

Chapter Three

Constructing a Balance: Envisioning Virginia Science in the Era of Massive Resistance, 1953–1963

From 1953 to 1963 the Virginia Academy of Science grappled with the massive social, economic, and political change that marked one of the south's most tumultuous eras. Within the Commonwealth, race relations and the gradual move away from agrarianism toward progressivism combined to create an environment in which scientists and science educators sometimes found their professional aspirations at odds with their personal beliefs. While constructing a balance between the professional and the personal, the Academy often presented itself to the public as unswaying in purpose, reliable, and in complete agreement, while simultaneously experiencing uncertainty, controversy, and debate within the confines of its organizational walls.

Setting the Stage: Virginia, 1953–1963

Shortly after the thirty-second meeting of the Virginia Academy of Science adjourned, the United States Supreme Court, on May 17, 1954, handed down a 9-0 decision that struck at the heart of the social, economic, and political foundation of southern society. Writing for the Court in the case of *Brown versus the Board of Education of Topeka*, Chief Justice Earl Warren stated: "We conclude that in the field of public education the doctrine of 'separate but equal' has no place. Separate educational facilities are inherently unequal."¹ While in hindsight this decision might have been expected, for southerners it came as a bolt out of the blue. Its full impact would take years to unfold, and the changes in education were to affect all educational institutions, although, of course, the first effects were felt by the public school systems.

For white Virginians — who by and large asserted and genuinely believed that race relations in the Old Dominion were good (and in comparison to other southern states, such a view held considerable truth) — the Supreme Court's decision was unconscionable: an outright threat not only to white supremacy, but also to the entire caste system and culture upon which the Old Dominion rested.² As was the case throughout the south, Virginians were class-conscious, but unlike some parts of the deep south, Virginians tended to be aware of the moral tension implied by the existence of the segregated society.³ The Commonwealth's revered founding father himself, Thomas Jefferson, wrestled with the parent of this issue over the span of his long life, only to come to the not-so-admirable position that the economic system required the continuance of a system obviously morally repellent. Jefferson's divided mind in this matter was to repeat itself over the generations, and was, in fact, present in the person of Thomas B. Stanley, who occupied the Governor's Mansion in Richmond at the time of the *Brown* decision.

Only a few months into his term as Governor of Virginia, Thomas B. Stanley's initial response to the decision was non-committal, as he remarked that he would "calmly and dispassionately" study the situation before recommending any action on behalf of the state. Despite these words, it seems likely that, inwardly, this easy-going son of a Confederate veteran must have been reeling — not only because of the moral conflict he felt as a partial result of the *Brown* decision, but also from the realization that his four years in office were not likely to be smooth. And smooth his term would not be. The statesmanlike position implied by Stanley's first words was greeted with instant disapproval by the Byrd group, whose strong feelings made themselves felt immediately, within both the Commonwealth and the governor's office. Byrd's overall movement to the right had been mirrored by his followers, who were in no mood to view this latest decision by the Supreme Court as anything other than an attack on states' rights.⁴

Urged on by the Byrd organization, by late June 1954, Governor Stanley had moved away from a "calm and dispassionate approach," announcing that he would use all means at his disposal to continue segregated education in Virginia. Within a month, he had appointed a thirty-two person Commission on Public Education to design Virginia's answer to the recent Court Decision. Led by Garland Gray, the "Gray" Commission — all white, all male, and without any trained educators — recommended that Virginia give school boards complete discretion-

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ary power to assign students to schools for reasons other than race, such as gender or intelligence tests. Furthermore, in the event of school closings or federally-mandated integration, the commission introduced the idea of tuition grants that would enable the students to attend private schools. African Americans and civil-rights advocates, not surprisingly, saw the recommendations as thinly-veiled attempts to protect the status quo, while moderates argued that such actions would irrevocably harm public education in the Commonwealth.⁵

In response to increasing pressure of the federal government, on July 2, 1956, Governor Stanley, Senator Byrd, and their cronies met in secret to formulate Virginia's "last-ditch" response. Three weeks later, on August 27, the governor called for a session of the General Assembly in which he proclaimed that in response to the "overwhelming sentiment of the people of Virginia" and to events "threatening to destroy our constitutional system" he was urging a "total resistance line."⁶ Under the new "Stanley plan," four steps were put in place to defeat integration. First, an appointed pupil placement board would assign children to specific schools, based on considerations other than race. Second, any school which sought to integrate, whether under a court order or not, would be closed. Third, tuition grants were funded for students to move into the private school system. And finally, the state would completely shut off its funds to any locality that integrated its schools. The movement that came quickly to be known as "Massive Resistance" had come of age in Virginia.

In 1958, J. Lindsay Almond, Jr., with the strong support of the Byrd machine, took over the Gubernatorial office from a beleaguered Governor Stanley. Many saw Almond, "one of segregationist's ablest legal advocates" and a former Congressman and State Attorney General, as the perfect choice to uphold Virginia's Massive Resistance.⁷ Such hopes were misplaced, however, for while the public schools did complete the 1957-1958 year without forced integration, by summer it appeared as if Norfolk, Arlington, and Charlottesville would be the first cities to face desegregation in September. It came as a surprise to Almond and his advisors when in September the first Massive Resistance "show-down" came from the Shenandoah Valley's Warren County at a small school with a tiny black population. Four days after the Supreme Court ordered the school to integrate, Governor Almond closed its doors. Shortly thereafter, similar incidents induced him to seize and close several schools in Charlottesville and Norfolk. By the end of the forced

closings, approximately thirteen thousand students were without classrooms.⁸

On January 19, 1959, both the Virginia Supreme Court and a three-judge federal district court struck down the legality of Massive Resistance. Upon hearing the news of their decision, Governor Almond initially stood firm on his segregationist philosophy. He promised to the citizenry that he would “not yield to that which I know to be wrong and will destroy every rational semblance of education for thousands of the children in Virginia.”⁹ These were smug words, the kind of sentiments one might have expected from Almond, given his record. Yet slightly over a week later and without warning his inner circle, the Governor convened a meeting of the General Assembly in which he laid down his arms before the forces of integration, explaining to the stunned legislators that the state was legally powerless to enforce strict segregation in public schools. Almond turned away from the conservatives whose support had carried him into office, declaring that most of the state’s segregationist efforts had been invalidated by courts at both the state and the federal level, and that “the police power cannot be asserted to thwart or override the decree of a court of competent jurisdiction, state or federal.”¹⁰ Throughout the rest of his term, Governor Almond made half-hearted attempts to adhere to the *Brown* decision, including the appointment in February 1959 of the Perrow Commission — ironically, devoid of African Americans — to develop a school integration strategy. Such efforts notwithstanding, when Almond left the governorship in January of 1962, less than one percent of black students attended school with their fellow whites.¹¹

For some time, the situation remained the same. Massive Resistance, unfortunately, became the “watchword” of the 1950s, controlling the political, economic, and social life of Virginia and diverting attention from more pressing needs. The uproar caused by integration, both within the body politic and in the social order, caused the Commonwealth’s leadership to ignore the fact that Virginia was in the midst of an economic and social metamorphosis as the region became more and more industrial and less rural. At the same time, and of increasing concern to people in education, Virginia was ranked near the bottom of the forty-eight states in education, mental health, and welfare expenditures because of the legislature’s appropriation strategies. For the legislature remained true to the ideas of fiscal prudence that were such a central part of the Byrd philosophy, and the strong basis of

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Byrd support in the rural areas of the state did nothing to change the attitude of the state toward fiscal matters.

While there certainly was national interest in the dispute over integration in the south, as a whole the country was in good spirits, buoyed by a confidence proceeding from the successful conclusion of the Second World War and the revitalization of the country by the vigor of the veterans who had emerged from higher education to enter the work force. That there was something wrong with this self-complacent picture was brought home to the stunned country — indeed, to the world as a whole — when the Soviet Union put a small satellite, Sputnik I, into orbit. Americans everywhere felt both challenged and worried about its implications for the future well-being of this country. The confidence many people appeared to have held in the United States' ability to remain ahead of or on a scientific and technological par with the Soviets was, in actuality, shaken. This fact is revealed clearly in an oft-repeated incident of the time. As the story goes, a reporter contacted the United States Space Agency and inquired as to the status of the American Space Program. Replied the "girl on the other end of the line, 'Sir, are you calling for information or with information?'"¹²

As later historical studies demonstrate, much of the public fear was unfounded.¹³ In the later 1950s, however, it seemed clear that the Soviets had "presented" the United States with a formidable challenge to be met in the area of the sciences. As such, it was apparent to the members of the VAS that increased support for higher education in the sciences was at hand.¹⁴ For spurred on by a fear of the scientific potential of the East, the federal and state governments, including Virginia, seemed ready to pour intellectual and financial support into strengthening America's scientific and technological infrastructure.¹⁵ Alerting his membership to the scientific promise of the times, Virginia Academy of Science President William Guy wrote to the Council in early 1958: "This year of the Sputniks will be a particularly significant one for the future of science in our state, as on all sides, we see a quickened interest in the development of our scientific potential."¹⁶

Thus from the supposed cloud posed by the successful venture of the Soviets came a silver lining for the Virginia Academy of Science, and for the scientific community in general. The atmosphere of excitement, the ready availability of funding, the creation of science-based institutions that would change the nature of the communities in which they were placed, and the suddenly-ample sources of research dollars

for academic scientists initiated a period in which the members of the VAS expected to play an increasingly important role in the Commonwealth. The policies of the Byrd machine were to change and give way before the new day. It was on this shining future for science that the VAS would focus over the coming decade.

Sections, Committees, and Related Events

With the ever-increasing interest in science and technology within the Old Dominion, the Virginia Academy of Science entered its fourth decade committed to increasing the fruit of science. In a message to the members in 1953, President Allan Gwathmey expressed such sentiments to the Virginia Academy of Science, offering the following charge:

The time is now propitious for scientists in Virginia to make significant contributions to knowledge. Because of our agricultural background and because of a half-century of impoverishment after the Civil War, it was extremely difficult for Virginia in the past to develop great centers of scientific scholarship. . . . The background work has been done, however, and the stage is now set for Virginia to win a position of real scientific leadership in the nation. There is only one way by which a region can accomplish this and that is the hard way of making distinguished contributions to scientific knowledge. The discovery of new scientific knowledge must be the spearhead of our scientific activity. The potentialities of the future lie largely in the undiscovered laws of nature all around us.¹⁷

Membership numbers remained strong throughout the fourth decade of the Virginia Academy of Science — from 973 in 1953, to 1022 in 1959, before finally settling at 1114 in 1963 — and sections continued to thrive. Twelve sections participated in the annual meetings. The original Sections of Biology, Chemistry, and the trio of Astronomy, Mathematics, and Physics remained strong and unchanging in objectives. Attendance consistently reached high numbers, as scientists from all professional levels — graduate students, instructors, and professors — delivered and listened to scholarly papers.

Not all sections, however, retained their original objectives. The Psychology Section, for instance, underwent several transitions. In 1948 this section had voted to affiliate with the American Psychological As-

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sociation as a state psychological association. Over the next eight years, however, it increasingly became evident that "the objectives and functions" of a state academy of science were at cross purposes with a state psychological association. Accordingly, at the annual VAS meeting in 1956, Council approved the following motion: "That the Psychology Section of the Virginia Academy of Science approve and sponsor a Virginia Psychological Association and that meeting be held after adjournment to organize such an association."¹⁸ As the result of this formal maneuver, members of the Psychology Section were able to enjoy the benefits of both a general state-wide association and the more scholarly interests of the VAS annual meeting.

The Virginia Academy of Science as a whole continued to award outstanding members. The Meritorious Service Award was first presented at the 1956 annual meeting, in a regionally televised ceremony, to Ivey F. Lewis and William Sanger. Approached by President Flory to present the first two VAS members with the high honor, Boyd Harshbarger asked long-time fellow member George Jeffers to confer on Ivey Lewis the first award. In describing Lewis as an "[a]ble investigator; master teacher, who with gentleness of manner, with kindness and understanding, has labored for the advancement of science and the welfare of mankind," Jeffers conveyed the unanimous sentiments of the past and present membership of the Virginia Academy of Science.¹⁹ Harshbarger himself presented the second Meritorious Service Award to William Sanger, characterizing the twelfth President of the VAS as the "builder of the Medical College of Virginia."²⁰ In 1958 the award went to the American Tobacco Company Research Laboratory for its dedicated financial sponsorship of the Academy, and the following year to Senator Lloyd C. Bird for his faithful lobbying of the General Assembly on behalf of VAS initiatives. Awards were not given in 1957, 1960, or 1962. In 1963, Jesse Beams of the University of Virginia, Allan Gwathmey of the University of Virginia and Virginia Institute for Scientific Research, and Sidney Negus of the Medical College of Virginia shared the Virginia Academy's highest form of recognition for service.²¹ An award was not bestowed in 1964, and in 1965 Hiram Hanmer received the last Meritorious Service Award before the VAS changed the name to the Ivey F. Lewis Distinguished Service Award.

In 1954, E.C.L. Miller and Justus Cline, two early and dedicated leaders of the Virginia Academy of Science, died. Both men had distinguished themselves by their long, faithful, and energetic service. Miller

was the Academy's first Secretary-Treasurer, and his letters and memos, preserved in the archives, reflect both his on-going service and his creative energy. At the time of his death, Miller had served the VAS for twenty-six years. And it was Justus Cline who gave inspiration to the James River project, which remains an important achievement of the scientific community for the Commonwealth. In July of that year, the VAS officially mourned the passing of these two major figures from the Virginia scene.²²

Long Range Planning Committee

Great Dismal Swamp Project

Shortly after the completion of the James River project, I. D. Wilson, with the support of chair Marcellus Stow, asked the Long Range Planning Committee to consider a new environmental project — one that would continue to introduce Virginians to the natural wonders of their state. In Wilson's view, a book on the Great Dismal Swamp and the Great Dismal Canal would hold great popular appeal. After all, everyone in the Commonwealth at least had heard tales of the legendary swamp. On another level, attempts by developers to persuade legislators to change the protected status of the swampland continued with increasing force, making it all the more critical that the citizenry understand the vital importance of the swamp to the region's ecosystem. A well-written book that combined the social history of the swamp with its natural history and an appeal to conservation should attract a good deal of interest from the general reader while simultaneously educating the public in proper resource use. Detailed discussion over the next year followed, and on February 10, 1952, Council authorized the Dismal Swamp Committee, chaired by J. T. Baldwin of the Department of Biology at William and Mary, to investigate the viability of such a project.²³ Baldwin accepted the chairmanship with the proviso that "a complete study in all phases be made which could be developed into a scientific treatise."²⁴

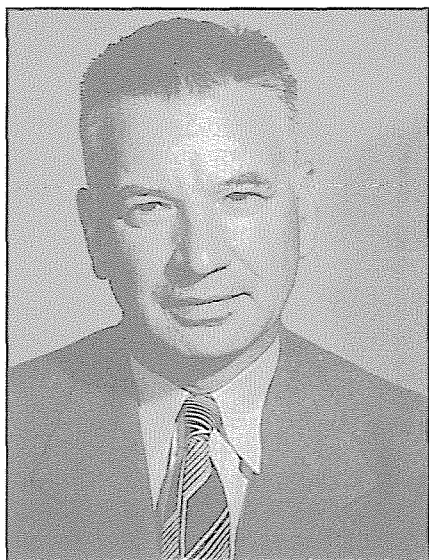
Baldwin enthusiastically engaged the project, immediately looking for financial backers. A short eighteen days later, he wrote Council that he had initiated contact with the Richmond Area University Center, and that its cooperating institutions were interested in working with the Virginia Academy of Science on the Dismal Swamp project. In fact, the Center pledged \$25,000 for a five-year study of the swamp if the

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State Education Board matched that amount. Accordingly, the Richmond Area University Center included an item for the Dismal Swamp project as part of the general program in a funding application to the General Education Board. Although the board temporarily turned down the item, Baldwin remained hopeful, asserting that in the next round, the item would be submitted as a separate unit and not as a part of the general program of the University Center.²⁵ Unfortunately, Baldwin's assertion did not translate into action, and an immediate financial alliance with the University Center and the General Education Board did not take place. However, Baldwin reported to Council that the Dismal Swamp Committee felt confident in its ability to produce a popular book on the swamp.

By May 2, 1952, Baldwin had located eleven collaborators — many of whom had done field work throughout the swamp and its canal. The manuscript would be divided into six sections, each representing an important facet of the swamp. Alexander Crosby Brown, a maritime historian and journalist living in Newport News, agreed to write the history section, while Marcellus Stow of Washington and Lee signed on for the geology section.²⁶ S. S. Obenshain, professor of agronomy at Virginia Tech, offered to complete the section on soils and agriculture, and George Dean, a state forester from Charlottesville, volunteered for the section on forests and forestry. Baldwin himself would write the section on plants. The animal section was separated into four parts: insects, with particular reference to butterflies, would be covered by Austin Clark; amphibia and reptiles, would be discussed by John Wood, a medical student at the University of Virginia; the subject of ornithology would be addressed by J. James Murray, a minister and ornithologist from Lexington, Virginia; and mammals were to be treated by Charles Hundley, Jr., mammalogist from the Smithsonian Institution.²⁷ The Dismal Swamp Committee decided that the book should consist of about 268 pages, with each section allotted a specific number of pages. The group felt that the manuscript should take no more than two years to complete. Furthermore, while Baldwin was voted to have the authority to rewrite, the group concurred that approval of the author should be sought prior to any editorial changes.²⁸

In October 1952, Stow raised an important point at the Council meeting when he remarked that the combination of the swamp's decreasing water table and the program of reforestation by the Camp Manufacturing Company, a regional timber company, would gradu-



S. S. Obenshain, professor of Agronomy at Virginia Tech, was one of the collaborators on the Great Dismal Swamp project. He was president of the VAS in 1964–1965.

ally move the swamp away from its present natural configuration; thus, the VAS's project was timely, and forward progress was essential. The following year, Walter Flory, chair of the Dismal Swamp Committee, reported that approximately one thousand dollars would be needed for continuation of the project. While this expenditure worried some, especially since the project should have been completed by this juncture, the funds were appropriated. To assuage such concerns, Baldwin said that two of the eleven collaborators had already submitted their manuscripts, and he personally knew that the others actively were working on their sections.²⁹ Stow commented that all signs pointed to the book's publication by the end of the following year and that consequently there would be no need for any further grants-in-aid.³⁰

In reviewing the archival evidence, it appears that Stow's remarks were an accurate reflection of what he believed, based on the information he had been given. The same cannot be said of Baldwin, however, who clearly knew that the project was so far behind schedule as to have been in danger of complete failure. For the next fourteen years, Baldwin tap-danced around Council — alternating among promising completion of the manuscript, pleading an incredible workload, and complaining that the contributors' articles lacked high scholarship. While the record reveals Council's extreme concern with the state of the project, the unwritten code of gentlemanly conduct operating among VAS mem-

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bers most likely limited these people to taking no action other than to keep in place constant pressure on Baldwin to deliver on his promises. It would not be until 1967, a period to be covered in the next chapter, that attempts began to relieve Baldwin of his duties as chair of the project.

All of the delays meant, unfortunately, that the project would not generate the same public or professional interest that was “contemplated” when Council first authorized the Dismal Swamp Committee.³¹ Despite Stow’s concern over the changes in the ecological state of the swamp as time passed, Council did not alter the course or the objectives of the project. One wonders why Stow did not advocate the cessation of the project in light of the natural changes and the failure of the project to mature in a timely manner — after all, a primary objective had been to spur on wider conservation efforts among the public. Perhaps he felt that in this case, a completed study, however flawed, would be better than no study at all. And what other group existed that could better put together a team to analyze the flora, fauna, and ecological conditions of the swamp?

Seashore State Park

Ever cognizant of its original objectives, the Long Range Planning Committee steadily looked for ways to promote and publicize research within the borders of the Commonwealth. Under the guidance of Lynn Abbott, Jr. of the University of Richmond, at the annual meeting in 1956, the Committee introduced Council to a possible project: the “feasibility and desirability of acquiring Seashore State Park by the Virginia Academy of Science as a wilderness preserve for scientific study and/or where the Academy might provide a place for scientific instructional programs for science teachers and others.” Intrigued by the idea of sponsoring a new research facility, Council asked the Long Range Committee to set up a Seashore State Park Committee to examine the proposal in depth.³²

After analyzing various aspects of the proposal, the new Seashore State Park Committee recommended that — given the enormous financial commitment the acquisition would entail — the Virginia Academy not act alone in this endeavor. Instead, it suggested that a letter outlining the project and listing the committee’s final recommendations be forwarded to the governor, the director of Conservation and Devel-

opment, and the Board of Commissioners of Conservation and Development. The recommendations included the following details:

1. That the Seashore State Park be permanently maintained as a wilderness area and that it be used as a center for training science teachers and as a location for appropriate advanced study in the sciences.
2. It is suggested that the recreational area, including all buildings, be transferred on short-term, renewable lease to a state-supported college or university, or group of state-supported colleges or universities, to become the Seashore Science Training Center.
3. That the program for the Center be highly flexible but designed especially to train present and prospective teachers of science in the secondary schools.³³

After the Seashore State Park Committee looked at its own recommendations in a realistic framework, the members thought that perhaps the more powerful state agencies might consider joining forces with the Virginia Academy of Science. Council approved the Seashore State Park Committee's suggestions but agreed that a new committee be appointed to consult with the appropriate agencies before forwarding the proposal. The new committee was chaired by Henry Leidheiser, Jr., with Sidney Negus, William Guy, Ladley Husted, Marcellus Stow, Bruce Reynolds, and J. T. Baldwin, Jr. comprising the rest of its membership.³⁴ By the following month, Leidheiser's committee felt confident of the positive reception the Seashore State Park proposal would receive, and on November 2, 1956, the President and Council of the VAS forwarded the proposal to the governmental groups.³⁵

Response from the governmental agencies was encouraging. During the following year, the Seashore State Park Committee tackled the next item on the agenda: to garner sufficient interest from the primary research universities and colleges in the state to warrant the establishment of a State Science Center. By mid-October, 1957, committee members had visited the University of Virginia, Virginia Polytechnic Institute, and the College of William and Mary. Disappointingly, but in retrospect not surprising in view of the commitments of the institution, the response from the University of Virginia was far from enthusiastic. Commitments to the Mountain Lake Biological Station and Blandy Experimental Farm — major existing research centers sponsored by the University — claimed most of UVA's time and energy, and the univer-

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sity was not willing to extend any further by developing a State Science Center in Seashore Park.³⁶ William and Mary and Virginia Polytechnic Institute, on the other hand, were enthusiastic — so much so that the former institution's President, Alvin Duke Chandler, promised to take up the matter with the State Council of Higher Education.³⁷ Whether Chandler kept his word is not known, for further discussions or references to Chandler's mission are not to be found in the archival record or in oral interviews.

In March of 1958, a little over one year later, the Seashore State Park Committee reported to Council in Richmond that they had not taken further action on the proposal, although the Committee offered no reasons for their inaction that are of record.³⁸ At this juncture, the paper trail stops until June 13, 1960, when in a letter to Walter Flory, George Jeffers stated: "the Seashore State Park job has been shelved — probably permanently — and you need not concern yourself with it."³⁹ A recent interview with Walter Flory led to no further information.⁴⁰ It seems likely that the committee and the Council both recognized that, realistically speaking, both the scope and the on-going management and funding of the Seashore State Park project was beyond the reach of the VAS. It was a creative and interesting idea and would certainly have offered an unparalleled opportunity for a research preserve. At the same time, the project was highly ambitious and, even if it had been undertaken, would eventually have run into irresistible pressure from politicians to make public use of an attractive park within striking distance of such large centers of the population.

Other Conservation Efforts

Not all the Virginia Academy of Science's efforts at conservation were directed towards educating the general public, such as the James River project and the Great Dismal Swamp project, or promoting and publicizing research activity, as in the failed Seashore State Park proposal. Rather, the Academy's interest in preserving the quality of the environment extended in many directions. For example, in November, 1960, Horton Hobbs of the Biology Department of the University of Virginia successfully lobbied the VAS Council to support his endeavor to persuade the General Assembly to set aside Mount Rogers on the Grayson-Smyth County line as a natural preserve.⁴¹

Along with preservation efforts, Council considered issues relative to environmental health, as the Long Range Planning Committee's Walter Flory presented a case for the appointment of a "well-balanced, permanent Committee concerned with the natural resources of Virginia viewed broadly: scenic beauty, water and air pollution, wildlife, mineral and other natural wealth."⁴² Such a committee, pointed out Flory, would have as its primary objective "[T]he encouragement of an advantageous industrial development of Virginia, along with a planned, advisable management of our [Virginia's] resources."⁴³ When Council members objected that the proposed committee might resemble the already established Resource-Use Committee, Flory remembers that he "maintained that the established committee was reactive in character rather than proactive and that the old committee could be subsumed into the new group."⁴⁴ Flory was persuasive on behalf of his group's recommendation. One year later, Council approved the Natural Resource Committee to be started the following year.⁴⁵ Thus the Virginia Academy of Science continued in its efforts to support conservationist work in the Commonwealth.

State Science Museum

While the history of the VAS reveals that several important projects were allowed to fall by the wayside, it is also clear that the memory of the Virginia Academy was a long one; an effort, once begun, might go underground for a long time, only to emerge with new vigor at a later date. This was the case with the idea of a museum of science. In May of 1963, nearly twenty years after the state-appointed commission led by George Jeffers to investigate the "Advisability of Establishing a State Museum of Science" had presented its recommendations to the governor and the General Assembly, the Virginia Academy of Science resurrected the proposal. Representing the sentiments of the Long Range Planning Committee, Henry Leidheiser urged that "[I]nterest has been expressed for many years by the VAS in a museum of science and the time now appears right to do something."⁴⁶ Apparently, Leidheiser felt that the "disgraceful state" of the present state museum had become an embarrassment to the distinguished Commonwealth of Virginia. Council could not agree more vehemently, and unanimously approved the following resolution to be sent to the Governor of Virginia:

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Whereas the need for an inspiring science museum in the Commonwealth of Virginia has been apparent for many years; Whereas the present Museum of Minerals, Timber, and History in the basement of the Finance building is uninspiring and in need of major modification; Be it hereby resolved that the Virginia Academy of Science recommends to the Honorable Albertis S. Harrison, Governor of Virginia, that he appoint a committee of dedicated Virginians to study the present Museum of Minerals, Timber, and History, to consider means for short-range and long-range improvement of the Museum, and to make recommendations concerning the scope and objectives of the Museum.⁴⁷

No doubt, the resolution contributed to Governor Harrison's decision to bring the matter before the General Assembly. The following year the legislators directed the Department of Conservation and Economic Development "to make a study and to offer a plan for the encouragement or establishment of a properly located, designed, and operated museum of science, archaeology, and natural science. . . ." ⁴⁸ Less than one decade later and almost four decades after the Virginia Academy of Science first brought forth the idea of a science museum, the General Assembly chartered the Science Museum of Virginia. Certainly the seventies were a time when the general community was aware of the major contributions that science and technology had made to the world at large, but perhaps more important, as we shall see, this period was characterized by a stability in the funding mechanisms for science and an optimism about the scientific future. There was also a significant group of new players in the Virginia Academy of Science, some people of considerable energy and talent who were fully dedicated to the creation of a science museum, and their efforts were perhaps the final element in the recipe that allowed the museum to move from the status of a shelved, good idea into reality.

Public Information Committee

By the 1960s, the Virginia Academy of Science had made its mark on the Old Dominion. Scientists and educators alike looked forward to the professional aspects and camaraderie of the annual meeting each spring. The efforts of the VAS in matters environmental had secured

the organization a modest recognition in the eyes of the educated public. The rapid growth and enthusiastic participation of Virginia students in the Virginia Junior Academy of Science as well as the involvement of the Virginia Academy in improving all aspects of science education within the state indicated the firm commitment of the VAS to elevating the status of science in the region. Nevertheless, when the Long Range Committee met in October 1962, Chairman Leidheiser presided over an intense discussion concerning the public image of the organization, following which the Long Range Committee forwarded a position statement to Council for its consideration at the November meeting. "It is recommended," wrote the committee,

that Council implement a means for achieving publicity on Academy matters during the entire year and not only at a time of the annual Academy Conference. Such publicity should be directed at getting the Academy better known within the State and in developing the impression that the Academy is representative of a cross section of scientific disciplines.⁴⁹

Council voted to establish the Public Information Committee, and at the next annual meeting held in Old Point Comfort, President William Guy appointed Sidney Negus — a natural choice — as the chair.

It is particularly interesting that the Virginia Academy was anxious to be viewed by the public as representative of the scientific community in general. One wonders whether some of the members may not have thought that the biological sciences had been claiming the lion's share of public attention over the many years, since biologists had been the founders of the VAS. It is perhaps also possible that the Council may have been wondering about the notice paid by the public to the VJAS, which certainly, as the active arm of the Senior Academy in the realm of public education, attracted the attention of everyone from teachers to parents and other family members. Could, perhaps, a perception of the Virginia Academy of Science as an other-than-scholarly association be out there among the citizenry? In any event, in a decade when public relations was far less an area of concern than it would be in the 1990s, the Academy was taking steps to see that the public understood that scientists of every persuasion, from the physicist to the engineer, from the teaching scientist to the pure researcher, found a home under its hospitable roof.

Research Committee

While the Virginia Academy as a whole increasingly focused on grand schemes — such as the acquisition of Seashore State Park — to promote and publicize research within the Commonwealth, Council, largely through the efforts of the Research Committee, continued to stress and support research activity within the high schools and institutions of higher education. As President Allan Gwathmey proclaimed to the Academy Conference in 1953:

More people in Virginia must participate in scientific research. Original scientific investigations must be carried out in our high-schools and in our small colleges, at least by the members of the faculty. . . . Not only should there be a great increase in the number of people who are conducting original investigations in science but the quality of research in our institutions of higher learning and in our industrial laboratories should be greatly improved.... If this leadership in science can be won, it might help generate a general rejuvenation in the intellectual and cultural leadership in Virginia.⁵⁰

Gwathmey's statement reflects the Enlightenment belief — originating in the mid-to-late eighteenth century — that science should be viewed as a vehicle for the discovery of truth and the creation of a better world.

By and large, during the 1950s and early 1960s, the Research Committee continued on its established course. Research grants continued to be awarded based on the criteria established in 1942. This is not to say, however, that no adjustments were made in keeping with the tenor of the times. In 1957, for example, chairman Forbes noticed that many professors and instructors, particularly in Virginia's smaller colleges, pursued research projects during the summer. In all likelihood, he remarked, their efforts might be intensified if financial assistance in the amount of one to two hundred dollars were available. Accordingly, Forbes proposed that the Research Fund for grants-in-aid be increased by an additional five hundred dollars per year, making such assistance available to a few applicants each year. With the committee's recognition that "support for research in the State is one of the prime functions of the Academy," Council moved and passed a motion that the sum of five hundred dollars be included in the annual budget of the VAS, beginning with the current calendar year.⁵¹ With a record number of grant applicants in 1957, clearly Virginia scientists wanted such funding.⁵²

Virginia Journal of Science

In 1955, at the thirty-third annual meeting, Boyd Harshbarger, having served five years, resigned as editor-in-chief of the *Virginia Journal of Science*. In announcing Harshbarger's retirement to the general membership of the Virginia Academy of Science, President I. G. Foster had printed in the *Journal* "An Appreciation" for the dedicated service of the Virginia Polytechnic professor.⁵³ At the close of Harshbarger's tenure, the *Journal* was in excellent financial condition, having assets of approximately five thousand dollars.⁵⁴ Horton H. Hobbs, Jr., of the Department of Biology, University of Virginia, and the former technical editor of the *Journal* unanimously was elected Harshbarger's successor, while B. F. D. Runk, also of the University of Virginia, was appointed managing editor. As had been the case with Harshbarger, the terms were set at five years.⁵⁵ Only one year later, however, Hobbs and Runk submitted their resignations in tandem, citing increasing professorial duties. They agreed to remain in office until January 1, 1957, or whenever a successor was named, whichever came first.⁵⁶ Before stepping down, Hobbs and Runk published the first issue of the 1957 *Journal*. Commemorating the 350th anniversary of the Jamestown charter, Number 1 of Volume 8 often is referred to as the Jamestown Celebration issue.⁵⁷

Following the Celebration issue, R. T. Brumfield of Longwood College assumed the position of editor, and his colleague Charles F. Lane, the slot of managing editor. Accordingly, the two men relocated the *Journal* offices from the University of Virginia's Biology Department to Stevens Hall at Longwood College. As one of his first acts, Lane secured a new — and necessary — publishing contract which, as he reported to Council in May 1957, required double the previous production costs. The increase, Lane informed a disgruntled Council, occurred despite acceptance of the lowest bid.⁵⁸ Slightly less than a year later, Lane announced to Council that the rising costs of publication, without a parallel increase in revenue, rapidly was depleting the reserve funds, so carefully accrued by Harshbarger, of the *Journal*. To solve the financial problems, Lane and Brumfield recommended three steps:

1. Discontinue publishing the General Program of the annual meeting in the Proceedings, since this also is published in the annual April issue
2. Reduce the "News and Notes" section of the *Journal*
3. Increase the advertising revenue.

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Boyd Harshbarger, head of Statistics at Virginia Tech, helped bring financial stability to the Journal and served as editor for five years. He was also VAS president in 1949–1950, was an Honorary Life Member, and was selected in 1970 as one of the first group of VAS Fellows.

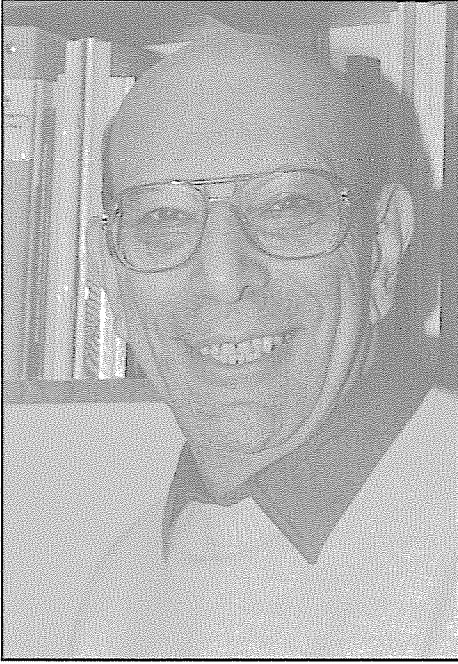
Council greeted the suggestions negatively, opting instead to review the VAS's projected income for that year in the hope that extra funds either might be located for that financial year or allocated in the budget for the following term. Unfortunately, additional monies were not available, and the estimated income of the Virginia Academy of Science for the next year would not allow increased appropriations to the *Journal*.⁵⁹ It was by then clear that some steps must be taken.

At the Council meeting in early May 1959, editor-in-chief Lane and managing editor Brumfield submitted letters of resignation to Academy President Forbes. Rightfully concerned with the *Journal's* constant insolvency, Boyd Harshbarger suggested a special committee be formed to examine the *Journal's* failing financial structure. Chaired by Wilson Bell of Virginia Polytechnic Institute, the Journal Committee immediately began analyzing the publication's financial statements. Several days later, Horton Hobbs nominated Virginia Polytechnic's Robert Ross as editor-in-chief and his university colleague Robert Kral as business manager-managing editor. At the October, 1959, Council meeting, the two men formally assumed their new posts.

Editor Ross immediately faced difficulties in publishing the *Journal* on time and in working with the publisher; both problems were financial in origin. In a letter written in March 1960, Ross reminded Council that "[i]t has been common knowledge for some time that the *Virginia Journal of Science* is operating in the red." Reiterating the complaints of his predecessor Lane, Ross pointed out to Council that "one of the difficulties of the *Journal* is that since 1950 it has served two functions: that of a journal wherein scientific articles are presented, and that of a proceedings in which an account of the activities of the members of the Academy are given."⁶⁰ In response to Ross, the Journal Committee advocated the increase in advertising space from six pages to twelve and an increase in subscription rates. In addition, Chairman Bell suggested the Virginia Academy consider hiring an advertising agency and manager until the *Journal* attained solvency. Finally, the committee recommended a slight increase in funding from VAS monies, which Council accepted, voting the *Journal* an extra \$400 per annum.⁶¹

During the next year, Ross's wife, Mary, took over the duties of managing editor from Robert Kral.⁶² The *Journal's* ever-present financial difficulties became even more pressing, leading to Academy President Wilson Bell's appointment of a new Journal Committee to investigate the problem. In May 1961, this group of three — Boyd Harshbarger, Walter Flory, and George Jeffers — issued a report to President Bell in which they outlined a new procedure of operation for the *Journal*. Furthermore, they advised that if Ross could not follow the new mode of business, then he should tender his resignation. For, as the committee maintained, "[i]f the *Journal* is allowed to die this time it will be the second and probably the last time. . . ." Therefore, "[t]he committee feels it most essential that the *Journal* be brought up to date in publication and held up to date. After this has been accomplished, every effort must be made to improve the quality of the *Journal*. This is necessary for keeping up the morale of the Academy at a high level."⁶³ Unable to adhere to the committee's charge, the Rosses submitted their resignations, and at the November 19, 1961, meeting, Council accepted them. For the third time in little over six years, Council found itself in the distressing position of seeking a new editor-in-chief and managing editor. Never one to waste time, Harshbarger promptly nominated Paul Siegel and Carl Allen — both of Virginia Polytechnic Institute — as the new editorial team.⁶⁴

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Paul Siegel, professor of Poultry Science at Virginia Tech, became co-editor of the Journal in 1961. He also served as president of the VAS in 1968–1969 and was named a Fellow in 1972.

It seems likely that the *Journal* stumbled so many times for two reasons: first, it had two very different functions, which, while they were not in opposition, were certainly not complementary. Different sets of editorial skills are required for a journal offering scientific articles and for one carrying the records of activities of the members. The latter case is similar to the alumni publications of academic institutions of relatively high status; the former resembles the research publications that are specific to a discipline, such as the *American Journal of Physics*. The second reason is even more daunting than the two differing editorial stances, and that is the fiscal management of an enterprise that is, in essence, a small business. Very few academics are capable of such multi-leveled performance or desire to engage in such an endeavor, and those individuals who show the skills of a fiscal manager are usually propelled into administrative positions within their institutions and do not remain accessible to a professional society such as the Virginia Academy of Science. The success of Harshbarger, while it may have lulled Council into expecting more of the same, was in fact an anomaly in that he could combine two different editorial perspectives with a uniquely solid practice of fiscal management.

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Even with its financial problems, however, the *Journal* remained an important organ of the VAS. It brought to the attention of the general membership important contributions of their colleagues within the scientific community as well as the results of academy-organized symposia, and in this way the *Journal* both gave the VAS status among its membership and provided an appropriate goal for younger professors. It introduced new ideas to the members and gave the organization a degree of public visibility. Finally, the *Journal* functioned to focus the membership on one of its central missions: supporting scientific research in the Commonwealth.

Science Education

In March 1955, Edward Harlow, Chairman of the Long Range Planning Committee, submitted a report to Council on the woeful state of secondary science education in the Commonwealth. Citing falling enrollment in science courses, a lack of well-qualified science teachers, and administrative indifference, Harlow moved that the Virginia Academy contact the State Board of Education and offer its services to address this obvious problem. While immediate action was not taken on Harlow's suggestion, Council did seriously consider the matter. As James W. Cole of the University of Virginia pointed out, the special and wide-ranging skills of the VAS membership might well substantially influence the course of science education. Indeed:

The Virginia Academy of Science occupies a highly important position in the Commonwealth of Virginia, and its influence extends throughout the nation. This Association has never been in a position where the need is so great for widely circulated statements of its policy on scientific conditions. . . . In an attempt at summary, a statement might be: the Virginia Academy of Science expects to undertake new activities in Virginia to appraise the condition of science education, to encourage science education of high quality, and to ensure an adequate supply of competent Science Teachers. . . .⁶⁵

Council named a new committee to gather information on science education, to define apparent problems and suggest solutions, and finally, to outline the Academy's area of responsibility. This committee, called the Advisory Panel on Science Education, also had as its objective to

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determine actions of other concerned groups in the state and to cooperate with such groups where appropriate.⁶⁶ One of the first actions of the special Panel was to propose that science education be upgraded, reorganized, and coordinated.⁶⁷

To better understand the nature of Virginia's science education and to find out how other Virginia educators felt about the subject, in 1955 Edward Harlow represented the Virginia Academy of Science at the state-sponsored Virginia Conference on Education held in Richmond during the first week of September. A major outcome of the conference was the unanimous decision to emphasize mathematics and science.⁶⁸ The following month, chairman Cole sent out a letter to the members of the Advisory Panel on Science Education outlining the conference's results and announcing that Harlow had been selected as one of the twenty-nine delegates representing Virginia at the forthcoming White House Conference on Education in the nation's capital.⁶⁹ At the conclusion of the letter, Cole informed the panel that additional educational sub-committees had been established by Academy President Walter Flory to work under the Advisory Panel. These Committees were: the Permanent Working Committee on Education in the Sciences, chaired by James Cole, University of Virginia; the Coordinating Committee on Organizational Activities, chaired by Thelma Heatwole, Woodrow Wilson High School, Staunton; and the Subject-Methods Committee, chaired by William E. Trout of University of Richmond.⁷⁰

Despite the exemplary intentions of the VAS to raise the standards of science education, the State Board of Education was not completely receptive to the Academy's participation. That the two organizations were at cross purposes clearly shows in George Jeffers's December 1955 letter to James Cole. Dismayed, Jeffers wrote that he and a few other members of the Virginia Academy vitally concerned with the quality of science teaching in the state were not invited to attend a State Board of Education Meeting where several out-of-state experts had been called in to discuss science education in Virginia. Not willing to permit problems with the Board to interfere with the VAS's objectives, however, Jeffers concluded the letter by offering two suggestions to encourage improvement in science teaching: first, to design a program to which supervisors, counselors, principals, and superintendents would come to listen to science speakers and, second, to organize a Virginia Academy of Science symposium on Education in the Sciences for the follow-

ing annual spring meeting.⁷¹ Both of Jeffer's suggestions would come to fruition.

To prevent further difficulties such as that reported by Jeffers to Cole, on Saturday morning, May 12, the Advisory Panel on Science Education recommended that Council take formal action regarding its feelings about science education, particularly in the secondary schools. In complete agreement, Council adopted the following resolution:

Being deeply concerned with the shortage of scientists and engineers and aware of its responsibility, the Virginia Academy of Science desires to cooperate fully with the State Department of Education. Therefore, be it resolved that a Committee be appointed to represent the Virginia Academy of Science to work with the State Department of Education if and when requested, in strengthening the qualifications of high-school science teachers, and in other ways to improve science and mathematics instruction in the public schools of Virginia.⁷²

Council also signed another resolution, pledging support for the establishment of local action committees to develop programs that would help in meeting the educational needs of various areas of the state.⁷³ In addition to these resolutions, two separate developments over the next year served to further the relationship between the VAS and the Board of Education and to strengthen its ties to other state agencies. The first of these was the appointment of Virginia Academy of Science member and Science Club sponsor Franklin D. Kizer in October of 1956 to the position of Assistant State Supervisor of Secondary Education. Not only did Kizer's active involvement with the Virginia Academy bode well for the future, but also, with Kizer's background in science, his new appointment was "tantamount to the state having a science supervisor."⁷⁴ Second, President Guy reported that at a 1957 Council meeting conversation with Davis Y. Paschall, State Superintendent of Education (and later President of the College of William and Mary), he had learned that it is "the thinking in the State Department of Education that the requirements for teacher certification in science will be raised and that an advisory committee on education in scientific fields will soon be set up." The distinct impression was that the VAS would be asked to serve.⁷⁵ Despite the attention, however, as always, change was not to come rapidly in science education.

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By 1960, Walter Flory expressed concern that more could be done to improve both the actual techniques of science teaching and the work-day experience of the professors and teachers at all levels of education. Acting on Flory's opinion, Council passed a motion that a new committee be set up to study science teaching in both the schools and the colleges.⁷⁶ Led by John Barker of Radford College, the committee had four primary objectives:

1. To create an awareness of science education resources in the state;
2. To create closer rapport between public school teachers of science, college professors, and professional scientists;
3. To create communication between the Virginia Academy of Science and other professional organizations for the purpose of advancing science education in Virginia;
4. To make efforts to raise the status of science teaching in Virginia.⁷⁷

The Virginia Academy also was well aware of the usefulness of other sources of help, specifically of fiscal support outside the state. Indeed, in this drive to better science teaching and, in general, to boost science education, the VAS sought aid from outside. As early as September 1956, Council submitted a grant application to the National Science Foundation (NSF). The NSF's rejection of the application — a request for funds to survey the outcome of the Science Talent Search — did not deter the VAS.⁷⁸ Two years later, in conjunction with the University Center in Virginia, the Virginia Academy sent to NSF a detailed proposal asking for \$40,000 to implement improvements in science teaching in Virginia colleges. "It is the belief of these two organizations," began the proposal, "that the most effective way of improving science teaching in Virginia is to establish a program of research grants which will permit a significant number of college science teachers to carry on active research work on their own campuses during the summer vacation period." In all likelihood, stated the grant proposal, the research project will continue into the school year. The NSF obviously did not agree.⁷⁹

The third attempt to get a share of these federal funds was successful. John Forbes, President of the Virginia Academy of Science, visited the University Center in Virginia to suggest joining forces once again with the Academy and submit a proposal to the National Science

Foundation. This time, the objective would be to increase student interest in science careers through a Visiting Scientists Program. The University Center welcomed the opportunity to collaborate with the VAS. In mid-February 1959, President Forbes and Colonel Herbert W. K. Fitzroy, Administrator of the University Center, took the application for a Visiting Scientists Program up to the NSF headquarters. Several months later, Harry C. Kelly of the national agency wrote to John Forbes that the application for \$6460 to conduct a Visiting Scientists Program had been granted. The objectives of the program as outlined in a letter and in a press release were:

1. to provide for a distinguished scientist to spend a day at each of Virginia's four-year colleges;
2. to allow for a maximum of informal discussion in addition to formal lecture;
3. to enable students to become acquainted with his work and stimulate their interest;
4. to give faculty members time to discuss scientific and academic problems.⁸⁰

Council appointed a Visiting Scientists Program Committee, informed the universities and colleges of the grant, and drew up a list of potential "visitors."⁸¹

On October 24, 1959, Forbes reported that the Visiting Scientists Program was well under way. Of those scientists invited to participate, fourteen had agreed to visit the twenty-six participating colleges and two institutions. Given the educators' warm reception of the program, Forbes reminded the committee that applications to the National Science Foundation would have to be made at an early date, if the VAS wished to try the program a second year. After some discussion, Council moved to submit again.⁸²

The following November, Colonel Fitzroy reported that nearly all Virginia colleges were participating in the Virginia Visiting Scientists Program. Unfortunately, a federal regulation regarding the amount of per diem stipends offered through grants to groups such as the VAS and limiting the allowable stipend to "an unrealistically small figure," had forced the NSF's withdrawal of its support for the program through state academies. To lessen the blow, however, the NSF decided to increase its underwriting of Visiting Scientist Programs by grants to fourteen major national professional societies, since, by law, such groups could give realistic per diem fees. Concerned over the change in fund-

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ing, which effectively eliminated VAS participation, Council passed a motion by Horton Hobbs that Colonel Fitzroy continue his investigation of alternate methods to continue the program of Visiting Scientists that the VAS had created. Additionally, Council briefly addressed the feasibility of initiating a Visiting Scientists Program for high schools; a detailed discussion of the possibility was saved for another meeting.⁸³

It is revealing to review this material in which the VAS focuses so strongly on improving science education during a period when a major social issue lay at the center of everyone's concerns in Virginia — Massive Resistance and its ultimate collapse — and to discover that there is not one mention of this critical issue. Surely the racial problems abounding all over the Commonwealth did nothing to either encourage teachers from outside Virginia to move to the state or to motivate young science majors to consider careers as science teachers. It is simply impossible that the members of the Academy were not aware of the turmoil. In fact, as the next section will reveal, the very success of the Virginia Junior Academy of Science brought the difficulties attendant on integration into the sphere of the Virginia Academy itself.

Virginia Junior Academy of Science

The enthusiasm which characterized the first decade of the Virginia Junior Academy of Science carried over into the second ten years; indeed, it appeared as if the annual Science Days had become a major component of the Virginia high-school science experience. While the rapid growth pleased the VAS, it also gave them pause, as the question of financially supporting the junior endeavor became a constant refrain during meetings of Council. In November of 1953, Guy W. Horsley of the Finance Committee offered a solution: that a new class of membership in the Virginia Academy be created, to be known as the "Business Membership," with dues of one hundred dollars per year. Revenue from these memberships would be used for the annual operation of the Junior Academy and the Science Talent Search. Even though a new membership class would necessitate a constitutional change, Council viewed Horsley's idea as an ideal solution.⁸⁴ Soon thereafter, Council mailed an invitational letter inviting certain businesses and industrial firms to join the Academy on this basis. By 1954 at the annual meeting, Secretary-Treasurer Foley Smith reported seven business memberships: Virginia Electric and Power Company; E. I. Du Pont de Nemours

and Company; Allied Chemical and Dye Corporation, Nitrogen Division; A. H. Robbins Company; Monsanto Chemical Company; Phipps and Bird Incorporated; and Newport News Shipbuilding and Drydock Corporation.⁸⁵ Tapping into the resources of the region's industrialists was a clever move that was long overdue — tying together as it did technology and its income with the scientists who, in many ways, represented the source of the developments upon which a number of these businesses were established. The lag time between the development of a strong industrial and manufacturing component of the Virginia business scene and the VAS's move to take advantage of this fact is probably due to the vestiges of the Byrd mentality within the VAS itself.

Towards the end of 1952, Grover Everett resigned as chair of the Virginia Junior Academy of Science Committee, having led the organization for one year. The appointment of Everett's successor proved a fortuitous choice, as over the next six years, Thelma Heatwole, a science teacher from Staunton, Virginia, dedicated herself to establishing the VJAS as the premier educational organization within the Old Dominion and among other state academies of science throughout the nation. No stranger to the current state of science education in the nation, Heatwole spent the school year of 1953–1954 visiting various high schools throughout the country and observing their secondary science teaching programs, using funds awarded from a Ford Scholarship to support her travels.⁸⁶ Heatwole's influence permeated all operations of the VJAS. However, her commitment to developing the Science Open House, later called Junior Science Day, to the point where schools in every region of the state competed for the privilege of exhibiting at the Virginia Academy of Science's annual meeting, was the chief reason behind the steady increase in membership. Consider the data from just one year. In 1953, charters and membership cards were issued to 65 clubs with an individual membership of approximately 1200. By 1954, 72 clubs were affiliated and the membership had reached 2,563. In fact, at the 1954 VAS annual meeting, 49 individual and four club exhibits that had qualified at the Junior Science Days were displayed.⁸⁷ Six years later, 85 clubs were affiliated and individual membership was close to 10,000 persons. Approximately 4,000 students and sponsors attended one of five Junior Science Days across the Commonwealth. During those events, 439 research projects were exhibited, of which 120 were selected for display at the annual meeting of the Academy in Richmond in 1960.⁸⁸ The increase in membership also translated into a larger and more popu-

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lar Science Talent Search. Finally, to encourage the possibility of a career in science, Heatwole and the VJAS Committee invited scientists of international repute — such as Carroll M. Williams, Professor of Zoology at Harvard University, and Willard Libby, Vice-Chairman of the Atomic Energy Commission — to speak before the juniors.

It is not difficult to understand how, for many high-school students, the VJAS provided an important extra-curricular activity. In order to strengthen this growing network, students at Newport News High School took the initiative in 1953 and began publishing a "Junior Science Bulletin." Under the direction of their science club leader, Susie V. Floyd, for eight years the group issued the "Bulletin," aimed at keeping the Junior Academy membership abreast of all junior science activities. For example, in 1956 the announcement by the Philip Morris Company of the new Philip Morris Achievement Awards was carried to all VJAS members' homes via the publication. One can imagine the pleasure of the science clubs when first reading about the new awards — made possible by a seven hundred and fifty dollar grant to the VJAS — for "outstanding projects in Chemistry, Physics, Biology, and other sciences."⁸⁹ While the Virginia Academy of Science wholeheartedly supported this endeavor, help came also from other sources. In 1958, when publication costs appeared as if they might close the "Bulletin," the American Tobacco Company Research Laboratory donated three hundred dollars to ensure its continued publication.⁹⁰ The efforts of Floyd and her ever-changing cadre of students were fully validated by this gift.

Thelma Heatwole resigned as chair of the Junior Academy in 1960, but not before moving that the chair of the VJAS be made a member of the Academy Council.⁹¹ Shortly thereafter, the VJAS chair became an ex officio member of the Council. By the time Heatwole left office, the size of the Junior Science Day program had reached the stage where consideration was given to a new type of program.⁹² At the Virginia Academy of Science's annual meeting in 1960, several students read their winning exhibit papers with much success, prompting the VJAS Committee at the following fall meeting to contemplate instituting a format in which students would compete by submitting their papers to the chair and director of the VJAS Committee. Submissions, then, would be judged by a panel and those selected read by the students at the annual meeting. The committee decided further discussion was needed before a final decision could be reached.

Not long before the prior meeting, William W. Scott had assumed the chairmanship of the VJAS. The Chair of the Biology Department of Virginia Polytechnic Institute, Scott's four-year tenure as leader of the Junior Academy saw the VAS come face-to-face with the barely submerged racial tensions that had characterized Virginia's secondary public school system since the *Brown* decision in 1954. Indeed, it was during his first year in office that Scott became involved in the confluence of events that provided the VAS-VJAS with the final impetus needed to markedly change the format of the latter's program.

In March of 1961, Scott delivered the VJAS Committee's report to Council, informing them, among other things, of the Junior Academy's plans to hold a ball at the thirty-ninth meeting of the VAS to celebrate their twentieth anniversary. Two months later at the Virginia Academy's annual meeting, held in Lexington, Scott reported to Council that the selection of junior exhibitors to attend the VAS meeting in 1961 would be held in all the regions throughout the state, save for the black schools. In their case, all of the exhibits were to be judged solely at Virginia State College in Petersburg, a black institution. The black students, Scott said, objected to the special venue for their presentations. They wanted, instead of being shuttled to Petersburg, to exhibit with the other science clubs — the white clubs — in the regions where their schools were located. After much discussion, Walter Flory proposed that President Wilson Bell appoint a committee to examine the consequences of the request. Accordingly, President Bell named Jackson Taylor, Walter Flory, and William Scott to a Special Committee to investigate the problem and report back in two days to Council.⁹³ Before the meeting adjourned, however, Scott informed the group that the VJAS Committee had canceled the twentieth-anniversary ball planned for the Junior Academy because the "colored students" objected to the segregated arrangements for the ball itself. In its place, the committee had substituted a scientific lecture.⁹⁴ In remembering the situation, Scott remarked: "At the time of the Lexington meeting, school segregation had become a major issue throughout the state. It was not unexpected, therefore, to have the question of segregated Science Days and separate social events brought before the VJAS Committee."⁹⁵

On May 13, 1961, Jackson Taylor as chair of the Special Committee delivered the recommendations of the group of three:

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1. That the VJAS Exhibits be continued.
2. That the plans submitted by the VJAS Committee for dividing the state into seven or more geographical areas for the purpose of conducting preliminary judging of contestants be approved.
3. That for each of these geographical areas, the VJAS Committee seek a host for such preliminary judging programs, and if unable to find a willing host, that the VJAS Committee be authorized to set up the program for that area under the auspices of the Virginia Academy of Science, with the needed funds.
4. That the VJAS chairman be authorized when requested, to make such re-assignments from one geographical area to another as he deems wise.⁹⁶

One may conclude from recommendation "4" that the VAS remained willing to remove black VJAS student exhibitors from their geographic region if difficulties arose that made such a reassignment appear to contribute to the internal harmony of the Junior Academy. At the same time, the inherent injustice in this position must have been clear. Obviously, a just solution that would treat black and white students evenhandedly, yet not provoke passions that were running strong within the state, would require a change in the way the VJAS conducted its business. Such a change was shortly to occur.

On November 19, 1961, long-time student advocate Susie Floyd of Newport News stood in for Scott during the Council meeting held at the University of Virginia. Based on the four recommendations of the Special Committee, Floyd announced that the VJAS Committee felt that the "old procedure of having Juniors compete through exhibits [be] scrapped in favor of selecting finalists by having entrants submit papers to a screening committee. . . ." Furthermore, the "VAS would sponsor no social functions for the Juniors."⁹⁷ The VJAS Committee had faced its problem squarely. In the context of the times, the scrapping of the exhibits and of the social activities of the Junior Academy was probably the best that could be done in the name of fairness. The submission of student papers kept the persons, both black and white, at arms-length and did not require anyone to confront angry whites or angry blacks.

In retrospect, the meetings of Council and the VJAS from 1960 indicate clearly that a change in the program of the Junior Academy was

bound to happen — only in a very small part because of the size of the VJAS and the complexity of the program that had been set up in its early days. There can be no doubt that the reactions of the black students were certainly the driving force behind changing the format sooner rather than later. How, then, should one interpret such actions? It is a simple matter to say that justice ought to have required that the Academy live up to its obligation to treat equally the students whom it was nurturing through its efforts on behalf of science education, regardless of race. In fact, that was probably not possible for the members of the VAS at that moment. The lack of any detailed or general comment in the Virginia Academy of Science material from this period, from archives to oral histories, probably reveals that the scientific community was actually not only strongly aware of what was going on but also was uncomfortable with the situation as it existed. Had this not been the case, surely there would have been overt remarks, at least in the material from the period, if not in the memories of people who survived those difficult times. To take just one example of the difficulties which continued over the next period, the Newport News system in which Susie Floyd taught did not integrate until 1972, and Newport News High itself, once a beacon of science education, was closed in the mid-seventies shortly after it was integrated on the specious ground that the building was unsafe.⁹⁸

The blind eye that the Virginia Academy of Science turned toward the racial confrontations going on all over the state brings one to the question: to what extent does the social context provide justification for certain actions — or the lack thereof? The Supreme Court had seven years earlier denied the legality of “separate but equal.” Yet Virginia had not yet accepted the reality — by 1962, when this problem with the Junior Academy first arose, only one percent of the schools had desegregated. Why, then, would one expect a group of educated white Virginia scientists to integrate? Interestingly, that there were expectations within the group itself may be indicated by some rare, isolated comments. In 1962, Scott said, “As far as the VAS and the VJAS are concerned, they have always been, as far as I know, completely integrated.”⁹⁹ But later, in an interview with Harry Staggers, Scott noted: “there were problems. . .with racial overtones. . . inherent in the VJAS organization.”¹⁰⁰ Scott continued by stating that he and others on the Committee worked very hard to overcome such “devastating” sentiments.¹⁰¹

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The remaining two years of Scott's chairmanship did not involve any overt political or moral decisions; rather, the Virginia Junior Academy of Science calmly and steadily extended its influence both within the state and among the other state academies of science. At the 1962 November Council meeting, the VJAS made several requests, all of which were supported by the VAS. First, the Junior Committee requested one hundred dollars from the Finance Committee to help defray the cost of sending three Junior Academy members and Scott to that year's AAAS meeting in Philadelphia. Second, the committee asked for another one hundred dollars to publish a Junior Academy of Science brochure edited by Marc Salzberg, a student at Norfolk Academy. Salzberg's brochure or handbook remains an essential reference for all clubs. The committee also informed Council of a second publication, *The Virginia Junior Academy Proceedings*, edited by Trudie Thaxton of Bedford High School. The *Proceedings* included records of the annual meeting and copies of the winning research papers. Finally, as chair, Scott requested the possible financing of two students, their two science sponsors, and himself to a National Science Seminar to be held in conjunction with the National Science Fair that May in Albuquerque, New Mexico.¹⁰² Thus the Virginia Junior Academy of Science — confrontations and crises averted by a strategy of avoidance — moved smoothly into the next decade.

Reflections: 1953–1963

This period saw the VAS make a definite — although not fully acknowledged by Academy members — shift in its focus away from support for professionalism within the academic scientific community and toward protecting the environment, improving education, and increasing the public understanding of science. The move away from an emphasis on professionalism is easy to understand, given the strong influx of funding that resulted from federal involvement in research at institutions of higher learning. The universities and colleges did not need the support of the VAS as they once had, especially following Sputnik and the resulting competition with the Soviet Union. Further, it is a testimony to the VAS that its members were early to recognize that the environment was in serious need of attention, and they did so before environmentalism became a watchword with certain groups inside the United States at large. Finally, the very beginning of the real-

ization of the long-deferred science museum in Virginia came at a time when most scientists saw that the scientific community had left the general public far behind in scientific literacy, and that efforts were called for to remedy that information gap. As Nancy Smith Midgett has pointed out, by altering their focus, state academies of science discovered a means of remaining a significant if not a vital professional force within the lives of professional scientists.¹⁰³

To turn to the issue of race, it is noteworthy that the matter arose only with the VJAS and not with the VAS itself. Exactly what might that mean? One might take Harshbarger's words that he had "investigated" and found that there was no "other scientific organization or any other organization in the south that rejected segregation except for the Virginia Academy" at face value in this matter.¹⁰⁴ His comment on the policy of the Academy supports an argument that the members of the VAS themselves, while certainly not integrationist, were fair-minded people who were not in support of institutionalized racism. And there is no support in the records for the position that the VAS was a racist group, even though at the same time, there is also no support for the converse. As Harshbarger went on to say, "To try to imply that the Academy had, at any time, been racist is a mistake." Based on the record, it is probably fair to say that the VAS held itself aloof from the fray, perhaps understanding the essential injustice, not to mention unconstitutionality, of the position of Massive Resistance and of racism in general, but at the same time unwilling to risk the dangers certain to result from any action in support of integration.

The VAS, through the VJAS, was finally driven to confront the issue of segregation because of two events: one was the outspoken response of the black students themselves when they were turned away from their natural geographic regions, and the other was that the planned twentieth-anniversary ball would bring about an integrated social occasion. "We were at the time," wrote Rae Carpenter, Jr., professor of physics at Virginia Military Institute, then a member of the Local Arrangements Committee, "still somewhat sensitive about how to handle an integrated activity. This was in addition to the reservation which most of the members of the Local Arrangements Committee had about an integrated dance." Sensitive the VAS was, on both fronts, with the not-unexpected result that the physical proximity of black and white students was reduced to those survivors of the paper competi-

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tions. Such intellectual shoulder-rubbing was acceptable, where dancing together obviously was not.

As much as one might like, in the 1990s, to point to the Virginia Academy of Science as having been a leader in a troublesome social matter, an argument can be made that the organization by its very neutrality protected its ability to act as a center for science education, for science educators, for inspiring the young, and for giving support to the professoriate. Such an argument would hold that had the VAS involved itself in a social issue that was causing enormous upheaval in the community, its essential mission would have suffered. While this may not be viewed as admirable in the arena of civil rights, seemingly, the Academy tacitly felt that it could best serve by deflecting confrontation and by preserving a tranquil arena within which the pursuit of excellence in science at all levels could continue.

Endnotes

¹ For an overview of the *Brown* decision in Virginia, see Raymond Wolters, *The Burden of Brown: Thirty Years of Desegregation* (Charlottesville: University of Virginia Press, 1984).

² In citing the reasons for decent race relations in Virginia, politicians often pointed to both the strong anti-lynching law and the guarantee of the right to vote provided payment of poll taxes was up-to-date. For brief historical overviews of the period, see Rubin, *Virginia: A History*, and Dabney, *Virginia: The Old Dominion*.

³ See Dabney, *Virginia: The Old Dominion* for a discussion of evidence of this "special consciousness" of Virginians.

⁴ For a detailed analysis of Byrd's movement during this period, see J. Harvie Wilkinson III, *Harry Byrd and the Changing Face of Virginia Politics, 1945–1966*, and James Ely, *The Crisis of Conservative Virginia: The Byrd Organization and the Politics of Massive Resistance* (Knoxville: University of Tennessee Press, 1976).

⁵ For information on Almond's politics during this period see Benjamin Muse, *Virginia's Massive Resistance* (Bloomington, Indiana: University of Indiana Press, 1961); Robbin L. Gates, *The Making of Massive Resistance: Virginia's Politics of Public Desegregation, 1954–1956* (Chapel Hill: University of North Carolina Press, 1964); and Ben Beagle and Ozzie Osborne, *J. Lindsay Almond: Virginia's Reluctant Rebel* (Roanoke, 1984).

⁶ Younger and Moore, *The Governors of Virginia, 1860–1978*, p. 344.

⁷ *Ibid.*, p. 351. For a biography of Governor Almond, see Beagle and Osborne, *J. Lindsay Almond*.

⁸ See Muse, *Virginia's Massive Resistance*.

⁹ Younger and Moore, *The Governors of Virginia, 1860–1978*

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- ¹⁰ Francis M. Wilhoit, *The Politics of Massive Resistance* (New York: George Braziller, 1973), p. 148.
- ¹¹ Younger and Moore, *The Governors of Virginia, 1860–1978*, p. 357.
- ¹² Eric Goldman, *The Crucial Decade and After* (New York: 1960), p. 264.
- ¹³ See Daniel J. Kevles, *The Physicists: The History of A Scientific Community in Modern America* (New York: Knopf, 1978), pp. 435-464
- ¹⁴ Sally Gregory Kohlstedt and Margaret W. Rossiter, eds., *Historical Writing on American Science: Perspectives and Prospects* (Baltimore: The Johns Hopkins University Press, 1985).
- ¹⁵ It is important to note that Sputnik *per se* did not galvanize the leaders in Virginia. Rather, Virginia was already increasing its expenditures in science and technology, and Sputnik merely reinforced their actions and perhaps increased the rate and level at which the expenditures took place.
- ¹⁶ *Virginia Journal of Science* 9 (1958), pp. 1-2.
- ¹⁷ "A Message to the Members from the President," May, 1953. Special Collections, Virginia Tech.
- ¹⁸ "VAS, the Section of Psychology and Education," Special Collections, Virginia Tech.
- ¹⁹ *Virginia Journal of Science* 7 (1956), p. 223.
- ²⁰ *Ibid.*
- ²¹ Rodney Berry to Isabel Boggs, November 15, 1963. Special Collections, Virginia Tech.
- ²² *Virginia Journal of Science* (1954).
- ²³ *Virginia Journal of Science* 3 (1952), p. 246.
- ²⁴ "1952 Minute Book," p. 22. Special Collections, Virginia Tech.
- ²⁵ J.T. Baldwin to VAS Council, February 28, 1952. Special Collections, Virginia Tech.
- ²⁶ Alexander Crosby Brown's involvement with this project led to his book *Juniper Waterway: A History of the Albemarle and Chesapeake Canal* (Charlottesville: University of Virginia Press, 1980), which was the last major work of his long career.
- ²⁷ J.T. Baldwin to Collaborators on popular book on the Dismal Swamp, May 2, 1952. Special Collections, Virginia Tech.
- ²⁸ *Ibid.*
- ²⁹ *Virginia Journal of Science* 4 (1953), p. 182. Special Collections, Virginia Tech.
- ³⁰ "Minute Book of VAS Council," November 8, 1953, p. 46. Special Collections, Virginia Tech.
- ³¹ "Council Minute Book," October 12, 1952., p. 31. Special Collections, Virginia Tech.
- ³² "Minutes of Council," May 12, 1956. Special Collections, Virginia Tech.
- ³³ "Minutes of Council," October 7, 1956. Special Collections. Virginia Tech.
- ³⁴ *Ibid.*
- ³⁵ "Minutes of Council," November 2, 1956. Special Collections, Virginia Tech.
- ³⁶ Also in J.L. Vaughan, Provost of the University of Virginia, to Raymond Long, Commissioner, January 18, 1957. Special Collections, Virginia Tech.
- ³⁷ "Minutes of Council," October 20, 1957. Special Collections, Virginia Tech.
- ³⁸ "Minutes of Council," March 8, 1958. Special Collections, Virginia Tech.

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- ³⁹ George Jeffers to Walter Flory, June 13, 1960. Special Collections, Virginia Tech.
- ⁴⁰ Walter Flory to Charlotte Webb. Interview. April 7, 1995. Winston-Salem, North Carolina.
- ⁴¹ "Minutes of Council," November 6, 1960. Special Collections, Virginia Tech. Hobbs was successful in convincing the state legislators to designate the Mount Rogers area as a natural preserve.
- ⁴² Ibid.
- ⁴³ "Report of the new Natural Resource Committee," November 19, 1961. Special Collections, Virginia Tech.
- ⁴⁴ Walter Flory to Charlotte Webb, Interview, April 7, 1995.
- ⁴⁵ "Minutes of Council," November 19, 1961. Special Collections, Virginia Tech.
- ⁴⁶ "Minutes of Council," May 10, 1963. Special Collections, Virginia Tech.
- ⁴⁷ Ibid.
- ⁴⁸ "Report of the Virginia Museum of Science Study Commission 1969," p. 6. Special Collections, Virginia Tech.
- ⁴⁹ "A Report on the Long Range Planning Committee Meeting of the VAS Held in Blacksburg, Saturday, October 27, 1962." Special Collections, Virginia Tech.
- ⁵⁰ "A Message to the Members from the President," May, 1953. Special Collections, Virginia Tech.
- ⁵¹ "Minutes of Council," February 23, 1957. Special Collections, Virginia Tech.
- ⁵² "Minutes of Council," May 9, 1957. Special Collections, Virginia Tech.
- ⁵³ *Virginia Journal of Science* 6 (1955), p. 133.
- ⁵⁴ "Minutes of Council," March 13, 1955. Special Collections, Virginia Tech.
- ⁵⁵ "Minutes of Council," March 14, 1955. Special Collections, Virginia Tech.
- ⁵⁶ "Minutes of Council," May 10, 1956. Special Collections, Virginia Tech.
- ⁵⁷ *Virginia Journal of Science* 8 (1957), pp. 1-102. In celebration of the commemoration, Marcellus Stow wrote the volume's introduction, while Bruce D. Reynolds contributed "Indians of Virginia 350 Years Ago"; Arthur Bevan wrote "Geological Ancestry of the York-James Peninsula"; Ivey Lewis sent in "Seventeenth Century Science in Old Virginia"; J.L. McHugh and Robert S. Bailey jointly offered "History of Virginia's Commerical Fisheries"; and Sidney Negus authored "Physicians at Early Jamestown."
- ⁵⁸ *Virginia Journal of Science* 8 (1957), pp. 234-5, 256.
- ⁵⁹ "Minutes of Council," March 8, 1958. Special Collections, Virginia Tech.
- ⁶⁰ Robert Ross to Council, March 22, 1960. Special Collections, Virginia Tech.
- ⁶¹ *Virginia Journal of Science* 11 (1960), pp. 151-154.
- ⁶² *Virginia Journal of Science* 12 (1961), p. 139.
- ⁶³ "A Report to Dr. Bell, President, VAS," May 12, 1961. Special Collections, Virginia Tech.
- ⁶⁴ "Minutes of Council," November 19, 1961. Special Collections, Virginia Tech.
- ⁶⁵ *Virginia Journal of Science* 6 (1955), p. 188.
- ⁶⁶ Ibid. The Advisory Panel, of course, had precursors: for example, the Committee on Public School Education.
- ⁶⁷ *Virginia Journal of Science* 9 (1955), pp. 218-222.
- ⁶⁸ "Committee Report of the Virginia Conference on Education," August 31, September 1-2, 1955. Special Collections, Virginia Tech.

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- ⁶⁹ The purpose of the White House Conference was to bring about a more widespread knowledge and appreciation of and interest in education. The six major topics were: what should the schools accomplish; what kind of facilities would be needed; how to attract and retain good teachers; how to organize schools economically; how to pay for the schools; how to garner more public support for education. It is interesting to note that the only problem specifically excluded from the agenda is that of segregation of the races within the public schools. Taken from "State and White House Conference," July 22, 1955. Special Collections, Virginia Tech.
- ⁷⁰ James Cole to members of the Advisory Panel on Science Education, Virginia Academy of Science, October 30, 1955. Special Collections, Virginia Tech.
- ⁷¹ "Minutes of Council," October 30, 1955. Special Collections, Virginia Tech.
- ⁷² "Minutes of Council," May 12, 1956. Special Collections, Virginia Tech.
- ⁷³ "Report of the Advisory Panel on Education in the Science, Virginia Academy of Science," May 2, 1956. Special Collections, Virginia Tech.
- ⁷⁴ "Minutes of Council," October 7, 1956. Special Collections, Virginia Tech.
- ⁷⁵ "Minutes of Council," October 20, 1957. Special Collections, Virginia Tech.
- ⁷⁶ "Minutes of Council," November 6, 1960. Special Collections, Virginia Tech.
- ⁷⁷ John Barker to Committee on Science Education in Virginia, November 14, 1961. Special Collections, Virginia Tech.
- ⁷⁸ "Report of the Virginia Science Talent Search NSF Proposal," September 19, 1956. Special Collections, Virginia Tech.
- ⁷⁹ "Virginia Academy of Science and University Center Grant Proposal," 1958. Special Collections, Virginia Tech.
- ⁸⁰ "Press Release," May 8, 1959. Special Collections, Virginia Tech.
- ⁸¹ "A Visiting Scientists Program for the Four-Year Colleges of Virginia," Edmund Berkeley, Press Release, May 8, 1959. Special Collections, Virginia Tech. Administering the grant was a full-time job. All applications had to be filled out in quintuplicate. Quarterly statements of expenses were required, as well as monthly applications for cash. Typical problems in dealing with the federal government were as follows: On June 17, 1965, Foley F. Smith wrote to William E. Fee, Jr., of the Grants Office of the NSF concerning a misunderstanding that had arisen. "At the beginning, we were unaware of the exact procedure for accounting for the grant, other than the Fiscal Officer was to open a proper checking account, and draw checks to payees designated by vouchers authorized and signed by the Administrative Officer. . . ." There follows a three-paragraph explanation of problems with closing the account, a revised report, and a request "that the discrepancy of \$0.05 be reconciled. . . ."
- ⁸² "Minutes of Council," October 24, 1959. Special Collections, Virginia Tech.
- ⁸³ "Minutes of Council," November 6, 1960. Special Collections, Virginia Tech.
- ⁸⁴ See "Minutes of Council," November 8, 1953; Article III of the Constitution: "Members" was amended to include the following: Section 6, "Business or industrial organizations which pay dues of \$100.00 annually, shall be Business Members of the Academy."
- ⁸⁵ *Virginia Journal of Science* 6 (1954), p. 79.

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- ⁸⁶ "Minutes of Council," April 18, 1953. Special Collections, Virginia Tech.
- ⁸⁷ Thelma Heatwole, "History of the Junior Academy of Science," Fall 1965.
- ⁸⁸ *Ibid.*
- ⁸⁹ *Virginia Journal of Science* 7 (1956), pp. 235-39.
- ⁹⁰ *Virginia Journal of Science* 9 (1958), p. 357.
- ⁹¹ *Virginia Journal of Science* 11 (1960), pp. 151-52.
- ⁹² In recognition of her outstanding service to the VAS and the VJAS, Thelma Heatwole was awarded the Distinguished Service Award on May 12, 1961. See *Virginia Journal of Science* 12 (1962), pp. 140-41.
- ⁹³ "Minutes of Council," May 11, 1961. Special Collections, Virginia Tech.
- ⁹⁴ "Minutes of Council," March 12, 1961; and "Minutes of Council," May 11, 1961. Special Collections, Virginia Tech.
- ⁹⁵ Dean W.W. Scott to Harry J. Staggers, Harrisonburg, Virginia, December 5, 1967 in Harry Staggers, "A History of the Virginia Academy of Science," unpublished manuscript, p. 47. Special Collections, Virginia Tech.
- ⁹⁶ "Minutes of Council," May 13, 1961. Special Collections, Virginia Tech.
- ⁹⁷ *Virginia Journal of Science* 14 (1962), p. 63; "Academy Minute Book," pp. 173-74. Quote taken from *VJS* (1973), p. 26.
- ⁹⁸ From conversation with Jane C. Webb, member of the Newport News School Board, 1981-1986. Sold to the Newport News Shipyard, today the building is quarters for Navy personnel stationed in Newport News while their ships are overhauled.
- ⁹⁹ Dean W.W. Scott to Harry J. Staggers, Harrisonburg, Va., Dec. 5, 1967. Special Collections, Virginia Tech.
- ¹⁰⁰ *Ibid.*
- ¹⁰¹ *Ibid.*
- ¹⁰² "Minutes of Council," November 3, 1962. Special Collections, Virginia Tech. On May 10, 1963, Scott reported that in the summer, thirteen students and three teachers attended the National Science Seminars in New Mexico.
- ¹⁰³ Midgett, *To Foster the Spirit of Professionalism*, p. 205.
- ¹⁰⁴ Boyd Harshbarger to Walter S. Flory, Blacksburg, Va., April 19, 1967. Special Collections, Virginia Tech.
- ¹⁰⁵ D. Rae Carpenter to Harry J. Staggers, Nov. 25 1967. Copy in Harry Staggers's file. Special Collections, Virginia Tech.

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