

More Than a Building on Broad Street: A History of the Science Museum of Virginia, 1910-2017

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By: Kasey Sease

Chapter 1

Getting Above Ground: The Humble Beginnings of the Science Museum of Virginia

The turn toward the twentieth century was a tumultuous time for the Commonwealth of Virginia. Politically, socially, and economically, the Old Dominion was in a state of flux as its citizens attempted to come to terms with events of the past while seeking a better future for their families. Virginians, searching for jobs and economic relief from the long-term effects of the panic of 1880, moved in ever-greater numbers out of rural regions and into urban centers. African Americans left the state in droves while white Virginians commemorated Confederate legacies in marble and enforced strict segregation laws.¹ Philanthropists like Lila Meade Valentine and Mary Cooke Branch Munford founded and invested in new educational organizations to boost literacy in the state and encourage the development of a more skilled workforce.² To top it off, Woodrow Wilson, a native of Staunton, was elected president of the United States in 1912—a college professor turned New Jersey governor who had left his home state for better professional prospects up north.³

With all the changes that a new century offered, few citizens would have thought to look in the basement of the Virginia State Library for yet another crucial development in the state's history: a makeshift display of natural history artifacts that would lay the groundwork for state-sponsored public science education in the Commonwealth. As specimens of minerals and timber piled up from the Jamestown Exhibition of 1907, Virginia legislators approved the use of the library's basement in 1910 to display the exhibits and any other artifacts that state agencies wished to donate.⁴ When the library moved to its current location on East Broad Street, the State Finance Department made its home in the floors above what became known colloquially as the 'State Museum.'⁵ However, with the passage of decades, the displays were forgotten by most Virginians until the basement was converted into office space for the Finance Department in 1964.⁶

In the intervening years between the opening and closing of the ‘State Museum,’ citizens of the Old Dominion witnessed two world wars, a depression, and the creation of a Museum of Science Advisory Commission in 1946 that failed to hoist the state’s natural history displays out of their basement in post-war Virginia.⁷ Nonetheless, the efforts of the early commission members were not made in vain—a new study commission, proposed by the Virginia Academy of Science and approved by the General Assembly in 1968, would take up their task to create the first official state museum of science in Virginia.⁸ This chapter recounts the struggles of these Virginians to offer a public educational opportunity in the sciences that other states like New York and Massachusetts had funded for years. And yet, their vision of a state museum differed greatly from the halls of dinosaur bones in the northeast and the geological specimens behind glass at the Smithsonian in Washington D.C. The 1968 commission wanted to embrace a new kind of science education that was beginning to gain traction with museum professionals: a science center with hands-on exhibits and demonstrations meant to shatter the glass of dull and dusty display cases. These hybrid museums were intended to teach, not showcase—preferably above ground.

Science Museums and World Wars: The 1946 Museum of Science Advisory Commission

It is impossible to understand the first attempt to build a state science museum in Virginia without first considering the ramifications of a conflict that shook the twentieth century: World War II. Though battles were fought largely on foreign soil, the changes this event wrought on international warfare, economic policies, and political realities were felt by Virginians as much as any other group of Americans. Virginians helped design and build the new weapons of war while their own businesses and agricultural practices were reshaped by the transformative economic and welfare policies of Franklin D. Roosevelt. U-Boat attacks in Virginia’s own waters brought the war home as dead sailors washed up on Chesapeake beaches and baseball games were cancelled by Governor Colgate Darden’s subsequent coastal blackouts.⁹ In many ways life appeared different to Virginians who survived the nearly four years of U.S. involvement in World War II, and it would be up to state leaders like post-war Governor William M. Tuck to meet the challenges brought by these changes.

In a newspaper article printed August 16, 1946, Governor Tuck informed readers that “We are living in ‘The Age of Science.’”¹⁰ Warfare and weapons development in World War II made it clear to political leaders like himself that technological advances should not be ignored, but fostered—a decision that could bring economic prosperity to the rest of the state as it had in Hampton Roads with the wartime use of the Newport News and Norfolk Navy shipyards.¹¹ Even better, the promotion of scientific industries by Virginians could attract federal grants and encourage national investments that brought capital to a job-seeking citizenry. Tuck had plenty of reasons to support the appointment of a Museum of Science Advisory Commission in 1946, and he did so with the hopes that public science education could foster “the brains” necessary to “make this Commonwealth a leader in the scientific field.”¹² However much he likely wished to take political credit for the committee’s creation, the real impetus behind its establishment lay in the hands of the Virginia Academy of Science, especially one of its wartime presidents, George Jeffers.

Dr. Jeffers, a native of Newfoundland, found a home in Virginia when he accepted a professorship in 1927 at Farmville State Teachers College, now Longwood University.¹³ He spent his professional hours teaching biology to groups of women who wished to lead their own classrooms in Virginia’s secondary schools. As much as Jeffers valued his position at the Teachers College, he did not limit the audience of his lectures to students in Farmville. Jeffers frequently spoke to groups outside the Commonwealth and was a member of organizations like the National Association of Biology Teachers.¹⁴ In 1941, his work in the field of biology and experience teaching and advocating for the perpetuation of scientific fields in the classroom caught the attention of the Virginia Academy of Science (VAS), whose members elected him president that same year.¹⁵

Jeffers faced the task of leading the Academy when its membership dwindled with the outbreak of war. As he explained in his own account of the VAS in World War II, “most of the Academy members were functioning in the war effort in one way or another: of those that were left—mostly 4-Fs—were selling war bonds, serving on rationing boards, spotting airplanes, making speeches and riding in car pools.”¹⁶ Some members, including Jesse W. Beams, found themselves working at the highest levels of federal weapons design, including “the production of the atomic bomb.”¹⁷ As a result of this service, Academy membership dropped from an “all-time

high of 912 in 1941 to 629 in 1945.”¹⁸ The decline in manpower, though disheartening, did not dissuade Jeffers from attempting to maintain an active role for the Academy in wartime Virginia.

In 1942, Jeffers encouraged the Academy’s remaining members to continue pursuing their goals in an address at the organization’s annual meeting.¹⁹ He reminded his audience that “concern for the future of science in Virginia is one way to make the nation strong”—indeed, science was “decisive in the survival of the civilization in which we live,” not just “a prime factor in fighting.”²⁰ Even though the Academy had to cut back on their usual programs and productions, including a temporary suspension of the *Virginia Journal of Science*, Jeffers hoped that Virginia’s scientists would refrain from ceasing all of their professional endeavors for a war that, in his view, would not last forever.²¹ His enthusiasm for “press[ing] forward vigorously with...normal affairs, but at an accelerated pace” made the creation of a science museum commission on the heels of peace treaties possible.²²

Jeffers did not simply speak about moving scientific fields forward in Virginia, he acted. When Governor Tuck approved the Museum of Science Advisory Commission in 1946, he appointed Jeffers to serve as the Academy’s representative on the five-person board.²³ Along with the biology professor from Farmville, the Governor singled out four more “distinguished members” of Virginia to “contribute immeasurable [sic] toward advancing this most vital type of knowledge”: Dr. Ivey F. Lewis, dean of the University of Virginia; Dr. H. Rupert Hamner, a “laboratory chief for the American Tobacco Company”; Kenneth Chorley, acting president of Colonial Williamsburg; and Alice Pollard Stryker, a “prominent [individual] in civic and political affairs for many years.”²⁴ The Commission was charged with the task of advocating for, and eventually establishing, a state science museum that would “do a great deal to encourage the interest of Virginians in scientific subjects and in making the state a leader in scientific research and development.”²⁵ It was no small task, especially when the closest thing Virginia had to fulfilling that goal was actively being neglected in a basement under the Finance Department.

At its inaugural meeting in the “Old Senate Chamber” of the Virginia State Capitol, the Museum of Science Advisory Commission elected to work with what they had in the subterranean displays of the ‘State Museum.’²⁶ After choosing Hamner to serve as chairman, Stryker as “corresponding secretary,” and Jeffers as “recording secretary,” the five members agreed that they needed to pursue two courses of action immediately: select a director for the

museum and “prepare plans for putting the Financial Building into shape for museum use.”²⁷ Unfortunately, they were unable to achieve either.

Though the state had supported the creation of a study commission, its legislators did not readily offer up financial assistance for constructing a new museum facility or providing staff salaries in the 1940s and 50s. The urbanization caused by World War II intensified in the post-war years, forcing the state to grapple with a plethora of new issues ranging from wage earnings to unionization.²⁸ Furthermore, the civil rights of African Americans could no longer be ignored with the 1954 *Brown v. Board of Education* decision. When the Supreme Court ruled school segregation unconstitutional, white Virginians reacted with Massive Resistance. Senator Harry F. Byrd and his political machine, which touched every level of state government, devoted most of their time and effort to stopping desegregation. As a result, political issues seemingly unrelated to the “separate but equal” struggle—including the establishment of a state science museum—were neglected.²⁹

The VAS, focused on its own post-war agenda, did not provide much assistance to the museum commission either. As Jeffers explained in his historical account, the *Virginia Journal of Science* proved more difficult than expected to revive because of funding issues caused by the war.³⁰ Additionally, most Academy members concentrated on Alan Gwathmey’s attempt to establish a Virginia Institute for Scientific Research.³¹ With these projects occupying the Academy’s fundraising efforts and Massive Resistance dominating the state’s attention, the Museum of Science Advisory Commission had nowhere to turn for money. The idea of a state-sponsored science museum lacked the resources and support necessary to transform it into a reality.

From Basements to Branches: Dr. Roscoe Hughes’s Vision of a Statewide Network of Museums

While state politics and post-war projects in the 1950s had made the establishment of a science museum unlikely, a fortuitous convergence of events and people reignited public enthusiasm for a state museum in the 1960s. The initial spark came from one-last failed attempt by the General Assembly to enact a proposal for a “museum of science, archaeology, and natural history.”³² When that resolution died in committee, the Assembly voted to eliminate the ‘State Museum’ to make room for new offices in the Finance Department.³³ The 1964 closing of the

neglected—and now homeless—displays caught the attention of several scientists in the VAS, particularly one past president, Dr. Roscoe D. Hughes.³⁴

Hughes, a native of Dupont, Georgia, began his professional career in the U.S. Navy after graduating from the Naval Academy in 1927.³⁵ While on deployment, he became fascinated by literature on genetics, reading enough about the field to convince him to leave the service in 1930 and pursue a degree in zoology and genetics at Columbia University.³⁶ Following the acquisition of his doctorate, Hughes was drafted back into active service in 1941 and served in World War II as a mine warfare observer.³⁷ When he returned to the U.S., Hughes accepted a professorship at the Medical College of Virginia in Richmond and served as Professor and Chairman of the Department of Biology.³⁸ It was not until 1965 that Hughes was elected president of the Virginia Academy of Science. By the 1960s, he had involved himself in enough community programs and teaching opportunities to conclude that “ideas are adventure and learning is fun.”³⁹ It was this belief that motivated his interest in a Virginia science museum, specifically one that engaged audiences with displays far grander and more interactive than those being disassembled in the basement of the Finance Department.

Hughes took advantage of the financial stability of the 1960s to convince first the VAS, and eventually the Virginia General Assembly, that establishing a state science museum was still a worthy investment. He looked for other like-minded members of the VAS to form an internal committee that would draft a resolution requesting the creation of another museum study commission at the state level.⁴⁰ Hughes found allies in Academy members James W. Midyette, and Foley D. Smith. Together, they assembled a document explaining how “the improvement of education and the need for educational resources” was a “most urgent priority in Virginia.”⁴¹ “All citizens of Virginia,” they wrote, “need the opportunity to become more scientifically oriented and motivated” as “the role that science plays in technology vital to the continued economic and industrial growth of Virginia” was only expanding.⁴² On May 4, 1967, Midyette read their Resolution on a Museum of Science to a conference of Academy members.⁴³ He requested that the VAS reaffirm “its endorsement of the establishment of a functional state museum of science” by approving their resolution and sending it to the Governor to “use his good offices to promote and further the objectives for which the Virginia Museum of Science Commission was established in 1946.”⁴⁴ After Hughes moved for the resolution’s adoption, the Academy members present passed it with enthusiasm.⁴⁵ Now that the VAS was brought back on

board, Hughes and his supporters had to convince Governor Mills E. Godwin, Jr. and the Virginia General Assembly.

In his first term as governor, Mills Godwin was a proponent of advancing Virginia's educational opportunities throughout the state. Only one year before the VAS adopted Hughes's museum resolution, Godwin had helped secure state funds for the newly-established Junior Nature Museum and Planetarium in Newport News; a joint effort by the Junior League of Hampton Roads and the Warwick Rotary Club to bring localized public science education to the Tidewater region.⁴⁶ With the state's economy on stable footing and the Governor's proven interest in education, Hughes and the VAS were optimistic when they brought their resolution before the Virginia government. In 1968, the General Assembly approved the creation of a new State Museum of Science Study Commission and Governor Godwin appointed its members shortly thereafter.⁴⁷

The new five-person study commission consisted of a mixture of state legislators and representatives from the Virginia Academy of Science, including Dr. Hughes.⁴⁸ The first objective of the Commission was to hold a series of public hearings to determine exactly what kind of museum Virginians wanted in their state. Beginning in 1968, the Commission held a total of five hearings in different cities across the Commonwealth, including Richmond, Norfolk, Fairfax, and Roanoke.⁴⁹ They attracted attendance from a variety of community organizations, including "hobby groups, boy scouts, garden clubs, PTA, AAUW, and the Virginia Academy of Science."⁵⁰ The Commission recorded "no opposition whatever to the museum" in their *Resume of Public Hearings*; the only "possible opposition" came in the form of two letters submitted to the Commission "on the grounds of possible competition for State funds."⁵¹ Indeed, scores of business representatives and scientists wrote letters supporting a state-sponsored science museum, often offering suggestions for content or organization.⁵² For example, Edwin Cox, III from the American Institute of Chemists recommended that the museum include "a display showing the importance of chemistry and chemicals to the Virginia economy."⁵³ Cox did admit "it is always dangerous in such things that too many people want too much done, and there always are too many 'pet projects,'" but his observation did not prevent him from submitting several other exhibit ideas to the Commission.⁵⁴ From the outpourings of approval at hearings to the encouraging words in letters, the new Commission had managed to secure what the 1946 Commission crucially lacked: public support.

Armed with suggestions and input from a wide-range of Virginians, the Commission proceeded to craft their vision for a state-sponsored science museum. Before the hearings, Dr. Hughes hoped to oversee the creation of a fun and interactive museum for all ages. Luckily for him, Virginians agreed with his proposal, advocating for a “dynamic and modern” facility that made use of “the innumerable technological advances in recent years—film, plastic models, TV, computers—to mention a few.”⁵⁵ Furthermore, the public reacted positively to a specific two-pronged institutional mission: “education and motivation in science.”⁵⁶ Virginians wanted to visit a museum that would teach them and their children about scientific concepts in a way that could inspire a new generation of professionals. Finally, the public hearings revealed that one museum would not be enough to service the Commonwealth; Virginians were interested in “an effective state-wide museum complex” with a “museum center supplemented by local satellites, mobile units and moveable exhibits.”⁵⁷ Gone were the days when a basement worth of natural history displays could service a state—Virginia’s cities were evolving into robust population centers with a plethora of communities that could benefit from institutionalized public science education.

In 1969, the State Museum of Science Study Commission published a report to showcase their vision for a modernized state-wide complex of science museums.⁵⁸ That complex, they argued, would “be one of quality as befits the status and traditions of Virginia” and “be so organized and administered that it will serve all regions of Virginia...to complement science education at all levels of learning from the elementary school through the university.”⁵⁹ In order to serve these purposes, the system would be managed from a centrally-located hub, referred to as “The Science Museum Center,” and be responsible for “coordinat[ing], on the basis of mutualism and upon invitation, science museum activities throughout the State.”⁶⁰ The Commission conceived of this Center as a hybrid institution that engaged in the “collecting, preserving, and exhibiting [of] Virginia artifacts and natural objects” while “making use of modern technology and special educational programs to show the dynamism of science.”⁶¹ In contrast, the content of each regional branch would center around a specific theme, such as natural history, technology and industry, limnology, and physical science.⁶²

Though the report implied that Richmond would be the best location for the Science Center, it did not specify which cities the individual branches would call home. A group of science museum enthusiasts in Roanoke became acutely aware of this omission and sought to

bring the Western Division to their front doors. In 1969, several participants from the Roanoke public hearings came together to form the Science Museum Association of Roanoke Valley (SMARV).⁶³ The organization was composed of a wide cross-section of Roanokers including members of the “Junior League, educators, Garden Clubs, science-related hobby groups” and more.⁶⁴ SMARV depended entirely upon the voluntary participation of its members; it lacked a physical place of operation and had “no paid staff.”⁶⁵ Members simply paid dues to support any projects the Association approved. SMARV was committed to seeing the network of science museums become a reality—especially if the success of their efforts resulted in the installation of an educational facility in Roanoke.

Once the study commission published its report, the next step in creating a system of state science museums was to introduce legislation in the General Assembly. Both SMARV and the VAS played crucial roles in this process. Members of SMARV garnered local support through a series of public meetings and contacted legislators to encourage them to sponsor a bill.⁶⁶ Likewise, the VAS created the VAS Museum of Science Fund to lend financial legitimacy to the planning phase of the science museum network, pending legislative approval from the state.⁶⁷ In a public release announcing the fund, the Academy explained that it “believes such a museum would be an asset of continuing value to Virginia’s secondary schools, its colleges and its adult population and is proud to be of service in helping to fund the Commission’s work.”⁶⁸ The VAS also made an initial donation to the fund of \$1000 to be “made available to the Commission for unrestricted use as it sees fit.”⁶⁹ Through a combination of the overwhelmingly positive public support reported at the Commission’s hearings and the official commitments of SMARV and the VAS, Dr. Hughes had a plethora of tools at his disposal to pressure the Virginia legislature to pass a bill creating the state’s first system of science museums.

In January of 1970, local press outlets began to report heavily on the Commission’s attempt to pass a bill through the General Assembly. In the process, more details about the science museum network were fleshed out and the text of the bill was formalized. For example, the *Virginia Outdoors* magazine broadcast the official list of divisions to be included in the Commission’s bill.⁷⁰ Six regional museums were to be located around the Science Center, each representing one of the following fields: “physical sciences, botanical sciences, natural history, industry and technology, oceanography and limnology and the zoological gardens division.”⁷¹ Additionally, the museum would be “financed primarily by the State in the initial stages and

increasingly in later stages by private citizens, private foundations, admission charges, local and federal sources.”⁷² As a result, the bill would include an appropriations request for funds from the state—an addition that, in a more prosperous economic climate, would not pose a threat to its passage.

Regardless of the seemingly optimistic climate that the study commissioners found themselves in, Dr. Hughes, SMARV, and the VAS coordinated an outreach campaign to local legislators immediately before the bill was set to hit the Assembly floor. Milton J. Elliott, III—the first official employee of the Science Museum of Virginia—recounted this moment in a 1983 article for the *Richmond News Leader*. He explained, “One by one Hughes cornered Delegates and Senators. He opened with ‘I’m just an old, broken-down college professor...,’ but he didn’t let the legislators off the hook until they were converted.”⁷³ Meanwhile, leaders of SMARV reminded their members to “make their views and wishes known to their duly elected representatives” in presentations given at public and private meetings throughout the state.⁷⁴ “This is an Excellent Example of the Democratic Process In Virginia,” a transcript of one presentation reads in all capital letters.⁷⁵ The Science Museum of Virginia was to be “Established: Of the People, By the People, For the People.”⁷⁶ Vera B. Remsburg, a biology instructor and VAS member, testified to the success of these efforts in a letter dated February 3, 1970. She explained to D. Rae Carpenter, Jr., another VAS member and soon-to-be trustee of the Science Museum of Virginia, that “in recent weeks I have been in contact with several senators from various parts of the state, all of whom assured me that they will support the bill.”⁷⁷ Dr. Hughes knew all too well the history of struggle and failure that plagued the first study commission’s efforts to establish a state-sponsored science museum. He, and other allies of the project, would not let the Assembly forget the enthusiasm that so many constituents harbored for the Science Museum of Virginia.

On April 30, 1970, Senate Bill No. 8—as the Science Museum of Virginia (SMV) legislation came to be known—was considered and voted on by the Virginia General Assembly.⁷⁸ The bill passed “in the waning hours of the 1970 Assembly” and the SMV was officially “created and funded in the amount requested by the Study Commission”: \$66,500.⁷⁹ This feat was achieved in no small part by Delegate Roy Smith from western Virginia who, with the aid of “his House Appropriation Committee,” “gave life to Senate Bill #8 by appropriating requested funds.”⁸⁰ The bill outlined the six-division concept floated in the press months before

and dictated the process by which the Governor would appoint a board of trustees. More importantly, Senate Bill No. 8 laid out the official goals of the SMV which were taken verbatim from the Commission's 1969 report. These included:

To deepen our understanding of man and his environment; to promote a knowledge of the scientific method and thus encourage objectivity in the everyday affairs of man; to educate citizens of all ages in the concepts and principles of science and how these concepts and principles form the foundation upon which rests our technological society and its economy; to motivate and stimulate young people to seek careers in science; to encourage an understanding of the history of scientific endeavor; to provide special facilities and collections for the study of Virginia's natural resources; and to foster a love of nature and concern for its preservation.⁸¹

The SMV legislation outlined the very institution that Virginians advocated for in the Commission's public hearings: a state-wide museum system that educated visitors of all ages and motivated them to pursue scientific knowledge in their daily lives.

The passage of Senate Bill No. 8 was a clear victory for all those involved in the 1968 study commission's attempt to bring state-sponsored public science education to Virginia. Their success was no small achievement and required countless hours of public outreach and advocacy. As Dr. Hughes explained in a letter to museum supporters, "after 27 years of effort by many dedicated people, it appears that we are in business at long last."⁸² And yet, in many ways, the most difficult job was still to come: planning, funding, and building each of the Museum's regional divisions and the central hub.

Planning the SMV: Assembling a Team and Identifying Regional Locations

The time between the legislative creation of the SMV and its first official planning report was a busy one filled with meetings, interviews, and a copious amount of letter writing. Those charged with bringing the Museum to life had no shortage of tasks to complete. From January 1971 to February 1972, the Museum needed to assemble its first staff, welcome a newly-appointed board of trustees, and maintain local support across the state. All the while, different localities petitioned the SMV board to house regional divisions, hoping to bring a part of the Museum to their hometowns.

Per Senate Bill No. 8, the Governor was required to appoint the SMV Board of Trustees. Though Mills Godwin oversaw the drafting of the bill, his term ended shortly thereafter, leaving

newly-elected Governor A. Linwood Holton Jr. to sign and carry out the legislation.⁸³ Thankfully, Hughes and other members of the study commission had approached Holton before he took office to secure his approval of the SMV project. Governor Holton was a self-proclaimed moderate who attempted to balance his advocacy for conservative fiscal strategies with the promotion of more progressive social policies.⁸⁴ A pillar of his 1969 gubernatorial campaign centered on the importance of state-sponsored education initiatives; a position that he adopted in no small part because of Senator Harry Byrd's racially-motivated opposition to new busing regulations aimed at integrating Virginia's public schools.⁸⁵ Holton, known nationally for complying with supreme court rulings on busing and allowing his daughter to attend a majority-black high school, welcomed opportunities to improve the state's educational resources.⁸⁶ In January 1971, he appointed nine members to the SMV Board, including Roscoe Hughes as chairman.⁸⁷

While the SMV now had an official group of individuals to make decisions for the Museum, it still lacked an operational staff and headquarters. In April 1971, the Board filled both disparities. On April 11th, Dr. Hughes hired the Museum's first contractual employee, Milton J. Elliott, III.⁸⁸ Elliott worked for an ad agency shortly before accepting his position with the SMV. He had a background in journalism and public relations, making him an asset for the budding institution that needed to maintain a positive image with Virginia's citizenry.⁸⁹ The next day, the SMV brought on a secretary, Martha Ann Ellis, to aid Elliott in any clerical duties associated with the carrying out of "day-to-day planning and logistics."⁹⁰ Dr. Hughes managed to secure office space for the two new employees in the Virginia Institute for Scientific Research located on the University of Richmond campus.⁹¹ On the second floor of the Institute, the small Museum staff was surrounded by "rows of bubbling beakers, gurgling test tubes, and ominous brown-tinted jugs of assorted chemicals, tended by very official individuals in very official white coats."⁹² According to Elliott, the "Science Museum listed as equipment (all borrowed): two desks (fractures and scarred), two chairs (one a little twisted, with a recalcitrant roller), one typewriter (manual), some rubber bands and paper clips, and the Museum pencil."⁹³ Regardless of whether or not the "equipment may have been distressed and the environment less than admirable," Elliott believed "the dream was alive and well."⁹⁴ The Science Museum of Virginia now had a base of operation—complete with a Bunsen burner to heat cups of coffee.⁹⁵

Once the office was up and running, the Board of Trustees began its search for the best locations to house each of the SMV's regional branches. Early on, the Board agreed that the central hub should be located in Richmond—the exact site in the city was still up for debate. In May 1971, the Trustees adopted a policy to accept regional locations only if land was donated to the Museum by public or private entities—purchasing plots would be far too expensive and defeat the charitable purpose behind a statewide effort to educate the public.⁹⁶ The Board also agreed that population centers, such as Lynchburg, Norfolk, and Roanoke, should be given priority when choosing regional sites.⁹⁷ Little did the Trustees know that organizations within each of these cities and more were already interested in hosting one of the SMV's divisions.

As early as May 1971, representatives from different Virginia cities reached out directly to the SMV Trustees for a moment of their consideration. The Norfolk Chamber of Commerce was one of the first institutions in Tidewater to “strongly endorse the development of a Virginia Museum of Science and Natural History,” currying favor with the Museum's Board.⁹⁸ A month later, representatives from SMARV and the city of Roanoke met with the Trustees to offer them access to three possible sites for a Western division of the Museum: Glenvar School (60 acres), a tract off Interstate 81 on the side of Mill Mountain (roughly 100 acres), and a site adjacent to the Veteran's Hospital (roughly 40 acres).⁹⁹ Roanoke and the SMV Board alike preferred the Mill Mountain site—a promising commercial work-in-progress that currently housed the iconic Roanoke star.¹⁰⁰ However, no site could be officially chosen without a comprehensive evaluation of the land and its resources—especially one that sat atop a mountain. In January 1972, Lynchburg City Council passed a resolution requesting the SMV to consider the Blackwater Creek area as the potential location for a Piedmont division. Shortly thereafter, the SMV received word from the newly-created Portsmouth Science Museum Advisory Commission that they had space for a Tidewater division on Frederick Campus, a 750-acre tract of land previously associated with Tidewater Community College.¹⁰¹ In the midst of all these suggestions, the Board decided to formally capitalize on the regional attention it was receiving and passed a resolution approving the creation of semi-formal museum commissions across the state. Though the Trustees could not officially endorse any site until further planning was carried out, they could buoy the support they received by acknowledging the efforts of local associations and encouraging the formation of more commissions devoted to the statewide construction of the SMV.

In the midst of meeting with organizations about regional divisions, the Trustees set their sights on a possible location for the Science Center in Richmond: Byrd Park. After a visit to the park in August 1971, Dr. Hughes believed that the site “presented a real opportunity for local interest to be demonstrated.”¹⁰² He saw potential for cooperation between the SMV and other park associations, such as the Maymont Wildlife group, to transform the science museum into a reality.¹⁰³ Hughes also hoped that the central hub of the SMV would include a botanical garden; few places in the city were as amenable to these plans as the natural landscape of Byrd Park. The Richmond City Council agreed that the area would be suitable for a museum. In September 1971, the council passed a resolution “urg[ing] the Board of Trustees...to ‘Give consideration to establishing facilities of the Science Museum of Virginia in the Williams Island-James River-Byrd/Maymont Park area of the City.’”¹⁰⁴ The site appealed to them because it was “centrally located in the most densely populated part of the Richmond area”; “easily accessible by public bus transportation”; in “close proximity to a large number of public schools”; and “possess[ed] an inherent visual interest and natural beauty.”¹⁰⁵ After receiving such strong words of approval from the Richmond City Council, the SMV Board voted to approve the use of Byrd Park for what would become known as their Capital Division.¹⁰⁶

A little over a year after Senate Bill No. 8 became law, the Science Museum of Virginia had a board of trustees, staff, and base of operations. To top it off, private associations and city governments across the state continued to offer land for the construction of regional divisions. The next step in building the SMV was to procure a planning report from a reputable architectural firm. Only then would the Board and its backers get an informed glimpse at the costs associated with their project. Once the SMV secured this information, fundraising could begin in earnest.

First Planning Report and Creation of the Science Museum of Virginia Foundation

In 1972, the SMV Board hired a Lynchburg-based firm to assemble preliminary planning reports for the multi-division museum network. Wiley & Wilson, Engineers, Architects, and Planners published five reports in total: one outlining the entire SMV system and four more detailing the Capital, Tidewater, Western, and Piedmont divisions.¹⁰⁷ Due to the anticipated costs associated with each regional site, Wiley & Wilson suggested limiting the SMV to four

divisions as opposed to the originally-conceived six.¹⁰⁸ In lieu of this change, the Capital Division would now serve as a physical sciences facility instead of a general science center.¹⁰⁹ Additionally, certain branches—such as the botanical and zoological gardens—could be combined with existent divisions, including the Capital Division (if located in Byrd Park) and the Tidewater Division.¹¹⁰ While the firm’s proposals were made primarily with cost in mind, Wiley & Wilson believed that limiting the system to four divisions would also allow the SMV to focus its resources more efficiently, ensuring that all facilities “inspire civic pride in each of the communities where they are located” and “be the best of their kind.”¹¹¹

Once the public digested the findings of Wiley & Wilson’s reports, some people were happier with the firm’s conclusions than others. Residents of Richmond would now have access to the largest branch of the Museum—a 3 million-dollar facility devoted to the physical sciences *and* the operation of all other divisions.¹¹² If Dr. Hughes’s plan for a botanical garden succeeded, Richmonders would disproportionately benefit from Wiley & Wilson’s decision to reduce the number of regional divisions. Members of SMARV were taken aback by the report which advised the Board of Trustees to build the Western Division on the summit of Mill Mountain as opposed to the eastern slope agreed upon a year earlier.¹¹³ The firm argued that the side of the mountain was “rough and the view is not especially attractive.”¹¹⁴ While construction on the summit would require relocating the Roanoke Star, Wiley & Wilson assured potential objectors that “another location for this star on Mill Mountain could be found in the master planning stage.”¹¹⁵ Jack Goodykoontz, the president of SMARV, told local newspaper outlets that the Association was “fully willing to cooperate and to entertain reasonable proposals as to where the museum shall be located, but we feel that conferences should be had with all responsible agencies and parties.”¹¹⁶ The *Roanoke Times* reported that Dr. Hughes “changed the [SMV’s official] press release to refer to the proposed location of the Roanoke regional museum as Mill Mountain, not the ‘summit’ of Mill Mountain” after a “meeting with the advisory committee.”¹¹⁷ He had no intention to insult SMARV by keeping them out of negotiations and stressed “this report...is a very preliminary phase of our total planning program, and is intended for study purposes only”—final decisions would not be made until the Museum drafted a master plan to submit to the state.¹¹⁸

Despite the mixed reviews that Wiley & Wilson’s report received, the Board of Trustees voted to accept the firm’s findings in May 1972.¹¹⁹ Regional locations—though largely

identified—could be negotiated in future meetings with science museum associations across the state. The inherent value of the report was supplied by its professional affirmation and evaluation of a multi-site museum.¹²⁰ Now that the Board had a realistic estimate of the costs associated with such a plan, they could take concrete steps to raise the money necessary to construct each of the regional divisions.

After a series of meetings with legislators in the spring of 1972, Dr. Hughes quickly realized that funding all four divisions of the SMV simultaneously would be impossible.¹²¹ The Board did not have the necessary level of financial support from the General Assembly nor the internal infrastructure required to accept large donations from private citizens. As a result, the Trustees voted to pursue the construction of one division at a time, beginning with the Capital Division.¹²² The SMV could oversee the planning of other regional branches in the meantime, but the funding for these activities would come from a combination of state and locally-raised dollars.¹²³ In addition, the Board created the “non-profit, non-private” Science Museum of Virginia Foundation to manage individual and corporate donations.¹²⁴ Chartered July 12, 1972, the Foundation included directors “elected by Trustees” and “officers elected by Directors of the Foundation.”¹²⁵ The SMV now had an independent fundraising arm to help the Board solicit, record, and collect donations. With this financial infrastructure in place, the Trustees focused their attention on a new task: choosing an associate director for the Capital Division.

Hiring an Associate Director and Crafting a Master Plan

Shortly after the Board chartered the Science Museum of Virginia Foundation, the SMV attracted a high-profile donor: Governor Holton. In August 1972, Holton gave \$5,000 to the Museum from his discretionary fund in the hopes that “the seed continues to grow!”¹²⁶ This signal from the Governor was a positive one; Roscoe Hughes viewed the gift as “a strong indication of [his] confidence in the Museum program.”¹²⁷ Indeed, the Governor’s confidence was contagious. Private donors from across the state pledged gifts amounting to roughly \$30,000 once word of Holton’s financial contribution hit the local air waves.¹²⁸ But Hughes and the SMV Board knew that the initial success of the Foundation would not continue without further progress. Two immediate steps were necessary: find an associate director to attach a

public face to the budding Capital Division and craft at least one divisional master plan to convince the General Assembly that the Museum remained a viable investment.

The SMV began its search for an associate director in July 1972.¹²⁹ Whoever held the position would be “primarily responsible for operation and administration of the Physical Sciences unit of the Capital Division facility.”¹³⁰ In addition, the associate director “would also serve as Acting Director of the Science Museum and Acting Director of the Capital Division until these positions are filled.”¹³¹ The Museum needed a charismatic and qualified individual to represent the regional divisions in public, making them that much more of a reality to Virginians.

In October 1972, the SMV Board found their associate director after a series of interviews: Dr. Paul H. Knappenberger, Jr.¹³² With a doctorate in astronomy and leadership experience in the museum field, he was a perfect fit for the SMV. Before taking his new position in Virginia, Knappenberger served as “director of the astronomy program and observatory” at the Fernbank Science Center in Atlanta.¹³³ He was also no stranger to the limelight. Knappenberger had “participated in NBC’s coverage of the Apollo missions to the moon, supplying professional comment on the various aspects of the mission, conducting classrooms on the air, and supplying the nation their first view of the Apollo spacecraft in trans-lunar and trans-earth coast.”¹³⁴ On March 7, 1970, Knappenberger attracted positive press for the Fernbank Science Center by leading “a team of scientists, teachers, and students into the area of totality” for a solar eclipse “where experiments in astronomy, meteorology, and biology were conducted.”¹³⁵ He knew how to work with visitors face-to-face and communicate scientific concepts in easy-to-understand ways—two indispensable skills for the operation of a state science museum. The Trustees expected Knappenberger to excel on camera and in the classroom, attracting public interest in museum activities and dollars from private donors.

While the SMV’s search for an associate director was successful, the Board’s attempt to craft master plans for regional divisions encountered resistance from state and local sources. In early 1972, the SMV submitted a capital outlay request to the General Assembly for \$165,000 to fund “schematic, preliminary and working drawings for the Capital Division (Richmond Region) Museum facility, and master plans for three other regions under study.”¹³⁶ The Foundation had raised enough private funds to cover the remaining cost of a master plan for the Capital Division, but without support from the state, those plans would be left undeveloped, unable to progress to the design stage. Fundraising efforts for regional plans would also be hindered if the state

refused to offer some amount of money for private donors to match. Initially, the Board was optimistic that their request would be granted; the Governor included the funds in his biannual budget.¹³⁷ However, the General Assembly “deleted” the capital outlay request, leaving the Museum with potentially no state funding to support their planning initiatives for two years.¹³⁸ Though the Governor was willing to financially back the SMV in its entirety, the General Assembly grew progressively uneasy with the amount of money needed to construct a state-wide museum network.

As Dr. Hughes attempted to petition Virginia legislators to amend their budget, the Board of Trustees met with representatives from all the proposed regional sites to coordinate a plan of action. Of the cities being considered for the Tidewater Division, the Board identified Norfolk as the only area that could immediately offer funds for a master plan; this capability edged Portsmouth out of the running for a branch of the SMV.¹³⁹ Meetings between SMV officials and residents of Roanoke and Lynchburg put pressure on local governments to find money that the state refused to give. By December 1972, the city seats of Roanoke and Lynchburg had each appropriated funds to underwrite master planning in their areas; with Roanoke offering \$8,750 and Lynchburg \$10,000.¹⁴⁰ Though essential, these funds were not delivered in time to publish regional master plans in conjunction with the Capital Division report released in December 1972.

The SMV Board hired a Baltimore firm to prepare and release the Capital Division master plan. RTKL, Inc. produced a report that fleshed out the Richmond facility’s thematic focus on the physical sciences, including space for anticipated exhibits related to physics, chemistry, and astronomy.¹⁴¹ The plan satisfied the Board of Trustees by reaffirming the viability of a multi-site museum. However, the details in RTKL’s report ignited public criticism from a prominent member of Virginia’s intellectual community: Howard A. MacCord.

Col. H. A. MacCord was chairman of the Museum Advisory Committee for the Archaeological Society of Virginia; an organization that sought to establish a museum of history *and* science in the state.¹⁴² In some of the earliest discussions between the Virginia Academy of Science and the 1967 Science Museum Study Commission, MacCord had expressed dissatisfaction with the idea of a science-only museum.¹⁴³ As Carpenter later explained in a letter to local political leaders, “the Virginia Academy of Science was not in favor of placing a heavy emphasis on history (of man) except insofar as there was a peripheral interest in the history of science.”¹⁴⁴ MacCord’s objections were overruled by the Academy, but the 1972

master plan rekindled his dissatisfaction with the SMV concept, especially the formal planning of a Richmond-based museum devoted solely to the physical sciences.¹⁴⁵ MacCord outlined his displeasure with the “so-called Masterplan” in a series of letters to members of the SMV board and the Virginia General Assembly.¹⁴⁶ He argued that the study of science could not be divorced from examinations of civil and political history.¹⁴⁷ Furthermore, he criticized the master plan for describing the Capital Division as a wholly educational institution. “Education,” he wrote, “while of primary importance, it is not the sole purpose. Collections and their care and study are essential.”¹⁴⁸ MacCord envisioned a museum that served scholars as much as the public, with extensive research labs in addition to exhibit space.¹⁴⁹ His criticisms of the SMV went beyond the Capital Division—MacCord wanted the state to reevaluate the entire science museum system.

In December 1972, MacCord asked his local delegate in the Virginia General Assembly to introduce a “clarifying resolution in the 1973 session” that “Virginia should no longer be one of the few states without a decent State Museum for historical and scientific specimen.”¹⁵⁰ He called for the SMV to incorporate “the many-faceted science of Anthropology—the Science of Man” and other more history-oriented fields.¹⁵¹ While MacCord’s request represented legitimate concerns from the Archaeological Society of Virginia, it came at a time that threatened the viability of the SMV which was already facing mounting suspicion from state government. Shortly after MacCord submitted his resolution to the General Assembly, D. Rae Carpenter, Jr., a new member of the SMV Board, sent several appeals to delegates throughout the state requesting that they defeat the resolution and leave the SMV as it was originally designed in Senate Bill No. 8: a system of science museums.¹⁵² Meanwhile, Paul Knappenbeger reached out to other museum professionals and asked their opinion about museums that attempted to present scientific and historical information to the public.¹⁵³ Victor J. Danilov, treasurer and secretary of the newly-established Association of Science-Technology Centers, explained to Knappenberger that “it is possible to combine history and science, as the Smithsonian does in Washington, but such institutions usually do not have the same scientific and visitor-participation emphasis found at most science/technology centers.”¹⁵⁴ In fact, such institutions “frequently fail to communicate a real understanding and appreciation of science and its role in society and industry.”¹⁵⁵ For the sake of the SMV’s organization, funding, and potential effectiveness, the SMV Board,

Foundation, and staff needed to defeat MacCord's resolution in opposition to the Capital Division's master plan.

Conclusion: Divisional Concept in Jeopardy

Thanks to the relentless letter writing of Carpenter, Hughes, and other SMV supporters, the 1973 General Assembly opted not to adopt MacCord's suggestions. However, the doubt that his resolution sowed in the minds of Virginian delegates and senators contributed to an unforeseen and significant change to the SMV's legislation. In an appropriations bill, the General Assembly "limited the system to one site" by "authorizing construction plans for 'not more than one science museum facility.'"¹⁵⁶ Since the Capital Division was the only regional facility with a complete set of master plans, the Board had no choice but to move ahead with its construction before the Western, Piedmont, or Tidewater divisions.

The Assembly's bill was an emotional blow to all who were involved in the SMV project. Members of SMARV were particularly offended by the legislative change which appeared to serve the capital region at the expense of western Virginia.¹⁵⁷ Most of all, the government's actions ran contrary to the success and support that the Science Museum of Virginia experienced since its 1967 revival. The SMV had come a long way from the neglected and forgotten exhibit space in the basement of the Finance Building. The statewide system of museums was backed by associations throughout Virginia, committed to the expansion of public science education in the Commonwealth. The Museum had a board, a foundation, and a small but growing staff to nurture the budding project into existence. It had even managed to capture the full support of two governors who prioritized educational reform in the state. And yet, the General Assembly became progressively uneasy about funding such an extensive project, even though it had been significantly scaled back to four regional divisions, from the six proposed Senate Bill #8. If the Science Museum of Virginia was to service the entire state as originally conceived, those in support of the system would have to rally together and pressure the legislature to loosen its purse strings. Persistence was primarily responsible for exhuming the 'State Museum' in 1970; Hughes, Knappenberger, and others were determined to keep the SMV—with all of its regional divisions—above ground.

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