

The Academy—Its Start, Development and Present Status

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Except for dates, figures and numbers should probably not play a prominent role in the narrative of events, or the systematic written account of the happenings, concerning the history of an institution. In this chapter, however, a brief text statement will lead up to each of several accounts or—in most cases—summary tables. Each of these accounts or tables points up an important step, or a notable development trend, for the Academy. In some of the tables figures of necessity predominate. It is these figures which show trends, and mostly successful ones, within the Virginia Academy of Science.

1. THE CALL FOR ORGANIZATION

The beginning paragraphs of Chapter 1 of this history outline the initiation, organization, and first meetings of the Association of Virginia Biologists. Those paragraphs also tell how this group of biologists initiated the call, and secured the cooperation of other scientists in setting up, the organizational meeting of the Virginia Academy of Science. This letter which went out to the different scientists of Virginia was so important, and had such successful results, that it seems deserving of publishing in its entirety so that it may be made a permanent part of this history. Accordingly, this letter with its signers is published below.

ASSOCIATION OF VIRGINIA BIOLOGISTS

President: W. D. Hoyt, Washington and Lee University
 Vice President: D. W. Davis, College of William and Mary
 Secretary-Treasurer: W. L. Dolley, Randolph-Macon College

Additional Members of the Executive Committee

J. I. Hamaker, Randolph-Macon Woman's College
 H. E. Hayden, University of Richmond
 I. F. Lewis, University of Virginia
 To the Scientists of Virginia:

The Association of Virginia Biologists, organized in 1920, will hold its next annual meeting at the College of William and Mary, Williamsburg, on the last Friday and Saturday in April. The Association has among its general objects the stimulation of interest in its field in Virginia, the furthering of the scientific life of the State, and the promotion of a spirit of fellowship and cooperation among its members. The success of this organization has encouraged its executive committee to think that the time is ripe for the organization of a large and more inclusive group of scientists in Virginia.

You are therefore invited to join with us in the organization of the Virginia Academy of Science at Williamsburg on Thursday, April 26. The advantages of such an organization, as found by experience in other states, are threefold. First, an Academy serves to arouse the interest and to stimulate the work of its members. Second, it brings about a healthful spirit of cooperation among its members and brings together in a most helpful way the more or less isolated followers of science. Third, it gives a voice to a scattered and unorganized group of scientists, enabling them to support effectively such scientific programs as have a bearing on the public welfare, and to set forth the claims of science to public appreciation and support.

As you will see from the signatures below, this call to cooperation is sponsored by a representative of each of the various fields of interest that naturally suggest themselves. It is desired to reach every field of scientific activity in Virginia, and it is hoped that the responses to this invitation will show that there is in this State widespread desire of scientific workers to unite in a common cause.

The details of organization may be left for working out together at Williamsburg. On the basis of the experience of similar organizations in Virginia and elsewhere, it is suggested that the Academy should embody in its program and plans the following:

1. An annual meeting for the reading of papers and the transaction of business, to be held during each spring at the seats of the institutions of learning in Virginia in approximate rotation.
2. The publication and distribution of abstracts of the papers presented.
3. The organization of such sections and standing committees as will best further its objects.
4. Affiliation with the American Association for the Advancement of Science, or with some other national group.

It may be mentioned that the dues of such organizations are always small.

We believe you are in sympathy with any movement looking toward the betterment of the scientific life of Virginia. The only question is whether the time is ripe and the method proposed effective.

A partial survey of the number of scientists in Virginia shows that it is rather surprisingly large. Without taking into account the various special societies in the State, such as the Chemists, the Bacteriologists, the Engineers, and others whose lists would furnish additional names, it has been found that there are about three hundred professional scientists in Virginia. The total is certainly much greater than this. From a study of the membership of the American Association for the Advancement of Science, the distribution of Virginia scientists is about as follows:

Biology, including Forestry and Agriculture	65
*Chemistry	48
*Geology	8
Mathematics and Physical Science	85
*Medical Science	15
Psychology and Sociology	50
Not limited to one field	19

The group of scientists in Virginia is therefore large enough for effective organization. That some such plan as that indicated presents an effective method of organization we believe is shown by experience.

Will you please fill out and return the subjoined blank? Your cooperation is needed and will be heartily welcomed.

For the Committee

Association of Virginia Biologists

I. F. Lewis, Miller Professor of Biology
University of Virginia

For Chemistry

Graham Edgar, Professor of Chemistry
University of Virginia

For Education and Sociology

B. G. Childs, Professor of Education
Randolph-Macon College

For Geology

H. D. Campbell, Professor of Geology
Washington and Lee University

For Mathematics and Physical Science

Joseph E. Rowe, Professor of Mathematics
College of William and Mary

For Medical Sciences

Wortley F. Rudd, Professor of Chemistry
Medical College of Virginia

For Psychology

George O. Ferguson, Professor of Psychology and Education
University of Virginia

* These groups would be much larger if the classification included others than members of the A.A.A.S.

For Sociology

Frank Bane, Commissioner of Public Welfare
Commonwealth of Virginia

II. THE SECTIONS OF THE ACADEMY

At the time of organization the Virginia Academy had four sections: Psychology and Education; Astronomy, Mathematics and Physics (the physical sciences); Biology; and Chemistry (actually, the Virginia Section of the American Chemical Society). These original four areas have remained strong, within the Academy, with almost half of all papers presented before all Annual Meetings being read in one of these original sections. And three of these four original sections have been especially active, at least in connection with their programs of papers. Over forty per cent of the papers read before any section of the Academy during the past fifty years has been before either the chemists, the biologists, or the physical scientists in their sectional meetings.

The Academy, as outlined at the end of Chapter VII, has often performed as a strong unit, and has had a number of successful all-Academy projects. However, it has been the scientist-members preparing and presenting the results of their studies and researches before their particular sections, and the officers and members of each of the several sections working together as a strong group within their one area of science, within one state—which have been the backbone of the Academy. They have provided the foundation upon which a strong organization of wide scientific interest could be built.

As the Academy grew, the original sections increased in size, and several found that their programs became too crowded. As time passed, specialized interest groups broke off into new sections. A few sections which came into existence presented programs for a longer or shorter period of years, and then passed out of existence when not enough interest was present to warrant continuation of these. Several of the new sections became among the strongest and most active in the organization.

From the original section of Astronomy, Mathematics and Physics, the engineers gave their own programs in the years 1939 through 1942, and then beginning again in 1949, have continued as an independent Section of Engineering. An offshoot from the same original section, Statistics presented a first sectional program in 1943, and then every year since that date except for 1945, when only a skeletal Academy meeting was held. In keeping with interests of the times, two other sections have originated from the original physical sciences group in the late sixties. Both Materials Science and Space Science presented full programs in 1966, and have continued to do so since that year. The four new sections coming from the original Astronomy, Mathematics and Physics Section all appear on a sound basis in the fifty-first year of the academy.

While Biology has continued as one of the strongest sections, it has given origin over the years to a total of six additional sections. Not all of these new sections have survived, however. Five papers were presented before a Section of Bacteriology in 1929. This same section held programs at the Annual Meetings from 1942 through 1944, again in 1946, and then annually from 1948 through 1962. The Section of Microbiology held its first meeting in 1963—apparently as a continuation of the old Section of Bacteriology. Except for 1967, the Section of Microbiology has presented annual programs since its origination. The medical scientists separated from the Section of Biology in 1932, when they organized a separate Section of Medical Sciences and held sessions before which twenty papers were presented. Full programs in the medical sciences were held in all subsequent years, through 1972, with exception of the war years of 1944 and 1945. The next group to separate from the biologists were the foresters, when they organized a Section of Forestry in 1941 and presented a program of twenty papers. This proved a transient group. Six papers were presented before the Section of Forestry in 1942. Sectional officers were elected for an additional year, but the war was curtailing activity in all sections and the foresters have never again held a sectional meeting with the Academy. The Section of Agriculture proved much more permanent; it held its first program in 1946, and other programs annually thereafter. It has already been mentioned that the Section of Microbiology was first organized in 1963, taking the place of the old Section of Bacteriology. The most recent section to arise from the biology group has been the Section of Botany, the newest section of the Academy—first organized in 1970, and presenting strong programs in subse-

quent years. Actually, in earlier days of the Academy, as the Biology Section became larger, and its programs crowded, separate sectional meetings had been held by the zoologists and the botanists, but both as a part of the Section of Biology.

There have been some changes, and additional sections, from the original Section of Psychology and Education, also. In 1935 this original section divided into a Section of Education, and a Section of Psychology. The Education Section held annual programs except in 1945, through the Annual Meeting of 1959, when that section ceased to exist. The Section of Psychology has held annual meetings since 1935, except for several of the war years, with a generally increasing number of members and enlarged programs as the years have passed. To the writer, it is not apparent that there has been any direct connection between the Section on Education and the Section of Science Teachers. The latter presented its first program in 1949, and held annual programs—with a small and limited number of papers—through the year 1963. Since 1963 the Science Teachers have continued to be carried as a Section of the Academy, but without presenting a formal program, as such. Usually this group has held a luncheon, or a breakfast, at which an invitational speaker or two has spoken, and at which time the group has organized for the following year. It seems likely that the Section of Education may have played some part in initiating and perhaps in organizing the Section of Science Teachers.

The immediately preceding paragraphs have mentioned and discussed all organized sections of the Academy that have functioned through the years, with the exception of the Section of Geology. This section held its first program in 1927 and, again except for 1945, has held annual programs every subsequent year. The geologists would appear to be an entirely separate group. There seems no record that any papers by geologists were presented before the Section of Astronomy, Mathematics and Physics in the years prior to 1927. Hence, the group would not seem to have been an offshoot from that original section.

The sections of the Academy might be summarized. There were four sections originally. From the Section of Astronomy, Mathematics and Physics, four new sections seem to have derived; making five current sections from that one original group. From the original Section of Biology, six new sections originated. Two of these, Bacteriology and Microbiology may be considered the same with only a name change being involved. The Section of Forestry was of short duration. As a result, from the original Section of Biology, four additional current sections originated; i.e., the sections on Medical Sciences, Agriculture, Microbiology and Botany. Again, five sections where one existed originally. The Section of Chemistry has continued as a strong and vigorous group from the time of the original organization of the Academy. The original Section of Psychology and Education is now essentially the Section of Psychology. The Section of Geology has been active over a long period of years, and judging from the number of papers presented before the Annual Meetings, interest in this section has been on the increase in recent years. This leaves only the Section of Science Teachers, with its situation as described in a preceding paragraph. Currently then, there are thirteen active sections of the Academy, plus the Science Teachers which meet annually for one session at the time of the Annual Meetings.

A summary of the sections of the Academy is given in Table 1. This table attempts to give a picture of the sections, dealing with their time of organization; their duration or tenure; the total numbers of papers which have been given before the sections, at least from 1925 through 1972; the number of years in which paper sessions have been held; and the average number of papers presented before each section per year. In addition, this table lists the number of papers from each section which have received Academy Awards. To a certain extent, it would seem that the number of award winning papers are an indication of the interest in a given section, and of the level of the research work which is reported before the sections. It is realized that this is not entirely true, because certainly many excellent papers have not been submitted for awards. In general, however, it is likely that the great majority of authors have submitted papers in the award competition if they have felt that their paper merited a good chance of receiving an award.

III. GROWTH OF ACADEMY MEMBERSHIP BY YEARS

There were 134 charter members of the Virginia Academy of Science at the time of its organizational meeting at Williamsburg in 1923. The Academy never again had that small a number of members. There were 152 members recorded in

TABLE I

Sections of the Academy, 1925-1972; tenure; papers presented; awards to papers

Section and Tenure	Program Years	Total Papers	Average Papers Per Year	No. of Award Winning Papers
Astronomy, Mathematics and Physics (Beginning to date)	46	1222	27	6
Biology (Beginning to date)	47	1445	31	16
Chemistry (Beginning to date)	47	1297	28	14
Psychology & Education (Beginning to 1934)	8	64	8	
Education (1935 to 1959)	24	181	8	
Psychology (1935 to date)	36	665	18	1
Geology (1928 to date)	43	744	17	
Bacteriology (1929; 1942-62)	20	159	8	
Medical Sciences (1932 to date)	39	788	20	9
Engineering (1939 to 1942; 1949 to date)	28	639	23	
Forestry (1941 and 1942)	2	26	13	
Statistics (1943 to date)	29	418	14	7
Agriculture (1946 to date)	27	564	21	1
Science Teachers (1949 to 1964)	15	65	4	
Microbiology (1963 to date)	9	72	8	
Materials Science (1966 to date)	7	164	23	1
Space Science (1966 to date)	7	144	21	
Botany (1970 to date)	3	76	25	
Total		8733		

1924 and 237 in 1925. Actually, there was an increase in membership every year from the time of the 1923 organizational meeting until the twelfth Annual Meeting was held in Harrisonburg in 1934. There were 751 members enrolled in 1934, more than a 460 per cent increase over the charter membership number. This was the greatest percentage increase in membership, in a like period of time, that the Academy experienced during the first fifty years of its existence. Following 1934 there was a slight dip in 1935, and again in 1936, this time to 695 members. But then the membership climbed again until it stood at 843 by 1939, and after a slight dip in 1940, rose again to 912 in 1941, at about the time the United States entered the second World War.

This history has earlier recounted the difficult and trying times through which the Academy passed as its members devoted themselves to the war effort during the years between 1941 and 1946. The membership declined from 912 to 882 in 1942, to 811 in 1943, and on to 629 in 1945. This was a 31 per cent decrease in membership during those years.

But with cessation of the war, "sunny days were here again," and the membership enrollment arose steadily during the next five years until it stood at 1204 in 1950. During the fifties the membership fluctuated, at first going down slightly, then increasing a bit, and in the long run staying about steady during the decade with 1225 members on the rolls in 1960, just a very few members more than the 1950 membership.

During the sixties, the membership continued to fluctuate, but there were only three years during this decade when there were decreases in numbers of members. The trend was strongly upward again, so that by 1970 1767 members were on the rolls. This was a 44 per cent increase in membership during the sixties.

As the seventies began the membership again decreased slightly, to 1650 in 1971, and 1632 in 1972.

During the first fifty years of the Academy, the trend in membership has been rather consistently upward. Increases, and at times considerable increases, have occurred in thirty-three different years. In only sixteen years have there been decreases in membership and this includes the long series of trying war years. It has been mentioned before that from time to time the nonpaying members have been removed from the rolls—that in other words the "dead wood" has been cut away. By this procedure the members who have remained on the rolls have been the

active ones necessary and important to the best progress of the organization. Removal of the "dead wood" has been a healthy operation, in the long run, although it has made the membership enrollment seem to fluctuate unduly.

Table 2 lists the numbers of members by years and shows the trend of generally steady increase in membership from 1923 to the present time.

IV. MEETING PLACES AND SPONSORING INSTITUTIONS

Annual meetings of the Academy have traditionally been held on the campuses of institutions of higher learning, at places scattered widely across the state. As the organization has grown, a larger proportion of the meetings have been held in hotels of the larger cities in the state, but with the meeting in such a hotel being planned and sponsored by one or more educational institutions from nearby areas.

The first meeting was held at Williamsburg in 1923. The second was in the

TABLE II

Membership by Years—1923-1972

1923—134	1940— 823	1957— 892
1924—152	1941— 912	1958— 961
1925—237	1942— 882	1959—1022
1926—315	1943— 811	1960—1225
1927—323	1944— 765	1961—1300
1928—394	1945— 629	1962—1120
1929—500	1946— 633	1963—1114
1930—535	1947— 835	1964—1250
1931—555	1948—1007	1965—1328
1932—637	1949—1066	1966—1512
1933—743	1950—1204	1967—1444
1934—751	1951—1194	1968—1674
1935—698	1952— 871	1969—1717
1936—695	1953— 973	1970—1767
1937—737	1954— 935	1971—1650
1938—809	1955— 881	1972—1632
1939—843	1956— 891	

Valley at Lexington, followed by the 1925 meeting at Richmond, essentially on the border between the Piedmont and the Coastal Plain. The group met at Charlottesville in 1926, followed by a 1927 meeting in the mountains of southwest Virginia at Blacksburg. Thus it was not until the sixth meeting in 1928 that the group met for a second time at a site where a former Annual Meeting had been held—when they met for a second time at the College of William and Mary at Williamsburg.

The next half dozen Annual Meetings were each held at a new and different location. Three of these, but not consecutively, were in the Valley, at Staunton, Roanoke, and Harrisonburg, respectively. Two were in the Piedmont, at Fredericksburg and Lynchburg; and the other was on the Coastal Plain at Norfolk. In 1935 the group met in Richmond for a second time. From then, through 1940, the Annual Meetings met in diverse sections of the state. During the war years most of the meetings, some of them only skeletal ones, were held in Richmond—which seemed the most central point for most attendants, and the point most easily reached when gasoline and tires were limited.

Beginning in 1947, following the war, of the next 25 meetings, 14 were held in either Charlottesville (4), Roanoke (5), or Richmond (5). Accommodations for the increased membership were somewhat easier at these three points, than at other places in the state. But yet, during that period, the Academy held eleven meetings at seven other places at quite diverse locations. These seven places ranged from Old Point Comfort and Norfolk to Blacksburg, and from Lynchburg, Lexington and Harrisonburg to Fredericksburg. The various schools in the state took pride in playing host to the Annual Meetings and, without exception, have handled the planning and responsibilities of the meetings in a magnificent manner.

Table 3 lists the meeting places and sponsoring institutions for the Annual Meetings in chronological order. It can be seen that three of these meetings have been held in the mountains of southwest Virginia at Blacksburg. Seventeen times the group has met at Valley cities: Roanoke (7), Lexington (6), Staunton (1), and

Harrisonburg (3). In eleven cases Annual Meetings have been in the Piedmont area, with six of these being at Charlottesville, two each at Fredericksburg and Lynchburg, and one at Danville. The group has had its annual gathering at points on the Coastal Plain a somewhat greater number of times, at least if Richmond be placed in that area. Already, 19 meetings have been held in the eastern part of the state at Richmond (12), Norfolk (3) and at both Old Point Comfort and Williamsburg two times each. And, of course, a twentieth meeting for that area, and a third for Williamsburg, is to be held there in 1973. Table 4 lists the locations of the various meetings, the numbers of times of meeting at each point, and the years of those meetings.

TABLE III
Meeting Places and Sponsoring Institutions

1923	First, Williamsburg (College of William & Mary)
1924	Second, Lexington (Washington & Lee University)
1925	Third, Richmond (Medical College of Virginia, University of Richmond, Randolph-Macon College)
1926	Fourth, Charlottesville (University of Virginia)
1927	Fifth, Blacksburg (V.P.I. and E. Radford State Teachers College)
1928	Sixth, Williamsburg (College of William & Mary)
1929	Seventh, Staunton (Mary Baldwin College; Staunton Military Institute)
1930	Eighth, Lynchburg (Randolph-Macon Woman's College)
1931	Ninth, Norfolk (Monticello Hotel, Headquarters)
1932	Tenth, Roanoke (Hollins College)
1933	Eleventh, Fredericksburg (State Teachers College)
1934	Twelfth, Harrisonburg (State Teachers College)
1935	Thirteenth, Richmond (University of Richmond)
1936	Fourteenth, Lexington (Virginia Military Institute)
1937	Fifteenth, Charlottesville (University of Virginia)
1938	Sixteenth, Blacksburg (Virginia Polytechnic Institute)
1939	Seventeenth, Danville (Danville Hotel, Headquarters)
1940	Eighteenth, Lexington (Virginia Military Institute)
1941	Nineteenth, Richmond (Medical College of Virginia)
1942	Twentieth, Roanoke (American Viscose Corporation)
1943	Twenty-first, Richmond (Hotel Jefferson, Headquarters)
1944	Twenty-second, Richmond (Richmond Institutions; Hotel Jefferson, Headquarters)
1945	Twenty-third, Richmond (Skeleton meeting, Hotel Jefferson)
1946	Twenty-fourth, Richmond (John Marshall Hotel, Headquarters)
1947	Twenty-fifth, Charlottesville (University of Virginia)
1948	Twenty-sixth, Roanoke (Virginia Polytechnic Institute)
1949	Twenty-seventh, Richmond (M. C. V.; Richmond University Center; R.P.I.; University of Richmond)
1950	Twenty-eighth, Roanoke (Hollins College, Roanoke College)
1951	Twenty-ninth, Lynchburg (Lynchburg College)
1952	Thirtieth, Old Point Comfort (College of William & Mary and V.P.I. in Norfolk)
1953	Thirty-first, Lexington (Virginia Military Institute)
1954	Thirty-second, Charlottesville (University of Virginia)
1955	Thirty-third, Harrisonburg (Madison College)
1956	Thirty-fourth, Richmond (Richmond Area University Center)
1957	Thirty-fifth, Old Point Comfort (College of William & Mary, Norfolk)
1958	Thirty-sixth, Roanoke (Hollins College; Roanoke College; V.P.I.; American Viscose Corp.; N & W RR; Veterans Administration Hospital)
1959	Thirty-seventh, Charlottesville (University of Virginia)
1960	Thirty-eighth, Richmond (M.C.V.; University Center in Virginia; R.P.I.; University of Richmond)
1961	Thirty-ninth, Lexington (Virginia Military Institute)
1962	Fortieth, Norfolk (Norfolk College of William & Mary)
1963	Forty-first, Roanoke (Hollins College; Roanoke College; V.P.I.)
1964	Forty-second, Charlottesville (University of Virginia)
1965	Forty-third, Richmond (M.C.V.; R.P.I.; University of Richmond)
1966	Forty-fourth, Harrisonburg (Madison College)
1967	Forty-fifth, Norfolk (Old Dominion College)
1968	Forty-sixth, Roanoke (Hollins College; Roanoke College; V.P.I.)
1969	Forty-seventh, Fredericksburg (Mary Washington College)
1970	Forty-eighth, Richmond (Virginia Commonwealth University; University of Richmond)
1971	Forty-ninth, Blacksburg (Virginia Polytechnic Institute and State University)
1972	Fiftieth, Lexington (Virginia Military Institute; Washington and Lee University)
1973	Fifty-first, Williamsburg (College of William & Mary)

It is obvious that the Academy has met at widely varied points over the state, and that a majority of the schools of higher education in the state have been involved in one or more Annual Meetings. The only areas of the state which have not played host to the Academy are the extreme northern parts, say at Winchester and also the Fairfax-Arlington areas, and the extreme southwestern part of the Old Dominion, in the Bristol area.

TABLE IV
PLACE OF MEETINGS BY CITIES
With Number, and Years, of Meetings

City	Number	Year(s)
Richmond	12	'25, '35, '41, '43, '44, '45, '46, '49, '56, '60, '65, '70
Roanoke	7	'32, '42, '48, '50, '58, '63, '68
Lexington	6	'24, '36, '40, '53, '61, '72
Charlottesville	6	'26, '37, '47, '54, '59, '64
Blacksburg	3	'27, '38, '71
Norfolk	3	'31, '62, '67
Harrisonburg	3	'34, '55, '66
Williamsburg	2 (3)	'23, '28, ('73)
Lynchburg	2	'30, '51
Fredericksburg	2	'33, '69
Old Point Comfort	2	'52, '57
Staunton	1	'29
Danville	1	'39

V. THE RESEARCH COMMITTEE AND RESEARCH AWARDS

From its earliest days the Academy has had the promotion of research as one of its primary functions. In the second year of the Academy a preliminary committee was appointed on means of achieving this objective. The committee was composed of John H. Yoe, Frederic W. Shaw and J. Shelton Horsley, Chairman. This committee issued and distributed a printed report on its findings and recommendations to the Academy at its Richmond meeting on May 5, 1926. This constructive report was so favorably received that a permanent Research Committee was created.

Dr. Horsley who had served as Chairman of the preliminary committee was elected fourth President of the Academy and served in that capacity during the 1926-27 term. He at once went out among his friends and raised an endowment of about \$12,000 for this permanent Research Committee to administer. The following year, the young Research Committee was able to award a prize of \$50 for an outstanding paper read at the meeting, and such a prize has been awarded each year since, except in certain war years. The amount of the prize was later increased to \$100, and later yet to \$500.

The first permanent Research Committee was composed of Robert E. Loving, C. P. Olivier, Donald W. Davis, L. R. Giessler, and Robert F. McCracken. It is not clear who was chairman of this first committee, but it appears to have been Dr. Loving, physicist of the University of Richmond, and he was apparently chairman for several years. Dr. Loving was Chairman of the 1930-31 Research Committee.

Dr. J. Shelton Horsley assumed the Chairmanship of the Research Committee in 1931-32 and held this position through 1939. Chairmen of the Research Committee for the following years were as follows: F. A. Geldard, 1939-40—1942-43; Harvey B. Haag, 1942-43—1944-45; Robert F. Smart, 1945-46 and 1946-47; H. Rupert Hanmer, 1947-48—1949-50; Walter S. Flory, 1950-51—1952-53; and Charles L. Gemmill, 1953-54 and 1954-55. From 1943-44 through 1954-55, there had been six, and sometimes seven, members on the committee. Since 1955-56, there have been five members on the Research Committee, with each incoming President appointing one member for a five-year term, while the senior member rotated off. Since 1955-56, the senior member of the Committee has served as Chairman. Accordingly, in recent years each member has served as

Chairman of the Committee, but for one year only. There has been only one exception to this, apparently. In 1958-59, R. W. Engel, senior member of the Committee, was unable to serve in that capacity because of responsibilities outside the state. In that year, the second member in seniority, Jackson J. Taylor, served as Chairman, and Mr. Taylor served again as Chairman in 1959-60, his senior year on the group.

The Academy prize, designated the J. Shelton Horsley Research Award since 1946, has gone to a meritorious paper presented before some Academy section in almost every year since 1927. In addition, in the years from 1936 through 1939, The Jefferson Gold Medal went to a second meritorious paper. Also, in the years from 1940 through 1945, The Jefferson Prize went to a second meritorious paper presented before some section of the Academy.

Fifty-five different papers have been designated as prizeworthy, with Academy awards going to the author or authors of those papers. A total of 71 different authors, or co-authors, have been involved in writing the 55 award winning papers. The titles of these papers are indicative of the breadth of the scientific and research interests prevalent among some Academy members. As such, it appears worthwhile to publish the list of titles of the award winning papers, with their authors and institutions, in Table 5.

TABLE V

*Winners of Awards for Research Papers
Including Year, Institutional Affiliation of Author(s), and Title of Paper*

THE ACADEMY PRIZE	
1927	C. C. Speidel. (School of Medicine, University of Virginia.) Regenerative Phenomena Under Conditions of Hyperthyroidism.
1928	John H. Yoe. (Chemistry, University of Virginia.) Colorimetry of Aluminum.
1929	J. C. Street. (Physics, University of Virginia.) The Time Lag of the Spark Discharge.
1930	H. E. Jordan and C. C. Speidel. (School of Medicine, University of Virginia.) Hemocytopenia in the African Lung-Fish Under Normal Conditions and Under Prolonged Dry Estivation and Recovery.
1931	E. C. Stevenson. (Physics, University of Virginia.) The Study of Electro-optical Kerr Effect in Carbon Dioxide as a Function of Density and Temperature.
1932	James H. Smith. (St. Luke's Hospital, Richmond.) The Influence of Solar Radiation on the Distribution and Prevalence of Exophthalmic Goiter in the United States.
1933	S. A. Wingard. (Virginia Agricultural Experiment Station.) The Production of Rust-Resistant Varieties of Beans by Hybridization.
1934	E. P. Johnson. (Virginia Agricultural Experiment Station.) The Etiology and Histogenesis of Leucosis and Lymphomatosis of Fowls.
1935	Margaret Hess. (Biology, University of Virginia.) Edema and General Atrophy in <i>Stenostomum oesophagium</i> .
1936	Alfred Chanutin. (School of Medicine, University of Virginia.) The Effect of Whole Dried Meat Diets on Renal Insufficiency Produced by Partial Nephrectomy.
1937	R. G. Henderson. (Virginia Agricultural Experiment Station.) Studies on the Downy Mildew Disease of Tobacco.
1938	S. G. Bedell. (School of Medicine, University of Virginia.) Observations on the Lateral-Line Organs of Living Amphibian Larvae with Special Reference to Orange Colored Granules of the Sensory Cells.
1939	M. J. Murray and Forrest F. Cleveland. (Lynchburg College.) The Use of Polaroid in Depolarization Measurements on Raman Lines.
1940	Walton C. Gregory. (Blandy Experimental Farm, University of Virginia.) Cytology and Phylogeny in the Ranunculaceae.
1941	Charles Ray. (Blandy Experimental Farm, University of Virginia.) Cytological and Genetic Studies on the Flax Genus, <i>Linum</i> .
1942	No Award.
1943	J. B. Meyer. (Blandy Experimental Farm, University of Virginia.) Cytogenetics of <i>Phlox</i> .
1944	J. Herbert Taylor. (Blandy Experimental Farm, University of Virginia.) Cytotaxonomy and Phylogeny of the Oleaceae Lindl.
1945	No Award.
THE J. SHELTON HORSLEY RESEARCH AWARD	
1946	Equal Awards to each of two "distinctly superior" papers. (1) Boyd Harshbarger. (Statistical Laboratory, Virginia Polytechnic Institute.) Rectangular Lattices.

- (2) D. B. DeLury. (Statistical Laboratory, Virginia Polytechnic Institute.) The Analysis of Latin Squares When Some Observations are Missing.
- 1947 No Award listed in the proceedings (see pages 28–30, and 50.)
- 1948 Henry Leidheiser. (Chemistry, University of Virginia.) Generalizations Concerning the Surface Behavior of Single Crystals of the Face-Centered Cubic Metals.
- 1949 Walter S. Flory. (Blandy Experimental Farm, University of Virginia.) Pollen Conditions in Some Species and Hybrids of *Rosa* with a Consideration of Associated Phylogenetic Factors.
- 1950 Erling S. Hegre. (Medical College of Virginia.) A New Research Tool and Technique for the Biologist.
- 1951 D. B. Duncan. (Statistical Laboratory, Virginia Polytechnic Institute.) A Significance Test for Differences Between Ranked Treatments in an Analysis of Variance: the Properties of the Multiple Comparison Test.
- 1952 D. R. H. Gourley. (School of Medicine, University of Virginia.) The Mechanism of the Uptake of Radioactive Phosphate by Human, Rabbit and Chicken Erythrocytes.
- 1953 Stephan Berko and Frank L. Hereford. (Physics, University of Virginia.) Deflection of High Energy Electrons in Magnetized Iron.
- 1954 Lynn D. Abbott and Mary D. Jackson. (Medical College of Virginia.) Inhibition of In Vitro Heme Synthesis from N^{15} Glycine by 2, 5-Dimethylbenzimidazol, 5, 6, Dimethylbenzimidazol, and Related Compounds.
- 1955 Albert W. Lutz, Jr. and Evans B. Reid. (College of William and Mary.) Clovene and B-Caryophyllene Alcohol.
- 1956 M. C. Kenneth Tweedie. (Statistical Laboratory, Virginia Polytechnic Institute.) Statistical Properties of Inverse Gaussian Distributions.
- 1957 Equal Award to two papers of "equal excellency."
- (1) R. A. Bradley and D. E. W. Schumann. (Statistical Laboratory, Virginia Polytechnic Institute.) The Comparison of the Sensitivities of Similar Experiments.
- (2) Walter H. Lewis. (Blandy Experimental Farm, University of Virginia.) A Biosystematic Study of *Rosa acicularis*.
- 1958 G. Tyler Miller, Jr. and Kenneth R. Lawless. (Chemistry, University of Virginia.) An Electron Microscope Study of the Oxidation of Copper Single Crystals in Aqueous Salt Solutions.
- 1959 Dorothy L. Crandall. (Randolph-Macon Woman's College.) Ground Vegetation Patterns of the Spruce-Fir Area of the Great Smoky Mountains National Park.
- 1960 Lawrence I. Miller. (Virginia Agricultural Experiment Station, Holland.) The Influence of Soil Components of the Survival and Development of the Sting Nematode.
- 1961 Equal Awards to two papers:
- (1) Irving R. King. (Texaco Experiment Incorporated.) A Study of the Recombination of Ions in Flames.
- (2) Billy W. Sloope and Calvin O. Tiller. (Virginia Institute for Scientific Research.) The Formation, Conditions and Structure of Thin Epitaxial Films on Rocksalt.
- 1962 Claude P. Talley and Gerald R. Taylor, Jr. (Texaco Experiment Incorporated.) Preparation of High Purity Single-Crystal Boron.
- 1963 H. A. David. (Statistical Laboratory, Virginia Polytechnic Institute.) The Method of Paired Comparisons.
- 1964 E. Rae Harcum. (Psychology, College of William and Mary.) A Curious Parallel Between Serial Learning and Tachistoscopic Perception.
- 1965 Doris Kuhlman-Wilsdorf. (Engineering-Physics, University of Virginia.) Theory of the Interaction of Vacancies with Stress Fields of Metals.
- 1966 Frank A. Vingiello. (Chemistry, Virginia Polytechnic Institute.) New Polycyclic Aromatic Hydrocarbons with Seven Fused Rings.
- 1967 Oscar R. Rodig and Galal Zanati. (Chemistry, University of Virginia.) Studies on the Synthesis of Enol Acetates of the Δ^1 1-3-Keto-AB-Trans-Steroid System.
- 1968 H. H. Hobbs, P. C. Holt and Margaret Walton. (Smithsonian Institution, Virginia Polytechnic Institute, and Danville High School.) The Crayfishes and Their Epizootic Ostracod and Branchiobdellid Associates of the Mountain Lake, Virginia, Region.
- 1969 A. J. McCaffery, P. N. Schatz, and T. E. Lester. (Chemistry, University of Virginia.) Magnetic Circular Dichroism of $IrCl_6^{2-}$ in Crystalline $(CH_3NH_3)_2SnCl_6$.
1970. I. Gordon Fels. (Chemistry, Virginia Institute for Scientific Research.) A Model System for Molecular Aging and Senescence.
- 1971 L. R. Durden, L. H. Slack and P. R. Eusner. (Materials Science, Virginia Polytechnic Institute and S.U.) The Unusual Electrical Effects in Arsenic-Tellurium Semiconducting Glasses.
- 1972 I. J. Good and R. A. Gaskins. (Statistics, Virginia Polytechnic Institute and S.U., and Hampden-Sydney College.) Global Nonparametric Estimation of Probability Densities.

THE JEFFERSON GOLD MEDAL

- 1936 Alfred Chanutin. (School of Medicine, University of Virginia.) The Effect of Whole

- Dried Meat Diets on Renal Insufficiency Produced by Partial Nephrectomy.
- 1937 William B. Porter. (Medical College of Virginia.) Heart Changes and Physiologic Adjustment in Hookworm Anemia.
- 1938 H. M. Phillips. (Blandy Experimental Farm, University of Virginia.) Karyology and the Phyletic Relationships in the Plumbaginaceae.
- 1939 G. M. Shear and H. D. Ussery. (Virginia Polytechnic Institute.) Frenching of Tobacco Distinguished from Thallium Toxicity by Spectrographic Analysis.

THE JEFFERSON PRIZE

- 1940 L. G. Overholser and John H. Yoe. (Chemistry, University of Virginia.) The Application of a New Class of Organic Reagent to the Detection and Determination of Palladium.
- 1941 Allan T. Gwathmey. (Chemistry, University of Virginia.) The Action of Some Gases on the Surface of a Single Crystal of Copper.
- 1942 R. N. Jefferson. (Virginia Agricultural Experiment Station.) The Influence of Carbon Tetrachloride on the Toxic Efficiency of Certain Volatile Compounds.
- 1943 W. H. Hough. (Virginia Agricultural Experiment Station, Winchester.) Development and Characteristics of Vigorous or Resistant Strains of Codling Moth.
- 1944 Clifton B. Cosby. (U.S. Patent Office, Richmond.) Graphical Determination of Complex Roots of the Quadratic.

Table 6 indicates the ten different institutions with which the authors of the award winning papers have been affiliated. Also, in the case of the Medical College of Virginia, the University of Virginia and Virginia Polytechnic Institute, this table lists the academic division in which the papers have originated. It is apparent from this Table that an unusually high number of prize winning papers have originated at the Blandy Experimental Farm of the University of Virginia, and in the Department of Statistics at V.P.I. Equally outstanding have been the Department of Chemistry at the University of Virginia, the School of Medicine at the University, and the Plant Pathology and Physiology unit at V.P.I. But the overall impression which is left by the data in Table 6 is that of the wide range of institutions and departments over the state which have carried and are carrying on research of merit, as indicated by these awards.

TABLE VI

Research awards listed by institution and school, 1927 through 1972

Lynchburg College		1
Medical College of Virginia		3
(1 each: Biology, Chemistry and Medicine)		1
Randolph-Macon Woman's College		1
St. Luke's Hospital		2
Texaco Experiment, Inc.		25
University of Virginia		4
Astronomy, Mathematics and Physics		8
Biology	1}	
Blandy Exp. Farm	7}	
Chemistry		7
Medicine		6
		-
Virginia Institute of Scientific Research		2
Virginia Polytechnic Institute		17
Animal Pathology		1
Biology	1*}	6
Plant Pathology & Phys.	5}	
Chemistry		2
Materials Science		1
Statistics		7
		-
U. S. Patent Office, Richmond		1
William and Mary		2
		-
	Total	55

* In collaboration with Smithsonian Institution

VI. INVITATIONAL ADDRESSES AND SYMPOSIA

Among the features at most Annual Meetings have been the invitational addresses which have been given before the Academy Assembly most years, and the symposia which have been sponsored by a number of different sections, and sometimes which have been Academy-wide. Since 1923, 46 invitational lectures have been given before the members of the Academy by invited speakers. Almost without exception these speakers have been men of national reputation. Several Nobel laureates are found on the list. These invitational addresses are listed in Table 7, together with the speaker, the year in which the address was given, and the President who was usually responsible for inviting the speaker. By looking over the titles of the addresses, it can be seen that they cover almost the whole range of scientific effort and thought.

In Table 8 are listed the symposia which have been sponsored by the Academy, by Sections of the Academy, or by members of the Academy since the first one was held at Williamsburg in 1928. There are 44 different symposia titles listed. About eight of these were sponsored by the Academy. The majority were sponsored by individual sections or by individual members or groups of the Academy. Especially active in sponsoring symposia have been the Sections of Chemistry (7), and Psychology (6). But it may be noted that symposia have also been sponsored by the Sections of Biology, Education, Engineering, Geology, the Medical Sciences, and the Science Teachers. At least two symposia have been co-sponsored by three different sections, while three other symposia have been co-sponsored by two different sections of the Academy.

The speakers delivering the invited addresses and those involved in the symposia have doubtless been responsible for expressing some of the more enlightened thought and opinion heard at the several Annual Meetings.

TABLE VII
Invitational Addresses

Year	Academy President	Invited Speaker	Title of Address
1923		W. C. Coker	The Scope and Function of a State Academy of Science
1924	Ivey F. Lewis	S. C. Lind	Radioactivity
1925	J. L. Howe	S. A. Mitchell	Fifty Thousand Miles of Travel with an Astronomer to Observe Eclipses of the Sun
1926	R. E. Loving	Wm. L. Poteat	Nescience or the Limitations of Science
1927	J. S. Horsley	Edgar T. Wherry	Visits to the Haunts of Virginia's Rare and Endemic Plants
1928	D. W. Davis	Warren T. Vaughan	The Biological Aspects of Hay Fever and Asthma
1929	W. M. Brown	No Invited Speaker	
1930	G. Ryland	H. D. Campbell	The Geology of the Valley of Virginia in Relation to Virginia History
1931	L. G. Hoxton	W. A. Kepner	A Modern Drift in Biological Thought
1932	I. D. Wilson	Karl T. Compton	The Evolution of the Research Laboratory
1933	T. N. Simpson	Carl C. Speidel	Living Nerve Cells (Movie and Commentary)
1934	W. A. Kepner		Explorations in Hawaii
1935	W. T. Sanger	Alex. Wetmore	Heredity and Cancer
1936	Ida Sitler	C. C. Little	Atoms, New and Old
1937	H. E. Jordan	E. O. Lawrence	Revisions of our Conceptions of Learning Demanded by Recent Experimental Findings
1938	D. M. Allan	J. F. Dashiell	
1939	E. B. Norris		
1940	R. S. Freer	W. H. Camp	A Winter in Oaxaca: Exploring for Plants in Southern Mexico
1941	W. F. Rudd	Austin H. Clark	

1942	G. W. Jeffers	W. H. Sebrell, Jr.	Demographic, Economic and Social Characteristics of the James River Basin
1943	M. H. Stow	J. B. Gittler	
1944	W. C. Jones	E. H. Hamann	The Production of Essentials in Various Countries
1945	R. F. Smart	S. A. Mitchell	Astrophysical Results from Ten Total Eclipses of the Sun
1946	H. R. Hanmer		
1947	Arthur Bevan	Wm. F. Foshag	Paricutin, A Modern Volcano
1948	J. W. Beams	John Collier	The Social Responsibility of Scientists in a Unique World (Panel Discussion)
1949	S. S. Negus	H. S. Meyerhoff	The Scientist in Politics
1950	B. Harshbarger	Russel L. Poor	The Impact of Atomic Energy on Southern Education
1951	G. W. Horsley	Wm. S. Stone	Army Medical Research in National Defense
1952	P. M. Patterson	E. N. Harvey	Bioluminescence
1953	L. C. Bird	H. N. Ayles	Atomic Energy: Weapon for Peace
1954	A. T. Gwathmey	J. A. Becker	Seeing and Counting Atoms with New Field Emission Microscope (Weather)
1955	I. G. Foster	Jerome Namias	How to Measure a Species
1956	W. S. Flory	Edgar Anderson	Difference and Why Bother
1957	E. S. Harlow	W. F. Libby	Atomic Energy Commission Policy and Methods
1958	W. G. Guy	L. H. Snyder	Heredity in Human Health and Disease
1959	J. C. Forbes	S. I. Gale	Chemistry on a Cosmos Scale
1960	W. M. Hinton	H. F. Harlow	A Theory of the Development of Affection in Primates
1961	W. B. Bell	Arthur Roe	Education for the Future
1962	H. H. Hobbs	Dietrick Bodenstein	Hormones and the Development of the Insect Eye
1963	J. J. Taylor	John Sauer	The Molecular Motion in Solids
1964	F. F. Smith	F. H. Sanford	Work and Leisure
1965	S. S. Obenshain	S. B. Hendricks	Photoperiodism
1966	R. D. Hughes	A. S. Roemer	Evolutionary Development from Bony Fishes to Amphibians
1967	S. B. Williams	Eliot Stellar	Eating Behavior of Humans
1968	J. W. Cole	R. J. Rowlett	Computer Pathways to Scientific Information
1969	P. B. Siegel	Wm. J. L. Sladen	The Adult and Juvenile Behavior of the Adelle Penguin
1970	D. R. Carpenter	R. M. Wood	The Giant Discoveries of Future Science
1971	M. B. Rowe	N. C. Brady	The Role of Agriculture in Improving Environmental Quality
1972	E. F. Turner	Peter van de Kamp	The Search for Extra-Solar Planets in our Stellar Neighborhood

TABLE VIII
SYMPOSIA

Sponsored by the Academy, by Sections of the Academy, or by Members of the Academy

1928	Williamsburg	"Chemical Education." Chemistry Section.
1930	Lynchburg	"Mental and Physical Tests versus Chronological Age as a Basis for Admission to First Grade." Education Section.
		"Industrial Orientation and Professional Guidance for Virginia Chemists." Chemistry Section, Leader: Negus.
		"Pollution of the James River." Joint Session Bacteriology, Biology and Chemistry Sections.
1931	Norfolk	"Principles from the Natural Sciences that should be taught in Public Schools." Education Section.
		"Problems of the Virginia Oyster Industry." Joint Session: Biology and Chemistry Sections.

1932	Hollins	"The Potentialities of the Natural Resources of Virginia." Joint Session: Biology, Chemistry and Geology Sections. Arranged by the Industrial Committee.
1935	Richmond	"Teacher Education in Virginia," and "Teaching Science in the Public Schools." Education Section.
1937	Charlottesville	"Chemical Industry in the State." Chemistry Section.
1938	Danville	"Farm Chemurgy." Chemistry Section: Arranged by Edwin C. Cox.
		"Agricultural Chemistry." Chemistry Section: Arranged by H. H. Hill.
		"Organic Analytical Reagents." Chemistry Section: Arranged by John H. Yoe.
1940	Lexington	"Second Organic Analytical Reagents." Chemistry Section: Arranged by John H. Yoe.
		"Jaundice." Medical Section.
1941	Richmond	"Third Organic Analytical Reagents." Chemistry Section: Arranged by John H. Yoe.
1949	Richmond	"Chesapeake Bay Research." Joint Session: Biology and Chemistry Sections.
1951	Lynchburg	Symposium on Civil Defense. Presiding: Jesse W. Beams.
1953	Lexington	"Resource-Use Education." Joint Session: Biology and Science Teachers Sections.
1954	Charlottesville	"What's New in Physics?" Science Teachers Section.
		"What Kind of Research do Clinical Psychologists Need?" Psychology Section.
1955	Harrisonburg	"What's New in Chemistry?" Science Teachers Section.
1956	Richmond	"The Psychologist's Role in Community Mental Health." Psychology Section.
		"Why are We Failing to Attract Students to Enter Professional Biology?" Biology Section.
1957	Old Point Comfort	"Needed Research on the Gifted Child." Education Section.
1958	Roanoke	"Silica." Geology Section.
		"Quantitative Measurements in the Teaching of Science at all Levels." Science Teachers Section.
		"Achievement Imagery as Measured by the Iowa Picture Interpretation Test." Psychology Section.
1959	Charlottesville	"Relative Merits of Laboratory versus Demonstration in the Teaching of Science." Education Section.
1960	Richmond	"Sensory Deprivation, Clinical and Theoretical Implications." Psychology Section.
1961	Lexington	"On Recent Developments in Physiological Psychology with Implications for the Control of Behavior." Psychology Section.
1962	Norfolk	"Basic Research on Virginia's Natural Resources." Virginia Academy of Science and Virginia Institute for Scientific Research.
1964	Charlottesville	"Exploring Virginia's Human Resources." Virginia Academy of Science in cooperation with Virginia Chamber of Commerce.
1965	Richmond	"Instrumentation and Controls." Engineering Section.
		"Mental Retardation." Psychology Section.
		"Planning for Technical and Scientific Post High School Education in Virginia."
1966	Harrisonburg	"Molecular Biology."
1966	Richmond	"The First Virginia Population Conference." (December 6)*
1967	Norfolk	"Myocardial Contraction." Medical Science Section.
1968	Roanoke	"Transportation in the 70's." Engineering Section.
		"Psychedelic Phenomena." Medical Science Section.
1969	Fredericksburg	"Museums of Science." Science Section.
1970	Richmond	"Quality of Environment."
1971	Blacksburg	"The Clean Air Act: Its Technical, Economic and Legal Significance and Social Implications." Engineering Section.
1972	Lexington	(Colloquium) "Virginia's Environment: Where Do We Stand Today."

* The Academy in cooperation with the Virginia League for Planned Parenthood and eight other organizations. Proceedings published in the *Journal* 18: 28-54, 1967.

VII. THE VIRGINIA JOURNAL OF SCIENCE¹

As early as 1931 the Academy had considered and studied the possibilities of

¹The early history of the *Journal*, as of early Academy publications, is summarized from material in "The History of Early Publications of the Virginia Academy of Science and The History of the Virginia Journal of Science" by Boyd Harshbarger. This is a manuscript in the Archives of the Academy.

financing and publishing a newsletter or journal of some type. At that time the committee appointed by President L. G. Hoxton to investigate the matter, decided that the Academy could not afford a publication.

When an Academy publication did not materialize the botanists in the Biology Section, in 1934, initiated a mimeographed newsletter called CLAYTONIA, the name deriving from the early Virginia botanist, John Clayton. The newsletter was published every two months at first, but less frequently as time passed. It had a struggle to secure both adequate financing and a sufficient contribution of articles. Through the dedication and hard work of Editor R. S. Freer and Business Manager R. P. Carroll, publication continued for about five years. The discontinuance of CLAYTONIA was announced in the Academy Proceedings for 1940. But it was discontinued to be replaced by a publication of wider interests.

A large Academy committee had been set up in 1939 to consider an Academy-wide journal. The Chairman of this committee was I. F. Lewis, first President of the Academy, as well as the guiding influence chiefly responsible for initiating CLAYTONIA. The Academy committee recommended that *The Virginia Journal of Science* replace the botanical newsletter, and worked out details of editorship and financing which led to the first issue of the new *Journal* appearing in January 1940. Ruskin S. Freer and R. P. Carroll had been selected as Editor-in-Chief and Managing Editor, respectively, of the *Journal*. But the *Journal*, as its predecessor, had financial difficulties. Its annual financial reports showed increasing deficits. The inevitable result of such a situation was that the Academy voted to cease publication. The final decision was made at the May 1943 Annual Meeting, and upon motion of I. F. Lewis, the man chiefly responsible for getting the *Journal* started three years earlier.

But while temporarily defeated in his objective of seeing that the Academy published a viable journal, Dr. Lewis had only lost the battle, not the war. On April 15, 1946, Dr. Lewis addressed a letter to every member of the Academy concerning the advantages to the organization of publishing its own journal. At the 1946 Annual Meeting the Academy voted "that the publication of *The Virginia Journal of Science* be resumed . . . that a committee of three be appointed by the incoming president to make plans for this, and to report at the 1947 meeting." Dr. Ladley Husted was Chairman of this committee. Informal reports were made by the committee at the 1947 and 1948 Annual Meetings. Chapter IV records the final, complete report for the committee, by Dr. Husted, at the 1949 meeting, and the subsequent events leading up to the reestablishment of the *Journal*, and the happy event of securing Dr. Boyd Harshbarger as first Editor for the New Series of the *Journal*.

This is not the place for a detailed account of subsequent publication details concerning the *Journal*. The fact that 23 volumes of the VIRGINIA JOURNAL OF SCIENCE New Series have now been successfully completed speaks for itself. Since Dr. Harshbarger initiated the New Series, the *Journal* has had a succession of Editors, most of whom have distinguished themselves in their performance in the office. The *Journal*, New Series, has published dozens of articles based on original research; the abstracts of all papers presented at the Annual Meetings; the Proceedings of certain symposia; for a period, the program of the Annual Meeting; a synopsis of the actions of Council, as well as of the Annual Meetings; news and notes of, and pertinent to, the Academy. In short, it has served as the medium for exchange of information which has stimulated the thinking of the members, as well as forming a cohesive link between the Academy and its sections and its members. In addition, the quality of the publication adds considerably to the prestige of the Academy as a whole.

This section will close with a listing of the officers of the New Series of the *Journal*, with the Editors, and their associates, since 1950.

Editor-in-Chief

Boyd Harshbarger	1950-1955
Horton H. Hobbs, Jr.	1955-1957
Robert T. Brumfield	1957-1959
Robert D. Ross	1960-1961
Paul B. Siegel	1962-1966
Herbert McKennis, Jr.	1967-1968
Lynn D. Abbott, Jr.	1969-1972
Charles O'Neal	1973-

Technical Editor	
Horton H. Hobbs, Jr.	1950–1955
Assistant Technical Editor	
Wilbert Schall	1950
Mary E. Humphreys	1950–1954
Associate Editor	
Mary E. Humphreys	1954–1959
Managing Editor	
B. F. D. Runck	1955–1957
Charles F. Lane	1957–1959
Robert Kral	1960–1961
Mrs. Robert D. Ross	1961
Carl W. Allen	1962–1966
Advertising Manager	
Clinton W. Baber	1950–1954
Richard W. Irby, Jr.	1954–1957
Lee S. Harrow	1957–1959
Edward Bowman	1973–
Business Manager	
Charles O'Rear	1971–

VIII. VIRGINIA JUNIOR ACADEMY OF SCIENCE

In 1941 the Long Range Planning Committee had sent a questionnaire to the Academy membership asking what they thought should be the primary objectives of a state academy of science. The resulting suggestions were classified under fourteen headings, with "Research" standing at the top of the list.

On that same list "Science Clubs and Junior Academy" was a suggestion of many. As a result a subcommittee for Junior Academy and Science Club Work was appointed in 1941, with Hubert J. Davis of Matthew Whaley High School, Williamsburg, as Chairman.

The resulting development of the V.J.A.S. has been mentioned at many places through this history. It became more or less of a model Junior Academy in the country as a whole. Interest of the Juniors, as well as that of many of the Seniors in the Juniors, grew rapidly. The Junior Academy became a major, and one of the most satisfying and rewarding, projects of the Academy. It was soon holding its own well attended, enthusiastic, high quality programs—usually a day before the Annual Meeting of the Senior group.

Much of the development and strength of the V.J.A.S. has been due to the successive dedicated and able men and women who have sponsored, worked with, and directed the Junior work. This summary would not be complete without giving the names, and approximate tenure, of several of the outstanding leaders of this work.

The respective Chairmen of the Virginia Junior Academy of Science, since its first organization in 1941, are:

J. Hubert Davis	1941–1947
F. G. Lankford, Jr.	1948
Boyd Harshbarger	1949
Flood S. Andrews	1950–1951
Grover W. Everett	1952
Mrs. Thelma C. Heatwole	1953–1959
W. W. Scott	1960–1964
E. L. Wisman	1965–1972
Lee S. Anthony	1972–

There are almost countless dedicated science high school teachers, and science club leaders, that have stimulated and inspired their students to enthusiasm in the Junior Academy, and in working on projects and demonstrations in connection with their membership in the V.J.A.S. Mention of any one of these teachers means that many other dedicated ones are omitted. But even so, two of the teachers out-

standing in their success in stimulation of Juniors will be mentioned. Miss Vada Miller of Front Royal and Miss Susie Floyd of Newport News have been responsible, over a long period of years, for bringing a long series of Junior Academy members to the Annual Meetings. Many of these have presented outstanding papers and demonstrations, leading to prizes for themselves and their schools. Leaders of such students have deserved far more credit than they have received.

IX. NECROLOGY

Herewith we record the names of some of the distinguished members of the Academy who have died. Notices of their passing and appropriate tributes are to be found in the listed Academy publications.

- | | |
|--|---|
| <i>Proceedings</i> 1943-44, p. 22. | William Clift
Granville Valentine
Warren T. Vaughan
Ernest W. Sniffen |
| <i>Proceedings</i> 1944-45, p. 37.
p. 38.
p. 39. | Major W. Catesby Jones, Past President
Henry Kreiger McConnell
Howard H. Zimmerley |
| <i>Proceedings</i> 1945-46, p. 56.
p. 55. | Roy Jay Holden
John Shelton Horsley, Past President |
| <i>Proceedings</i> 1946-47, p. 105.
p. 45. | Charles Sutts
Egbert Watson Magruder |
| <i>Proceedings</i> 1948-49, p. 62. | Dr. C. Leonard Albright
Mrs. Emily W. Dinwiddie
Mrs. Robert F. McCrackan
Dr. Earle L. Overholser
William Ralston |
| <i>Proceedings</i> 1949-50, p. 317. | Edward Steidtmann
Frank Redwood
Roy S. Cook
Chauncey McL. Gilbert
Edward R. Stettinius
Bradford Walker
R. P. Cocke
Thomas B. Hutcheson |
| <i>Journal</i> January, 1951, p. 62. | Donald W. Davis, Past President |
| <i>Journal</i> April, 1951, p. 129. | Wortley Fuller Rudd, Past President |
| <i>Journal</i> September, 1954, p. 231. | H. B. Derr
Fred A. Dove
Carroll Cephas Flora
Douglas S. Freeman
A. W. Hurd
John Lloyd Newcomb
M. Pierce Rucker
James H. Smith |
| <i>Journal</i> January, 1954, p. 36.
p. 38. | Kenneth B. Rhodes
Roy P. Ash |
| <i>Journal</i> January 1955, pp. 1-4.
p. 56. | Edgar Calvin Leroy Miller (1867-1954)
Justus Henry Cline |
| <i>Journal</i> January, 1956, p. 58. | James B. Lucas |
| <i>Journal</i> July, 1957, pp. 175-6. | Bruce Dodson Reynolds |
| <i>Journal</i> January, 1958, pp. 3-4.
p. 200. | Marcellus Henry Stow, Past President
Paul Randolph Burch |
| <i>Journal</i> January, 1959, pp. 1-2. | Edwin Morris Betts |

- Journal* September, 1962, p. 190. W. E. Bullington
G. Talbot French
Irwin M. Gladstone
Harvey Haag
Isabel Harris
William Hartung
Lewis E. Harvie
John B. Lewis
Penelope Lewis
Garnett Ryland, Past President
D. P. Scott
John W. Watson
- Journal* September, 1963, p. 146. Russell Miller
Louis A. Pardue
William W. Cash, Jr.
Gilbert Rich
Charles Nelson
John Meredith
Frederick Vultee
W. Meade Addison
Ida Sitler, Past President
Alfred Ackerman
J. Peachy Harrison
- Journal* January, 1964, p. 1. Allan Talbott Gwathmey, Past President
p. 4. Sidney S. Negus, Past President
- Journal* July, 1964, p. 1. Ivey F. Lewis, Past President
- Journal* September, 1964, p. 231. Harold L. Alden
Earle H. Barkley
R. R. Chesson
Julian W. Crews
W. H. Keeble
Claudius Lee
Hildegard Stucklen
R. C. Summerville
- Journal* September, 1965, p. 279. Miss Thursa F. Davis
Captain Hugh MacDougal
Dr. Earl G. Swen
Dr. Percy Holmes Warren
- Journal* November, 1966, p. 224. Thomas McNider Simpson, Past President
H. M. Hildreth
J. Claggett Jones
Ashley Robey
- Journal* January, 1967, p. 5. William Mosley Brown, Past President
- Journal* July, 1967, p. 119. W. Parker Anslow, Jr.
Grace J. Blank
Warren Wood Brown
W., Horatio Brown
James H. Carr
Lucius J. Desha
J. Gray Dinwiddie
Jewell J. Glass
C. M. Boethe
J. Raymond Hodgkinson
L. G. Hoxton, Past President
Robert F. McCracken
Earl B. Norris, Past President
James B. Patton
Joseph R. Roberts
Morris Tischler
Addison E. Wilkins
Lewis C. Williams

<i>Journal</i> Winter, 1968, p. 5.	Guy Winston Horsley, Past President
<i>Journal</i> Summer, 1969, p. 87. p. 87 88.	Ladley Husted Allan Berne-Allen
<i>Journal</i> Fall, 1969, p. 157.	William George Guy, Past President
<i>Journal</i> Fall, 1970, p. 211.	Mrs. Alfred I. duPont
<i>Journal</i> Winter, 1970, p. 5.	Foley Foster Smith, Past President
<i>Journal</i> Vol. 22, No. 1, 1971, p. 5.	Harriett H. Fillinger
<i>Journal</i> Vol. 22, No. 2, 1971, p. 5.	William Allison Kepner, Past President
<i>Journal</i> Vol. 22, No. 4, 1971, p. 197.	Dr. Robert Blackwell Smith, Jr. Frank Patrick Pitts
<i>Journal</i> Spring, 1972, p. 28.	John Mahan
<i>Journal</i> Summer, 1972, p. 86.	Orland E. White
<i>Journal</i> Winter, 1972, p. 205.	J. Stanton Pierce

X. ACADEMY FINANCES, 1923-1973

Table 9 presents a summary picture of Academy finances over a fifty year period. A number of these figures are for the "General Fund" only, and do not picture the reserves held in endowment and special funds, and administered for many years by a committee of three "Trustees" under supervision of Council.

These figures represent a generally enlarging budget and increasing financial picture, more or less in keeping with the expanding economy, as well as the increasing membership of the Academy. They also suggest the rather constantly widening programs of the organization. The "Balance" column represents a generally favorable surplus, of receipts over expenditures—through the year 1969. As was mentioned in the summary of Chapter VI, the Academy ended the sixties in sound financial shape, a position augmented by the unexpected 1969 legacy from the Foley Smith estate.

But the figures of Table 9 reveal a different financial picture for the early seventies. There were several factors involved in this change of position. Among these were rising costs—of publication (of the *Journal*), postage, phone—and all supply—bills, as well as the decrease or elimination of National Science Foundation grants for work of the Junior Academy. In any event, it is evident that for 1970, as well as for the estimated position in 1972, and the budgeted one for 1973, receipts were running behind disbursements, and that the "Balance," unfortunately, was—and is—a negative rather than a favorable one.

This was a financial picture which had bothered, and caused serious discussion by, Council at several meetings. Accordingly, as a first step toward correcting the situation, Council at its November 19, 1972, meeting recommended raising the annual dues of Regular, Contributing and Life Members, as of January 1, 1974. Council also instructed the Constitution and Bylaws Committee to take appropriate action for changing Bylaws of the Academy, so that the dues increase could be authorized. The membership was notified of the proposed Bylaws change, by letter of December 1, 1972, from J. W. Midyette, Chairman of the Committee concerned. Vote on the proposed change was planned to take place at the 1973 Academy Conference during the upcoming Williamsburg meeting.

A chapter of this type could go on almost indefinitely. It could list the several Presidents of the Academy. Chairmen, and members, certainly of such important committees as Long Range Planning, Finance, Publications, and the like, might well be mentioned, together with a summary of the important work they have done. Such additions, however, would unduly prolong this chapter. It is felt that the ten subjects dealt with in this final part of the history give a broad view of the development of a state academy; that they adequately depict the growth, and a number of things that have made for such growth, of the Academy. And, finally, that they show a trend leading to what—after fifty years—is essentially a successful organization. Most of all, these separate items indicate that it is the people,

the scientists—great and small—of Virginia which *are* the Academy, and are responsible for its present status. The Academy has always had problems, and has them today. But through it, its members are better able to serve themselves as scientists, and the Commonwealth of Virginia, its industry, and its schools and school children. The Academy, as a group organization, can play its part in working for the development, and for the conservation, of the assets and beauty of the state. Hopefully it can and does make for a better, more prosperous and more beautiful Virginia.

TABLE IX
Summary of Academy finances—1923–1973.

	Receipts	Disbursements	Balance
1923–24			236.15
1924–25	487.00	275.90	447.25
1925–26	1,029.01	903.28	527.98
1926–27	617.29	571.60	618.67
1927 Proceedings (P. 7) Motion & Committee on Incorporation			
1927 Proceedings H. K. McConnell, Chairman of New Endowment Committee			
1927–28	748.92	807.04	560.55
1928–29	1,317.03	1,061.59	815.99
1929–30	674.11	834.87	655.23
1930–31	812.65	596.82	871.06
1931–32	1,095.29	707.83	1,258.50
1932–33	984.59	1,049.62	1,169.70
1933–34	915.22	1,064.82	1,035.62
1934–35	1,021.91	798.08	1,266.95
1935–36	1,040.45	1,078.92	1,228.48
1936–37	1,007.98	1,095.05	1,141.41
1937–38	1,249.96	1,113.24	1,278.13
1938–39	1,331.39	1,033.14	1,576.38
1939–40	1,303.19	1,468.77	1,410.80
1940–41	1,576.20	1,379.69	1,616.31
1941–42	1,377.28	1,254.12	1,739.47
1942–43	1,243.34	1,262.43	1,721.43
1943–44	1,412.92	1,232.44	1,900.91
1944–45	1,339.31	1,721.15	1,514.07
1945–46	1,583.20	1,279.29	1,822.98
1946–47	1,643.68	2,170.41	1,296.25
1947–48	8,282.80	7,515.98	2,663.07
1948–49	2,419.50	3,849.72	672.80
1949–50	7,401.65	5,078.93	2,995.52
1950–51	3,352.00	2,035.31	3,412.21
1951–52	4,139.00	2,891.08	4,660.13
1952–53	4,904.75	6,898.93	2,665.95
1953–54	2,175.96	2,123.65	2,717.26
1954–55	8,773.46	6,172.06	5,318.66
1955–56	2,946.70	2,559.73	5,546.25
1956–57	2,686.59	3,966.88	4,342.88
1957–58	5,219.21	5,437.82	5,176.46
1958–59	6,296.46	6,571.96	2,845.43
1959–60	6,634.70	9,669.41	2,397.89
1960	8,346.41	7,129.90	3,614.40
1961–62	9,267.90	8,144.67	4,737.63
1962	9,450.50	10,624.53	5,880.66
1963	8,357.65	10,481.90	3,756.41
1964	15,430.29	13,925.83	5,260.87
1965	12,829.46	12,330.77	
1966			
1967	36,880.20		
1968	34,570.83	35,894.27	6,862.20
1969	34,180.00 ^a	20,623.00	13,557.00 ^a
1970	27,188.00	33,027.00	(5,839.00) ^b
1971	26,043.00	23,390.00	2,653.00
1972 ^c	27,034.00	31,905.00	(4,871.00)
1973 ^d	26,025.00	31,880.00	(5,855.00)

^a Includes a special item of \$8,000—the Smith legacy

^b (Deficit)

^c Estimate

^d Budget