

Early History of the Virginia Junior Academy of Science

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(For the information related in this history, we are deeply grateful to Dr. Sidney S. Negus who meticulously saved and carefully labeled all materials pertaining to the organization and development of the Junior Academy and the State Science Talent Search.)

In 1938, the fifteen-year old Virginia Academy of Science served as host in Richmond to the annual meeting of the American Association for the Advancement of Science. It was a memorable occasion for those in attendance. In the tradition of true Southern hospitality, homes over the city were opened to the guests. Since the meeting was held during Christmas week, the guests shared the Christmas festivities so characteristic of Richmond homes. Members of the Virginia Academy of Science did all possible to assist with the entertainment of the guests. In return they received information on new advances and nation-wide happenings in the field of science. One event of importance that came under discussion was the impetus brought into the development of science clubs in high schools. Virginia Academy of Science members learned that science clubs had been functioning successfully for several years in the states of the middle west, and that the academics of science in those states had organized the clubs into Junior Academies of Science. They learned that similar work had been going on quite independently in New York City under the sponsorship of the American Institute of Science and Engineering Clubs of the city of New York and that the group had been given a considerable amount of money to enable them to extend their good work over the rest of the country. Representatives of both organizations were present at the 1938 AAAS meeting in Richmond and arrangements were made for cooperation of the two guiding groups.

The Virginia Academy of Science became very interested in what the two groups had accomplished in stimulating interest in science. Dr. Ruskin S. Freer, the incoming President of the Virginia Academy appointed a committee to begin such work in Virginia. L. C. Bird was named Chairman. Other members of the committee were J. T. Christopher, N. J. Davis, G. W. Jeffers, Sidney S. Negus, P. M. Patterson, J. A. Reese, J. A. Rorer, W. E. Trout, and I. A. Updike.

The committee felt that it was most essential to ascertain the number of Science Clubs in existence in the State of Virginia. Therefore, a letter, accompanied by a questionnaire, was sent to all school principals in Virginia--about 700--over the signature of Dr. Fred M. Alexander, State Department of Education, Mr. Francis S.

¹ This was found in the Journal files and the Editor felt it was long past due for publication. It was originally edited by Hubert Davis. With becoming modesty Mrs. Heatwole glides over the 9 years of her tenure as Chairman of the Junior Academy Committee, but the reader has only to glance over the last few pages to see that during those years the Junior Academy and the Science Talent Search prospered gloriously under her leadership. Since then, the Junior Academy has continually grown, become one of the largest Junior Academies in the nation and has become the national model for Junior Academies. Both Mrs. Heatwole and Mr. Davis are deceased.

Chase, Executive Secretary of the Virginia Education Association, and L. C. Bird, Chairman of the Committee. The number of responses was unusual. More than fifty science clubs already existed in the State, and approximately the same number were interested.

Simultaneous with sending the letter to the principals of the secondary schools, a letter was sent out to all of the members of the Virginia Academy of Science, over the signature of the President, in which it was pointed out that the Virginia Academy of Science had determined to make the development of science clubs one of its major objectives, and asked for suggestions

The above mentioned letter to the secondary school principals contained the following paragraph:

"The Virginia Academy of Science is providing a special speaker on this subject at the Thanksgiving meeting of the Virginia Education Association."

The speaker provided was Dr. H. H. Sheldon, Managing Trustee, The American Institute of the City of New York. Dr. Sheldon was introduced by Dr. William T. Sanger, President of the Medical College of Virginia. The audience was large and representative, and the interest was above expectations. Dr. Sheldon also gave a radio broadcast with the able aid of Dr. Sidney S. Negus and Dr. George W. Jeffers, this being a part of the committee's plan to promote the science club idea. Also, there appeared in the November, 1939, issue of the *Virginia Journal of Education*, an article by Dr. Jeffers, entitled "Science Clubs in the Schools".

In addition, Dr. E. C. L. Miller and the Chairman of the committee attended a district meeting of the Virginia Education Association in Danville on October 27, at which an interesting program on science club work was arranged. Dr. Miller was the principal speaker, and his address was "Why a Science Club"?

As a part of the radio series, Dr. Jeffers gave a broadcast over WRVA during the holiday season on science clubs.

Early in January, 1940, the committee contacted the State Department of Education, pointing out through Dr. Sanger the value of science clubs as a method for informal instruction in education. As a result of that contact, a second letter went to the secondary schools in the State from the State Department, calling particular attention to the literature and assistance offered science clubs by the American Institute.

Mr. Hubert J. Davis helped meet the need for material to be supplied to science clubs by preparing an outline and suggestions for science club activities. About 75 copies of this were sent to science club sponsors. Mr. Davis also prepared an article on "How to Organize a Science Club", which appeared in an issue of the *Virginia Journal of Education*. Mr. Davis wrote the science club sponsors, inquiring whether or not they would be interested in the formation of a Junior Academy. The response was splendid and there seemed to be a definite interest on the part of the secondary schools in the formation of a Junior Academy. This development led the committee to write to Dr. Otis W. Caldwell, asking him to come to the V. M. I. meeting of the Virginia Academy of Science and discuss Science Clubs, the formation of a Junior Academy of Science, and related problems.

Dr. Caldwell met on May 4, 1940, with some of the members of the Virginia Academy of Science, a few sponsors of science clubs, and science club members. This meeting was very informal, but the interest in the information of a Junior Academy of Science which would coordinate and cooperate on the science club work was manifest.

Later, Dr. Caldwell talked briefly to the members of the Virginia Academy of Science with particular reference to Junior Academy activities. At its business meeting, upon motion made by Dr. George Jeffers and duly seconded, the Virginia Academy of Science authorized the formation of a Junior Academy of Science, leaving the details to the incoming President of the Academy and the Council.

Following the adjournment of the Virginia Academy of Science, some of its members, eleven science club sponsors, and fifty members of science clubs met with Dr. Caldwell again. These sponsors and club members showed enthusiasm for the Junior Academy of Science idea and indicated their desire to support such an organization.

At a meeting in Dean Hortley F. Rudd's office Wednesday, June 5th, 1940 to discuss the personnel of the two committees necessary for the functioning of the Virginia Junior Academy of Science, the following were present: Dean H. F. Rudd, Dr. E. C. L. Miller, Mr. L. C. Bird, Dr. George W. Jeffers, Mr. H. J. Davis, and Dr. Sidney S. Negus.

The group agreed upon two important committees which were as follows:

VIRGINIA JUNIOR ACADEMY OF SCIENCE COMMITTEE

Mr. H. J. Davis, Chairman, Matthew Whaley High School, Williamsburg, VA

Mr. W. W. Hofsinger, Vice-Chairman, Jefferson High School, Roanoke, VA

Miss J. Frances Allen, Secretary, Pulaski High School, Pulaski, VA

Mr. J. T. Christopher, George Washington High School, Danville, VA

Miss Elizabeth Gillespie, Maury High School, Norfolk, VA

Mr. C. G. Gibbs, Floyd High School, Floyd, VA

Mr. William T. Kell, Clarksville High School, Clarksville, VA

Mr. H. S. Holmes, Petersburg High School, Petersburg, VA

Miss Martha Lipscomb, Thomas Jefferson High School, Richmond, VA

Mr. W. I. Nickels, Jr., Lane High School, Charlottesville, VA

VIRGINIA ACADEMY OF SCIENCE SPONSORING COMMITTEE

Mr. John Alex Rorer, Chairman, University, VA

Dr. George W. Jeffers, Vice-Chairman, Farmville, VA

Mr. L. F. Addington, Wise High School, Wise, VA

Mr. Francis S. Chase, Executive Secretary, V. E. A., Richmond, VA

Dr. I. A. Updike, Ashland, VA

During the early months of the school year 1940-41 speakers such as Dr. Negus, Dr. Jeffers, and Mr. Rorer and others were provided for districts D, F, G, J, K, and M educational meetings. Kits of literature on science clubs were assembled and distributed to the members of the Junior Academy Committee. A survey of the science clubs of the State was conducted in November. Twenty-six clubs responded that they would be interested in helping to form a Junior Academy of Science.

Dean Rudd, Dr. E. C. L. Miller, and others appeared on the Virginia Education Association Science section program in November to explain the science club movement.

On November 21st, a meeting of the Junior Academy Committee and the Virginia Academy sponsoring committee was held in the John Marshall High School to complete the Organization of the Virginia Junior Academy of Science. Mr. John Alex Rorer presided.

These committees worked out a temporary constitution, set up membership requirements for science clubs, appointed committees, established other necessary machinery for the proper functioning of the organization. Temporary officers for the Junior Academy were selected.

Invitations to join the Junior Academy were sent out to all of the science clubs which had indicated that they were interested. Charters for the Junior Academy of Science were printed.

A special committee on the Junior Academy of Science prepared and reported to the Long Range Planning Committee on the objectives and means of cooperation between the two organizations.

Through the untiring efforts of Miss J. Frances Allen, the secretary, seventeen clubs affiliated with the Junior Academy of Science, two clubs applied for membership too late to be admitted before the meeting on May 3rd.

The American Institute of Science and Engineering Clubs cooperated in the matter of the project kit by supplying one hundred pamphlets on "How to Organize a Science Club."

An agreement was reached at a committee meeting in May, 1941, whereby the Virginia Junior Academy would combine its member clubs with those of the American Institute to form a cooperative organization. The American Institute agreed to conduct all business with Virginia clubs through the Junior Academy organization, to help finance the organization, and to cooperate in any way possible in promoting science club activities.

It was decided to have the secretary-treasurer of the Virginia Academy of Science handle all of the money for the Junior Academy.

On May 3, 1941 the first annual meeting of the Virginia Junior Academy of Science, held in conjunction with the meeting of the senior academy, was called to order by Hubert J. Davis in the George Wythe Junior High School Building, Richmond.

More than two hundred high school boys and girls, delegates from member clubs, visiting officers of the Virginia Academy of Science, and many guests were present.

A very brief welcoming address was made by the chairman. The presidents of the member chapters represented were introduced, and each in turn presented his delegation. Danieltown High School had the largest delegation present.

Dr. George W. Jeffers, in-coming President of the Virginia Academy of Science, introduced the guest speaker of the occasion, Dr. Austin H. Clark, Curator of Echinoderms, U. S. National Museum, Washington, D. C. Dr. Clark made a most inspiring and scholarly address. This was followed by a group of elementary pupils from Matthew Whaley High School, Williamsburg, who gave a glimpse of their science club in action.

Several pupils were named to participate in the science quiz program over WRNL at 2:00-2:30:

James Burton - Einstein Science Club, Appomattox High School, Appomattox, VA
Gordon Burnett - Lane Science Club, Lane High School, Charlottesville, VA
Forest Pitts - Thomas Jefferson Science Club, Thomas Jefferson High School, Richmond, VA

Robert McCadoo - Roy Chapman Andrews Science Club, Pulaski High School, Pulaski, VA

Louise Yost - Jefferson Science Club, Jefferson Senior High School, Roanoke, VA

Phyllis Brown - Sperryville High School, Sperryville, VA

Ima Reed - Leeuwenhoek Science Club, Floyd High School, Floyd, VA

Louise Minnick - Mt. Vernon Science Club, Mt. Vernon High School, Alexandria, VA

The morning meeting adjourned promptly at 10:00 to the Virginia Room of the John Marshall Hotel where the members of the Junior Academy witnessed the G. E. "House of Magic."

Between morning and afternoon sessions of the Junior Academy the science exhibit was arranged in the library of the Medical College of Virginia. Such scientific materials as a home-made weather instrument, mechanical scale models of engines, collection of medicinal herbs of Virginia, collection of the complete flora of the Mt. Vernon section, and many other electrical or mechanical devices were displayed. First prize went to the collection of flora of the Mt. Vernon District because of its completeness and scientific classification.

The business session of the Junior Academy was held in the Egyptian Building of the Medical College of Virginia at 3:00 p.m. A completely revised constitution which provided the necessary machinery for the affiliation with the American Institute of Science and Engineering Clubs was adopted unanimously.

The following awards were announced for the Junior Academy exhibits and other contributions:

First Prize: Honorary membership in the A.A.A.S. for one year. Gordon Jones and John Tompkins, for plant collection. Mt. Vernon High School, Alexandria, VA

Second Prize: Honorary membership in the Virginia Academy of Science. Microscopic Photography, a paper read by Walter Brown before the Astronomy, Mathematics and Physics Section of the Academy. Lane Science Club, Lane High School, Charlottesville, VA

Third Prize: Honorary membership in the Virginia Academy of Science, Engine models by Martin Milroy, Randolph-Henry High School, Charlotte Court House, VA

Fourth Prize: Medicinal herbs grown in Virginia, Patsy Whitaker, Roy Chapman Andrews Science Club, Pulaski High School, Pulaski, VA

Mr. Forrest Pitts was awarded honorary membership in the A.A.A.S. for one year for outstanding participation in the science quiz program over WRNL in Richmond.

In October, 1941, the managing trustee of the American Institute informed the Virginia Academy of Science that it had withdrawn all support of science clubs outside the City of New York. This was done in favor of Science Service which operated *Science Clubs of America*. The Virginia Academy of Science, at its Council meeting in January, 1942, decided not to enter into any cooperative program with Science Service at this time, but would provide support, financial and otherwise, for the Junior Academy.

At this meeting Miss Lena Artz was confirmed as secretary of the Junior Academy of Science to replace Miss J. Frances Allen who had moved to New York State. The loss of the secretary, and the failure of the affiliation with the American Institute, and the consequent delay almost wrecked the organization, and handicapped the work for the whole year. At the council meeting on January 16th, it was agreed that the services of the members of the Virginia Academy of Science be enlisted as speakers for science clubs in their localities. This resulted in Dr. Thomas D. Rowe, Medical College of Virginia, appearing before the Thomas Jefferson Club in Richmond on April 13.

Member science clubs were contacted several times and given a voice in determining the policies of the Junior Academy of Science.

The following monographs were prepared and distributed to the Clubs: 1. "Science Activities Based on Chemical Warfare." 2. "Science Clubs and National Defense." 3. "Bibliography of Plays and Entertainment for Science Clubs." 4. "Chemical Warfare." 5. "Standards for Science Exhibits." An article was prepared and appeared in the "Virginia Journal of Education" on "High School Science and National Defense."

There were now twenty-one science clubs affiliated with the Virginia Junior Academy of Science with a student membership of approximately 500. The income for the year 1941 was \$80.13 and the expenditures \$70.99.

The theme of the second annual convention held in Roanoke, Virginia, in 1942, was "*Science In National Defense*." This meeting consisted of science exhibits, two radio programs, two moving pictures, an address on "Chemical Warfare," and a business meeting.

The convention was opened by a radio interview at 11:30 a.m., Friday, over radio station WSLS under the direction of Miss J. Frances Allen, Pulaski High School. The interrogators on this program were Peggy Wilkinson, Jefferson Senior High School, Olga Zink, Andrew Lewis High School, Salem; John Lynes, Pulaski High School, and Don Coordes, Pulaski High School. Those replying were Dr. George W. Jeffers, President of Virginia Academy of Science, Farmville; Dr. Ivey F. Lewis, Dean, University of Virginia; Dr. John Alex Rorer, Extension Division, University of Virginia; Dr. Curtis L. Newcombe, College of William and Mary, Director of Virginia Fisheries Laboratory; and Mr. Lloyd C. Bird, President of Phipps and Bird, Richmond.

Two moving pictures were shown to a group of seventy-five delegates and sponsors in Jefferson High School Auditorium. Mr. Seldon H. Watkins, Andrew Lewis High School, Salem, had charge. The color film "Power Behind the Nation" was provided by the N. & W. Railway. "Fighting a Fire Bomb" was shown, with Mr. Robert Cochran, Office of Civilian Defense, as narrator and lecturer.

Delegates, sponsors and visitors gathered in the Jefferson library for an informal reception and refreshments after the motion picture.

During Saturday morning delegates from seventeen high school clubs registered. This included twelve sponsors and twenty-five visitors from the community and from the Virginia Academy of Science. More than two hundred delegates attended the meeting.

Miss J. Frances Allen presided at the general meeting. Dr. George W. Jeffers, President of the Virginia Academy of Science, gave a brief review of the business matters which had been discussed in regard to the promotion of the Junior Academy work. He informed the delegates that a special committee had been appointed to study the problem of affiliation with *Science Clubs Of America*, that the Academy thought it wise to create a substantial budget for the support of the work of the Junior Academy of Science for another year, and that the Senior Academy thought it wise to have the next meeting of the Junior Academy in the same building with the Senior Academy to create more opportunity for discussions between the two groups.

Dr. Roy P. Ash, Professor of Biology, William and Mary College, introduced the main speaker, Major Herbert C. Roberts, of the United States Chemical Warfare Division. Major Roberts delivered an interesting and forceful illustrated lecture on

Chemical Warfare and the Civilian. This lecture was followed by a question-and-answer period.

The annual radio quiz was held in the studio of WSLs at 12:30, under the direction of Miss Anita Cruiso, Andrew Lewis High School, with Roland Woodward, president of the Bi-Phy-Chem Science Club as announcer. Six science clubs were represented in the quiz. First prize of ten silver dollars went to a representative of Roy C. Andrews Science Club, Pulaski. Second prize was awarded to the Tree Study Club of Arlington. Judges for the radio quiz were Dr. Paul R. Burch, Radford State Teachers College, Miss Mary Oglesby, Staunton, and Mrs. Sue B. Christian, Appomattox. The prizes were given by Phipps and Bird of Richmond and Caldwell Sites of Roanoke.

The following exhibits were displayed in competition for prizes: Remote Control Apparatus; Fun with Trees; Spatter Prints of Leaves; Peg Puzzle; Butterflies; Model of a Shaft Coal Mine; a Homemade Barometer; Cloud Formation; Chlorophyll Extraction; Velocity of Sound Apparatus; Mineral Display; Photomicrography Exhibit; Model of Morris Dam.

The Judge of the exhibits were Dr. Marcellus N. Stow, President of the Virginia Academy of Science, Dr. Curtis L. Newcombe, Director of Virginia Fisheries Laboratory, and Dr. Orland E. White, Blandy Experimental Farm, University of Virginia.

First prize was awarded to Andrew Lewis High School for "Photomicrography." Second prize was awarded to Jefferson Senior High School for "Minerals." Third prize was awarded to Arlington High School for "Fun with Trees." Honorary membership in the Virginia Academy of Science was awarded to Pulaski High School for "A Model of Boulder Dam."

The Virginia Academy of Science decided to enlarge the Junior Academy Committee to ten members, to be made up of three members of the Senior Academy, four high school science club sponsors, and three elected officers of the Junior Academy of Science.

In January, 1943, a cooperative agreement was entered into between Science Clubs of America and the Virginia Junior Academy of Science upon the recommendation of Dr. Sidney S. Negus who had been authorized to investigate the possibilities of affiliation. The agreement stated that any science club joining either organization receives membership in both the Virginia Junior Academy of Science and Science Clubs of America. This dual membership made it possible for the science clubs to receive the services and prestige of a national organization, and at the same time insured very close cooperation between these two organizations and the parent sponsor, The Virginia Academy of Science.

In January, 1943, Science Service reported fifty organized science clubs in Virginia. These clubs had an approximate membership of 1,500 pupils. Of the fifty clubs reported, seventeen clubs containing membership of four hundred seventy-eight requested and received charters in the Virginia Junior Academy of Science.

No annual meeting of the Virginia Junior Academy of Science was held in 1943 because of war-time restriction on travel. At a meeting of the research committee in January of 1943, a prize of \$50.00 was established to be awarded as recognition of outstanding work by any science club in the state. The award later was known as the E. C. L. Miller Award, as an honor to Dr. E. C. L. Miller for his outstanding leadership in Academy affairs. In 1944, no program or meeting was planned for the same reason. Several science club sponsors, delegates, and officers attended the meeting of the

Virginia Academy of Science and a brief conference was held. Work continued in the science clubs, however, under the able direction of Mr. Hubert J. Davis. Through affiliation with *Science Clubs of America*, 84 clubs were registered. Forty-four Virginia students entered the National Science Talent Search. None of the participants received any awards. The first E. C. L. Miller award was presented to the Warren County Club of Front Royal.

Mr. Davis made several recommendations to the Council of the Virginia Academy, recommendations that in later years became reality and gave impetus to the growth of the Virginia Junior Academy of Science and to the stimulation of science in Virginia. He recommended:

That the Academy establish, or find money to establish, a scholarship to be awarded to a science club sponsor for the most outstanding work with a science club during each year. That this scholarship be large enough to enable the sponsor to attend some outstanding institution and do graduate work for a full summer term in the field of science.

That the Academy organize and conduct a science talent search in Virginia to provide stimulation and encouragement for better science work in both classroom and science club.

That a committee be appointed on science education whose duties it would be to investigate science teaching in our high schools, and lend some assistance to teachers of science in securing better teaching conditions.

Although no state-wide annual meetings of the Junior Academy were possible during the war years, 1943, 1944, and 1945, Virginia Junior Academy of Science was kept alive and made some progress. The chief objectives of the Junior Academy, (1) to discover and develop scientific ability through science clubs in the secondary schools, (2) to foster fellowship among its members and the members of the Virginia Academy of Science, and (3) to develop a background among its members which will eventually result in leadership in the Virginia Academy of Science, were carried out to a large extent.

By 1945, 117 science clubs were active. The number had increased to 132 by 1946. Official authorization to conduct a Virginia Science Talent Search was given by the Council of the Academy in May, 1945. The winners of the first Virginia Science Talent Search were announced at the 1946 Richmond meeting of the Academy. Dr. Sidney S. Negus gave in the Proceedings for the year 1945-46 a complete account of the formation of the State Talent Search and the work done on its behalf by the committee members. In summary he wrote, "in the event national legislation is enacted to aid in education of young scientists, the VSTS experiment, if it has accomplished nothing else, will have demonstrated the progressive attitude of the State Department of Education, the Virginia Education Association, the City of Richmond, and the Virginia Academy of Science toward science education at the high school level."

At the 1946 meeting, a formal meeting of the Junior Academy was again held. The Miller Award was presented to the Newport News High School Science Club (the delayed award for 1945). Junior Academy officers were again elected at a business meeting attended by delegates representing 11 high schools. Blue and white were decided upon for the Junior Academy colors. Mr. Hubert J. Davis, chairman of the VJAS Committee made the following recommendations:

That the state be divided into several regions with a college as center in each region; that each region prepare an exhibit and that the best be brought to Richmond.

That the Virginia Science Talent Search be continued and be a decided part of the Junior Academy.

That the Junior Academy and affiliated Science Clubs of America work out definite improvements together.

During the year 1946-47, initial steps were taken to recognize outstanding work of science club sponsors through sponsor scholarships. Three were awarded. A \$75 cash scholarship known as the Janie G. Nance Award was partly financed by Mrs. Nance. The University of Virginia made available an award of \$60 known as the Mountain Lake Service Fellowship. The College of William and Mary gave a \$100 scholarship which was to be known as the Donald W. Davis scholarship.

Members of the Virginia Junior Academy of Science met at the regional open house centers during the year, displayed exhibits, and conducted business meetings. The Science Club Committee provided awards for these exhibits.

In 1947, there were twenty-six charter members of the Virginia Junior Academy of Science composed of more than five hundred student members. Science Clubs of America reported one hundred eighty-five science clubs in Virginia secondary schools.

Twenty-four schools were represented at the annual meeting with 57 science talent search representatives and six sponsors, and eighteen science clubs with 89 members and sixteen sponsors.

The Virginia Junior Academy of Science and the Science Talent Search members displayed 10 science exhibits. Prizes for the best exhibits were awarded.

Honorary memberships in the American Association for the Advancement of Science were bestowed upon three students, and honorary memberships in the Virginia Academy of Science were given to three more.

Sponsor scholarships were awarded. The Janie G. Nance Scholarship was awarded to Miss Vada C. Miller of Front Royal, Virginia; the Mountain Lake Service Fellowship to Miss Vera Baron, Martinsville, Virginia, and the Donald W. Davis Scholarship to Mr. Burleigh B. Turner, Jr., of Northampton High School, Eastville, VA.

The second state-wide Science Talent Search was conducted, fifteen top winners were selected and assisted in securing scholarships at the colleges of their choice.

Mr. Hubert J. Davis, whose untiring efforts had been instrumental in the building of the Virginia Junior Academy of Science and the Virginia Science Talent Search, resigned as Chairman of the Committee in 1947. F. G. Lankford, Jr., was appointed Chairman of the VJAS Committee and James W. Cole was appointed to direct the Talent Search. Under their leadership, the Junior Academy and the Talent Search continued to grow. Five Regional Science Open Houses were held in 1948 at the University of Virginia, the University of Richmond, the Virginia Polytechnic Institute, the College of William and Mary, and at Hampton Institute. The Regional Open Houses provided opportunities for interviewing each entrant in the Talent Search and for demonstration of science in action through exhibits, lectures, and visits to laboratories. A total of about 800 visitors attended the five regional open houses.

The annual meeting of the Junior Academy was held in Roanoke in 1948. About 100 Junior Academy delegates were present. Dr. A. N. Vyssotsky gave a lecture entitled, "Our Galaxy", and Dr. George W. Jeffers spoke on "Life in the Chesapeake

Bay". The Wilson Memorial Science Club was awarded the E. C. L. Miller Award and awards were made for several individual science exhibits.

Dr. Boyd Harshbarger was Chairman of the VJAS Committee in 1949 and Dr. Frank C. Vilbrandt was Associate Chairman in charge of the Speaker's Bureau which had been established the previous year. A total of 20 science clubs with a membership of 750 were affiliated with the Junior Academy during the year. The annual meeting was held at the John Marshall Hotel, Richmond. Fourteen individual and five club exhibits were displayed. The E. C. L. Miller Award, Teacher-Sponsor scholarship awards to the Mountain Lake Biological Station and to the College of William and Mary were given, and the usual club and individual awards were made for exhibits. The Science Talent Search named 17 top winners, 34 winners, and 40 honorable mentions.

At about this time, the growth of the Junior Academy activities and the State Talent Search made it essential that more scholarships and awards be established and that working funds be provided for the VJAS Committee. B. N. Cooper and Floyd S. Andrews, Co-chairmen of the VJAS Committee contacted several colleges in Virginia during 1950 and secured additional scholarships for students and teachers.

Preceding the annual meeting, Science Open Houses were held at the Medical College of Virginia, William and Mary College, Bridgewater College, V. P. I., University of Virginia, University of Richmond, and at Saint Paul's School.

The total number of Science Clubs affiliated with the Junior Academy was 25. At the annual meeting at Roanoke College four club and eleven individual exhibits which had been qualified at Science Open Houses for composition at the State level were displayed.

The 1951 meeting of the Junior Academy was held at Lynchburg College in conjunction with the meeting of the Virginia Academy of Science. Club and individual exhibits which had qualified through the six Science open Houses held at colleges over the State were displayed and awards were made. Dr. Andrews and Dr. Cooper resigned as Co-chairmen of the Committee and Mr. Grover Everett was appointed as the new chairman.

Under the leadership of Mr. Everett, the Junior Academy continued to grow. The Science Open Houses were well attended and nine club exhibits and twenty-eight individual exhibits were qualified for display at the 1952 annual meeting at Hotel Chamberlin, Old Point Comfort. Thirteen affiliated clubs were represented at the annual meeting. The resignation of Mr. Everett and the appointment of Mrs. Thelma C. Heatwole as Chairman of the Virginia Junior Academy of Science Committee were announced.

In 1953, the *Junior Science Bulletin* was initiated. Its publication was made possible by a contribution from the American Tobacco Research Laboratory. The printing was done by the Newport News High School print shop under the supervision of Miss Susie V. Floyd and the Newport News Science Club. All science teachers, committee members, Council members, and firms that were contributing financial support to the Junior Academy were put on the mailing list for the *Bulletin*. From 1953 to the present time (1961), the *Bulletin* has been a most effective means of familiarizing schools, clubs, and industries with the work of the Junior Academy.

Through contributions from industries and business firms (business memberships in the Virginia Academy of Science) and through the appropriation of a budget by the

Council of the Academy, the Junior Academy had working funds that allowed it to expand. In 1953, charters and membership cards were issued to 65 clubs with an individual membership of approximately 1200. Fifty-four of the clubs were new affiliates. At the annual meeting, 49 individual and 4 club exhibits which had been qualified at the Junior Science Days (formerly called Science Open Houses) were displayed.

During the ensuing year, the Junior Academy activities became more wide-spread and more and more areas of the State participated in the Junior Science Days and the annual meetings. The Science Talent Search, also, had an increasing number of participants. Speakers of national and international note brought true science to the attention of the Juniors. Some of those guest lecturers were Dr. John Fisher of the General Electric Research Laboratories who spoke on "Crystal Growth", Dr. Carroll M. Williams, Professor of Zoology of Harvard University, who spoke on "Brains and Silken Chambers", Dr. E. D. Crittendon, Director of Research, the Nitrogen Division of Allied Chemical and Dye Corporation who had as his subject, "The Unfolding World"; Mr. Norman Bumstead, Assistant Chief Cartographer of the National Geographic Society who presented the lecture, "Atlantic's Farthest Shores"; Dr. Willard Libby, Vice-Chairman of the Atomic Energy Commission who spoke on "Research, Study, and Understanding"; Dr. Allen T. Gwathney, Professor of Chemistry at the University of Virginia and an international authority on metal crystals, who spoke on "The World of Crystals"; Dr. Lawrence N. Snyder, past president of the American Association for the Advancement of Science, Dean of the Graduate School, University of Oklahoma, and a world famous geneticist, who informally discussed genetics with the students; Dr. R. N. DuPuis, Vice President, Philip Morris, Inc., who talked on "Science and the Human Mind"; and Dr. Vincent Schoefer, formerly of the General Electric Laboratories who spoke on "Serendipity in Science".

In 1954, 72 clubs with a membership of 2,563 were affiliated with the Junior Academy. By 1960, the club membership was 85 and the individual membership about 10,000. In 1960, approximately 4000 students and sponsors were present at the five Junior Science Days operated by the Junior Academy in cooperation with five leading Virginia colleges. They exhibited the results of 439 research projects. From these, 120 were selected for display at the annual meeting in Richmond.

In 1956, Philip Morris, Inc. made a grant of \$750 to the Academy for the use of the Junior Academy. The grant has been presented each year since that time. The money was used to establish cash awards for first, second, and third places in each of four categories—exhibits in chemistry, in physics, in biological sciences, and in a miscellaneous science category. The awards were designated as the Philip Morris Achievement Awards. At the same time, the Academy Council increased the Junior Academy budget to allow the presentation of awards of the same amount to first, second, and third place winners of club exhibits. The E. C. L. Miller Award, the W. Catesby Jones Award, Honorary Memberships in the American Association for the Advancement of Science and in the Virginia Academy are also presented each year.

The Philip Morris grant was sufficient to give some financial help to students on the purchase of unusual equipment that they required for carrying out their research projects, and to furnish some secretarial help to the Chairman of the VJAS Committee.

At the annual meeting of the Academy in Richmond in 1960, Dr. W. W. Scott, who had been Co-chairman during the previous year, was appointed Chairman of the VJAS Committee.

The year 1961 brings the twentieth anniversary of the authorization of a Junior Academy of Science in Virginia. VJAS has grown rapidly from the nucleus of 26 clubs which expressed an interest in its establishment. Many of the Academy members who were instrumental in its formation have maintained their interest in its progress and have continued to guide its affairs. They can be justly proud of the "junior" scientific body which they have fostered.

The financial assistance given to the Junior Academy Committee by the contributing industries and through the budget set up by the Academy Council, and the excellent cooperation of the Committee members, the Council Members, and the sponsors of clubs have been largely responsible for the increase in the scope of the Junior Academy work. The Virginia Academy of Science, through its sponsorship of the Junior Academy and the Virginia Science Talent Search, has done much to foster science in Virginia. May the work ever continue to stimulate interest in and knowledge of scientific research.