

THE MUSEUM BRANCH, 1947-1964

The National Park Service entered the postwar years with a huge backlog of deferred maintenance and a depleted staff. During the difficult transition to a peacetime economy Congress increased appropriations for the parks, but slowly in the face of many other urgent demands. Meanwhile the number of park visitors grew at an unprecedented rate. These factors in combination threatened disaster. A decade after V-J Day influential voices called for closing the parks before they wore out beyond repair. It took Mission 66, an emergency development program, to turn the tide.

Before Mission 66 money for museum development came grudgingly from Congress. Some key congressmen viewed any kind of museum as inappropriate for federal funding. To them the word had a negative connotation, much as "education" had in the 1930s. Sensitivity to this aversion infiltrated the parks in some measure. There was talk of hiding museums under a different name, and one superintendent even forbade his historian to put up a sign pointing out the park museum. Consequently the Service had to depend for several years on supplementing designated museum development allotments with a succession of reimbursable jobs and donations. Existing museums, on the other hand, found a welcome place in the strained but regularly funded maintenance program.

Progress on postwar museum projects was also hampered by a two-year delay in moving the director's staff back to Washington from its wartime headquarters in Chicago. Coincidental with the move the Interior Department reversed the terminology for organizational units in its bureaus. To agree with practice in other departments, "division" became the term for the higher echelon and "branch" for its subunit. In October 1947, therefore, the Museum Division of the Branch of Natural History became the Museum Branch of the Natural History Division.

For the Museum Branch the period before Mission 66 witnessed evolutionary changes in exhibit thought and practice, a marked increase in attention to curatorial concerns, and a ready acceptance of scientific specimen conservation as a new museum discipline. (Curatorial and conservation developments will receive fuller discussion in subsequent chapters.) Mission 66 then brought an upsurge of opportunity to expand museum services to parks and their visitors.

Resumption of Museum Development

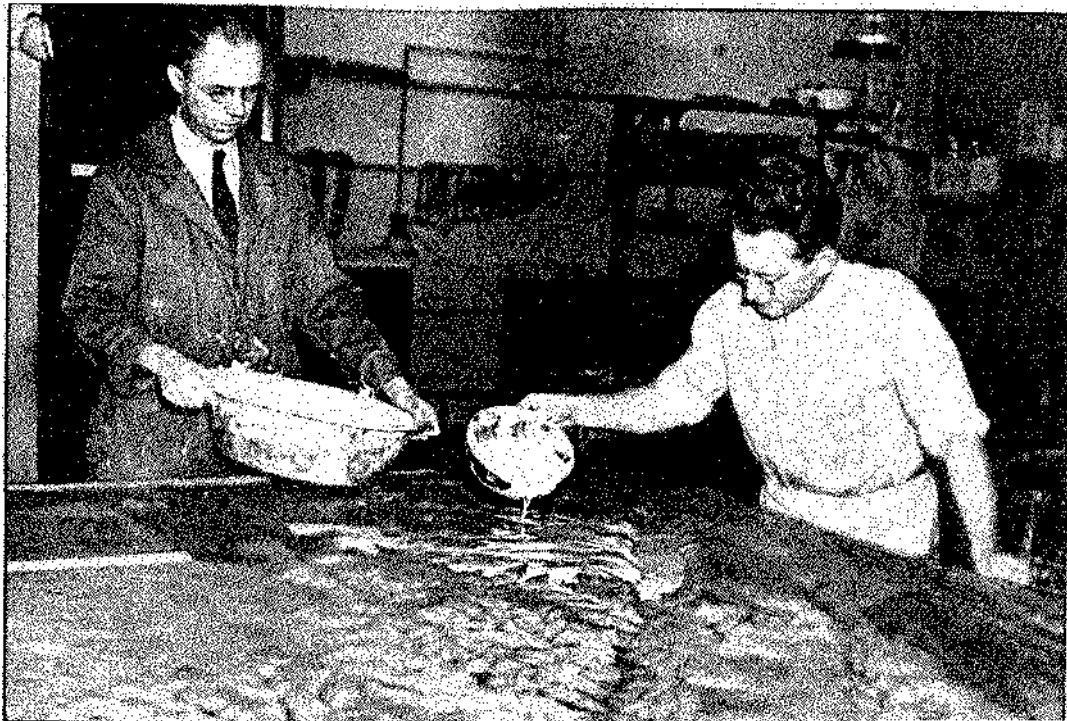
Ned Burns made a field trip to New Mexico in the spring of 1946. His assignment included examining the site of the first atomic bomb explosion, which was being proposed for the national park system. The spot qualified

in historical significance, but he judged the visible evidences of the blast quite impractical to preserve. His trip also took him to 14 national parks in the Southwest where he inspected museum conditions. All had suffered from wartime neglect and needed help for which neither funds nor personnel were available. White Sands National Monument had barely enough money in its museum account to replace a fourth of the museum light bulbs that would burn out during the year.¹ Parks throughout the system faced comparable problems. Burns could take only a little positive action before new appropriations came from Congress.

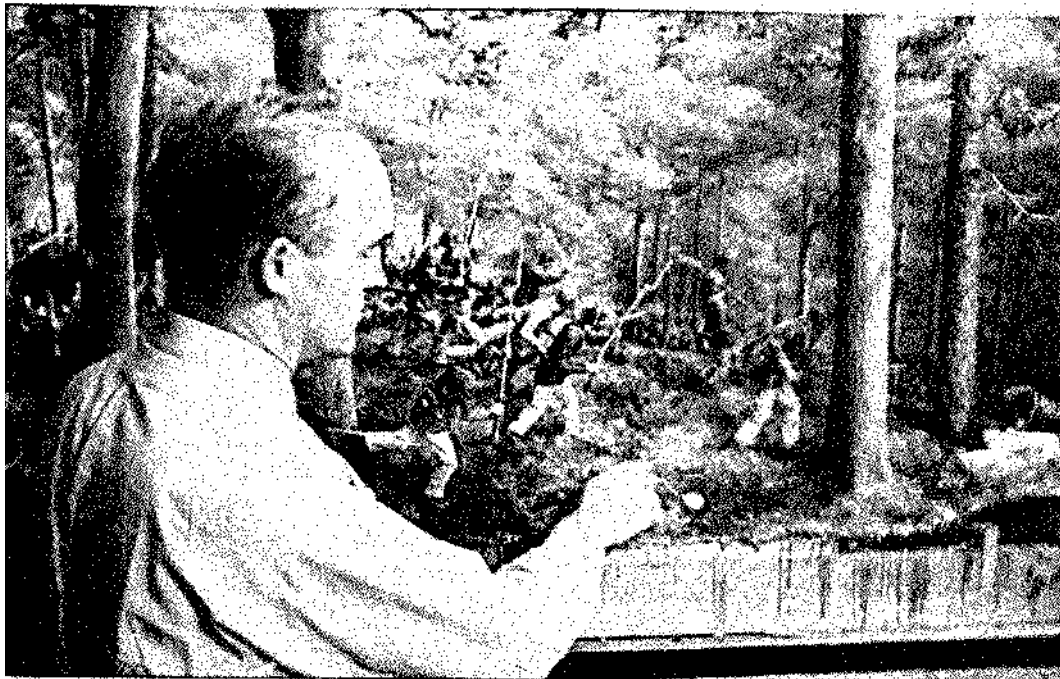
That January Burns had launched one planning project, the new prospectus for Great Smoky Mountains National Park noted previously. Funds available for the Jefferson National Expansion Memorial allowed him to start a limited exhibit preparation scheme as well. It reflected Carl Russell's abiding interest in fur trade history, and Russell undoubtedly had a hand in its inception. Two artists were hired to make detailed drawings of objects typical of the Rocky Mountain fur trade and sketches showing the manner of their use. The pictures would fill an anticipated need in future exhibits at the memorial. Time would prove them doubly useful as illustrations for books Russell hoped to produce on the material culture of the trade.²

William Macy, former chief of the Eastern Museum Laboratory, and James M. Mulcahy entered on duty in May. New to the Park Service, Mulcahy had taught art before seeing combat with the Army in the Pacific. The two began work in Chicago under Russell's critical eye. After becoming familiar with the subjects and standards of accuracy he desired, they set up their studio at the memorial in St. Louis. Their assignment continued until mid-1948 during which they produced a substantial body of good work. When they had finished, Macy moved to the Armed Forces Medical Museum in Washington, where he teamed with former Park Service exhibit construction specialist Herman Van Cott on an extensive exhibition program for the Institute of Pathology. Mulcahy transferred to the reopened Museum Branch laboratory which was in the midst of its first postwar projects.

Appropriations for the 1947 fiscal year made it possible to resume museum development. The Service received \$55,600 allocated to prepare and install exhibits in four unfinished park museums: Chickamauga, Guilford Courthouse, Kings Mountain, and Manassas. The Kings Mountain museum lacked only a few of its planned exhibits, but the other three contained only stopgap displays assembled in the empty rooms and cases by local staff. Exhibit proposals approved in the 1930s for Chickamauga and Guilford Courthouse had grown obsolete meanwhile, and Manassas had only the beginnings of an exhibit plan. The slim allotment therefore needed



Museum Laboratory at Ford's Theatre, 1946. Ralph Lewis and Albert McClure pour a mold for a topographic model for Chickamauga and Chattanooga National Military Park.



Frank E. Buffmire. At work on a diorama for Chickamauga and Chattanooga National Military Park.

to cover planning as well as preparation. Burns responded by reestablishing the museum laboratory, but on a necessarily modest scale.

The laboratory reopened in December 1946 on the third floor of the Ford's Theatre building in Washington.³ Its two initial employees were Ralph Lewis, curator and assistant chief of what would soon become the Museum Branch, and preparator Albert McClure. They found this a familiar setting, for it was part of the space occupied by the prewar laboratory where both had worked. Much of the old laboratory equipment was present and in good order thanks particularly to Rudy Bauss, another former staff member, who had exercised watchful care over it from his National Capital Parks museum maintenance center elsewhere in the building. Army topographic model builders had used the rooms and equipment for nearly five years before releasing them the preceding day.

Although it permitted an immediate start on exhibit production, the location had two serious disadvantages. Laboratory occupancy constituted a fire risk unacceptable in a historic building, as the Service now realized. With the wholehearted concurrence of the museum staff, Associate Director Arthur E. Demaray insisted that the laboratory remain only until another place could be found and saw to it that an active search began at once. The other disadvantage involved access. All materials and supplies had to be hand-carried up long flights of stairs from busy 10th Street or else snaked through alleys and hauled up by block and tackle.⁴ Finished exhibits, often larger and heavier, had to leave the building by the same awkward and hazardous routes.

McClure, a five-year veteran of the prewar laboratory who had been part of the Army topographic model unit, began immediately on a job that did not need a new plan: redoing a badly worn relief map from the Chickamauga museum. With Lewis's help he made a new cast from the old model, painted it using the latest techniques, and finished it with his skillful hand lettering. Burns then enlisted him for an assignment not connected with the laboratory: caring for the rich furnishings at Vanderbilt Mansion National Historic Site. This responsibility, later extended to the Franklin D. Roosevelt Home nearby, fully engaged his talents until he retired 22 years later.

In the absence of viable plans for the exhibits to be constructed, staffing increased at a cautious rate. Frank Buffmire reported to the laboratory in January 1947 as a second preparator. He had worked on the Kings Mountain exhibits in 1940-41, and after war service he had gained recognition as an artist in his native Wisconsin. He brought the laboratory a combination of skills, temperament, and judgment that made him a natural leader there for the rest of his life. Robert Scherer entered on duty in March as a third preparator. New to the Park Service, he came with excellent training from the American Museum of Natural History and could

produce admirably almost any kind of exhibit work required. Later he became chief preparator and remained until the laboratory moved out of Washington. To replace McClure Burns selected Laurence Cone, who transferred from a park ranger position at Natchez Trace Parkway in June. More a craftsman than a schooled artist, Cone carried his share of exhibit production creditably until becoming a laboratory curator several years later. In 1957 he transferred to the Indian Arts and Crafts Board and moved to the Southern Plains Indian Museum in Anadarko, Oklahoma. The arrival of James Mulcahy in July 1948 completed the exhibit preparation roster for the first phase of the new laboratory.

The laboratory needed someone to procure and keep track of equipment and supplies, maintain cost and time records, and perform other essential clerical duties, and in February 1947 Burns employed Merwin N. Seybolt for this purpose. A willing worker ready to help with any task at hand, Seybolt used available equipment to print labels for park museums not covered by the initial allotment and installed the wiring for the laboratory's first electric map. When a better opportunity for clerical advancement opened in the departmental offices, the laboratory felt his loss.

All four of the museums scheduled for exhibits concerned battles, so someone versed in military history and artifacts was needed to research diorama details, draft labels, gather data, and check exhibit accuracy as well as locate and acquire specimens. Burns' first selection for this curatorial job, Maxson Holloway, made a promising start in April 1947 but resigned after a month to accept the directorship of the new Saginaw Art Museum. The position remained vacant until August, when Harold L. Peterson entered on duty. Peterson had recently earned a master's degree in history from the University of Wisconsin, where he had chosen his thesis subject in military material culture for a department that openly questioned the validity of objects as historical documents. The thesis formed the basis for his first book, *Arms and Armor in Colonial America*, published in 1956. It marked him at once as an authority.

Peterson had other curatorial qualifications resulting in part from his activities as a studious, discriminating private collector. His fine collection of early weapons and armor and books concerning them continued to grow after he entered Park Service employment. Allowing curators to engage in this practice entailed ethical hazards, but scrupulous integrity on his part avoided conflicts of interest. Assembling and maintaining his own collection schooled him in the skills of expert identification, developed his judgment in matters of quality and authenticity, made him familiar with market values and acquisition procedures, and led him to study and personally apply safe, effective conservation methods. Through his collection he kept in close contact with an expanding international circle of curators, collectors, and conservators who shared his interests and



Harold L. Peterson. The Service's foremost authority in the curation of arms and armor.

friendship. His later active role in such organizations as the Company of Military Historians, the International Association of Museums of Arms and Military History, and the Washington Conservation Guild added continually to his curatorial competence. At the outset he picked up the work Holloway had started on the Manassas exhibit plan.

During the start-up period, production could not wait until an approved plan detailed all the exhibits for any one of the four museums. Preparation work proceeded on exhibit units one at a time as the concerned parties reached agreement on what they wanted. By 1947 two of the parks involved had historians as superintendents, two had staff historians, and the Region One office in Richmond had an able regional historian. All had a lively interest in the exhibit plans. Staff members of the History Division returning to Washington from Chicago also had a stake in the historical accuracy and interpretive effectiveness of the exhibits. Superintendents and park historians traveled to Washington to discuss exhibit form and content, accompanied on occasion by the regional historian or by outside experts. Drafts, layouts, label copy, and memoranda filled with suggestions or rebuttals shuttled back and forth. On one occasion the entire Museum Branch staff spent a Saturday at Manassas going over layouts with the superintendent.

The involvement of so many individuals in the planning had obvious value, but at the expense of production efficiency. A heated debate developed between Manassas and the History Division over a detail in a

diorama. The laboratory planned the diorama carefully to depict a critical point in the battle and at the same time to illustrate a well-known incident: Confederate General Bernard Bee stemming the retreat of his troops with the cry "There stands Jackson like a stone wall! Rally behind the Virginians." The painted background would reveal Jackson and his fresh regiments lining the crest of Henry House Hill. Work on the scene had to stop while the park insisted that Jackson's men had stood in line of battle and historians in Washington argued that they were then prone. Finally the laboratory effected a compromise by painting some companies standing and others prone.

The need for more systematic and expeditious planning became evident, resulting in an allotment of \$25,000 from the 1948 fiscal year Physical Improvements Program for use by regional offices. Region One employed Paul Hudson and Region Two selected Yosemite naturalist Harry B. Robinson as museum planning curators near the end of 1947.⁵ The rather chaotic planning situation for the four battlefield museums also brought the laboratory curators and artists into closer collaboration on exhibit design problems, a step toward later practice.

The Manassas museum, the first completed, opened on schedule May 28, 1949, after a typical last-minute installation scramble that saw Burns in the midnight hours cutting large sheets of plate glass unerringly on the museum floor. The exhibits exemplified the characteristics of park museums for the next several years. They retained their function as the primary medium introducing visitors to the park's significance. To underline this purpose a panel at the entrance to the exhibit area stated the prime meaning of Manassas as a historic site. The exhibits proceeded to develop this concept of significance by presenting facts and ideas in a logical sequence that visitors could follow as their time and interest dictated. In doing so the exhibits continued the prewar approach, but with important differences.

One change was the increased use of specimens. Artifacts provided specific visible evidence against which visitors could weigh the statements made. Other objects served as evocative symbols. Specimens associated with a particular person or incident added a sense of reality to certain parts of the narrative, such as an account of Captain James B. Ricketts, wounded and captured at First Manassas, who returned to exercise an important command in the second battle. One large case displayed a synoptic series of Civil War swords imaginatively installed. This provided a footnote to the main story and fostered the suggestion that Civil War parks specialize in different categories of pertinent artifacts to avoid duplication. Another important change involved the consistent use of graphics originally produced by eyewitnesses of the war in place of illustrations by laboratory artists. A contemporary photograph or field sketch was thought to embody

an element of validity missing from the interpretation of an artist born long afterward.

The electric map at Manassas also represented a departure from prewar practice. The laboratory kept the mechanism as simple as possible and it required little maintenance during more than 15 years of hard use.⁶ Maintenance considerations affected the design and construction of the other exhibits as well. The Museum Branch believed that park museum exhibits should change about every five years to keep pace with developing knowledge and tastes, but experience taught that money to replace them might not come for several decades. The quality of craftsmanship that went into them precluded homemade repairs in most instances. So the exhibits were built to last.

Durability became especially important for open panels, which came into use for exhibit units that did not include specimens or that displayed individual objects within clear plastic protective boxes. Spray lacquers made the exposed panels washable and facilitated the application of background colors. The smoother, brighter finish also could be applied readily to the case backs and floors formerly covered with drab monk's cloth. The desire for more color in exhibits led to hiding the monk's cloth in several existing cases at Manassas under layers of paint. Lacquered panels also formed a good surface on which to letter labels. This new practice replaced the use of labels lettered on cards and then attached to the background, a distinct advantage from the design standpoint.

Such modifications in materials and methods applied to all four of the museums under production. A crew from the laboratory installed the Guilford Courthouse exhibits in time for the museum opening on July 4, 1949, then went on to Kings Mountain to add the remaining exhibits there before returning to Washington.⁷ Installation of the Chickamauga museum had to wait until January 1951, partly because of other commitments.

Even with its minimal staffing the museum laboratory needed additional funds to meet its payroll while the initial projects were in planning and production. Help came through a number of smaller reimbursable jobs performed at the request of individual parks and other federal agencies. Fort McHenry obtained a panel outlining the history of the United States flag. Two parks needed topographic maps repaired. Others called on the staff's technical skills to reproduce the original flake of gold discovered at Sutlers Mill in 1848 and to make casts of aboriginal stone pipes excavated at Mound City Group National Monument. Gettysburg and Colonial requested trailside exhibits. Southwestern National Monuments obtained labels printed by the laboratory clerk. The staff produced some map panels for the Utah Centennial and copies of them for the Library of Congress. The laboratory also executed two twenty-foot panel displays for the Atomic Energy Commission and helped the U.S. Travel Division prepare a portable

unit for exhibiting posters. Over about 15 months in 1947 and 1948 staff artists interrupted exhibit work several times to trace and letter archeological survey maps for Smithsonian river basin projects.⁸

These odd jobs were not the only cause of delay in completing the four battlefield museums. In January 1948 the Museum Branch moved its laboratory operation from the Ford's Theatre building to Fort Hunt, Virginia.⁹ There it occupied the one-story structure that had housed the ECW relief map shop from 1934 to 1938. The Fort Hunt building provided adequate if not wholly convenient space for the existing staff, but the move seriously disrupted production, and the twelve-mile distance from Washington remained a continual disadvantage. Meeting with colleagues in the director's office and searching for data in libraries or museums took much more time, and employees coming to Washington on business could no longer pay the laboratory a quick visit to settle a question or become acquainted with its services.

As experience underlined these drawbacks, the search for a better location intensified. Attention focused on vacant space in a three-story ramp garage at 21st and L streets northwest rented by the Public Buildings Administration and partially occupied by a Signal Corps detachment assigned to the White House. It was practically the same distance from the director's office in the Interior Building as the Ford's Theatre building had been. In September 1948, only eight months after the laborious move to Fort Hunt, the laboratory moved to the second floor of the L Street wing, a large, high-ceilinged area undivided except for three office rooms at the south end.¹⁰ The staff welcomed the practical advantages of this location and space as long as the government continued to lease the building.

In the short interval preceding the second move the laboratory gained one staff member and lost another. James Quinn entered on duty in April as a handyman-janitor and remained as a willing helper for years before transferring to the National Capital Parks maintenance force. In August Harold Peterson moved to the History Division, barely a year after his appointment as curator. Chief Historian Ronald F. Lee had recognized his exceptional talents and arranged to borrow his services for a few months. He remained with the historical research program for 16 years, not rejoining the Museum Branch until 1964.

Peterson's years with the History Division were by no means a total loss to the branch, even though it could not fill the curatorial position at the laboratory for some time. While there he fostered the cooperation Ronald Lee had established with the branch and represented the museum point of view in historical matters. The laboratory regularly consulted him on curatorial and conservation questions and obtained his help in specimen acquisition. An early example of his collaboration involved the old problem of training field personnel to meet their curatorial responsibilities.

This problem became increasingly acute as park museums and collections increased in number and complexity. The occasional interpreters' conferences could scarcely begin to meet the need, while the *Field Manual for Museums* was out of print and in some important respects out-of-date. Faced with this situation, the Museum Branch opened discussions with the History Division in September 1948 to develop a museum methods training program.¹¹ The training needed to prepare park staff members to take good care of the collections and exhibits entrusted to them, and also to use the museums actively as prime interpretive tools. It aimed to implant clear conceptions of proper standards for museum care and use, teach some specific skills, and stimulate and guide future self-development. Peterson drafted a preliminary outline of content for a four-week course. From his wartime experience as an instructor in bombsight maintenance, Chief Historian Lee insisted that the training be job-centered and practical. Staff members therefore converted the outline into a series of 16 specific jobs with assignments designed to accomplish each.

The Service did not then have an organized training program or a training budget, and funding for the course would be largely invisible. The Museum Branch and History Division absorbed the costs of planning, preparation, and instruction. The branch provided makeshift classroom space in the laboratory where daily contact with curators, conservators, and preparators would have many fringe benefits. Parks sending trainees had to cover their travel to and from Washington along with a modest per diem while they were on travel status. Applicants often had to persuade their supervisors to allot scarce travel money for their attendance. This tended to assure strongly motivated trainees, but not necessarily from parks having the most urgent need. The course also received substantial instructional help provided without charge by the museums and other institutions visited as an important part of the training—the Smithsonian museums, National Archives, other museums in Washington, and later the American Museum of Natural History and Colonial Williamsburg. With such shoestring financing the Museum Methods Course began its first session in January 1949.

The class got underway around a table in the L Street laboratory with enrollment limited to four trainees. One had to return home after three days, leaving museum assistant Vera Craig of Morristown, Fort McHenry park historian Harold Lessem, and Superintendent Raleigh Taylor from Guilford Courthouse as the first students. They spent hours cleaning rust from gun barrels under the guidance of Harold Peterson, who insisted that they use methods and materials that would not scratch uncorroded iron. They learned to distrust shortcuts employing chemical treatments, harsh abrasives, or power tools in the care of these and other artifacts. Ralph Lewis served as instructor for an introduction to museum theory and

professional literature, accessioning and cataloging procedures, specimen storage methods, label writing, and exhibit evaluation among other topics. Instructional methods involved reading assignments, class discussion, and visits to observe examples of good practice such as specimen records, storage, and labeling in the Freer Gallery; document lamination at the National Archives; mounting and fumigating techniques at the National Herbarium; and the use of standard storage cabinets at the National Museum.

The trainees responded well to the course, and the Museum Branch and History Division agreed to repeat it with a somewhat larger class and improvements suggested by experience.¹² The second session convened in October 1949 with eight trainees plus three from National Capital Parks who attended part time. As one modification in the curriculum the class designed, prepared, and installed a temporary exhibition at Appomattox Court House National Historical Monument. Nearly 18 months elapsed before the third offering in May 1951. Five students participated, one of them the director of the Iraq National Museum of Natural History under a UNESCO fellowship. This class also carried out a temporary exhibition project, an exercise abandoned thereafter because the trainees tended to concentrate on what they already knew rather than mastering new methods.

Later sessions returned to off-season dates, usually in January and February. The 1952 session inaugurated a field trip to observe museum practices in New York City institutions, to which a stop at Philadelphia was added the following year. The 1953 trainees were also encouraged to spend a weekend during the course at Colonial Williamsburg. Williamsburg would become the goal of a second field trip each year, but not until the course suffered an interruption. The death of Ned Burns in 1953 left the Museum Branch staff under too much pressure to continue preparing and conducting it, and it did not resume until January 1957. Annual sessions followed regularly for six more years, undergoing modification each time based on evaluations by trainees and staff. During this period class size averaged twelve to 15, usually with one or two from outside the Service, and the number of jobs in the curriculum increased to 21.¹³

The 1964 session presaged change. By that time the Stephen T. Mather Training Center at Harpers Ferry was in full operation. It offered a nine-week course in interpretation under experienced full-time instructors to classes of about thirty trainees whose expenses were paid out of programmed training funds. The Mather Center had a legitimate interest in the Museum Methods Course, for its content on museums and exhibits as interpretive tools appeared to overlap material in the Harpers Ferry course.¹⁴ The differences were subtle. The Museum Branch aimed its training at improving the use of museums in the parks, while the center addressed park interpretation as a whole with museums one of several

presumably well-integrated media. As the first step in resolving the question of duplication, the Museum Branch and History Division conducted the 1964 session of their course at Harpers Ferry where the Mather Center staff could observe and appraise it.

The center concluded that it could absorb the museum content into its longer interpretation course, spelling an end to the History Division/Museum Branch course. During its 13 sessions over a period of 15 years it had provided a modest measure of museum training to 131 Park Service employees. Many were field interpreters who later advanced to higher positions but continued to have some involvement in or influence over museum matters. Even so the course could not keep pace with the training needs of the growing number of staff members assigned to park museum duties. Unfortunately, it soon became evident also that the evolving Mather Center curriculum did not meet the need for training in curatorial techniques. With changes in center leadership, concern for collection care quickly disappeared as a substantive part of the basic interpretive methods course. A fresh effort to fill the gap would become necessary.

Museum Growth Before Mission 66

The 1947 fiscal year appropriation had reactivated the museum laboratory by funding exhibit preparation for four museums already built. The only new construction of museum facilities before 1950 came through a gift from Julius F. Stone, an Ohio industrialist, who offered the American Pioneer Trails Association \$10,000 toward a memorial to William H. Jackson. The association proposed that the memorial take the form of an addition to the Scotts Bluff National Monument museum, which commemorated the Oregon Trail. The Park Service agreed, and the association donated its significant collection of Jackson material for the new exhibit room. Included were sketches that Jackson had made of landmarks and activities along the Oregon-California Trail embodying his recollections from personal experience as a wagon driver in the late 1860s and photographer accompanying exploring expeditions in the early 1870s. Some of the sketches he had made as a young man, others the association had commissioned more than fifty years later. The museum laboratory added explanatory maps and labels, then sent a small crew to install the memorial exhibit in August 1949.¹⁵

In the 1950 fiscal year appropriation, for the first time since World War II Congress included funds to build park museums. The appropriation provided for completion of the museum building at Ocmulgee National Monument, interrupted by the war, and enabled the Service to build a museum at Custer (now Little Bighorn) Battlefield National Monument.

During the same period donated funds added two more substantial exhibit designing and building assignments to the laboratory workload, one for Hawaii National Park and the other for Federal Hall National Memorial.¹⁶ With exhibits still to build for the Chickamauga museum and several smaller jobs on hand, the Museum Branch would have to increase its rate of output.

Ned Burns responded by recruiting additional staff. Frank Urban, who had worked for him when the laboratory was in Morristown, returned as a skilled model maker and craftsman to whom he could entrust critical tasks. Carl Christiansen was hired to model diorama figures and do expert casting. Gardell Christiansen (no relation to Carl) had worked at the American Museum of Natural History and qualified as a competent diorama sculptor. David Lillis had a background in commercial art and combined manual skills with resourcefulness and an unflagging willingness to work at whatever tasks were assigned.

Expansion continued in January 1951. Willie Liggan, an ex-Marine who transferred from the Armed Forces Medical Museum, carried the civil service title of illustrator but devoted his considerable talent almost exclusively to hand-lettering exhibit labels. Two other preparators were engaged as exhibit workers to perform routine jobs that required less exacting skills. Mary Sartor contributed effectively, but Juichi Kamikawa resigned when it became evident that he could not be kept usefully busy. Curator Floyd A. LaFayette in effect filled Harold Peterson's position. Like Peterson he came from the University of Wisconsin but with training as an art teacher rather than a material culture scholar. Bringing solid museum experience gained under John W. Jenkins at the State Historical Society of Wisconsin, he devoted his exceptional abilities to the Service's museum program for the rest of his life. Another curator, John Willett, used his experience with the National Museum to give good help in gathering data and exhibit materials during this period of special need.

Because the museums initiated in 1950 would contain more dioramas than usual and include subjects demanding sculptural skills, Burns sought another good sculptor. He chose Edwin Pearson, a mature artist from Hyde Park, New York, who worked sensitively and meticulously at the miniature scale required.¹⁷

Beginning in October 1950 the Museum Branch rearranged its L Street space to accommodate the growing staff. Work included enclosure of a small area for a darkroom and conversion of the largest office into a paintings conservation laboratory (the subject of further attention in a later chapter).¹⁸ Managing the laboratory became more complex as the number and variety of employees increased. The capabilities of each new preparator had to be matched with the tasks that fitted his or her skills, requiring an assessment of individual aptitudes and close supervision until performance

measured up to Service standards. With several artists and craftsmen working simultaneously on the same exhibit, each had to keep on schedule to avoid costly delays. Fortunately Burns had the experience and interest to handle these challenges. He knew how far to overlook foibles and clashes of artistic temperament and when to call a halt. He could advise and criticize to good effect, for his standing as a diorama artist commanded the respect of the staff. Although he always exercised professional concern for the quality of laboratory output, the exhibits in the 1950 projects engaged his personal involvement to an unusual extent. He spent less time at his desk in the Interior Building and more with the preparators, in some instances taking part in actual production.

Organizational support allowed him this freedom. The Museum Branch was still a unit of the Natural History Division. As chief naturalist, John E. Doerr gave the museum program solid administrative backing. He trusted Burns and permitted him a free hand in professional matters. The Biology, Geology, and Interpretive branches that composed the rest of Doerr's division reflected his attitude and cooperated with the Museum Branch effectively.

A reorganization of the Washington Office following Director Newton B. Drury's resignation on March 31, 1951, made Arthur Demaray director, Conrad L. Wirth associate director, and Ronald Lee assistant director for research and interpretation. All three were park museum advocates. Lee, who had worked closely with the Museum Branch while chief historian, now held line authority over it through Doerr. Lee's successor as chief historian, Herbert E. Kahler, continued this cooperative relationship with Burns' branch. It was an auspicious time for park museums, even though the Korean War dominated public attention.

Among the four exhibit construction projects initiated in 1950 Ocmulgee received a measure of priority. The museum would be unusually large. It had to house the many artifacts recovered from a massive archeological investigation of an extensive, long-occupied site, and it was also expected to provide research facilities for the study of collections from sites throughout the southeastern states. A third of the structure, completed before the war, already sheltered specimens from other important digs. Enough exhibit space was needed to interpret with selected artifacts the Ocmulgee story that the archeologists had pieced together. Applying the principle that a park museum should have no more exhibits than necessary to interpret the park's features—its primary exhibits—Ocmulgee would still require fifty units, whereas such museums usually had fewer than 25.

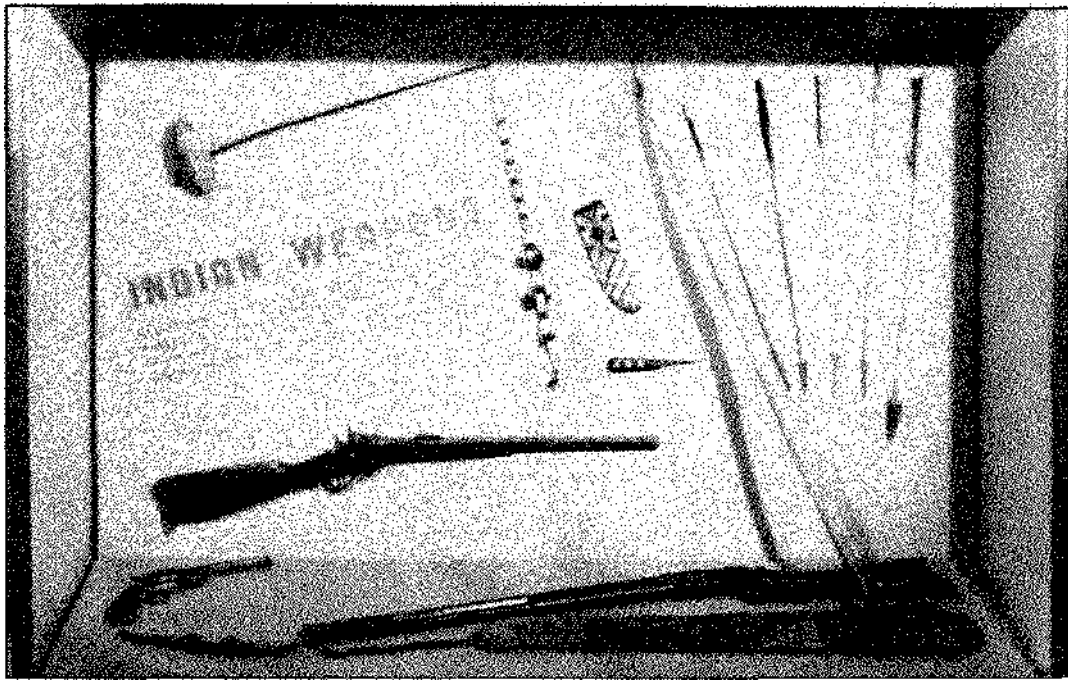
The new construction carried out the prewar architectural concept in general. It produced a cast concrete building more akin to the creative architecture of the Tennessee Valley Authority than conventional park structures. With part of its lower story buried in a mound of earth, the

museum when finished gave visitors at least a subliminal impression of the site's ancient mound-top temples as well as a sweeping view over the adjacent remains. Frank Buffmire prepared imaginative layouts based on the prewar exhibit plan by John Ewers. Archeologist Charles Fairbanks from the park acted as special curator while the exhibits were in production. He selected the specimens to display, procured from Indian craftsmen reproductions of such perishable objects as burden baskets and atlats for which secondary evidence survived, and did yeoman work to assure the accuracy of labels, illustrations, and models. To meet its target date the laboratory turned for the first time to an outside exhibit contractor for a few of the panel displays. Burns accompanied the laboratory crew that installed the exhibits in time for the museum opening on November 2, 1951.¹⁹

By then production of the Custer Battlefield exhibits assumed priority. In 1939 Congress had directed the secretary of war to build a museum there as a memorial to Custer and his men and to accept a valuable and appropriate collection of artifacts and documents bequeathed by Custer's widow.²⁰ It appropriated no funds for the purpose, however, and within a year the War Department transferred the battlefield to the Interior Department. When pressure for the museum resumed after the war, Congress provided \$96,000 for its construction in the 1950 fiscal year, adding \$31,200 in 1951 to prepare and install the exhibits.

Designed to fit unobtrusively into the sagebrush landscape, the building had a low profile and plain exterior. Inside it met museum requirements well with a practical exhibit room on the main floor and a study collection room with walk-in vault on the lower floor. Planning for the museum engaged the park and regional office along with the Museum Branch. Superintendent Edward S. Luce and his wife, Evelyn, had prepared a museum prospectus in 1947. Major Luce, a veteran of the 7th Cavalry and its dedicated historian, brought to it experience as a trooper, intimate familiarity with the terrain, and long study of the literature. His wife contributed intensive research in the documentary evidence and balanced his natural bias with cold fact. Both collaborated unstintingly with the Museum Branch throughout the project. Regional museum planner Harry Robinson not only worked on the exhibit plan but produced an illustrated guide to the museum as yet unmatched by any other park.²¹

Two aspects of the Custer museum particularly challenged Burns and his laboratory staff. One concerned the effective use of the rich collection of Custer artifacts. While the Museum Branch was determined to use these specimens to the fullest, the growing realization of responsibility for object conservation taxed the curators and preparators when it came to installing historic flags, uniforms, documents, and other environmentally sensitive materials. The second aspect involved the sequence in which the exhibits



Custer Battlefield National Monument Museum, 1952. Exhibit typical of Museum Branch design and production after World War II.

should tell the story. After much thought it was agreed to begin the presentation with the shocking climax. Succeeding exhibits would then attempt to unravel the mystery of what had happened to leave Custer and every man under his immediate command dead on the field of battle. This decision gave crucial importance to the diorama of Custer's Last Stand. It should depict the scene not as previous artists had imagined it, but as accurately as close analysis of all available evidence would permit. As a master of the medium Burns himself modeled the figure of Custer. The result and the installation as a whole brought him deserved satisfaction when the museum opened on June 25, 1952.

By that time the laboratory had completed its work on the Hawaii project. This had involved only seven exhibits, but distance complicated the task. The exhibits not only had to withstand shipment by land and water from Washington, they needed to correlate with other exhibits being produced in Hawaii. Upon arrival the park would install them in the headquarters building on the rim of Kilauea. Dealing with unfamiliar subject matter, the laboratory staff welcomed advice and guidance from Chief Naturalist John Doerr, who knew the park well. Funding came from Hui O Pele, the park's unique cooperating association.

The Federal Hall project entailed quite different problems. Museum Branch involvement with Federal Hall Memorial had begun soon after the Wall Street property became a Park Service responsibility in 1939. Burns

established a good working relationship with the Federal Hall Memorial Associates, who were developing a museum there without professional staffing. This patriotic organization sponsored by powerful and public-spirited interests in the Lower Manhattan business community was a welcome tenant in a historic building the Service could not then afford to restore and operate. Burns' aim was to minimize future curatorial or public relations difficulties that its mistakes might engender.

The building, whose vaults had once held much of the gold and silver validating the currency of the United States, was itself a distinguished architectural monument meriting preservation. It occupied the site of an older structure, Federal Hall, where George Washington had been inaugurated president and directed the organization of the national government under the Constitution. These events of the 1780s constituted the interpretive interests of the associates. But Federal Hall in its earlier form as colonial New York's city hall had also witnessed such significant events as the jailing and trial of John Peter Zenger for libeling the imperious colonial governor. Zenger's acquittal on the grounds that his printed statements were true became a landmark in establishing the freedom of the press. In September 1949 the Zenger Memorial Fund, formed by influential newspaper publishers, contracted with the Park Service to underwrite a Zenger Memorial Room at Federal Hall.²²

The Zenger Room constituted an especially difficult assignment for the Museum Branch. The subject matter to be interpreted did not lend itself readily to museum treatment. Freedom of the press defied concrete visualization. Zenger's appearance was unknown, and no artifacts associated with him survived except copies of his newspaper. Nothing remained of the fabric of City Hall, and pictorial evidence proved scanty. The only known exhibitable specimen related to the trial was unavailable.²³ The room selected for the memorial presented further problems. Tall windows occupied much of two walls, two doors interrupted a third, and monolithic columns supported the ceiling. The exhibit installation would have to leave the stately architecture unimpaired.

The promoters of the memorial did not limit their participation to money. The elderly president of the fund, James Wright Brown, continued to suggest changes affecting the exhibit plan while the work progressed. Another proponent pressed for more emphasis on the role of Zenger's wife, whom he credited with maintaining publication of the newspaper during Zenger's incarceration. The fund also insisted that a New York illustrator named Cliff Young execute some of the exhibits. Burns consequently had to engage in time-consuming negotiations with well-meaning people operating outside their field of professional competence. On some points he could compromise, for example by spotlighting Mrs. Zenger in the jail

diorama and assigning two or three introductory illustrations to Young. Other proposals he felt obliged to resist.

Another factor augmented the tension. The location of the Zenger Memorial and its well-connected sponsorship meant that it would address a highly sophisticated, discriminating, critical public. None but the best possible exhibits would do.

While structural rehabilitation of the room proceeded, the Museum Branch began production. A special study by a Columbia University historian established the narrative basis for the exhibits. The plan that resulted called for three sizable painted illustrations to present information regarded as essential background: Zenger's arrival in New York as an immigrant boy, Governor William Cosby's autocratic attitude, and the local election that crystallized resistance. Four dioramas would highlight Zenger's role in the controversy and form the nucleus of the display. A few cases would show original issues of Zenger's newspaper, 18th-century tools of the printer's trade, and items concerning Andrew Hamilton, the prototypical Philadelphia lawyer who defended Zenger. Two verbal panels, one recognizing the jurors and the other the significance of their verdict, would provide a fitting conclusion.

Every aspect of the Zenger exhibits would tax laboratory skills, but the dioramas demanded the most time and effort. One showed Zenger at his press. Colonial Williamsburg's reconstructed print shop fortunately offered a convenient source of data. Burns, who determined to sculpture the figure of Zenger, discovered that the costumed demonstrator who operated the Williamsburg press resembled Zenger in age and ethnic background and used him as a model. Burns went on to sculpture the figure of Andrew Hamilton in the intricate diorama of the trial, a group requiring the laboratory curators to search out details of British courtroom procedure as practiced in the colonies. Problems of modeling in perspective loomed large for the diorama depicting Zenger's newspaper being burned by court order in front of City Hall. Both the building with its brick walls and the cobbled street had to recede convincingly into the background from wherever the viewer stood.

When the Zenger Memorial Room opened in April 1953, Burns could feel relief as well as satisfaction. The sponsors evidently were well pleased with their investment of nearly \$50,000. As far as the Museum Branch could tell, the exhibits achieved their intended purpose. The interest and pleasure that visitors appeared to show suggested they were obtaining a heightened appreciation of one of their basic rights. The fact that a critic could later describe these and other exhibits at Federal Hall National Memorial as "without merit" pointed up a continuing problem of exhibit evaluation, to be considered subsequently.²⁴



Ned J. Burns. Checking his miniature sculpture of John Peter Zenger for Federal Hall Memorial with his model, the Colonial Williamsburg printer, Gus Klapper (left). (Courtesy Colonial Williamsburg Foundation.)

The Zenger exhibits reflected a lifetime of skill and knowledge applied by one of the country's most respected museum workers. In a sense this assignment required Burns to carry to the extreme the sage observation of Hermon Bumpus that park museums should invert customary museum practice without upsetting it. The Zenger Memorial fittingly capped his career. Neither he nor his colleagues realized the extent to which his health faltered as the work progressed. Within five months of its completion he was bedridden; he died on October 12 at the age of 53.

During nearly two decades Burns made an immeasurable contribution to the park museum program. While the account so far has dealt mostly with his leadership in the development of exhibits, he defined professional policies and standards that guided all other aspects of park museums. His vigorous support strengthened interpretive efforts throughout the Park Service. His influence continued for at least as long as those who had worked with him remained on the job.

The four projects that dominated Museum Branch activity in 1950-53 did not encompass all the branch did. In 1953, for example, Federal Hall was among 15 parks for which the laboratory produced exhibits. When the

Park Service took over from the city of Philadelphia preservation and management of Independence Hall and associated structures in January 1951, it became responsible for the city-owned historical collections in these buildings. They comprised a large number of objects ranging widely in significance but including such national treasures as the Liberty Bell, the inkwell used by the signers of the Declaration of Independence, the "rising sun" chair from which Washington presided over the Constitutional Convention, and the historic portraits of the founding fathers.

Burns appreciated the necessity of establishing close curatorial supervision over the recording and care of these artifacts as well as their use in exhibits. The city would expect strict accountability, and the importance of many of the objects imposed an even greater obligation. Burns accordingly arranged the transfer of James Mulcahy from the laboratory staff to Independence National Historical Park as curator. He could count on Mulcahy to maintain faithful and intelligent watch over not only the safekeeping and care of the collections but also their exhibition during a critical period of the park's development.²⁵

Before leaving for the Philadelphia assignment Mulcahy completed an unusual project. Director Demaray asked the Museum Branch to develop a display that might help solve a growing problem of littering in the parks. Mulcahy devised a trailside viewing box through which visitors might look at a scenic park feature. Ostensibly the contrivance would help a visitor focus attention on the inspiring view. Within the box, however, a representative assortment of litter provided a discordant foreground. Presumably this mild shock would induce the viewer to refrain from littering. Rangers at Shenandoah National Park observed visitors as they used a prototype. It did not work as intended: users debated whether or not the glass ends magnified the distant feature while scarcely noticing the interposed junk.²⁶

The laboratory worked on other wayside exhibits during this period, each time trying not only to supply an immediate interpretive need but to increase the durability and graphic versatility of the medium. Experimentation that dated back to the wayside shrines Hermon Bumpus had conceived for Yellowstone some twenty years earlier proceeded along two principal lines. One led toward cheaply produced multiple copies so a park could easily replace a damaged display. The other sought to use tough materials and construction that would resist weathering and vandalism.

Following the latter path the branch produced two carefully encased waysides at this time. For Montezuma Castle National Monument, where continued erosion of the ruin by visitors threatened irreparable harm, the laboratory prepared a detailed scale model. Installed at the foot of the cliff, it supplemented the distant view of the original to which people might no longer climb. The second exhibit stood at Surrender Field in the Yorktown portion of Colonial National Historical Park. In spite of tight case

construction moisture tended to condense on the inside of the glass front. After the top official of the Pittsburgh Plate Glass Company visited the park and saw the problem, he wrote the director offering his company's help. The laboratory rebuilt the case with advice and materials from the manufacturer. Three inches of glass foam insulation on the back and sides combined with a dual-pane glass front did solve the condensation problem—until a vandal shot holes in the expensive assembly a few months after its reinstallation.

The Museum Branch continued work toward practical methods of displaying pictures, maps, charts, labels, and even objects outdoors. Its efforts culminated in the very durable and graphic cast aluminum markers designed by Frank Buffmire for the High Water Mark Trail at Gettysburg a decade later. Buffmire and his colleagues also developed effective waysides using plastic lamination, metalphoto, routed aluminum, and other techniques in various combinations.²⁷

Innovation characterized another exhibit project in the busy start of the 1950s. A few months after Floyd LaFayette joined the Museum Branch staff as a curator in 1951, he volunteered to serve as planner, designer, and preparator for the Ochs Memorial exhibits. Being deeply involved in production for Ocmulgee and Custer Battlefield, the laboratory welcomed his unusual offer. The Ochs Memorial, an observation station museum built on Lookout Mountain in Chickamauga and Chattanooga National Military Park just before World War II, badly needed to have temporary displays replaced. LaFayette conceived and painted exceptionally graphic campaign and battle maps along with other creditable exhibits. The museum received its new installation in January 1952.²⁸

When the government lease on the L Street garage terminated, the museum laboratory again had to search for new quarters. Burns skillfully parried an attempt to transfer the operation to a commercial structure acquired by Independence National Historical Park in Philadelphia, believing firmly that the Museum Branch should remain close to the director's office. Ultimately he selected the ground floor of one wing in Temporary Building S. Erected for a World War II agency, Tempo S was on the Mall across from the National Gallery of Art where the west wing of the National Air and Space Museum now stands. The laboratory would be midway between the Interior Department, where Burns had his office, and the Library of Congress, which the curators needed to use on an almost daily basis. It would be even closer to the National Archives and the Smithsonian museums, other vital sources of continual reference.

The move took place at the end of March 1953. A small room provided a convenient studio in which Burns worked much of the time that remained to him. Here he modeled his last diorama figures and made a start toward revising the out-of-print *Field Manual for Museums*. He hired a part-time

editor but other responsibilities left him little opportunity to use her aid. Tempo S gave the laboratory a good home for more than a decade, until pending demolition forced another move. No earlier or later quarters matched its convenience and spaciousness. The only notable difficulty encountered there involved thefts from the collection storeroom by a GSA night guard. On the verge of apprehension, he threw into the Potomac beyond retrieval a bugle and dirk intended for exhibition.

The new administration that took office in 1953 retained Director Conrad Wirth, who had succeeded Demaray at the end of 1951, but initiated a management survey that led to realignments within the Service. One of these placed Assistant Director Ronald Lee in charge of a newly designated Division of Interpretation composed of four branches: history, natural history, information, and museums. This sharpened the focus on interpretation as a primary Service function under strong leadership. As a secondary result the Museum Branch for the first time achieved the organizational status Carl Russell had sought for it in 1935. Heretofore it had been under the chief naturalist, although at least half its assignments required equally close collaboration with the chief historian. In practice, the excellent cooperation on museum matters established between Chief Historians Lee and Kahler and Chief Naturalists Russell and Doerr had reduced the difficulties in this arrangement to an inconsequential minimum.

Burns' death during the early stages of this reorganization necessitated some staff changes within the branch. In April 1954 Ralph Lewis succeeded Burns as branch chief. Frank Buffmire became assistant chief in May and Robert Scherer moved up to the position of chief preparator, or chief exhibits construction specialist as then titled.²⁹ They inherited a production program that would continue to tax the museum laboratory.

Several relatively small museum projects in the parks required exhibit planning and preparation. Only a few involved new buildings. Two of them, at Joshua Tree and Saguaro national monuments, brought the laboratory natural history subjects as a welcome change. Other projects called for new museums in restored or rehabilitated structures such as the Clover Hill Tavern at Appomattox, a lighthouse station outbuilding at Cape Hatteras, and additional rooms in the Old Courthouse at St. Louis. These encountered difficulties typical of adaptive use but also presented their share of curatorial and conservation problems. A well-meaning park supporter at Cape Hatteras secured donations for the little Museum of the Sea with the promise that the objects would never leave the Outer Banks, an especially hazardous environment for many artifacts. The Museum Branch consequently had to persuade donors to allow their temporary removal to Washington for preservative treatment and protective mounting in the laboratory. The pending projects also included replacement of stopgap installations that did not meet Service standards at Mammoth Cave



Museum Laboratory in Tempo S, 1955. Museum Branch chief Ralph Lewis, Director Conrad Wirth, and Interpretation Division chief Ronald Lee examine Indian riding accouterments.

and Oconaluftee in Great Smoky Mountains. In carrying out this core program the laboratory installed seven park museums or exhibit rooms between March 1954 and April 1955 and shipped the exhibits for two more to far Southwestern areas.³⁰

Perhaps the most innovative among them was the new wing for the Chickamauga museum. Built specifically to house the Claud E. Fuller collection, the Chickamauga addition demanded the adaptation of park museum theory to an atypical situation. The collection had its greatest value as a study series. It comprised several hundred weapons and accessories selected to illustrate the development of American military firearms. A system of visible study storage would serve the primary needs of scholars and also those of interested laymen and casual visitors. The Museum Branch equipped the room with continuous runs of wall cases using factory-built, dust-tight extruded aluminum and plate glass construction with external lighting. It specified higher-than-usual bases to bring every specimen into convenient viewing range. Case fronts with hinges and locks provided both security and practical access when a legitimate student needed to remove a gun for closer examination. To minimize the need for this the laboratory mounted each gun so its whole length and most diagnostic parts were in plain sight. The installation kept the collection in

synoptic order with individual specimen and category labels of display quality. The laboratory also supplied an examining table with padded top, special lights, measuring instruments, and a magnifying glass, but no tools that might be used to disassemble any gun parts.

While concentrating as much as possible on Park Service museum exhibits, the laboratory found it necessary to undertake additional assignments. Parks wanted graphic displays to supplement manned information desks by providing answers to common questions. The Museum Branch viewed informational displays, like those with propaganda intent, as sharply distinct from museum exhibits. The peculiar value of the latter depended on public confidence in their integrity. To avoid eroding this confidence the branch tried quite successfully to keep a degree of physical separation between museum exhibits and other types of display.

The superintendent of San Juan National Historic Site in Puerto Rico asked for help in providing orientation displays to equip a temporary visitor reception building at El Morro. He assured the Museum Branch that he could easily get the work done locally if the laboratory would provide on-site guidance. Frank Buffmire went to the park and laid out a series of attractive bilingual units that matched the superintendent's wishes. Then he discovered that the superintendent had merely assumed he could find craftsmen to carry out the designs. After an arduous search Buffmire located one carpenter whose shop was his back yard. With such meager help he got the panels constructed and painted, executed the graphics and lettering, and mounted the panels in place. While Buffmire's work assured the quality of the exhibits, the project underlined the economy and efficiency of production in the central laboratory.³¹

A year later, in the summer of 1955, the branch cooperated on an experiment that required another set of informational displays. Parks charging entrance fees often experienced bottlenecks at their entrance stations as drivers asked questions. One proposed solution would locate an information station with adequate parking close inside the entrance. To test the idea Yellowstone placed a portable building for this purpose at its west entrance. The laboratory prepared colorful displays answering visitors' principal questions. In the end, the experiment did less to test the potential of the displays than to demonstrate the unwillingness of visitors to make a second stop so soon after entering the park.³²

The Museum Branch continued to accept occasional outside requests for exhibit design and construction on a reimbursable basis. It was asked to do the exhibits for a new museum in the Prehistoric Indian Mounds State Park at Marksville, Louisiana. Floyd LaFayette guided this job through to completion, establishing excellent working relationships with Louisiana State Parks director William Wells, who later became a Park Service official, and archeologist John A. Ford of the American Museum of Natural

History, who served as curatorial expert. Installation of these exhibits in February 1954 led to a second allotment of \$10,000 in state funds for additional work on the Marksville museum. Carnifex Ferry State Park in West Virginia also obtained museum exhibits designed and prepared by the laboratory, this work extending from mid-1954 into early 1956. From the Marine Corps came a request in 1954 to prepare a diorama as part of a special exhibition on naval history in the National Museum's Arts and Industries Building. The rather complex group illustrated in miniature the latest tactical methods for a combined amphibious and airborne assault on a fortified beach. Again satisfaction brought more work: the Corps ordered eight copies to circulate as traveling exhibits.

For a new hall of American Indian ethnology the National Museum contracted with the laboratory to prepare a small diorama showing the interior of a kiva. Before its completion in early 1955 the museum provided \$2,000 more for a second group to depict an Inca farming scene. The laboratory's newest preparator, Russell J. Hendrickson, painted the background for it with a fresh and expert touch. Other reimbursable projects during 1955 included updating the National Capital Park and Planning Commission's large model of central Washington, preparation of the Interior Department's portion of a major federal traveling show, "The American Dream," that circulated to department stores in fifty cities, and a set of attractive botanical panels Buffmire painted for the Garden Club of America's national headquarters. Installation of exhibits prepared for the St. Augustine Historical Society in April 1956 and of the second Marksville unit in July allowed the branch again to concentrate its production resources on national park museums.³³

When the 1955 fiscal year began, the Museum Branch faced what seemed then a very heavy but promising schedule. Congress had appropriated funds for four new park museums. One would serve Carlsbad Caverns, two would supply pressing needs at Colonial National Historical Park, and the fourth would replace dangerously combustible and inadequate facilities for Grand Canyon. The state of North Carolina had already provided money for the Park Service to build a museum beside the Blue Ridge Parkway.³⁴ The branch would need to keep pace with architectural planning and construction on all these buildings, but the Blue Ridge project had the earliest completion date.

North Carolina wanted to interpret its mineral resources to the public. In return for initial funding the Service undertook to develop and operate the Museum of North Carolina Minerals as a focal point of interest along the parkway. The Museum Branch planned exhibits on the minerals occurring in North Carolina that were or had been important in the state's economy. Specimens supported by graphics would show each mineral, tell

something of its occurrence, extraction, and processing, and illustrate its uses.

Floyd LaFayette, who played a leading role throughout the project, developed the layouts with strong curatorial support from Bennett T. Gale, geologist in the Natural History Branch. When they presented the plan to a sponsoring group of North Carolinians, the response was distinctly unfavorable. Members of the group were ardent mineral collectors who had envisioned the museum as an array of fine specimens displayed for their aesthetic appeal. The plan included only a few such exhibits but called for an adjacent study collection room equipped with well-filled specimen cabinets, maps of mineral sites, and reference books as a rendezvous for students and collectors. The Museum Branch argued the merits of its concept and Ben Gale persuaded the state to accept it. The museum opened in June 1955.³⁵ Although mineral collectors were not wholly reconciled, the study collection room received considerable use until staff cuts reduced its availability.

Congressional appropriation for the Grand Canyon museum marked the culmination of Louis Schellbach's long, determined effort to persuade those in authority that the park's rich collections constituted a resource too valuable to keep in an old frame schoolhouse. Schellbach had conceived concrete plans for the museum. He knew just where he wanted it and had many ideas for its interpretive content. At the same time, the Service reached a farsighted decision to divert future development from the canyon rim, upon which too many structures already intruded. The museum would be part of the new scheme. The change of location disappointed Schellbach so deeply that he lost heart for the enterprise, leaving its planning largely in the hands of the Museum Branch by default.

Design and Construction chief Tom Vint visited Grand Canyon in July 1954 to go over the proposal as it affected the museum. Cecil Doty, architect for the museum, accompanied Vint to the conference and began preliminary floor plans on the spot. Characteristically Vint also included Ralph Lewis in the party to ensure close collaboration between architect and museum planners from the start.³⁶ Museum Branch representation helped to make certain that the building included a large, secure room of fire-resistive construction for the study collection as well as suitable exhibit space.

Exhibit planning, which began in earnest a year later, marked a turning point in Museum Branch practice. Before World War II, it may be recalled, curators prepared the entire exhibit plans including layouts, then turned the completed specifications over to the preparators for production. In the intimate working conditions of the postwar laboratory, curators and artists tended to consult each other at earlier stages. Outside the Park Service such innovative installations as the Warburg Hall at the American Museum of

Natural History exemplified a contemporaneous inclination among museums to place more emphasis on design. A continuing debate developed over the respective roles of curator and designer, fueled by a perception that professional designers were insensitive to the scholarly value of museum objects.

With the Grand Canyon plan as its subject, the Museum Branch approached this problem empirically by a deliberate experiment in teamwork. Lewis went to the park in September 1955 to gather data and plot the story line. Two weeks later Buffmire joined him at the park as designer. Together they worked out the exhibit plan in about two weeks of concentrated effort, one proposing content and drafting label copy while the other developed layouts that seemed to communicate the ideas intended. As the plan grew, each reacted constructively to the other's concepts.³⁷ The experience convinced both men that curator/designer exhibit planning teams could increase the efficiency of the process and raise the quality of the product. Execution of the Grand Canyon plan typified park museum practice under the postwar Museum Branch. The museum presented subject matter selected to meet criteria of significance rather than assumed popular interest. The presentation was basically cognitive, on the assumption that public enjoyment of the park must arise largely out of understanding. Affective aspects of the Grand Canyon experience also received considerable attention, although the Service was still groping in the realm of aesthetic interpretation. One exhibit, for example, concerned the changing moods of the canyon and the necessity of taking time to observe them. Paintings and prints by several distinguished artists hung strategically in the exhibit room, illustrating efforts to reduce the vast complexity of the canyon scene into comprehensible scope. Quotations from Henry Van Dyke's poetic tribute to the Grand Canyon provided a connecting thread in the exhibit sequence. The exhibits followed an essentially chronological flow without sharp breaks between such traditional subject matter fields as geology, biology, anthropology, and history. Circulation through the succession was enhanced, but not forced.

The museum retained the interpretive theme of Time-Movement-Change originally proposed for the park by John C. Merriam and aimed to reinforce the still-effective Yavapai Observation Station rather than supersede or compete with it. Specimens provided prime evidence for much of the story. A series of six units represented something of a tour de force in this regard. Three small dioramas pictured widely different local habitats deduced from the geologic record: a sea bottom, a swamp, and a desert, each containing models of prehistoric life forms. What was unusual was that all the models in each group represented species whose fossils had been found close enough together to suggest they had lived in relatively close

association. An exhibit case flanking each diorama displayed the fossils and rocks that supported the conclusions depicted.

Technical aspects of the Grand Canyon installation also illustrated Museum Branch practice well. The windowless walls of the exhibit space protected all specimens from direct exposure to sunlight, but visitors could see token daylight from practically every point within the room by looking back toward the lobby or ahead to the patio. An installation crew from the laboratory aided by park staff erected furred walls into which the dust-tight, factory-built exhibit cases as well as the dioramas fitted. Case dimensions kept all specimens and labels within optimal viewing range. All exhibit lighting, selected for minimal heat and ultraviolet emission, was external to the cases. One display unit invited visitors to test the hardness of the stone that the eroding river had cut so deeply. Another reproduced the roar of the rapids to emphasize the river's power because many visitors would see the river only from the canyon rim.³⁸

The same technical considerations of specimen security and care, convenience and effectiveness of visitor use, durability, and production economy guided the development of the Jamestown and Yorktown museums for Colonial National Historical Park, which were dedicated several weeks before the Grand Canyon museum opened in June 1957. The two Colonial projects developed in an especially stimulating milieu. Both museums had exceptionally good collections on which to base exhibits. Jean (Pinky) Harrington's archeological work in the late 1930s had given Jamestown the fullest representation of 17th-century colonial material culture of any site in the country, and renewed excavations under John Cotter in the mid-1950s were making important additions to the collection. Yorktown also had extensive artifactual evidence obtained from archeological studies of the field fortifications and other sites, including pioneering underwater archeology among sunken British warships in the York River. Recent acquisitions included such prime specimens as portions of tents General Washington had used at the siege, battle flags surrendered by British and Hessian troops, and a splendid early model of one of the blockading French ships. To supplement many of the excavated fragments at both Jamestown and Yorktown, Harold Peterson succeeded in procuring intact 17th-century examples matching the remnants of arms, armor, tools, utensils, and other articles chosen for display. Superintendent Stanley Abbott's active, innovative mind continually forced those working on the interpretive developments to review their own ideas critically and defend or revise them.³⁹

The two museums formed part of a complex, coordinated scheme to mark the 350th anniversary of the first permanent British foothold in North America. The state of Virginia had under simultaneous development the Jamestown Festival Park, just upstream from the entrance to the Jamestown

section of the national park. The Festival Park would contain two museums and feature full-scale reconstructions of James Fort, a Powhatan Indian village, and the three ships that had brought the first English settlers. Colonial Williamsburg prepared for the anniversary especially by erecting its new Information Center, containing two theaters of advanced design to show a motion picture intended as the principal interpretive introduction to a Williamsburg visit. This film was costing more than both Park Service museums.

All three agencies cooperated to achieve a coordinated goal and meet a single deadline. Their respective planners and production workers could not avoid some friendly rivalry, for the same public would visit all the new facilities and could be expected to compare them. Although each agency employed a variety of interpretive media including museum exhibits, the state park emphasized living history techniques in the reconstructed fort, village, and ships; Colonial Williamsburg its strong system of guided tours featuring refurbished historic buildings splendidly introduced by the new film; and the Park Service the carefully preserved integrity of its historic sites for which the museums supplied the primary background interpretation. The Jamestown and Yorktown museum buildings did set a precedent in the Service by including respectable auditoriums with suitably equipped projection rooms. These followed the trend set by Williamsburg but reflected even more the growing desire among Service interpreters to make better use of audiovisual media.⁴⁰

The workload imposed by the 1955 fiscal year program required the Museum Branch to hire more preparators. Several of those taken on for the 1950 projects had left. The laboratory had replaced one of them with Charles W. Dreyer, who had worked for years at the Naval Observatory repairing navigational instruments. He proved a very skillful, patient modeler of miniature weapons for dioramas and a fabricator of fine specimen mounts. Another replacement, Daniel J. Hadley, left just as the 1955 projects got into high gear. Selecting talent for the new program began in December 1954 when William A. Smith transferred from the Army Map Service. He proved to be a good diorama sculptor but also mastered the newest casting techniques, much to the benefit of the laboratory. Russell Hendrickson entered on duty in February 1955 as an accomplished artist. The Service could not retain him long at the time, but he returned later to make a significant contribution to park museum development.⁴¹

Staff expansion continued with the hiring of seven preparators in late 1955 and early 1956. Frank Spagnolo followed Smith from the Army Map Service and remained with the laboratory for the rest of his career. Paul Enten proved to have less to contribute and did not stay long. Peder Kitti came after painting habitat backgrounds for the new bird hall in the

National Museum. He served ably, particularly as a dioramist, until his retirement in 1979. Nelson A. Tinney assisted Willie Liggan with the increasing load of label lettering for several years. The next recruit was an exhibit worker, Edward W. Normandin, who assisted other preparators in routine production tasks. Margery Updegraff, an experienced exhibit artist, transferred from the Bureau of Reclamation to become the principal producer of illustrations, maps, charts, and other two-dimensional graphic elements needed to supplement exhibited specimens. Marilyn Biskin, also hired in February 1956, shared these assignments with her.⁴²

Museums in Mission 66

Mission 66, a boldly conceived and intensively planned ten-year program, aimed to avert a crisis. It would provide the developments urgently needed if the national parks, already suffering severely from overuse, were to continue to fulfill their statutory but contradictory obligations of preservation and public enjoyment. Public use of the parks was growing at an alarming rate and would exceed the planners' estimates for the decade ahead. In this situation museums were among the many factors that could help save the parks.

Good museums played a double role. They contributed to visitors' understanding and therefore enjoyment of a park. And visitors who understood and appreciated the significance of park features tended to treat them protectively.⁴³ The nature of the problem, however, led Mission 66 planners to think in terms of a facility to serve a broader spectrum of visitor needs than previously associated with museums.

With the advent of PWA-funded administration/museum buildings in historical areas, most park museums shared space in multipurpose structures. The planners for Mission 66 built on this precedent. Visitors would find the new type of facility without difficulty thanks to more emphasis on strategically planned siting. It would recognize their needs as travelers and welcome them with restrooms and drinking fountains. It would provide helpful answers to their most pressing questions: where to eat and sleep, how to reach the park's prime features, how to plan their available time effectively. The building would therefore require a suitably spacious lobby with an efficiently staffed information desk as well as clear maps, schedules, and self-service orientation or information displays. It would have an auditorium or smaller room in which a relatively brief audiovisual presentation would either suggest what to see and do in the park or evoke an emotional anticipation toward important park themes. The museum exhibit room would offer a more cognitive introduction to the park story but also aim to send visitors quickly out into the park better prepared to understand and appreciate it. Those with more time and special interests

would usually find here the museum study collection, the park library, and the offices or workrooms where they might consult other staff members.

While in earlier multiple-use situations the building was ordinarily referred to as the park museum, the planners wanted to call the new mix by a name that would make its service function crystal clear to the public. After some debate consensus favored "visitor center." The prompt retroactive application of the term to the pre-Mission 66 projects at Grand Canyon, Jamestown, Yorktown, and elsewhere demonstrated its general acceptance.⁴⁴

Most parks wanted one or more visitor centers as part of their Mission 66 development. By the time the program won administration and congressional approval in early 1956, the Museum Branch knew that it would have to plan and prepare approximately one hundred new museums within the next decade, an average of about ten per year. While welcoming the challenge, the branch feared that eagerness for modern visitor facilities might lead some parks to request unneeded museums. It therefore urged Mission 66 planners to propose museums only where necessary to preserve original objects important to a park's mission or essential to help visitors understand a park.⁴⁵

The projected rate of development obviously exceeded the capacity of the existing staff of curators and preparators, but it seemed unlikely that the workload would continue after Mission 66. The Museum Branch therefore decided to avoid building up a large force that would have to be cut back when Mission 66 ended. It would limit expansion as far as possible to the number of positions it would then need to service the increased number of park museums and take care of normal growth.⁴⁶ Meanwhile it would augment production when necessary by contracting for exhibit preparation, a method the laboratory had used sparingly.

Before work could proceed on any Mission 66 exhibits, their planning demanded immediate attention. With the successful application of a team approach at Grand Canyon fresh in mind the branch acted quickly to organize three exhibit planning teams, each composed of a curator and a designer. The curator would have the academic background to wrestle with the complexities of subject matter, sort out the significant ideas, and express them in simple language. He would also have firsthand knowledge of visitor behavior in parks based on solid experience as an interpreter, or at least comparable knowledge from work in a museum. The designer would contribute mastery of form and color but also add important insights into content and communicative strategies. The team would spend enough time in a park to become familiar with its features and constraints as well as to obtain the input of the local staff. Frank Buffmire had already developed a format for exhibit plans that gave a park superintendent and other reviewers a clear picture of what the proposed exhibits would look like and

say. It matched the park master plan in sheet size and contained a large colored sketch of each case and panel along with complete content specifications including label copy.

The three exhibit planning teams, referred to as the eastern, western, and history teams without circumscribing their scope by these titles, began work even before completely staffed. Robert L. Barrel and Myron D. Sutton, both experienced and articulate park naturalists, entered on duty in March 1956 as the curatorial members of the western and eastern teams respectively. At the same time the branch borrowed temporarily Albert C. Manucy, the scholarly and versatile park historian at Castillo de San Marcos National Monument, as curator for the history team. Before returning to his park in October he made outstanding contributions to four exhibit plans, including two particularly sensitive ones. Sutton received a design partner for the eastern team in April when the branch succeeded in recruiting Edward J. Bierly, a talented artist who specialized in wildlife subjects. The laboratory lent designers to the other two teams. Russell Hendrickson collaborated with Barrel on the western team's first job, then worked with Manucy to finish one important plan. Floyd LaFayette joined Barrel for the next two western ones. In June the branch hired a new designer, Hiram R. Haggett, for the history team. All three teams attacked their assignments with skill, imagination, and energy. Each submitted its first completed plan in May and started on the next without slackening pace.⁴⁷ They would continue to function admirably through various changes in personnel until they had met the exhibit planning needs of Mission 66.

Work on an exhibit planning team made severe demands. It entailed much time in the field and pressure to keep up with construction schedules. The teams were expected to propose exhibits of endless variety and originality while maintaining existing standards that tended to limit change. Not surprisingly, planners came and went. Alan E. Kent, curator of photographic collections at the Wisconsin State Historical Society, took over Manucy's post with the history team in December 1956. After about five years he was promoted to a supervisory position in the Museum Branch. Following a reorganization in 1964 he went on to exercise intellectual leadership of Service-wide interpretive planning. A veteran park historian, John F. Luzader, took his place with the team for the remainder of the Mission 66 program. Haggett left the history team in August 1958 for a curatorship at the United States Air Force Museum under development at Dayton, Ohio. As his replacement Kent welcomed Daniel D. Feaser, promoted from an exhibit preparation position in the laboratory. A wildlife painter with excellent design sense, Feaser served ably with Kent and then Luzader until the team's work was finished.⁴⁸

The eastern team, which addressed its assignments with a constructively critical stance toward accepted practice, had Bierly as the design member throughout the program. Sutton became an instructor at the Service's new intake training center in August 1959. Marc Sagan from the Grand Canyon naturalist staff succeeded him in October and worked with Bierly until transferring to Region One in February 1962. He was followed by Earl W. Estes, park naturalist at Mount Rainier. Estes helped tackle some important historical as well as natural history plans including one for Appomattox Court House, which had to be fitted into a reconstructed building that provided far from ideal museum space.⁴⁹

Robert Barrel transferred the base of operations for the western team to San Francisco in August 1956 in preparation for reestablishing a western museum laboratory. He worked with borrowed designers, as noted above, until the appointment of John W. Jenkins that October. Barrel and Jenkins collaborated on the difficult plan for the Quarry visitor center at Dinosaur National Monument before the new laboratory demanded Jenkins' full attention. Raymond S. Price, who joined the laboratory in Washington as a preparator in November 1956, followed Jenkins as the western team designer in May 1957. Like Sutton, Barrel received a tempting offer in August 1959 and left to become naturalist for Hawaii National Park. Leland J. Abel, an archeologist serving as Region Four curator in San Francisco, replaced him promptly. Because of an extended special assignment that earned a unit award, the Abel-Price team could not keep up with needed exhibit plans, and Jenkins hired another designer, Herbert F. Martin, in July 1961. After Abel transferred to a park archeologist position in February 1962, Jenkins recruited two planning curators as replacements: Paul F. Spangle, a naturalist, and Gilbert R. Wenger, an archeologist. This gave the western laboratory two teams, Price and Martin pairing interchangeably with Spangle and Wenger. Even their best efforts could not meet the workload in the later years of Mission 66, and Jenkins obtained two more exhibit designers: Gerald Ober from the Jefferson National Expansion Memorial in January 1963 and David Ichelson from his position as laboratory shop supervisor that October.⁵⁰

By the end of the ten-year program the planning teams, east and west, had turned out an impressive volume of carefully and imaginatively conceived plans, not all of them for park museums. Within the first year management saw the value of dovetailing wayside interpretation with museum content, so the Museum Branch assigned planning for both to the teams. Thus Sutton and Bierly devised the exhibits not only for the new visitor center at Flamingo in Everglades National Park but for the series of interpretive stops Superintendent Daniel B. Beard had proposed along the road leading to it. Management could not resist using the teams' skills to plan temporary exhibitions such as those for a governors' conference, a

World Forestry Congress, and a Boy Scout Jamboree in 1960. Team planners were lent to Mississippi, North Carolina, and the Army to aid in museum development projects. Bierly's broad talents led UNESCO to borrow him as an expert to assist the Rhodesian government in planning and developing its museums. Spangle interrupted his regular work with the western teams for a three-month park planning assignment in Jordan and later served on the team sent back to Jordan and Turkey.

The history team had a share of these extra duties and carried another burden. Because the Civil War Centennial fell within the Mission 66 period and the Park Service had most of the war's major battlefields, the team faced the need to plan exhibits for a daunting succession of battlefield museums. Similarity in the material culture and in the general nature of story content taxed the ingenuity of both curator and designer to make each of these museums unique and specific to its place yet clearly related to the others. Watching visitors use the museum accompanying the Gettysburg cyclorama left little doubt that the history team served the centennial well. For some of the later projects the eastern team shared this load and demonstrated its capability in planning Civil War exhibits.

The sheer number of exhibit plans the three teams produced made their adequate review a problem in itself. To ensure that they merited approval, Ronald Lee instituted a multidisciplinary scrutiny of each. Beginning in February 1957 he brought to the Museum Branch as often as necessary a delegation of interpretive and subject matter experts from the History and Natural History branches. A Museum Branch representative explained each proposal in detail, after which open discussion led either to agreement or a call for revision. When Lee became satisfied as to the accuracy, feasibility, and likely effectiveness of the exhibits proposed, he defended them at the director's plan review. During the first five months of this procedure twenty exhibit plans along with thirty museum prospectuses passed such careful screening.⁵¹

Good museums depended as much as ever on cooperation between museum specialists and architects. The visitor center concept involved enough fresh problems to make close collaboration even more important. Fully appreciating this, Lee was instrumental in scheduling two conferences among Service interpreters, museum specialists, and architects early in the program. The first met at the Eastern Office of Design and Construction, Philadelphia, for a week in November 1957. The conferees discussed visitor centers currently on the drawing boards, debating details and general concepts. A similar meeting at the Western Office of Design and Construction, San Francisco, followed in February 1958. The combined report clarified thinking on visitor center functions and design factors. Lee and Chief Architect Dick Sutton submitted it promptly to Director Wirth with a list of recommendations.⁵²

One of these addressed the principal point of contention at the time between architects and curators. The architects pleaded the merits of open design. While this trend influenced plans for many types of structures, it seemed especially important that visitors entering one of the new park centers not lose contact with the outdoors. Curators heartily approved of openness for lobbies and many other interior spaces, but they stressed the need for control of light in rooms containing museum specimens. Lee and Sutton agreed on this, and most Mission 66 visitor centers followed suit. Some architects continued to oppose the judgment that concern for specimen conservation should outweigh the visual attractiveness of window-walled museums, however. They dubbed exhibit rooms that met museum lighting standards "black boxes" and later found allies in the exhibit design field.

During 1956 the Museum Branch continued to add artists and craftsmen to its laboratory staff to fill specific needs. John Babyak, a former preparator at the American Museum of Natural History who possessed useful experience as a rigger, reported in April. Marion B. Stewart joined the staff as an artist in June and worked principally on preparation. In June also the laboratory hired Alfred Lloyd Lillie, a young sculptor fresh from art school whose talent far exceeded the paper qualifications that determined his pay. He served well for nearly a year before undertaking advanced studies. Later he fulfilled special sculpturing assignments under a "when actually employed" appointment and returned to full-time status for a while before joining the Boston University art faculty.

Frank Phillips, a park maintenance employee whose workmanship and cooperativeness had impressed the installation crew at Custer Battlefield, transferred to the laboratory in July and took on much of the exhibit case and panel construction. After assuming supervisory responsibility in 1964, he proved a hard taskmaster and supported changing design trends that deemphasized concern for exhibit maintenance and specimen protection. Diligent, practical, resourceful, and accurate, he remained with the laboratory until retiring in the mid-1970s. In August came Dan Feaser, who served as a skilled exhibit artist until promoted to the history planning team, and Arlie P. O'Meara, who for the rest of his career operated the spray booth—a necessary task requiring a special kind of reliability along with a good eye and steady hand. In October John A. Segeren was hired as a model maker. He transferred to the western laboratory in September 1958 and returned when it closed, becoming most active as a wood carver. Two more artists engaged in November rounded out the preparation staff: Richard H. Jansen, a mature, Wisconsin-trained painter, and Ray Price.

Only a few later changes occurred in the laboratory's production crew during Mission 66. In June 1958 Arlton C. Murray, an experienced preparator, was assigned from other duties to work on exhibits. Kenneth

Dreyer replaced his father as model maker in July 1960. During summer vacations earlier in the program a high school shop teacher, Clair H. Younkin, provided valuable temporary help.⁵³

Also essential to the task was increased curatorial support. Mission 66 museums, like their predecessors, each had a story to tell and set out to exhibit the specimens and graphics that would tell it most effectively. The exhibit plan generated a want list to accomplish this. Whether or not the objects needed were already in the park collection had little bearing on their selection. If they were not, Museum Branch curators faced the problem of finding and acquiring them. Efficient exhibit production demanded that the specimens be in the laboratory on schedule, imposing a continual succession of deadlines.

To carry the main burden of search and acquisition the branch hired a new curator in July 1956. Joseph Fred Winkler, a geographer well recommended by his colleagues at the National Archives, combined skill in evaluating and employing reference resources with systematic, tenacious application. When one plan called for a specimen of the extinct passenger pigeon, for example, he obtained a fine mount on time and without fuss. Other staff curators assisted when they could, but Winkler bore the brunt of supplying the preparators with the specimens for exhibition. In July 1956 also Laurence Cone relinquished his duties as an exhibits construction specialist to assist with the curatorial workload. Besides helping with acquisitions, he acted as laboratory photographer and organized the slide files until departing in August 1957 to become curator of the Southern Plains Indian Museum. When the forthcoming Civil War Centennial created a special need for an expert on the war and its material culture, Lee A. Wallace transferred in December 1957 from his position as park historian at Chickamauga and Chattanooga National Military Park to the Museum Branch as exhibit research historian. He provided a continual flow of factual and pictorial data to meet innumerable exhibit needs during the centennial program.⁵⁴

Tempo S did not have vacant rooms suitable for shop use when the need to expand arose. In the summer of 1957 the General Services Administration rented the Park Service a second floor area in another temporary building across Independence Avenue for a laboratory annex. A more convenient location, the rear portion of a wing in Tempo S adjacent to the main laboratory, soon replaced it. GSA also agreed to air condition the laboratory space in Tempo S, completing the installation in June 1958. Although the system could not provide the stable conditions now recommended for museum environments, it greatly facilitated exhibit production during Washington's muggy summers. The Museum Branch later expanded into three front offices as well and borrowed vacant rooms on occasion to serve special needs.



John W. Jenkins. Chief, Western Museum Laboratory.

The job would demand strong leadership yet willing support of the Service's established museum standards and curatorial policies.

The branch had by chance hired a number of able employees educated or trained in Wisconsin, including Floyd LaFayette and Harold Peterson. They urged the selection of John Jenkins, whom they knew and respected as chief curator of the Wisconsin State Historical Society. Jenkins responded with interest to a March 1956 letter that referred primarily to work on the western planning team with only a suggestion of larger prospects. From this start the Museum Branch secured the establishment of two positions, to be filled consecutively. The first permitted Jenkins' appointment as designer on the exhibit planning team in San Francisco while he also laid the groundwork for the projected laboratory. He took up these duties in October 1956. His advancement to the second position as chief of the Western Museum Laboratory followed in September 1957.⁵⁵

The laboratory was still far from a functioning reality. The Service proposed to house it in the old United States Mint, conveniently located in downtown San Francisco. This massive and somewhat derelict structure had briefly provided the last home for the prewar laboratory. Now it was the focus of controversy between preservationists who wanted to save the building and developers who hoped to demolish it. Locating the laboratory in the Old Mint gave the preservationists a toehold, but its fate remained unsure throughout this occupancy.

It became apparent at the outset that museum development under Mission 66 would justify reestablishing the Western Museum Laboratory. Besides boosting exhibit production, a laboratory in the West would reduce the costly and hazardous transcontinental shipment of specimens and exhibits. Museum staff could also work much more closely with architects in the Western Office of Design and Construction and with many of the client parks. Setting up and managing the new facility would require someone with broadly based museum experience not easily obtained within the Park Service.

GSA assigned basement space in the building for laboratory use on September 28, 1957. Assistant Regional Director Herbert Maier, who thirty years before had so ably designed and supervised construction of park museums for Yosemite and Yellowstone, helped expedite preparation of the space. Work got underway to adapt the old vaults and narrow corridors for laboratory use in January 1958, with the Service footing the bill. Jenkins did not wait for the contractor to finish. On March 17 he started moving in and setting up equipment, and exhibit production began in earnest a week later.⁵⁶

The Washington Office established eleven permanent positions for the western laboratory in September and October 1957. These would provide Jenkins with an office staff of one clerk-stenographer and an administrative assistant, a curator to function as Winkler did in the eastern laboratory, four exhibits construction specialists, and four exhibits workers. Jenkins requested the transfer of David Lillis from the eastern laboratory to procure equipment and supplies for the preparators. Until Lillis arrived in December Ray Price, whose position on the planning team now came under the new laboratory, saw to these chores. In November D. Robert Hakala, a naturalist who had demonstrated his intelligence and energy in National Capital Parks, reported as laboratory curator. Laura D. Obwald moved from the Region Four Office as secretary and C. Kenneth Kegler as administrative assistant in December. Six preparators arrived in March 1958. John Babyak transferred from the eastern laboratory. William D. Berry, a first-class wildlife artist, and Bernard Perry, another able artist, gave the laboratory a solid basis particularly for graphics. Marian S. R. Fischer and Jean H. Rodeck (Swearingen) assisted them as exhibits workers. Less experienced than most of the others, Edward LeRoy Vella brought artistic training and enthusiasm. The crew plunged into building exhibits for the unique Quarry visitor center at Dinosaur National Monument, scheduled for dedication June 1. In less than ten weeks twelve creditable exhibits were ready for installation.⁵⁷

The laboratory's preparation staff grew modestly during the remaining years of Mission 66. In July 1958 John Segeren, model maker in the eastern laboratory, replaced Babyak upon the latter's return to Washington. That October Jenkins hired a promising young art student, Dick T. Morishigi, who advanced steadily and became the shop supervisor in 1963. Two other preparators entered on duty in late 1958. Clair Younkin, who had proved his worth during summers at the eastern laboratory, and Reginald W. Butcher, a reliable and skillful exhibits worker, enhanced production throughout the program. Jenkins added three more to the staff in 1961: David Ichelson, who began as shop supervisor, Francisco G. Garcia, an exhibits worker, and Herbert Carey, a 65-year-old illustrator. In October

1962 Joseph H. Rockwell transferred from a maintenance job at Death Valley National Monument to become an able and productive illustrator.⁵⁸

As the number and variety of exhibits under construction increased, so did demands on the staff curator. The lead position changed hands three times during Mission 66 and a fourth time soon after as each incumbent accepted offers for professional advancement. Robert Hakala carried the load ably until January 1962, when he transferred to the regional office as a park planner. Richard M. Howard, archeologist at Canyon de Chelly National Monument, then performed the arduous duties for two years before moving back to a field archeology position at Mesa Verde National Park. In February 1964 Edward D. Jahns, also an archeologist, left Ocmulgee National Monument to replace him. Jahns stayed until May 1967, when the Western Region asked him to reactivate the regional curatorship vacated by Leland Abel in 1959. Vernon C. Tancil from the Independence National Historical Park curatorial staff filled the critical position thereafter until the laboratory closed.⁵⁹

These men could not supply the need unaided. Jean Rodeck switched from the preparation staff to become an assistant curator under Hakala during 1960, and John B. Johnson held the job for most of the following year. In 1962 Jenkins tried to fill the gap by hiring an experienced curator, Sally Johnson Ketcham, on a when-actually-employed status, but she found that growing family responsibilities made the arrangement impractical. Thereafter he hired a succession of bright, energetic novices, including several scions of Park Service employees, as temporary curatorial assistants.⁶⁰

The laboratory also benefited from the exceptional expertise of a part-time consultant, Carl Russell. One of the western laboratory's first projects involved planning and preparing exhibits for a new visitor center at Moose in Grand Teton National Park. Regional Historian Merrill J. Mattes's museum prospectus called for about 25 exhibits largely concentrated on the Rocky Mountain fur trade. It thus proposed to fulfill a dream of Russell nearly thirty years earlier when he worked as the Service's first museum expert. Russell's advice on these exhibits helped give them depth and detail unusual in park museums.

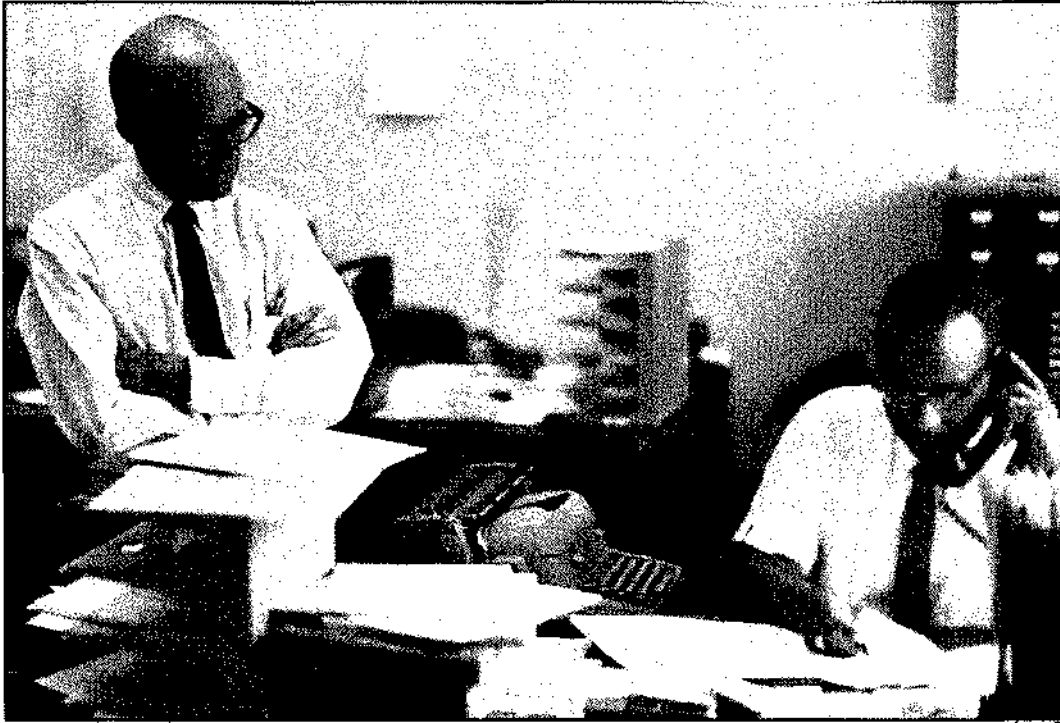
Although the Moose fur trade museum proved exemplary from the standpoints of historical and curatorial scholarship, exhibit design, and execution, it severely stretched the Park Service concept of a museum's proper function in a park. Fur traders had crisscrossed the land within park boundaries, but specific sites of significant events or activities lay elsewhere. The exhibits could not direct visitors into the park to relate its prime features to what they had learned in the museum. This divergence from the site museum concept perhaps made it easier 14 years later to eclipse Grand Teton's natural history site museum at Colter Bay with a

gallery of American Indian art, popular but also largely extraneous to an understanding of the park.

Management of the laboratory was especially difficult for a newcomer to the Park Service. The growing load of exhibit planning and preparation, combined with unfamiliar federal procurement and personnel policies, engendered innumerable problems. Production had just gotten into full swing in the summer of 1958 when John Jenkins was called back to Wisconsin for three weeks by a death in his family. This incident reinforced Jenkins' request for a second in command familiar with the procedures, policies, and standards the Museum Branch had found most satisfactory. As a result Floyd LaFayette moved from the eastern laboratory to become assistant chief of the western laboratory in January 1959. Although Jenkins and LaFayette would meet unforeseen difficulties, the move proved a happy choice for both men and a substantial benefit to the Service.⁶¹

The first difficulty involved special assignments. When funding in 1960 enabled the long-delayed development of the Jefferson National Expansion Memorial to resume, Superintendent George B. Hartzog, Jr., demanded that the Museum Branch send him its best exhibit planner. Subsequent actions suggest that he would have preferred to leave exhibit designing to Eero Saarinen, the eminent architect who had won the competition for the memorial, but Director Wirth insisted that details of interpretation remain in Park Service hands.⁶² The Museum Branch accordingly asked Jenkins to undertake a six-month detail in St. Louis. Taking the content material being developed by a research team working at top speed under park historian William C. Everhart, Jenkins completed a museum layout plan incorporating more than two hundred exhibits under twelve thematic units. A new team employed at the park undertook detailed planning for the individual exhibits, but the project continued to make serious inroads on Jenkins' time.⁶³

The branch also drafted LaFayette to work on urgent problems outside the western laboratory's full program. In mid-1962 the American Museum of Immigration slated for the base of the Statue of Liberty critically needed help in exhibit planning. By no means a typical park museum in concept or development, it fell outside the team schedules, and the branch had concurred in letting the park historian and a contract curator undertake the job. Although both had done excellent work on park museum projects before World War II, the plan they produced revealed that they had not kept up with changes in the field: it analyzed and organized the immigration story skillfully but attempted to tell it with 1930s exhibitry. With time running out as structural work on the museum was about to begin, the branch asked LaFayette to prepare a new plan. He did so successfully in collaboration with the park historian, Thomas Pitkin, and Alan Kent. It



Floyd A. Lafayette (left) with procurement assistant Andrew Summers.

took him most of the summer of 1962 with additional work on it interrupting his regular duties until its completion the following year.⁶⁴

The second difficulty that plagued the western laboratory involved staff health. After a series of unsuccessful operations during 1964, Jenkins died that September at the age of 53. His death deprived the Service of a true museum expert. LaFayette carried on as acting chief of the laboratory until appointed chief in June 1966. Then his health failed in turn. By that time the Service had largely accomplished its Mission 66 objectives and turned toward new emphases.

The western laboratory constituted only one of the Museum Branch programs launched or expanded under Assistant Director Ronald Lee's leadership. To help cope with its many tasks the branch welcomed Harry C. Parker in October 1956. An impaired heart had forced Parker to give up his career as an energetic and popular naturalist in a succession of western mountain parks. He brought to his new job of museum specialist a valuable professional background and a determination to do his full share. His appointment made it feasible to reactivate the annual Museum Methods Course, which he helped prepare for and instruct. Parker's cheerful and expert service continued until his death in August 1961 at the age of 55. Alan Kent, although not completely freed of his planning team duties for another year, filled the gap he left.

When LaFayette had transferred to San Francisco two years earlier, James Mulcahy agreed to return to the branch from his curatorial post at Independence National Historical Park. Reporting in April 1959, he became Assistant Chief Frank Buffmire's principal collaborator in managing the eastern laboratory. Mulcahy shouldered a double load when the branch suffered another grievous loss in November 1963. Buffmire, whose talents had undergirded the quality and efficiency that characterized park museum development for more than a decade, left work early on a Friday to visit his doctor. He had survived a serious heart attack and felt disturbing symptoms. He died two days later at the age of 56.

Changes in Service organization concurrent with these events affected the branch in other ways. At the end of 1959 Ronald Lee left the Washington Office to become regional director in Philadelphia. His decision to move reflected departmental management policies that called for bigger organizational units and fewer assistant directorships. In Philadelphia he continued to work supportively with the Museum Branch, some of whose largest and most complex projects lay within his region. Daniel Beard succeeded Lee as chief of the Division of Interpretation, serving from January 1960 until the Washington reorganization took full effect the next year. The Museum Branch found Beard knowledgeable and helpful toward its concerns.

In the fall of 1961 Jackson E. Price became assistant director for Conservation, Interpretation and Use. His responsibilities included operations, maintenance, ranger services, safety, and concessions management along with most of what had been the Division of Interpretation. The former Branch of History became the Division of History and Archeology, the Branch of Natural History became the Natural History Division, and the Museum Branch joined two new branches, Research and Interpretation, in a Division of Research and Interpretation. Because this division remained nominal only, without a chief, the Museum Branch continued to report to Assistant Director Price, who gave its needs close attention and consistent support. His expert grasp of legal problems proved especially helpful when the branch's contract practices came under attack.

The branch customarily contracted for a variety of goods and services, including exhibit cases, collection storage equipment, and to a lesser extent exhibit production. The latter included certain photographic, silk-screen, metal casting, and other processes requiring equipment it would not pay the laboratories to install. The laboratories also secured by contract particular expertise, in taxidermy and flower modeling for example, which they needed only occasionally. In addition, when staff preparators could not keep pace with building construction, the branch contracted with display firms to produce and even install some exhibits.

In 1950 a display company in Washington contracted to prepare exhibits for the Ocmulgee museum rotunda while the laboratory concentrated on the more complex ones for the main room. The experimental collaboration went quite smoothly, although the contractor displayed an unfamiliarity with the proper handling of museum specimens. The next contract venture involved a larger Chicago firm that built exhibits for the Blue Ridge Parkway's Craggy Gardens visitor center in 1957. Two of the panels proved unacceptable. Getting them corrected convinced the branch that exhibit contractors needed to be near enough to allow regular inspection of their work.⁶⁵

The branch did all its contracting through the Service's procurement officer, Roger Rittase. An artist himself, Rittase appreciated the difficulty of writing bid specifications for exhibit production. Display firms did most of their business for clients who wanted to sell something, while museum exhibits had a quite different psychological purpose and operated in a less strident environment. The different aesthetic quality and effect desired proved baffling to describe in unmistakable terms. Consequently the branch developed a bidding procedure that used the normal exhibit plan as the basic specification. Potential bidders studied the plan and in conference with the laboratory discussed in detail matters of style and practice required by museum standards. This was the situation when Mission 66 considerably augmented the exhibit production let to contractors.

When Rittase retired in November 1960, his replacement from the field, Houston Turner, took strong exception to the branch's procedure in exhibit contracting. His objection verged on a charge of unethical practice. While rejecting the implication, Assistant Director Price proposed that the new chief of property management select a procurement specialist whom the branch would hire to oversee contract purchasing at first hand. A procurement and property management officer for the branch accordingly entered on duty in August 1963. He did not solve the problem of writing tight specifications but introduced more formal bid conference procedures to ensure that each bidder perceived he had equal consideration.⁶⁶

A mid-course analysis indicated that during the first four years of Mission 66 the laboratories provided well over a thousand exhibits. These included ones for 37 visitor centers, close to the projected rate of ten new centers a year. The centers averaged only 23 exhibits apiece (counting information displays for the lobby as well as interpretive units for the museum), allaying fears of runaway development in park museums. Unit costs of preparing exhibits increased, but only moderately. The average per exhibit stayed between \$1,300 and \$1,400 through 1960. After 1961, with labor and material costs continually rising, the figure climbed above \$1,800. Throughout Mission 66 both eastern and western laboratories strained for maximum output to keep pace with building construction schedules. Some new centers did have to wait for their exhibits, and in a

few cases the laboratories had to store finished exhibits until a building was ready. Neither laboratory lowered its quality standards to speed the work. Both found satisfaction in the results.⁶⁷

The two laboratories, 2,800 miles apart, had very little opportunity to see each others' work. Each had its own talented designers and preparators. They worked on projects for different parks, each of which presented unique aspects for interpretation. Every visitor center was tailored to fit a specific situation. Most Mission 66 exhibits nevertheless shared a stylistic mode that Park Service people in particular noticed.

Almost all park museums used a narrative approach, with exhibits sequentially arranged to present a series of related ideas illustrated by carefully chosen objects and graphic supplements.⁶⁸ Both laboratories tried to place every object and label within the best viewing range, a quite limited vertical span. Both used dust-tight cases with external lighting to protect vulnerable specimens on exhibition. Current taste called for recessing most of these cases into furred walls, which gave a neatly finished appearance of permanence without hindering future flexibility. Exhibits not requiring encasement usually took the form of open panels attached to the walls. The need to ship exhibits from the laboratories to the parks favored units of moderate size. So did local maintenance considerations. The latter also dictated general uniformity in exhibit lighting provisions. Under budgetary constraints exhibit rooms allowed floor space for the number of exhibits proposed and the visitor load anticipated but not for designers' flights of fancy in exhibit layout. Considerations of durability and maintenance led both laboratories to use similar structural materials. They shared information on their experience with various plywoods, hardboards, plastics, and paints as well as with silk screening and photo mounting. Their principal point of disagreement involved circulation theory.

Sequential exhibits depend for maximum effectiveness on people viewing them in a particular order. The relatively few museums outside the parks that stressed sequence generally either structured or obtrusively marked a one-way path for viewers to take. Disliking regimentation and obvious route marking, both laboratories aimed to make the sequence as easy as possible to follow without restricting freedom of movement. From published studies of visitor behavior, confirmed by personal observation, they knew that most people tend to turn right when entering an exhibit room and proceed in a counterclockwise direction, pausing at exhibits that catch their interest, glancing at others without stopping, and usually leaving the room by the first exit encountered. Of course, exhibits especially attractive because of size, motion, sound, or some other factor might divert individuals from the normal route.

Park museum planners worked with such behavior patterns in mind. They usually asked the architects for a single undivided room with a wide doorway through which visitors would enter and exit. The eastern laboratory consistently aimed to have people move around the room in a generally counterclockwise direction.⁶⁹ John Jenkins, on the other hand, felt more comfortable using a clockwise path when the architecture made that a simpler solution. Both laboratories succeeded in getting most people to follow the intended sequence up to a point. Circulation difficulties arose when the next exhibit in the story line was not the next one along the right-hand wall. Space limitations ordinarily required exhibits to occupy the center of the room as well as the perimeter, which necessitated "bouncing" viewers back and forth across the aisle between peripheral and central units. This practice, accomplished to some extent by various extensions of the furred walls coupled with visual attractants, tended to make the sequence too complicated. Associate Director Eivind T. Scoyen recommended numbering the exhibits, but the Museum Branch feared the numbers would distract attention from the interpretive content.

The recurrent problem of circulation underlined a longstanding need the branch felt for critical evaluation of the effectiveness of park museum exhibits. The specialists who designed and built the exhibits had little or no opportunity to observe how they worked. A small installation crew got a brief look at the finished job, usually through tired eyes, just before the formal opening. Almost never did planners, preparators, or their supervisors have an adequate chance to see the museum in normal operation, to watch visitors react to the exhibits, to learn which features seemed to work and which did not.⁷⁰

The branch also craved objective evaluation from outside its staff to gauge how well the exhibits it produced served their purposes. Behavioral scientists had developed two methods of conducting such research. One, involving close observation of a sufficient sampling of visitors, assumed that various measurable aspects of behavior reflected what went on in the minds of those observed. The other method used systematic questioning to assess quantitatively what a random selection of visitors took from the exhibits. The branch had some hope that park interpreters might engage in these studies and included a unit on exhibit evaluation in the annual Museum Methods Course. After they returned to their parks, however, few trainees attempted systematic studies of visitor response to exhibits.⁷¹ The branch saw one chance for a really professional study slip away but later established contact with an Office of Education project fostering exhibit evaluation research.⁷²

While scientific testing continued to elude its efforts, the branch did receive a flow of subjective comment that had cumulative impact. It solicited some of this from Carl E. Guthe, a highly respected practical

museologist. Previously director of the New York State Museum, Guthe served the American Association of Museums as research associate from 1953 to 1959. In this capacity he crisscrossed the country with a house trailer studying particularly the problems of small museums. Ralph Lewis secured his appointment as a collaborator without compensation and invited him to visit and critique as many national park museums as he could in his travels.⁷³ Guthe's reactions to the park museums he saw were consistently favorable, no doubt partly because the new visitor centers with their professionally designed and executed exhibits contrasted sharply with the majority of struggling small museums his studies involved.

Another source of outside evaluation tended to counterbalance this impression. Following completion in 1957 of the extensive developments at Colonial National Historical Park, the Service engaged a communications expert from academic circles to review the new installations. His pungently worded and aptly illustrated report identified numerous flaws ranging from the design of information desks to the architecture of auditoriums. In the museums he pointed out specific circulation difficulties, exhibit design concepts that failed, and specimen installations that did not fulfill their potential.⁷⁴ His outspoken criticisms served to sharpen the eyes of Service personnel.

Most of the criticism directed at the exhibits in park museums came from within the Service. Carl Russell represented the viewpoint of material culture specialists and of collectors generally. He called on park museums to make greater use of historic objects in their exhibits and to label them more fully. Two Service colleagues echoed these recommendations when he made them in a paper before the Western Museums Conference in 1956. The plea for more specimens surfaced again in a discussion at the 1957 superintendents' conference. It was still being voiced strongly to the Western Historical Association at its 1963 meeting.⁷⁵

The Museum Branch had in fact placed considerable emphasis on specimens as evidence, illustration, and stimulus in its innovative development of narrative exhibits. It felt that injecting additional objects merely for their inherent interest would be a backward step. As for fuller labeling, Herbert Maier criticized park exhibits as having too much text.⁷⁶ Between these contradictory views the branch strove to keep individual labels brief. It set 25 words as the desirable limit, which planners could not always achieve but at least approached. It trimmed drastically the label copy proposed by most park interpreters. Narrative exhibits as conceived by the branch did require fairly prominent title and key labels. These perhaps made the verbal content more obvious although not more lengthy.

Participants at the Chief Park Rangers' and Interpreters' Conference in March 1959 commented on the similarity in general appearance of park museum exhibits. This became the most consistently perceived fault of

Mission 66 installations. As one planner phrased it, "The usual complaint, that the museums are all alike, we hear constantly."⁷⁷ At the Visitor Services Conference in 1959, Maier and others raised the problem of visitors' difficulty in following the intended sequence of exhibits. Architect John B. Cabot mentioned this again in his 1960 paper before the Midwest Museums Conference. At the same time he decried Museum Branch preference for excluding or controlling daylight in exhibit rooms, for a single entrance/exit, and for counterclockwise circulation. He envisioned a grand collaboration of great designers from various fields to show museums the way out of such problems.⁷⁸

In the midst of these strictures Ronald Lee appointed a committee on interpretive standards. He selected four experienced interpreters from his staff: Roy E. Appleman, historian, as chairman; Gunnar O. Fagerlund, naturalist; Carroll A. Burroughs, archeologist; and Donald J. Erskine, audiovisual specialist. Their highly critical report found a lamentable absence of standards recognized in the parks. In discussing park museums the committee stressed the similarity in form among exhibits, crowding too much content into individual exhibit units with consequent excessive labeling, circulation difficulties, and a lack of openness in exhibit rooms. Members perceived natural history as having received less adequate treatment than history in park museums.⁷⁹ Events within the Service delayed any direct action on the committee's findings, but the report provided fuel for change.

Director Wirth retired in early January 1964. His successor, George Hartzog, lost no time in taking action to establish the priorities of the new directorship. These included three principal changes in park interpretation. The ability to communicate effectively with visitors would replace expert knowledge of subject matter as the prime requisite for park interpreters. The Service would greatly increase its investment in audiovisual media to supplement personal interpretive contacts. Museum work would undergo reorientation, especially in respect to exhibit policy. To effect the interpretive realignment Hartzog chose William C. Everhart, who had been chief park historian at the Jefferson National Expansion Memorial while he was superintendent there. Moving up from the Long Range Requirements Task Force, Everhart became chief of the new Division of Interpretation and Visitor Services.

The energy that characterized Everhart's leadership became evident at once. Within a month of his promotion he secured the appointment of Carl G. Degen, a talented filmmaker, to head a new Branch of Motion Pictures and Audiovisual Services. Everhart also promptly organized an interpreters' conference that met six weeks later at Harpers Ferry. As a clear sign of his intentions the conference featured extensive discussions with Charles Eames, one of the leading designers in the display field.⁸⁰

The first steps to alter museum organization and practice preceded these actions. Before the end of February 1964 a Museum Study Team began a management survey of the Museum Branch. Director Hartzog appointed William S. Bahlman, chief of the Management Analysis Division, to chair the group and architect John Cabot, Assistant Regional Director I. J. (Nash) Castro of the National Capital Region, and Harold Peterson as members. The team submitted its report at the end of March, and Hartzog quickly approved it. The team had proceeded on two assumptions: first, the Park Service museum program should attain the highest standards of the museum profession; second, "in the excellence of exhibit design, in creative solutions to museum presentation, our museums should achieve first rank in the field of communicative arts."⁸¹

The study confirmed the exemplary quality of workmanship in Service exhibits. It generally supported existing policy of contracting for exhibit construction when needed to maintain a stable level of employment in the laboratories. On the other hand, the team found management of the branch deficient in several respects. Scheduling needed to be tighter, supervision closer, internal communication improved, and employees more highly motivated. While justifiable, these criticisms perhaps also reflected the widespread interest at the time in aggressive management tactics. The comment on motivation probably related to the fact that preparators in particular lacked a satisfactory career ladder. Several fine craftsmen and artists could expect no further promotion unless the laboratories created an intermediate supervisory hierarchy for them.

The survey concluded that the Museum Branch, much larger than most in the Washington Office, had become "too big and unwieldy for efficient management." The report therefore recommended splitting the existing organization into two branches.

A new Branch of Museum Development would plan, design, prepare, and install museum and wayside exhibits. In the process it would collaborate more closely with interpretive planners, architects, and landscape architects. When appropriate, it would contract for exhibit design as well as production. The staff would comprise a small headquarters group and the two exhibit laboratories, eastern and western. The report proposed a number of guidelines on managing production and on exhibit design and preparation. One of these—"The narrative story should, generally, be presented through publications and audiovisual means"—marked a turning point in the role of park museums. For nearly thirty years visitors could find in the museum a reliable, succinct, and integrated explanation of the features or events the park had been established to preserve or commemorate. Exhibits would continue to have their self-service advantages that visitors could adapt to their individual interests, but their new place in the interpretive program was not yet clear.

The second unit, a Branch of Museum Operations, would provide leadership and guidance to the parks in the day-to-day maintenance and operation of their museums. The study team proposed that this branch insure unity in standards and procedures to keep Service practice "abreast of the best in the museum field." It would guide all curatorial work within the national park system, offer expert services in acquiring, identifying, authenticating, recording, conserving, and caring for museum objects, and arrange for curatorial training for park employees. The Branch of Museum Development would repair, rehabilitate, and replace existing exhibits in the parks, but Museum Operations would determine when a park needed such work.

The director scheduled the reorganization to take effect July 6, 1964. The two branches were not physically separated; the people involved remained at their accustomed work stations in Tempo S and the old San Francisco Mint. Everhart designated Harold Peterson to serve temporarily as acting chief of the Branch of Museum Development. Peterson retained meanwhile his position as chief curator, which lay in the Branch of Museum Operations. Delay in appointing a permanent Museum Development chief reflected the desire to find someone particularly qualified to make design a strong element in Park Service exhibition. Everhart did hire at once a new chief for the Eastern Museum Laboratory: Russell Hendrickson, whose outstanding work as head of the Agriculture Department's exhibit shop confirmed the impression made during his earlier tenure in the laboratory. Museum Development retained for office staff Bertrand L. Richter as financial management assistant with Forrest McCain as fiscal clerk and Rolla D. Everett as procurement and property management officer with Andrew Summers as procurement assistant. Both eastern and western laboratories became part of the branch, losing only their conservators to Museum Operations. The latter branch had Ralph Lewis as chief, Peterson as chief curator with primary responsibility for curatorial and conservation functions, two staff curators—Vera Craig to concentrate on museum records and furnishing plans and Fred Winkler to search for and acquire specimens, four conservators, and Thelma Wolfrey as branch secretary.⁸²

New directions in exhibition constituted the most apparent result of the new order. At the same time, the reorganization freed the Museum Operations staff to concentrate on the critical curatorial needs of park museums.

NOTES

1. Burns, Report of Field Trip, Apr. 22-May 14, 1946, Monthly Reports, Museum Division box, NPS History Collection.

2. In 1953 Russell obtained a leave of absence from the superintendency of Yosemite to accept a John Simon Guggenheim Memorial Foundation fellowship. This allowed him to prepare for publication the fur trade research to which he had devoted his spare time during more than twenty years. The University of California published his *Guns of the Early Frontiers* in 1957 and Alfred A. Knopf published his *Firearms, Traps, and Tools of the Mountain Men* in 1967.
3. Monthly Report, Eastern Museum Laboratory, December 1946, Monthly Reports, Museum Division box, NPS History Collection.
4. One piece of equipment obtained from military surplus proved too heavy to lift even with the entire staff on the end of the rope. It had to be niched into the basement for dead storage until the laboratory moved.
5. Fiscal Year 1948 Program Schedule, July 1947, Monthly Reports, Museum Division box, NPS History Collection; Monthly Reports, Eastern Museum Laboratory, Nov. 15-Dec. 26, 1947, and Dec. 28, 1947-Jan. 27, 1948, *ibid.* Region One assigned Hudson to develop temporary exhibits in park museums not included in current programs, so that he worked somewhat independently of the Museum Branch. Robinson did valuable preliminary planning for projected museums at Custer Battlefield and Homestead national monuments.
6. The map took the form of a bird's-eye view of northern Virginia on which blue and red lights showed places and routes of strategic consequence in bringing the armies into confrontation at Manassas. Labeled switches enabled visitors or a park interpreter to operate the lights in sequence.
7. U.S. Department of the Interior, *Annual Report of the Secretary of the Interior, Fiscal Year Ended June 30, 1949* (Washington: Government Printing Office, 1949), p. 309. Hereinafter cited as *Interior Annual Report for (year)*.
8. Eastern Museum Laboratory monthly reports, Monthly Reports, Museum Division box, NPS History Collection.
9. Eastern Museum Laboratory monthly report, Dec. 28, 1947-Jan. 27, 1948, Monthly Reports, Museum Division box, NPS History Collection; Museum Branch monthly report, February 1948, *ibid.*
10. Museum Branch monthly reports, July-September 1948, *ibid.*
11. Museum Branch monthly report, September 1948, *ibid.*
12. Museum Methods Course folders, Branch of Museums General Files, NPS History Collection.
13. *Ibid.*; Ralph H. Lewis, "Museum Training in the National Park Service," *Curator* 6, no. 1 (1963): 7-13.
14. Mather Center chief Russell Grater also had a personal interest in the curatorial duties of park naturalists and equipped the center with specimen collecting and mounting supplies, standard collection storage cabinets, and sample natural history study specimens properly prepared, labeled, and stored. His successors soon dispersed these training aids.

15. Harry B. Robinson, "The William H. Jackson Memorial Wing at Scotts Bluff National Monument," *Nebraska History* 31, no. 2 (June 1950): 126-46.
16. *Interior Annual Report for 1950*, pp. 314, 317-18.
17. Museum Branch monthly reports, October 1950-January 1951, Monthly Reports, Museum Division box, NPS History Collection. Urban remained with the laboratory for several years before joining Rudolf Bauss in National Capital Parks. Danish-born Carl Christiansen, small in stature, frugal in habits, cheerful, excitable, and well-liked, stayed on the staff until June 1954 when wanderlust impelled him to leave. Known as Little Chris in comparison to Gardell Christiansen, he saved his money—sometimes eating canned pet food for lunch—and used his leave for lone bus trips to places as distant as he could afford. Big Chris (Gardell) stayed with the laboratory about three years, leaving to build a series of dioramas for the Montana Historical Society. Lillis came from a position in the display advertising department of Woodward and Lothrop, a Washington department store, and stayed for more than a decade before taking a park museum development assignment in Australia under former Blue Ridge Parkway superintendent Sam Weems. Liggan served well for the remainder of his career, becoming the laboratory's silk screening expert. LaFayette concentrated his versatile skills on museum planning and production. Willett, who combined an outgoing personality with a penchant for fast driving, transferred to the field when the pressure for curatorial support abated, becoming a park superintendent. Pearson did excellent work but could not be hurried. He modeled a figure for a diorama of John Wesley Powell's Colorado River expedition first in robust health, then progressively "starved" it by shaving down the clay little by little over what seemed like weeks until it properly expressed the toll of accumulated hardships.
18. Museum Branch monthly reports, October and December 1950, Monthly Reports, Museum Division box, NPS History Collection.
19. Museum Branch monthly reports, October 1950-January 1951, *ibid.*; *Interior Annual Report for 1952*, p. 366. The exhibit contractor was Creative Arts Studio, one of the few display firms then operating in the Washington area.
20. Don Rickey, Jr., "Myth to Monument: The Establishment of Custer Battlefield National Monument," *Journal of the West* 7, no. 2 (April 1968): 203-16.
21. Burns regarded the building, at least at first, as too plain, likening it to a "pickle factory." The only significant disagreement between Superintendent Luce and the Museum Branch concerned his ardent wish to display the stuffed remains of Comanche, the only cavalry mount to escape death or capture in the fight. The branch prevailed, suggesting that at some later date an addition to the building might provide a suitable stable. Robinson's *Guide to the Custer Battlefield Museum* was reprinted from the July 1952 *Montana Magazine of History*.
22. James Wright Brown, "The Zenger Memorial Is Now a National Shrine," *The Quill* 41, no. 6 (June 1953): 8-9. The Federal Hall Memorial Associates formed a third party in the contract because they collaborated in operating the building. The Zenger Memorial Fund, established about 1942 with another site in mind, had raised \$45,000-50,000 for the purpose.
23. This object, an inscribed gold box recognizing Andrew Hamilton's eloquent defense of Zenger, belongs to the Pennsylvania Historical Society, which facilitated the Service's request to include a photograph of the box in the exhibit.

24. Thomas W. Leavitt, "The Need for Critical Standards in History Museum Exhibits: A Case in Point," *Curator* 10, no. 2 (June 1967): 91-94. Leavitt judged the exhibits failures for trying to present intangible subjects lacking associated historic objects.
25. *Interior Annual Report for 1951*, pp. 314-15.
26. Museum Branch monthly report, December 1950, Monthly Reports, Museum Division box, NPS History Collection.
27. Wayside exhibits continually engaged the creative talents of the Museum Branch and its successor Branch of Museum Development until 1970, when a new Branch of Wayside Exhibits took over the responsibility.
28. *Interior Annual Report for 1952*, pp. 366-67.
29. Museum Branch monthly report, May 1954, Monthly Reports, Museum Division box, NPS History Collection.
30. Museum Branch monthly reports, February 1954-January 1955, *ibid.*
31. Museum Branch monthly report, June 1954, *ibid.*
32. *Interior Annual Report for 1955*, p. 340; Proceedings of Visitor Services Conference, Big Meadows Lodge, Shenandoah National Park, Oct. 5-9, 1953, pp. 3-4, 15, in Conferences 1950-55 box, NPS History Collection.
33. Museum Branch monthly reports, February 1954-July 1956, Monthly Reports, Museum Division box, NPS History Collection.
34. *Interior Annual Report for 1955*, pp. 340, 353-54.
35. Museum Branch monthly reports, August 1954-June 1955, Monthly Reports, Museum Division box, NPS History Collection.
36. Museum Branch monthly report, July 1954, *ibid.*
37. Museum Branch monthly reports, September and October 1955, *ibid.*
38. The Grand Canyon museum later had to yield much of the space designed for it to expanding administrative demands. The changes largely vitiated the exhibit sequence as originally planned.
39. Abbott's proposals included installing large paintings in the open along auto tour routes and at waysides bordering the Colonial Parkway. The park's procurement of these paintings irked the Museum Branch, partly because the quality of workmanship seemed below what the laboratory could have provided but even more because the park assumed all the hidden overhead costs and chided the laboratory on its apparently more expensive products.
40. Proceedings of Visitor Services Conference, p. 5.

41. After retiring in 1959 Dreyer was replaced by his son, Kenneth, who moved from working with massive steel forgings at the Naval Gun Factory to shaping delicate miniatures and fittings with apparent ease. Hadley had high potential as a model maker but chafed at the application of some quality standards; he later became a leading preparator for the Hagley Museum. Smith, who remained until the laboratory moved in the 1960s, could mold copies of a single handmade miniature musket in as many sizes as perspective within a diorama required. Hendrickson, who had completed Marine Corps service with a stint of portrait painting, transferred to the Agriculture Department to obtain a higher salary to meet family illness expenses. He developed exhibits for the Forest Service and displays for an overseas exhibition program until the Park Service recalled him in the mid-1960s.

42. Besides his steady, dependable work on park museum exhibits, Spagnolo designed and installed exhibits for the Washington headquarters of B'nai B'rith. Updegraff's valued services were lost when she transferred to the Exhibits Office of the Library of Congress in consequence of the laboratory's relocation. Biskin, who later married Harry Wandrus of the laboratory staff, ultimately became chief of the Branch of Graphics Research in the Division of Reference Services.

43. Conrad L. Wirth, *Parks, Politics, and the People* (Norman: University of Oklahoma Press, 1980), pp. 237-84. See especially pages 268-70.

44. Chief Historian Herbert Kahler was the first person the writer heard use and advocate the term "visitor center." Its aptness to the functions intended influenced its adoption more than any lingering prejudice against museums in the parks.

45. *NPS Museum Handbook* (Release No. 1, July 1967), Part I, Introduction.

46. *Interior Annual Report for 1956*, pp. 9, 314.

47. Museum Branch monthly reports, March-June and October 1956, Monthly Reports, Museum Division box, NPS History Collection. Barrel, a Harvard graduate, contributed some of the best label writing to be found in any parks. Sutton had creative skill in selecting and arranging subject matter for exhibition and a sharp ear for words, evident in the several books he and his wife Ann later wrote. Manucy had developed exceptionally good homemade interpretive exhibits and signs for the Castillo de San Marcos and Fort Matanzas. While on the team he brought expert knowledge and great tact to critical projects for Fort Caroline National Memorial and Fort Frederica National Monument. Bierly was a three-time winner of the national duck stamp competition.

48. Museum Branch monthly reports, January 1957, August and September 1958, March 1963, *ibid.*

49. Museum Branch monthly reports, August and October 1959, March 1963, *ibid.* Frank Buffmire recommended Sagan after observing his willing help to the crew installing the Grand Canyon exhibits in 1957. Sagan was deeply interested in interpretation but did not find museums a particularly congenial medium. Estes came to the notice of the branch while it was working on the Museum of North Carolina Minerals and he was serving as a Blue Ridge Parkway naturalist. He performed ably on the team through the rest of Mission 66 and later became a park superintendent.

50. Museum Branch monthly reports, August and October 1956, May 1957, August 1959, *ibid.*

51. Museum Branch monthly reports, January-June 1957, *ibid.*
52. Visitor Center Planning: Notes on Discussions Held in EODC Nov. 18-22, 1957, and WODC Feb. 4-6, 1958, Interpreters' Conferences 1929-58 box, NPS History Collection.
53. Museum Branch monthly reports, April, June-August, October, November 1956, May and September 1957, March, June-October 1958, March 1959, August-November 1960, Monthly Reports, Museum Division box, NPS History Collection.
54. Museum Branch monthly reports, July 1956, August and December 1957, *ibid.*
55. Letter, Ralph H. Lewis to Jenkins, Mar. 14, 1956, WML Personnel box, NPS History Collection; memorandum, Frank Buffmire to Regional Director, Region Four, Aug. 21, 1956, *ibid.*
56. Memorandums, Chief, Western Museum Laboratory, to Chief, Museum Branch, Dec. 11, 1957, and Mar. 10, 1958, Monthly Reports, Museum Division box, NPS History Collection.
57. Memorandum, Personnel Officer to Chief, Branch of Museums, Sept. 25, 1957, WML Personnel box, NPS History Collection; memorandum, Acting Personnel Officer to Chief, Branch of Museums, Oct. 8, 1957, *ibid.*; memorandum, Chief, Central Accounts, to Regional Director, Region Four, Nov. 28, 1957, *ibid.*; memorandum, Chief, Western Museum Laboratory, to Director, Dec. 30, 1957, *ibid.*
58. Memorandums, Jenkins to Chief, Museum Branch, May 27 and Dec. 16, 1958, Monthly Reports, Museum Division box, NPS History Collection. The final addition to the preparation staff came in 1965 when Carey retired and Douglas Aitken replaced him for ten months before resigning.
59. Western Museum Laboratory monthly reports, January and February 1962, February 1964, Western Museum Lab Reports box, NPS History Collection.
60. Western Museum Laboratory monthly reports, January and November 1960, February and December 1961, September and November 1962, February, May, July, September 1963, February, May, June, July, September 1964, August and September 1965, *ibid.* The temporary curators included Richard T. Gale, Vernon Fagerlund, Barbara Grater, Hugh K. Hill, Robert Schuler, Lee Clifford Soubier, Frederick Wilding-White, Geoffrey Brown, and Lina Cassaro.
61. Memorandums, Chief, Western Museum Laboratory, to Chief, Branch of Museums, July 11 and Dec. 16, 1958, Monthly Reports, Museum Division box, NPS History collection.
62. Wirth had responded the same way when architect Richard Neutra wanted to design the exhibits along with his visitor center building at Gettysburg. In planning the visitor center at St. Louis, Saarinen and members of his staff inspected several new park centers in company with historian Roy Appleman and the writer. Saarinen's comments were negative: "These show us what we don't want to do."
63. JohnW. Jenkins, "Gateway to the West," *The American West* 1, no. 1 (Winter 1964): 53-58.

64. Western Museum Laboratory monthly reports, June-August, October 1962, June and July 1963, July 1964, January 1965, Western Museum Lab Reports box, NPS History Collection.
65. Museum Branch monthly reports, December 1950, April and June 1957, Monthly Reports, Museum Division box, NPS History Collection.
66. Staff Meeting Minutes, Nov. 17, 1960, and Jan. 12, 1961, 1959-1963 Director's Staff Meeting Minutes box, NPS History Collection. The Museum Branch blamed this employee for the one fiasco it experienced in contracting for specimen storage equipment. In a year when funds permitted an unusually large order, he invited bids from companies unfamiliar with museum standards. The resulting cabinets failed to meet specifications in some important respects.
67. Reexamination of the Museum Phases of Mission 66, June 22, 1960, Museum History 1960-70 box, NPS History Collection. Installations exemplifying work of the eastern laboratory included Carlsbad Caverns (1958), Hopewell Village (1959), Wright Brothers (1960), Sugarlands at Great Smoky Mountains (1960), and Gettysburg (1963). Dinosaur (1959), Moose at Grand Teton (1960), Death Valley (1960), Fort Vancouver (1962), and Whitman Mission (1964) were examples of western laboratory production.
68. The Rock Creek Park Nature Center constituted a principal exception to the narrative approach. Naturalist Drew Chick requested participatory exhibits on local natural history designed to stimulate the interest of urban children.
69. The exhibit room designed by Neutra for Gettysburg, a cylindrical space beneath the cyclorama, forced the eastern laboratory to use a clockwise sequence that worked unusually well.
70. Ralph Lewis used a two-week field trip in 1960 to inspect several new visitor center installations in eastern parks and compare them with current practice in other museums. John Jenkins took three weeks of annual leave the next year to check on Western Museum Laboratory installations.
71. In 1937 historian Merrill J. Mattes of Scotts Bluff prepared a report containing perceptive observations on the reactions of visitors to the new museum exhibits there (First Annual Report of Museum Activities, Scotts Bluff National Monument box, NPS History Collection). Historian Harry W. Pfanz of Gettysburg, a member of the 1961 Museum Methods class, developed a pertinent questionnaire on the new exhibits at his park and administered it to a visiting group of university students with interesting results. Budget Bureau regulations curtailing federal agency use of questionnaires cut short his study.
72. Director Wirth's Long Range Requirements Task Force decided in 1962 to commission an independent study of visitors to the parks. Myron Sutton, responsible for designing the study, agreed to include an evaluation of museum exhibit effectiveness. Before the task force could let a contract, the Service dropped the proposal in the face of a *Washington Post* article ridiculing the concept. A little later Park Service statistician Sidney Starobin did conduct some quiet research on visitor center use in a few parks.
73. *Museum News* 31, no. 5 (Sept. 1, 1953): 3; *ibid.* 38, no. 1 (September 1959): 9; letter, Ralph Lewis to Guthe, Sept. 25, 1962, Branch of Museums Dailies storage box, NPS History Collection.

74. A portion of this consultant's report on the Yorktown visitor center is in the Colonial National Historical Park box, NPS History Collection.
75. Folder 364, Box 70, Carl Parcher Russell Papers, Washington State University Archives; 1957 Park Development Conference, p. 52, Conferences 1952-59 box, NPS History Collection; Merrill J. Mattes, "Museum Philosophy and Practice of the National Park Service," and comments by John Jenkins and James Forrest, Museum History 1960-70 box, NPS History Collection.
76. Visitor Services Conference, pp. 121-22, Conferences 1952-59 box, NPS History Collection.
77. Draft memorandum, Marc Sagan to Chief, Branch of Museums, Sept. 12, 1961, Museum History 1960-70 box, NPS History Collection.
78. Cabot, "The Visiting Public and Museums," Behavior Studies box, NPS History Collection.
79. Report, Committee on Interpretive Standards, National Park Service, May 1, 1962, Policy and Philosophy 1960-68 box, NPS History Collection.
80. Director's Staff Meeting Minutes, Mar. 5, Apr. 2 and 30, May 14, 1964, Staff Meetings (Director) 1964-69 box, NPS History Collection.
81. Memorandum, Museum Study Team to Director, Mar. 27, 1964, Branch of Museums History box, NPS History Collection.
82. Memorandum, Chief, Division of Interpretation and Visitor Services, to Members of Branch of Museums, July 2, 1964, *ibid.*