plants of Monroe County, New York and Adjacent Territory" that listed 1362 species. A supplementary list published in 1911increased thespecies described to 1584, and by 1917 the second supplement published raised the total to 1761 species. Subsequent publications on the flora region have more often been of the nature of floristic studies of special habitats or areas.

This first systematic flora of Monroe County and its environs, conceived and planned by Mrs. Mary Streeter, 2nd President of the Academy, was compiled and published by a Committee of the Botanical section of whom Florence Beckwith, Mary E. Macauley, Joseph B. Fuller and Milton S. Baxter appeared as authors.

As the authors of the flora begun in 1896 point out, much earlier botanical exploration in the Genesee Country had created a tradition on which the early Botanical Section of the Academy built. Among these pioneers were F. A. Michaux who traveled in the region between 1785 and 1796, and who drew attention to several notable sylvan species including the "black sugar maple" (Acer nigrum). Intensive studies of the plants of the Rochester environs had been made by Rev. Chester Dewey during his residence in Rochester from 1836 to 1867, and he summarized some of his observations in a "Catalogue of Plants and Their Time of Flowering In and About the City of Rochester for the Year 184111 which was published in the Annual Report of the Regents in Albany

in 1842. Dr. Dewey inspired the study and observation of plants by many of the charter section members.

Another strong influence in the early period of the Academy was through Rochester nursery and seedsmen. Thi s influence is referred to by the authors of the second Supplement, wherein they acknowledge contributions from men like Dunbar, Slavin, Brown and Dewing, as well as contri _ butions by Charles S. Sargent of the Arnold Arboretum of Boston. This latter organization as well as the EllwangerBarry Nurseries of Rochester had close ties with Kew Gardens in Great Britain.

By the late 1930's, both the Academy and the Botanical Section were in a serious decline. The older remaining members of the section were relatively inactive in field work, and no appreciable effort had been made to recruit new younger members. In fact, by the early 1940's Academy membership was reduced to about 40 paying members. This posed a serious problem because faltering publication of the Proceedings endangered continuation of the extensive scientific publications exchange program deposited with the Library of the University of Rochester. The arrival of botanist Dr. Richard Goodwin on the faculty of the University of Rochester at this time resulted in the revival of both the Academy and the interest in botanical subjects ' Dr. Goodwin, along with his colleagues John Russell, David Goddard, Sherman Bishop, and William Cornwell, resuscitated the publication schedule of the Proceedings and stimulated membership in the Academy by organizing two new sections, a Research Section and a second Botanical Section. Volume 8 ' No. 5-6, published in 1943, listed the Research Section, but not the new Botanical Section, which was listed in Vol. 9, No. 2, published in 1948. In actual fact the second section had been functioning since the beginning of the 1940's ' Over a period of years the two Botanical Sections were merged.
Important results of the revival included renewed field activity in botany, and a fresh flow of papers, many of them on botanical subjects with the resumption in 1941 of issuing of the Proceedings after an hiatus of nearly four years. Among the botanical papers published were Goodwin's "Flora of Mendon Ponds Park," Shanks' and Goodwin's update of "Plants of Monroe County, New York and Adjacent Territory" and supplements of 1896, 1910, and 1917.

This update was based on Royal E. Shanks field work 1938- 1940 and Goodwin's and Warren A. Matthews' curatorial efforts on the Academy Herbarium which had been housed from 1930 onwards at the University of Rochester. Goodwin had in the process of curating the Academy Herbarium merged that of the Department of Botany of the University of Rochester with it. The full report of Shanks' survey was finally published posthumously by the Academy in 1966 under the title, "An Ecological Survey of the Vegetation of Monroe County, New York."

Another noteworthy botanical start in the 19401 s was the series of papers on the flora of Bergen Swamp by W. C. Muenscher and his students. In 1953, another significant study on the plants of Monroe County, etc. was published by W. A. Matthews and Douglas M. White. This was a taxonomic study of the Cyperaceae (Sedges) of the area and was based on years of field work by the authors and records in the Academy and authors' herbaria.

Recently a new series of floristic papers begun in 1969 has expanded the area covered to include the entire Genesee Valley and drainage basin.

Meanwhile, space needs at the University of Rochester necessitated the move in 1960 of the Herbarium, and at this time Dr. Edward T. Boardman of the Rochester Museum and Science Center made space for it to be housed there in Bausch House. A search began for a real and permanent home for this fine and valuable collection. When it again had to be moved in 1965, because of construction of the Strasenburgh Planetarium, Alvin Grant, Director of the Monroe County Parks Department, made space available in the Department building and verbally agreed to house it indefinitely. No final agreement was reached before he retired, but his successor, Calvin Reynolds, also agreed verbally to the arrangement. A formal agreement was signed by him and William F. Coons, President of the Academy, in 1979. Permanent space was allocated for its storage at The Parks Department Building, 375 Westfall Road in Rochester. Mrs. Elizabeth Pixley, who had diligently pursued a search for a permanent home for the Herbarium, was named Curator.

Much of the work of preparing and publishing the Proceedings has been done with the assistance of section members. The Scientific Paper Sessions, now held at various local colleges, which lend an impetus to research by both students and their professors in the natural sciences, are organized and produced with the help of the section. Also, members continue to teach in schools and prepare displays for science fairs and meetings of nature-oriented groups, as well as regular classes at the Rochester Museum and Science Center. For the past 20 years, Vera Boardman, Dr. E. T. Boardman, Dr. Babette B. Coleman and Dr. Leo Tanghe, members of the section, have given their time and expertise in assisting the Poison Control Center in identifying plants and mushrooms. Dr. Robert Roudabush has assisted in the identification of snakes and insects.

The Botany and Entomology Sections combined in 1972 and monthly programs are now presented dealing with both disciplines. Work on the Herbarium continues regularly during fall and winter months and field trips are scheduled during spring and summer months. The section has served through the past century as a congenial environment and meeting point for persons having an interest in plants and natural history, and a willingness to improve their own knowledge

and help to educate the community about its interesting environment.

THE ENGINEERING SECTION

by Reginald W. Hartwell*

It is a not-too-well-known fact that the Rochester Engineering Society had its beginnings 86 years ago as the Section of Engineering of the Rochester Academy of Science. On January 21, 1895, when about 15 people met to organize themselves as an Academy section, they choose as their chairman "that most distinguished engineer and dynamic personality, Emil Kuichling.11 The quotation is from Volume 1, No. 2, of The Rochester Engineer published in December 1922. Mr. Kuichling was Rochester's city engineer. one of his special concerns was the city's public health and sanitation, and it is recorded that he was responsible for the establishment throughout the city of specially designed hydrants to fill the water carts used to lay the dust on Rochester's unpaved streets. He was made a Fellow of the Academy in 1891, and he served as Councillor from 1899 to 1902. Recorder for the new section was Mr. J. Y. McClintock, Rochester's city surveyor, who often read papers at the Academy's regular stated meetings.

The Engineering Section continued for the next two years, meeting regularly in buildings at the University of Rochester. At a meeting on March 4, 1897, they heard the report of a committee that had been asked to confer with the Academy Council about the possibility , of a portion of Academy dues to be returned to the section for the purpose of acquiring literature on engineering subjects and a place to store and use it. The committee reported no action by the Academy Council. At the same time, the trustees of the Reynolds Library had offered to match any amount raised by the group for the purchase of engineering literature, plus the use of a reading room to house it. Largely as a result of that generous offer, the section meeting of March 18, 1897, approved the following resolution, duly transmitted to the Academy Council: "Resolved that it is the sense of this meeting that the Section of Engineering of the Academy of Science be, and hereby is, dissolved." With that declaration of independence, the Rochester Engineering society was born.

*Much material for the above account was furnished by Dr. Lawrence King.

THE GEOLOGICAL-MINERALOGICAL SECTION

by Katherine Jensen

A Geological Section of the Academy was in existence as early as 1884. Then there seems to be no more mention of this section until mention is made of the Section being reorganized.
From Vol. I, page 28 of the Academy Proceedings comes the following:
"The Geological Section was reorganized October 28, 1889, with 11 persons present. The officers elected were: Chairman, Edwin E. Howell (brother-in-law of Prof. Henry A. Ward, professor at the University of Rochester and founder of Ward's Natural Science, Est. in 1862); Vice Chairman, A.
L. Arey; Recorder, H. L. Preston (mineralogist at Ward's) A sectional Committee was elected December 1, 1889, subsequent to the adoption of rules, consisting of J. M. Davison and H. L. Fairchild. The chairman is ex-officio a member of this committee. The membership of the section is now sixteen.

The meetings are held on the Tuesday evenings following the first and third Mondays of each month, in the geological lecture room, Sibley Hall, University of Rochester. The rules under which the section is working are intended to combine at each meeting the proper scientific work of the section with some instruction in the science, in order to reach and benefit all classes of its membership. In pursuance of this plan, a portion of LeConte's Elements of Geology has been assigned for discussion at each meeting, following sectional work."

In Vol. III, page 33 of the Proceedings, it is mentioned that this Geology Section continued for about three years.
The Academy Council, on March 12, 1917, was petitioned for organization of a new Geological Section. This was granted and the section formed with Dr. George H. Chadwick as its Chairman, and Cogswell Bentley as Recorder. Chairmen of the Geological Section, as listed in the Proceeding for the years 1917 through 1935, were: George H. Chadwick, 1917, 1919-1922; Florus R. Baxter, 1918; Alfred C. Hawkins, 1923-1925; F.W.C. Meyer, 1926-1935. Recorders listed were: Cogswell Bentley, 1917-1918; Ernest Brown, 1919-1920; Harold L. Alling, 1921-22; George L. English, 1926; Robert C. Vance, 1927-1929.
This Geological Section was quite active until 1932, when interest in it lapsed to near the brink of dissolution because of the depression. It limped along until the spring of 1935, when Mr. George L. English, of Ward's Natural Science Est., proposed that the weak Geological Section be reorganized into a Mineralogical Section. Due to the enthusiastic efforts of Mr. English, the Academy agreed to sponsor this change, and on December 9, 1935, the Geological

Section became the Mineralogical Section. The Mineralogical Section has remained an active section of the Academy through the years and had grown in membership to 176 in 1980.
Soon after the Geological Section became the Mineralogical Section, Mr. Robert C. Vance, mineralogist at ward's became its chairman. He remained chairman of the section until 1947, when Charles W. Foster became chairman. A long line of capable chairmen followed.
The presence of Ward's Natural Science Establishment, Inc. , and the University of Rochester in the Rochester area made it natural that scientists from both institutions would be deeply interested and take an active part in both the Academy and the early Geological Section and its successor, the Mineralogical Section. In recent years the name of the section has been shortened to just Mineral Section.
Meetings were first held at the University of Rochester Prince Street Campus. Then they were held at Ward's, which was then located at 302 North Goodman Street, not far from the campus. When Bausch Hall of the Rochester Museum was completed, the meetings were moved there. Meetings are currently held in the Educational Wing of Asbury First United Methodist Church. Soon after the meetings moved to the Rochester Museum of Arts and Science, the section sponsored a Junior Group for several years. Then this group activity became one of the several nature study groups for young people supported by the Museum. It was during this early meeting period at the Museum that the section provided the Museum with a changing mineral exhibit in its Mineral alcove. During this period, several professional members in the section helped the Museum with its other mineral exhibits.

Field trips have always been a well liked activity of the section. These trips are usually planned for the summertime to localities where minerals or fossils can be obtained for one's collection or used to trade for other specimens. These field trips have taken members to Canada, the New England States, Pennsylvania, all over the State of New York, into Ohio and many other places. Some trips have been for a day and others for as long as four days. There have been bus trips to see outstanding mineral exhibits in out of-town museums, and there have been joint field trips with other mineral clubs.
The prime purpose of these trips is to acquaint the hobbyist first hand with the different types of mineral and fossil deposits and with the material collected or viewed in exhibits. The rewards of these trips are many: the new and fascinating people one meets, the satisfaction of obtaining specimens with one's own hands, learning about specimen quality from fine exhibits, and the enjoyment of beautiful scenery on the trips.
For years Ward's Natural Science Est., in Rochester, New York, has held an "Open House" for members of the Mineral

Section and for members of other mineral clubs in a wide general area. These "Open Houses" are held on a Saturday, and what an indoor field trip everyone has. They can buy specimens or just browse and learn. The drawers of minerals and fossils get a good looking over, and the bins of bulk material in the back room are dug through in order to find material for cutting into a beautiful gem.

In 1951, the Mineral Section became a charter member of the Eastern Federation of Mineralogical and Lapidary Societies, which is one of six regional federations in an American Federation of Mineralogical Societies. The Eastern Federation covers all the states along the Eastern sea coast, plus one club in Nova Scotia. Two members of the Mineral Section are past presidents of the Eastern Federation, David E. Jensen and his wife Katherine.
There is an American Federation Scholarship Fund to which the Mineral Section and other clubs donate money each year. The interest from this Fund each year is used for grants to worthy graduate students in the field of earth science. Each of the six regional federations has the privilege of selecting a student each year to receive a grant of at least $1000 a year for two years.
In 1966, the Eastern Federation asked the Mineral Section if it would host the Federation's Annual Gem and Mineral Show in 1969. After some discussion, the Section voted to host the Show. The Rochester Lapidary Society was asked to join the Mineral Section in this venture and accepted. Since very few members in the section were familiar with a gem and mineral show, it was decided to put on two small local shows. These were held in 1967 and 1968 at St. John Fisher College. Both of these shows were training grounds for the big 1969 one. The clubs needed display cases for the shows in order to have a safe place for the display of gemstones, minerals and jewelry. In the spring of 1967, members of both clubs got together and constructed 40 display cases, 21 x 21 x 41, of wood with glass fronts. Then in the spring of 1968, 32 more display cases were built. These cases, with the ones then owned by the Eastern Federation, proved to be enough for all the displays at the big Federation Show in 1969.
The big Gem and Mineral show was held in the Rochester War Memorial on June 26-28, 1969. Dealers were there from many area of the United States and Canada selling minerals, fossils, gemstones, findings for jewelry, equipment of all kinds for the hobbyist, etc. There were special exhibits, working demonstrations, noncompetitive and competitive exhibits. The competitive exhibits were entered by members of clubs in the Eastern Federation. These exhibits were judged by teams of judges for lst, 2nd, and 3rd place in each of several different classes. Plaques were also awarded. There were lectures given each day, and a mini-mine for the young people to dig in and find minerals. The

Federation's annual meeting was held on that Saturday and led by the president of the Federation, Mrs. Katherine Jensen.

At the time of the big 1969 Federation Show here, the section put out a "Guide" to the local collecting areas for the benefit of those attending the show. Recently this guide was updated by Dr. Udell Stone, and is titled "Field Trip Guide to Fossil and Mineral Localities."
After this big event there was no gem and mineral show in Rochester for two years. Then in 1972, the two clubs decided to start putting on shows again. The shows are still being held the first weekend in May each year and are still jointly hosted by the two clubs. The public is invited to these shows, which consist of a number of dealers selling minerals, fossils, gemstones, findings for jewelry, equipment for the hobbyist, a mini-mine for the children and a number of exhibits in display cases. These exhibits are called an "Instant Museum" and are put in by the members of both clubs.

On April 20- 21, 1974, the Mineral Section held its first Mineralogical Symposium. The president of the Mineral Section at the time, Mrs. Katherine Jensen, felt that something was needed for the mineral collector who wanted to get more out of the hobby than he or she could get from their club meetings. At that time there was nothing offered for the advanced mineral collector except the meetings for the professional mineralogist, which were on a highly technical level. The first Mineralogical Symposium drew advanced mineral hobbyists from not only the clubs in our general area, but from clubs several hundred miles away. The speakers at the two day sessions were qualified persons who could speak in a layman's language. The Mineralogical Symposium is still held each year at a large motel in the area and is still growing in size. The 1980 Symposium drew nearly 400 persons from all over the U.S. and from Canada as well. A number of those attending have been to most of the symposiums. The speakers have been prominent persons from all over the United States and from Canada. There have even been speakers from other countries. Exhibits of fine mineral specimens are on display in cases in a room next to the lecture room. A number of dealers of fine mineral specimens attend the meetings and sell specimens out of their rooms in the motel when no lectures are in progress.
The Mineral Section has given small grants to worthy local students in the earth science field. A recent grant was given to two students at the State University at Brockport, New York, so they could complete their abstract on the work they were doing on a local group of shales. When their work was completed, the two students gave a talk before the section on the work they had done. The Section then published their paper in booklet form titled: "Paleoecology and Stratigraphy of the Ledyard Shale, Hamilton Group, Spring

Creek, A **-L** de ii, New York" by Mark Domagale and Martin Selznick.
The section's newsletter, the "Rockester News, 11 was started in September 1956 by the president of the section at that time, David E. Jensen. It was started as a means of communication between the section officers and the membership. It is the voice of the section and helps to keep the business part of the meeting short by giving the members a lot of information in printed form. The newsletter serves as a "calendar of events" by listing all the dates for future meetings, field trips and other section events. It also brings news of a broader scope, such as news of the Eastern Federation and American Federation of Mineralogical Societies. The newsletter has grown through the years until it is now five sheets, printed on both sides. As much educational material as there is room for is put into it. Many members keep the newsletter on file for its educational material. The editor of this newsletter for most of its life has been Mrs. Jensen, whose husband, David E. Jensen, a mineralogist, has written many articles for it through the years.
The programs at the section meetings consist of illustrated talks by advanced amateurs and professionals. Often there are displays related to the speaker's subject. Once a year there is a "Show and Tell" program where the members have a chance to show pictures they have taken, specimens they have collected or bought, and to tell about their activities which are related to the hobby of collecting minerals and fossils.
Usually in November or early December there is an annual buffet dinner followed by a speaker, or by an auction of mineral specimens, books and other items related to the field of mineral study. From time to time educational courses have been given for the benefit of the section members.
The Mineral Section promotes interest in and the study of geology, mineralogy and paleontology. The membership includes amateurs, advanced amateurs and some professional scientists. It is the common interest in the earth sciences that brings the members together.

THE MICROSCOPY SECTION

by Reginald W. Hartwell*
In the early pages of the Academy History you have seen the account of the formation of the Rochester Microscopical

*Much material for the above account has been furnished by Dr. Lawrence King.

Society on January 13, 1879, and of how it became the Rochester Academy of Science two years later in 1881. Minutes of the meetings of those first two years are contained in a ledger-type bound volume in the handwriting of the secretary, Dr. J. Edward Line. Those minutes continue through 1884 but from 1881 on they are minutes of the Rochester Academy of Science, and they are in the handwriting of the Academy's first secretary, Henry C. Maine and his successors.

Meetings of the pre-Academy Microscopical Society were held on the second Monday of each month. Article II of their by-laws gives an interesting insight into what went on in those meetings. The president was required, at each meeting, "to appoint, for the following meeting, one member to read a paper or give a discourse on any subject he may choose connected with Microscopy." The president also was required at the same time to "read the names of ten or more members, taken alphabetically and in succession ... who shall be requested to bring microscopes and specimens for exhibition at the next meeting." Besides the regular meetings, the Society staged annual "Soirees" that were exhibitions of various types of microscopes set up for the viewing of specimens by the public. The "Second Annual Soiree" of the Society was held in the Hall of the Rochester Free Academy on the evening of June 7, 1880. Sixty exhibitors set up their microscopes for public viewing of many kinds of specimens under magnifications of up to 1800 diameters. Though there is no record of the attendance at that particular affair, others are said to have attracted upwards of 2000 visitors. Those soirees continued, under full Academy sponsorship, at least through 1886. On August 24, 1884, the Sixth Annual Soiree was held in the New York State Arsenal, when the Academy was host to the annual meeting of the American Society of Microscopists.

It seems reasonable to assume that after 1881, the parent Microscopical Society at first continued much as usual under the new name and that probably it did not immediately assume the subordinate position of "Section of Microscopy." At any rate, there are no minutes of the section, as a section, until 1885 when we find a series of three printed booklets entitled "Rochester Academy of science, Bulletin of the section of Microscopy." The first is a 12-page pamphlet with records of the Section's meetings in October and November of 1885, and two papers by Ernst Gundlach (presumably read at those meetings) on "The Use of Optical Instruments" and "On Using Objectives, and Resolution of Test Objects." Next is a booklet of 22 pages, covering meetings from January through April 1886. it contains three papers: Illuminating Apparatus for the Microscopy" was by Edward Bausch; H. F. Atwood wrote on "Testing Butter and Other Fats"; and Joseph **N.** Levi was the author of "Photo-Macrographic Work and Apparatus." The

third bulletin (27 pages) covers the meeting of May 26, 1886, and it contains a long paper by George W. Rafter of Ward's Natural Science Establishment, entitled "On the Use of the Microscope In Determining the Sanitary Value of Potable Water--With Special Reference to the Biology of Hemlock Lake." In his "History of the Society" (Volume 3 of the Proceedings, page 322), Professor Fairchild notes that the "Microscopical Society" (by which he surely means the Microscopy Section) leased and furnished a room in the Durand Building for its own work--about 1886 or 1887.

No other records of a Microscopy Section appear until 1938, when Volume 8 of the Proceedings lists Dr. Robert Roudabush as chairman and Melvin D. Andrews as recorder of the Microscopy Section. Dr. Roudabush was then in charge of the microscope slide department of Ward's Natural Science Establishment. He recalls that Dr. Dean Gamble, Ward's president, made it a condition of his employment there that he head an Academy Microscopy Section. Meetings were held at Ward's, which then was on North Goodman Street. They were concerned chiefly with the preparation of material for microscope slides. According to Dr. Roudabush, most of the section members were more interested in the optics of microscopy, with the result that the section became inactive along about 1941 or 1942.

It was 15 years before another Microscopy Section became activated. On March 16, 1956, there was a meeting in Craft Room B of the Museum held for the purpose of "forming a local group devoted to the field of microscopy." The group's first meeting took place on October 18 of that year. Two speakers were featured. Germain Crossman of Bausch & Lomb spoke on "Types of Microscopes and Their Application's and Dr. Roudabush, who now was with Eastman Kodak's Industrial Medicine Laboratory, spoke on "Preparing Specimens For Microscopy." The section continued to meet regularly during 1957 and 1958, with varied programs dealing with uses of microscopes and the preparation of specimens. No scheduled meetings appear in the Academy Bulletin after May 1958, and the Section became inactive shortly thereafter. David K. Bulloch and Robert L. Seidenberg were chairmen of the section during those years and Angelina Montalto and Martha Bruning were the recorders.

-There followed another hiatus of 14 or 15 years until 1974, when David C. Collins, then of Bausch & Lomb's Scientific Instrument Division, and Martin L. Scott, of Kodak's Scientific Photography department, approached the Academy Board of Directors about organizing a Microscopy Section. They were given enthusiastic encouragement, and the new section formally was organized in February 1974, with Mr. Collins as Chairman and Mr. Scott as Secretary-Treasurer, positions they have held ever since. The first meeting on March 5, 1974, was one of basics, the "Nomenclature and Anatomy of a Microscope." Regular meetings were scheduled

for the first Tuesday of each month. They were held first in the basement craft rooms at the Museum and later in a room in the School of Science and Man. In May of 1974 they enjoyed a combined picnic with the Botany-Entomology Section and generally have held one of their own every year since.
Subjects treated at their meetings have included biological staining, examination of an earthworm under the scope, parasitology, and tissue typing. "Small Particle Identification Techniques" was the title of a two-part series given on March 6 and April 3, 1979, by Dr. Richard Strong, Research Director at Park Ridge Hospital. The Section had exhibits at the Science Exploration Days at St. John Fisher College in May 1977, 1978 and 1979. They were the sponsors of the Academy's Spring Public Lecture and Annual Fellows Night held in May 1980 at the Hilton Inn on the Campus when Dr. Robert F. Smith of Cornell University, spoke on "Both Sides of Infinity."

In January 1979, Academy President William Coons was a guest at a reception held at the home of Chairman Collins to celebrate the "centennial" of the section, which, of course, was a "pseudo-centennial" because of the many intervening years of the section's non-existence. Nevertheless, President Coons and Chairman Collins cut the birthday cake together. Now, at this writing, there appears in the November 1980 Academy Bulletin an appeal for new officers to assume responsibility for continuing the section. It remains to be seen if it can persist into its second century.

HISTORY OF THE ORNITHOLOGY SECTION

(GENESEE ORNITHOLOGICAL SOCIETY)

by Gordon Meade, M.D.

Prior to World War II very few persons in the Rochester area had an active and informed interest in birds. Their "birding" was limited to the city's parks and areas which could be reached on foot, by bicycle or trolley. Popular spots were Highland Park, Cobb's Hill woods, and the "Dingle" below them, Brick Yard Ponds, Mt. Hope Cemetery, Tryon and Seneca Parks; rarely did they visit Durand Eastman, Powder Mill, and Mendon Ponds Parks.

The herbarium office in Highland Park was the place where birders met, reported their observations, and learned about the latest avian "discoveries." Two herbarium employees, William L. G. Edson and Richard M. Horsey, were active birders who made observations during their work as botanists in Highland and Genesee Valley Parks. They had a large wall chart on which species were recorded as they were first reported, and then each succeeding observation during the

year was entered. At the end of each year the data were transferred by species to file cards. Thus a wealth of information was accumulated about the region's birds.

The most enthusiastic of the birders who frequented the herbarium gradually began to bird together. They were encouraged and guided in their interest by Mr. Edson. In 1938

he decided the time had come to form an ornithological club in Rochester. So, on June 9, 1938, the following charter members met in Edson's home and founded the Genesee Ornithological Society: William L. G. Edson, Clarence Goetz, Carson Jarvis, Allan Klonick, Robert Koch, Gordon Meade, Howard Miller, Don Nelson, Richard O'Hara, and Ambrose Secker. Four of these are still active in ornithology: Klonick, Meade, Nelson, and O'Hara.

The infant organization held its first field trip on August 21, 1938, along the lakeshore east of Sodus. The minutes record that Ambrose Secker, Mr. & Mrs. Edson, and Gordon Meade "observed a Bald Eagle at Preston's Creek and a willet at chimney Bluffs."

In those days the society was chauvinistically male in its attitude. Finally on December 11, 1946, Gertrude David was admitted as the first woman member. At the same meeting a vote was taken on the question of having winter field trips; the vote was 4 in favor, 5 opposed!

The first Christmas Bird Count under G.O.S. auspices, on December 11, 1956, recorded 41 species. The counts have continued since then without interruption and now average about 85 species each year.

Evidence that there have been changes in the Rochester area avifauna resides in the records of the society. At the May 11, 1939 meeting the presence of a Cardinal in Highland Park evoked lively discussion. This was a "life bird" for most of the members who saw it. By 1963 there were 204 Cardinals found during the Christmas Bird Count, and in 1973 there were 415! other changes are attested by the society is records such as the movement into the area, since the society's founding, of such species as Cattle Egret, Great Black-backed Gull, Red-bellied Woodpecker, Tufted Titmouse, Mockingbird, and Western Meadowlark. Thus the field work of the society's members has aided significantly to our knowledge of New York bird life.

During the early years meetings were held in members' homes. Programs, for the most part, were talks by the members on self-chosen or assigned topics such as field identification, reviews of' new bird books and journal articles. occasionally outside speakers from Buffalo and nearby localities were invited.

In January of 1940 dues of 10 cents per person per meeting were agreed upon. (If you weren't there you didn't have to pay.) In other ways 1940 was a milestone for the G.O.S.; the first field checklist was printed with the same format as in 1980; the first spring census yielded 157 species; and the Goshawk was chosen as the society's official emblem. The Whistling Swan was almost chosen until it was pointed out that the letters GOS are the first three of Goshawk.
The January 14, 1942 meeting was held in the Rochester Museum which was then located in Edgerton Park, the city's exposition and exhibit facilities on Emerson Street. But by April of that year the society held its first meeting in the newly opened Bausch Hall of the Rochester Museum of Science. It was at this meeting that Allan Klonick suggested that the G.O.S. should publish a newsletter, and he was authorized to proceed with the project. However, it was not until November 1947 that the first issue of the Goshawk was published with Albert Sussewitz as editor. Publication has continued monthly ever since with only occasional interruptions.
In March 1946, under the aegis of the G.O.S., a meeting of representatives of 13 bird clubs from around New York State was held at the Rochester Museum of Science to discuss formation of a federation of the state's bird clubs. The discussion bore fruit a year later with the formal organization of the Federation of New York State Bird Clubs. In November 1948 the G.O.S. was the host club, in collaboration with the Burroughs-Audubon Nature Club, to the Federation's first annual meeting. Since then the Federation has grown to include 40. bird clubs with over 10,000 members. The G.O.S. was again host for the Federation's annual meeting in 1958, 1968, and 1978. In 1946 the G.O.S. became a section in the Rochester Academy of Science.

The Society's long-time interest in conservation was concretely expressed in June 1949 when it purchased one of the members favorite birding spots, Reed Road Swamp, as a sanctuary. ownership is in the name of Bird Refuges, Inc., an affiliate of the G.O.S. In the late 1970's, G.O.S. sanctuary holdings were increased by the acquisition through gift of some 35 acres of Island Cottage Woods.
Other indications of the growing development and maturity of the society came with the institution of the Little Lakes CBC in 1950 under the stimulation of Bort Cameron, initiation of the Rare Bird Alert system in 1954, participation in the Federation's state-wide waterfowl count in 1954, production of Getting Acquainted With Birds in Genesee Country in 1960, and a major contribution of money and effort to the Nature Conservatory drive to acquire Eldorado Beach on Lake Ontario in 1966-73.
By December 1972 membership in G.O.S. had risen to about 460, and now in 1980 it is well over that figure.
In the late 1910's it was discovered by Walter Listman and others that a hawk flyway passes from west to east over

Braddocks Bay on Lake Ontario in the spring. As the years went on the "Hawk Lookout" on the southeast corner of the bay became a prime birding place for Rochester birders. No systematic observations were made until four years ago when Laurie and Neil Moon undertook daily attendance and meticulous record keeping from late February through June. The result of their work, with the assistance of a host of G.O.S. and other observers, has been the recognition of this hawk flightway as one of the most important ones in the eastern United States.

The culmination of over 35 years of work came in October 1980 with the publication of a preliminary edition of an Annotated List of the Birds of Monroe County. Compilation of the data was begun in the 1940's by Ambrose Secker and Gordon Meade, was carried on by Neil and Laurie Moon, Gerhard Leubner and William Muchmore, and put into form for publication by a committee of Allan Klonick, Gerhard Leubner, Gordon Meade, and Joseph Taylor with the latter as chairman. It is the plan to bring it into final form during 1981 with inclusion of records through 1980. While the persons named did the compilation and production, this achievement would never have been possible without the field work of a host of Rochester birders over many years and the arduous work of record keeping by the Society's statistics committees.

Thus in 42 years the Genesee Ornithological Society has grown from a group of ten eager young birders to a solid, productive society of over 400 persons that is making a significant contribution to the avocational and scientific life of the community.

THE PHOTOGRAPHY SECTION

H. Lou Gibson

Rochester has been replete for many years with societies and camera clubs devoted to scientific, technical, nature and pictorial photography. Hence, to have inaugurated another photographic group in February 1943, might seem to have been rash and superfluous. However, circumstances made such a move feasible. Some of the members in other Academy sections had expressed a desire to learn more about photography as it related to their interests. Then, too, another source of potential members had emerged. In that year the Medical Photography School at the Rochester General Hospital was started by John J. Beiter, under the Aegis of Dr. Milton G. Bohrod of the Department of Pathology. Martha Brunings assisted. All three were charter members of the section. Students were trained in biomedical

photography, in keeping with the growing needs of the profession and the educational aims of the Biological Photographic Association (BPA). Of practical necessity the applicational phases of the schools courses dealt with the subject matter of the health sciences, whereas the activities of the BPA also encompassed the natural sciences. Existing camera club sessions pertained mainly to the pictorial aspects of nature photography. So it was felt that the Photography Section logically could present the photographic techniques and visual aid requirements of the natural sciences. In this way the needs of Beiter's students in these respects could be met. In addition, the programs of the section were planned also to attract other specialized photographers, cinematographers and photomicrographers in the Academy and from the region.

The following list of representative topics demonstrates the diversity of the section's activities: close-up photography; optical factors in photomacrography and photomicrography; time-lapse cinematography; the photography of minerals; birds and small animals; the high-speed recording of hummingbirds; entomological photography (including a documentation of beekeeping); botanical recording (including photography in park management); the uses of illumination in Psychological studies; depicting the eclipse of the sun; principals of lighting scientific subjects; the need for color accuracy; obtaining graphic clarity; the psychological factors for effective communication.

A joint meeting with the Rochester Aquarium Society dealt with the photography of live fishes in color. Experience in field photography was gained during trips to the Rochester countryside and regional parks.

An interesting assignment also offered practical experience. A complex mineral was circulated among section members, who had to photograph it and pass it along. One meeting was devoted to a critique of the results. The maker of the most informative record kept the mineral.
All sections have been encouraged to arrange programs for the general Academy meetings. With so many photographic sessions regularly mounted in Rochester, this was not easy for the Photography Section. Nevertheless, a photographic discussion of a method for determining the spectral sensitivity of the vision of several tropical fishes was presented. Another presentation, given by H. Lou Gibson, illustrated the place of the Lepidoptera in the Class, Insecta.
The section was consulted regarding photographic illustrations in the Proceedings. Members contributed two papers. "Notes On he Equilfbrium of Tropical Fishes and Their Perception of Color," by H. Lou Gibson which appeared in Volume 9, No. 2, in 1948, and "Notes on Astronomical Photography" by Paul W. Davis in Volume 10, Nos. 1 and 2, 1953. During the 12 years of its existence, the section

gathered data and pictures relating to bird photography. The results were published later in Volume 11, No. 1, that came out in 1964. Contributors were J. F. Englert, Dr. Milton R. Goff, Dr. E. T. Wentworth, Helen and Ralph Dakin and H. Lou Gibson.

Several factors were responsible for the termination of the Photography Section in 1954. Much technical information was becoming available from society, commercial and other publications sources. A chapter of the Biological Photographic Association (BPA) had been formed in Rochester. By 1953 the educational projects organized by the BPA got under way. The efforts of most of the members of the Photography Section then became channeled into the specific professional needs that led to the extensive educational and certification programs of BPA committees.

Through the years of its activities, the section's membership had been small. Attendance at meetings averaged around 12, although occasional special programs drew about 30. Nevertheless, the impact of the section helped significantly in steering the course of the important field of biophotography.

SECTIONS THAT BECAME INACTIVE

by Reginald W. Hartwell

THE ENTOMOLOGY SECTION

On December 14, 1916, an Entomology Section was officially organized with 22 active members who met on the second Thursday of each month. George A. Franck was its chairman and George Wendt, the Academy treasurer, was the recorder. He became chairman in 1920 and served in that Capacity until 1929. Mrs. George Wendt was recorder from 1920 to 1926 and was succeeded by Melvin Andrews, who served until 1929. No minutes or other records are preserved for those years and apparently the section became inactive after 1929.

There is a set of minutes in the Academy archives that begins with a January 7, 1937, report of a "second meeting" which elected Richard L. Post chairman, Benjamin Ziegler vice-chairman, Mrs. W.L.G. Edson recorder, John Schied treasurer and K. E. Brown vice-treasurer. The minutes record in some detail subsequent meetings which were held at Wards Natural Science Establishment. On June 13, 1938, 43 people came to the meeting to hear a talk by a Dr. Fowler on "The Joys and Whys of Collecting Beetles." The minutes state further that members brought in specimens for study and that "insects unwary enough to venture into the building, attracted by the illumination, were captured during the meeting." Robert Yaeger became chairman for 1938-39. There

was an average attendance of 25 during 1939. Meetings stopped after October 1939.
A second reorganization took place at an April 6, 1946, meeting in the University of Rochester Eastman Building on the Prince Street Campus. Dr. Robert E. Bugbee, of the University of Rochester, was chairman and Frank C. Fletcher was recorder. Elizabeth Keiper, garden editor of the Rochester Time-Union, became recorder in September, 1946. Regular meetings continued until the final meeting on March 23, 1948, when the attendance totaled 4 members and 2 guests. Among the results of the cessation of section activities was the transfer of the Academy entomological collection to the State Museum of New York at Albany.
The last reorganization occurred in May of 1970 with Edwin Barnitz as chairman. No records of those meetings have come to light but for a number of subsequent months a very considerable amount of interest was shown. Robert Iveson and John Staples of Wards Natural Science Establishment and Dr. Gustav Garay of Monroe Community College were actively involved. Attendance and interest gradually dwindled, however, and in late 1972 the section merged with the Botany Section, which thus became the Academy's only hyphenated section, officially known now as Botany-Entomology.

THE WEATHER SCIENCE SECTION

An organization meeting of people interested in meteorology took place on September 20, 1945. Emil Raab, meteorologist for the United States Weather Bureaus Rochester station, was its first chairman. He proved so popular that when he resigned two years later he was elected "permanent honorary chairman." He was followed by John M. Williams, also a meteorologist at the Weather Bureau. Minutes of the section's activities have not become available, but it remained an important and active section of the Academy for the next 18 years. Some of the meetings, as announced in the Bulletin, included "A Visit to the Weather Station at the Airport," "Studies in Micro-Climatology," "Weather Map Making," "March Weather in Rochester(!!)," "Lightning--A Roundtable Discussion," and "Farming and the Weather-" Chairmen of the section included: Milroy Stewart, 1949-52; Hartley J. Shutt, 1953-54; Al Stiller, 1954-55; Kenneth Lockwood, 1957-59 and Pliny E. Goddard, 1960. The section became inactive in early 1962.

THE RESEARCH SECTION

A group that included a number of University of Rochester faculty members, fearful of the Academy's precarious situation in the late 1930's when membership was at its lowest ebb, and hoping to insure the continuation of the

Proceedings, which appeared to them in danger of folding, organized themselves into a Research Section. Their purpose was to attract more professional and "full time" scientists from the many highly technical Rochester industries to join the Academy and become active in its affairs. Dr. David R. Goddard of the University of Rochester was its first chairman. He was succeeded by Dr. Richard Goodwin in 1942 and 1943. William S. Cornwell was the recorder for both years. Dr. Sherman C. Bishop, Dr. Dean Gamble and Dr. Robert Roudabush were chosen as a board of directors. An ambitious program of highly technical lectures was organized, which included a series on the general subject of Macro-molecules. There was a "Symposium On Chromosomes, Genes and Proteins," and a lecture by Dr. Henrik Dam, the discoverer of Vitamin K, on "The Biological significance of Vitamin K." Apparently the desired effects of those efforts was not achieved and the section became inactive in 1943.

PHYSICAL ANTHROPOLOGY AND PSYCHOLOGY

There was a Physical Anthropology Section in 1948 and 1949. Chairmen were Dr. Thomas Crowe, 1948, and Dr. Robert J. Bloor ' 1949. Recorders were Walter E. Page, 1948, and William S. Cornwell, 1949. Apparently competition with the Lewis Henry Morgan Chapter of the New York State Archeological Association was too great and there are no more records of the section's activities.
There was also a Psychology Section in 1920 and 1921. Chairman in 1920 was Dr. Louis A. Pechstein, Professor of Psychology at the University of Rochester who had read a paper at an Academy meeting in October 1919, on "Military Psychology." The 1921 chairman was W. Clark Trow and the recorders were Esther A. Hurley, 1920, and Gertrude S. Hume, 1921. No further records are available.

CHAIRMEN OF ACADEMY SECTIONS

ASTRONOMY SECTION

Paul Stevens, 1945-46, Mark Calkins, 1947-49; Ralph Dakin, 1949-50; Neil Gallaalier, 1950-51; Edwin M. Root, 1951-52; Joel T. Johnson, 1952-54; John E. Schlauch, 195455; Jack Smith, 1955-56; George Keene, 1956-57; Russell E. Jenkins, 1957-58; Stephen C. Weber, 1958-60; Charles Spoelhof, 1960-61; George L. Gibbs, Jr., 1961-64; Bennett W. Cleveland, 1964-66; Kenneth J. Brown, 1966-67; William N. Fitzgerald, 1967-69; John C. Cain, 1969-70; John J. Paris, 1970-71; Alfred V. Bowen, 1971-73; Richard E. Albrecht, 1973-74; Andrew W. Steinbrecher, 1974-75; William L.

Hollingsworth, 1975-76; Allan M. Walters, 1976-77; Mrs. Trudie Brown, 1977-79; Mrs. Donna Groth, 1979-80; Jack Jones, 1980-81.

BOTANICAL SECTIONS

George T. Fish, 1881; Mrs. Mary E. Streeter, 1882-85; Miss Mary E. Macauley, 1886-97; Miss Florence E. Beckwith, 1898-1929; Warren A. Matthews, 1930-31; Grace A. Carter, M.D., 1932-47; (Botany A) Grace A. Carter, M.D., 1947-49; (Botany B) Dr. Kobert Erickson, 1947; Dr. John Russell, 1948-49; (Combined Botany Sections) Dr. Babette I. Brown, 1949-50; Bernard Harkness, 1950-51; Mrs. Edward T. Boardman, 1951-52;. Warren A. Matthews, 1952-53; Miss Elva Scheely, 1953-54; Clair F. Smith, 1954-55; Fred Raetz, 1955-56; Floyd D. Slater, 1956-57; Harry McGillicuddy, 1957-58; Robert C. McGillicuddy, 1958-59; Mrs. Elizabeth Slater, 1959-60; Donald Yaeger, 1960-61; Robert E. Stauffer, 1961-63; Dr. Edward T. Boardman, 1963-64; Bernard Harkness, 1964-66; Mrs. Mildred R. Stauffer, 1966-67; Dr. *N.* Joseph Klingensmith, 1967-69; Dr. Melvin J. Wentland, 1969-71; Mrs. Elizabeth Y. Pixley, 1971-73; George B. Ahn III, 197375; Frank A. Myers, 1975-77; Mrs. Marion Schneider, 1977-81.

GEOLOGY: GEOLOGICAL-MINERALOGICAL (MINERAL) SECTION

Edwin E. Howell, 1889-90; George H. Chadwick, 1917, 1919-22; Florus R. Baxter, 1918; Alfred C. Hawkins, 192325; F.W.C. Meyer, 1926-35; (reorganized into the Mineralogical Section in 1935); Robert C. Vance, 1935-47; Charles W. Foster, 1947-48; Henry B. Hanley, 1949-50; Leo J. Houlihan, 1950-51; Ernest St. Mary Jr., 1951-52; Robert M. Eaton, 1952-53; Earle H. Potter, 1953-54; George M. Lynch, Jr., 1954-55; Donald Armistead, 1955-56; David E. Jensen, 195657; Wendell Mohr, 1957-59; Robert M. Eaton, 1959-60; Fred C. Amos, 1960-61; Richard Pospesel, 1961-63; Dr. Henry C. Staehle, 1963-65; Albert C. Smith, Jr., 1965-66; Henry E. Byers, 1966-69; Richard G. Hoppe, 1969-72; Mrs. Katherine Jensen, 1972-74; William F. Coons, 1974-76; Alfred E. Vragel, 1976-78; William C. Lawrence, 1978-80; Richard D. Hamell, 1980-81.

ORNITHOLOGY SECTION (GOS)

Dr. Gordon M. Meade, M.D. 1945-48; Fred Raetz, 194849; Dirck Benson, 1949-50; Allen E. Kemnitzer, 1950-52; Allan S. Klonick, 1952-54; Richard T. O'Hara, 1954-55; William B. Muchmore, 1955-56; Gerhard W. Leubner, 1956-58; Gerald R. Rising, 1958-59; Alfred A. Starling, 1959-60, 1961-62; John W. Foster, 1960-61; Stephen B. Oresman, 196264; Thomas E. Tetlow, 1964-65; Donald C. Nelson, 1965-66; Neil S. Moon, 1966-67; Mrs. Mary Ann Sunderlin, 1967-70;

Joseph W. Taylor, 1970-71; Warren L. Lloyd, 1971-73; Paul W. Weld, 1973-75; Paul Weld, Joseph Barra and Robert McKinney, 1975-76; Robert McKinney, 1976-78; Mrs. Anne Clarridge, 1978-80; William Colsman, 1980-81.

ROCHESTER ACADEMY OF SCIENCE

P.O. Box 1742
Rochester, New York 14603

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Mrs. Mary Ann Sunderlin (1983)

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