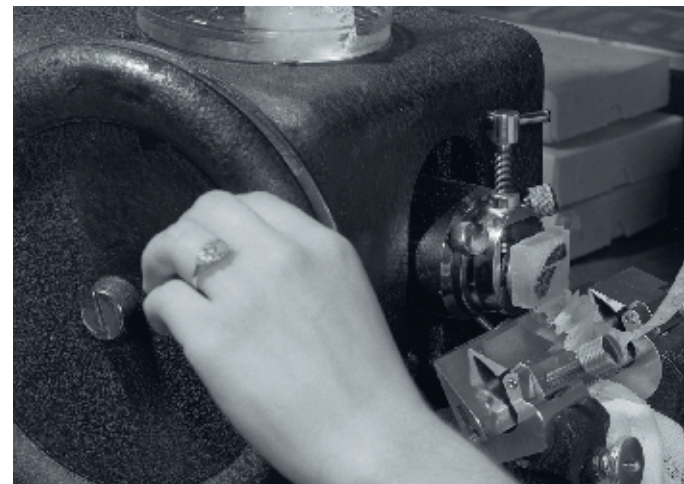


# CHAPTER 4



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## GROWTH AND MATURITY, 1946–1975

[Opposite] *Home sweet home. After decades of hope and promises followed by disappointment, in 1955 the AFIP finally had a new, and this time permanent, home. The institute is pictured here just prior to dedication ceremonies formally opening the building. (NCP 17327)*



For nearly 30 years following the end of World War II, the institute was characterized by tremendous growth and maturity: growth in terms of personnel, missions, departments, specialties, and subspecialties, and maturity in terms of how staff members interacted with each other, the military and civilian medical communities, other federal agencies, and medical professionals around the globe. But before that growth and maturity could be realized, what had officially become the Army Institute of Pathology by mid-1946 would need an even broader mandate and a new home.

Justification for the institute's expansion was enthusiastically summarized in a research study requested by the surgeon general and conducted by the National Research Council. The council's 1945 final report read:

Today, the Army Institute of Pathology is truly the central laboratory of pathology and medical illustration for the entire United States Army. The extraordinary amount and variety of material at the disposal of the institute is unmatched elsewhere in the world. This material offers unlimited opportunities for the study of structural tissue changes and correlation with clinical observations. With proper development of facilities and personnel, the Army Institute of Pathology can become a guiding force in the furtherance of pathology in this country and the world.”<sup>1(p269)</sup>









The council's report also noted the antiquated, overcrowded conditions in the "Old Red Brick" and recommended construction of a new facility to allow the institute to expand activities and modernize operations.

The need for a new home was echoed and magnified by Brigadier General Raymond O Dart in his 1947 *Annual Report of the Army Institute of Pathology*:

Research in morbid anatomy constitutes but one of the phases of pathologic investigation. If research problems in pathology are to be properly correlated with medical problems as a whole, laboratory investigation and animal experimentation are indispensable. These phases of investigation are not available to members of the staff on the present premises of the Army Institute of Pathology. This deficiency is keenly felt by members of the professional staff who are trained to think and work in broader terms, but who cannot exercise their abilities and tendencies in this direction under the present circumstances.<sup>1</sup>(pp282–283)

Between 1946 and 1950 much discussion took place among institute leaders, the Army Surgeon General's Office, and Congress about construction of a new home, including what components it should comprise, possible locations, and costs. During these years it became abundantly clear that the Old Red Brick could no longer support both the pathology function and museum activities. During World War II the amount of material examined by the Division of Pathology amounted to three-fourths as much as had been received by the museum during its entire previous existence. Additionally, more space was needed by the Army Illustration Service, which was receiving vast quantities of significant material. Consequently, the museum functions were moved out of Old Red Brick, across Independence Avenue, and into Chase Hall, a building that had served as a barracks for the women's reserve contingent of the Coast Guard during the war. On May 7, 1947, the museum opened its doors to the public at its new location, where it remained until 1960, when yet another set of relocations would begin, ending with the museum physically rejoining the institute in 1971.<sup>1</sup>(p280)

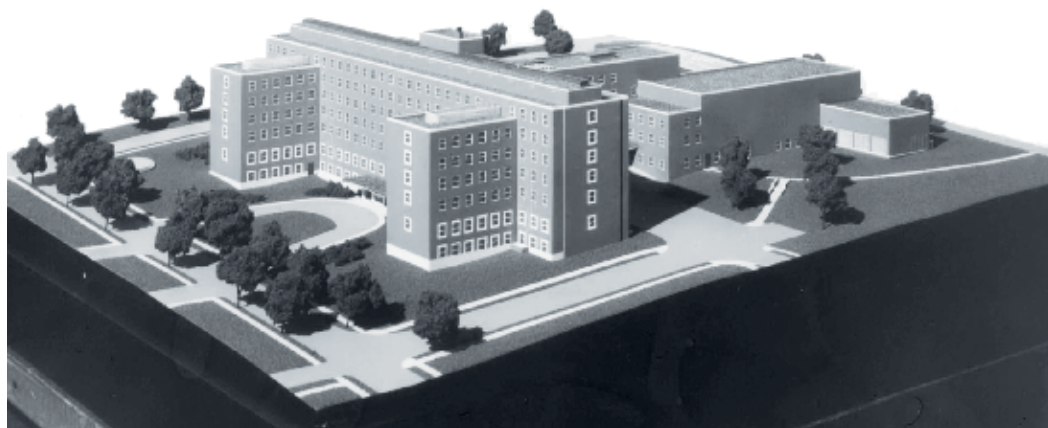


[Opposite] Lack of space in the "Old Red Brick" led to the Army Medical Museum's move into Chase Hall, where it would remain until 1960. (NCP 2406)

[Top] Brigadier General Raymond O Dart, first director of the AFIP, 1949–1950. (MIS 05-6214-1)

[Opposite] *The Army Medical Museum's main exhibit area in Chase Hall in 1948. Despite its physical separation from the institute, the museum's popularity remained strong, attracting 8,500 visitors in its first month at Chase Hall. In 1962, with the AFIP by then in its permanent home, the museum returned to Old Red Brick, where it stayed until 1968. (NCP 2598)*

*Scale model of the original design for the AFIP building. This design was abandoned after a short-lived presidential directive that certain federal buildings be blast-resistant made the design too costly. The result was a sharp reduction in the size of the final building (see page 107), whose design would seal the institute's place in architectural history. (NCP 2001)*



While building plans slowly progressed, two other key issues were resolved: the location for the building, and the broader concept of the place of the Army Institute of Pathology in the overall scheme of military medicine. In 1947 the Committee on Medical and Hospital Services of the Armed Forces—headed by Major General Paul R Hawley, formerly chief surgeon of the European Theater of Operations, and known as the “Hawley Board”—was charged with conducting a thorough and objective study of military medical services. Early in the board’s deliberations Walter Reed General Hospital Reservation was chosen as the institute’s new location. And most importantly, the committee recommended that the institute become “the central laboratory of pathology for all of the Armed Forces, as well as the Veteran’s Administration, with the appropriate change of name to the Armed Forces Institute of Pathology.” In February 1949 these recommendations were approved by then Secretary of Defense James V Forrestal, and on July 6, 1949, the name change became official with the issuance of Department of the Army General Orders, Number 32. The Armed Forces Institute of Pathology (AFIP) became a triservice organization under the command of the director, with administrative jurisdiction assigned to the Army surgeon general.<sup>1</sup>(pp284–285)

On July 10, 1951, preparation for the AFIP’s new site was started with traditional groundbreaking ceremonies. The outer walls of the building were halfway up when the cornerstone-laying ceremony was held on October 20, 1953. And by mid-February 1955, the institute began its move out of Old Red Brick and into its new quarters on the Walter Reed campus. Finally, on May 26, 1955, the AFIP

was officially dedicated, featuring an address by President Dwight D Eisenhower before an audience of approximately 3,000 people, in which he said, “Some years ago those of us who were advocating unification of the services saw something of this kind in the offing, even though we were ignorant of the exact form these developments would take. For that reason I couldn’t be happier that three of the services are combined in this effort. And so I dedicate this building to the conquest of disease so that mankind, more safe and secure in body, may





*Major General George E Armstrong, the Army surgeon general, turns the sod at the AFIP groundbreaking ceremony on July 10, 1951. The ceremonial spade used in the event is still a part of the collection of AFIP's National Museum of Health and Medicine. (MIS 21836-191133)*

*[Opposite] Construction photo circa early 1953. The new home takes shape. (MIS 53-23011)*













more securely advance to a widely shared prosperity and an enduring and just peace.”<sup>1(p310)</sup> With these words, and with new facilities to advance the field of pathology, the institute was well on its way to replacing Germany and Austria as the global center of pathology.

Occupancy of the new building made it possible, for the first time, to formulate and carry out a comprehensive program of pathology, which the institute lost no time in undertaking. The expansion of professional services was consistently focused on the institute’s Department of Pathology—the core of its operation, containing nearly two-thirds of the entire staff. Closely related to the Department of Pathology in the AFIP structure, even sharing staff, was the American Registry of Pathology (ARP). Several registrars of the individual registries that made up the ARP were senior pathologists who headed specific branches and sections of Department of Pathology. At the time of occupancy of the new building there were 22 individual registries, with a total of 119,000 cases in their files; 7 years later the number of registries had grown to 27 and the number of cases to more than 200,000.

The number of cases coming into the AFIP between the mid-1950s and 1975 averaged between 50,000 and 70,000 per year. The number was limited by a June 1950 regulation requiring that only specimens derived from surgery on tumors or tumor-like conditions, as well as other surgical specimens requiring confirmatory diagnoses, be sent to the institute. Despite the regulation, cases continued to flow into the institute in high numbers through 1952, when a high of 118,704 cases was reached before submissions gradually declined to a more manageable rate. But caseload figures only scratch the surface of the development of AFIP’s consultative services.



[Opposite] Assistant Secretary of Defense for Health and Medicine Melvin Casberg spreads mortar for the cornerstone during the official cornerstone-laying ceremony on October 20, 1953. “As I spread the mortar which will unite the cornerstone with this building, it shall be my prayer that all our medical resources, civilian as well as military, similarly shall be cemented in a united fight against disease and for the preservation of our country,” he said during ceremonial remarks.<sup>1(p306)</sup> (MIS 53-22003-46)

[Top] President Eisenhower delivers his dedication speech during the ceremony. (MIS 55-10841-6)



*Brigadier General Elbert DeCoursey, second director of the AFIP, 1950–1955. General DeCoursey is credited for the successful transition from the Old Red Brick to the new AFIP headquarters with a minimum disruption of work. (MIS 55-14699)*

*[Opposite] More than 3,000 people gathered in front of the AFIP for the May 26, 1955, dedication ceremony and address by President Dwight D Eisenhower.*

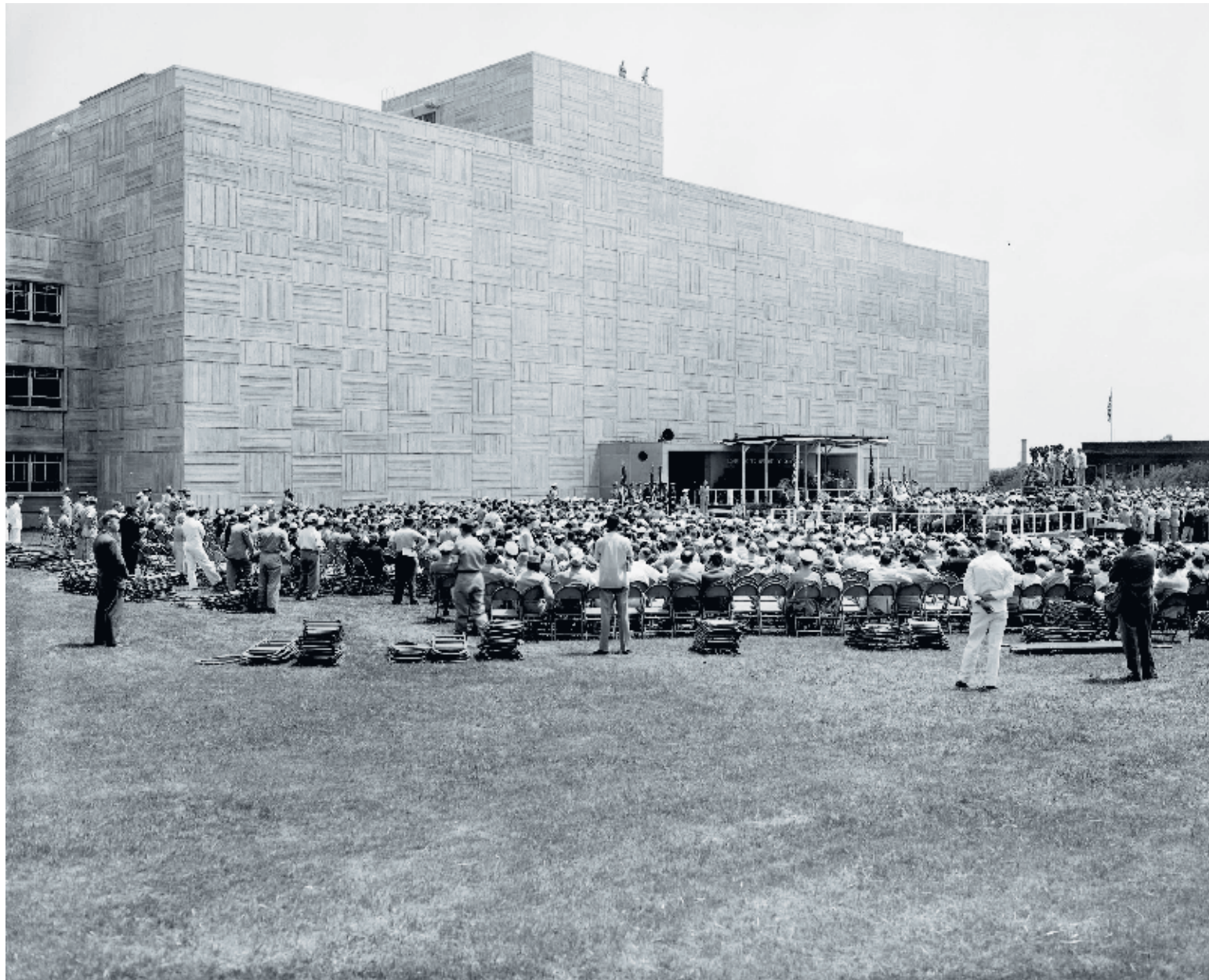
The institute's ability to handle a high volume of cases was enhanced by acquisition of new technologies such as the electron microscope and the ultracentrifuge, as well as new techniques using X-ray technology. At the same time, continuous and innovative development of new stains by AFIP histologists meant that pathologists had an ever-growing arsenal in the histopathology laboratories to help them diagnose cases.

While remaining primarily focused on traditional pathology pursuits, the institute also broadened its breadth and scope during this period. Additions included a laboratory animals branch, a joint committee on aviation pathology, an aerospace pathology branch, a geographic pathology division, and a forensic pathology branch—a branch whose extensive expertise was regularly requested to assist with high profile autopsies, such as those of President John F Kennedy and Senator Robert Kennedy.

As its pathology efforts expanded and matured, so too did the AFIP's education function. Education programs in the late 1950s and early 1960s included postgraduate short courses, individual training on a residency or fellowship basis, lectures to and by staff members, seminars on pathology topics, and active duty training for reserve officers. The institute's global reputation meant that nearly 1,000 foreign nationals from more than 40 countries attended AFIP courses during the first 6 years in its new building. By 1970 the AFIP was conducting 19 postgraduate courses per year, and by 1975 that number grew to 32, with a total attendance of 3,127.

The AFIP's research function exploded during this time. More than 200 investigations were carried out in the first 5 years in the new building. In addition to the hundreds of thousands of neoplasms that were examined and diagnosed by AFIP doctors, staff conducted studies of the biological and biochemical effect of microwaves, the response of cells to acute radiation, the neuropathology of nuclear and cosmic radiation, the structure and functions of various tissues, and the effects of toxic agents on various organs. The new building also opened the door to expanded experimental pathology using animals. The Laboratory Animals Branch of the Department of Pathology had a dual mission of both caring for the animal population and consultation to staff members







on experimental surgery. The average number of animals maintained in the 12 months of 1960 was about 2,800 per month, including mice, hamsters, rats, rabbits, and guinea pigs. Other groundbreaking research efforts throughout the 1950s, 1960s, and into the '70s included



*Plaque with a quote from President Eisenhower's dedication remarks. The plaque is on display on the outside wall at the AFIP entrance. (MIS 09-10367-1)*

investigative studies into radiation injuries on the Japanese who died from atomic bomb blasts at the close of World War II, leprosy, malaria, tuberculosis, infectious hepatitis, underwater deaths involving scuba gear, tissue reactions to drugs, battered child syndrome, rabies encephalitis among service members, injury patterns in military aircraft accidents, wound ballistics, effects of prolonged immersion during hyperbaric exposure, and the role of dental identification in aircraft accidents.

Just as important to the institute's maturation were collaborations by staff with each other and with outside agencies. In addition to establishing and maintaining relationships with the academic pathology community,

the AFIP built enduring ties with such organizations as the American Medical Association, Food and Drug Administration, World Health Organization, National Institutes of Health, Veterans Administration, National Air and Space Administration, Army Medical Research and Development Command, Army Materiel Command, National Academy of Sciences, and the Smithsonian's National Zoological Park.

Within the institute, collegiality flourished during these years. With an influx of talent from around the world, pathologists were eager to learn from each other and seek other opinions on tough diagnoses. The design of the building's interior and sharing of laboratory space were conducive to regular interaction and cross-fertilization between the various pathology divisions. As famed AFIP pathologist and former long-time chairman of the Department of Soft Tissue, Dr Franz Enzinger, once said about the early years of the institute, "Everything was available. There was no lack of equipment or even lack of support. The pathologists, clinical administration and the laboratory staffs functioned collaboratively and functioned extremely

well. Even in the first two or three years that I was here, I learned a great deal about other fields of pathology, as much or more than I would have learned in a very large hospital.”<sup>2</sup> Although this atmosphere of collegiality ebbed and flowed many times during the institute’s long history, from the 1940s through the mid-1970s it nurtured the AFIP through growing pains as the institute and the field of pathology matured. 🌱

### ▲ Form and Function

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THE AFIP’S NEW EIGHT-STORY, 70,000 square-foot, permanent home was constructed of heavily reinforced concrete throughout, including the transverse walls surrounding the double-corridor design of the interior. Openings in the outer walls of the central mass were fitted with blast-resistant doors. The heart of the building consisted of a central rectangular block of research laboratories, surrounded by passageways separating the laboratories from the offices located against the windowless walls. Running through the research laboratories was a 3-foot-wide mechanical core that supplied electricity, gas, and compressed air. At the ends of the building were four-story outer sections that did have windows and contained additional office space.<sup>1(pp306–307)</sup>

*[Opposite] Air Force Staff Sergeant Frank Avallone just prior to his assignment to AFIP in 1954, when it was still located in Old Red Brick. (NCP 17337)*

*[Left] Now a research biologist, Frank Avallone examines a grossed whole prostate in April 2010. Avallone is the only remaining AFIP staff member who has worked for the institute since the building opened in 1955. (NCP 17329)*





### ▲ Frank Avallone on Day One in the AFIP's New Home

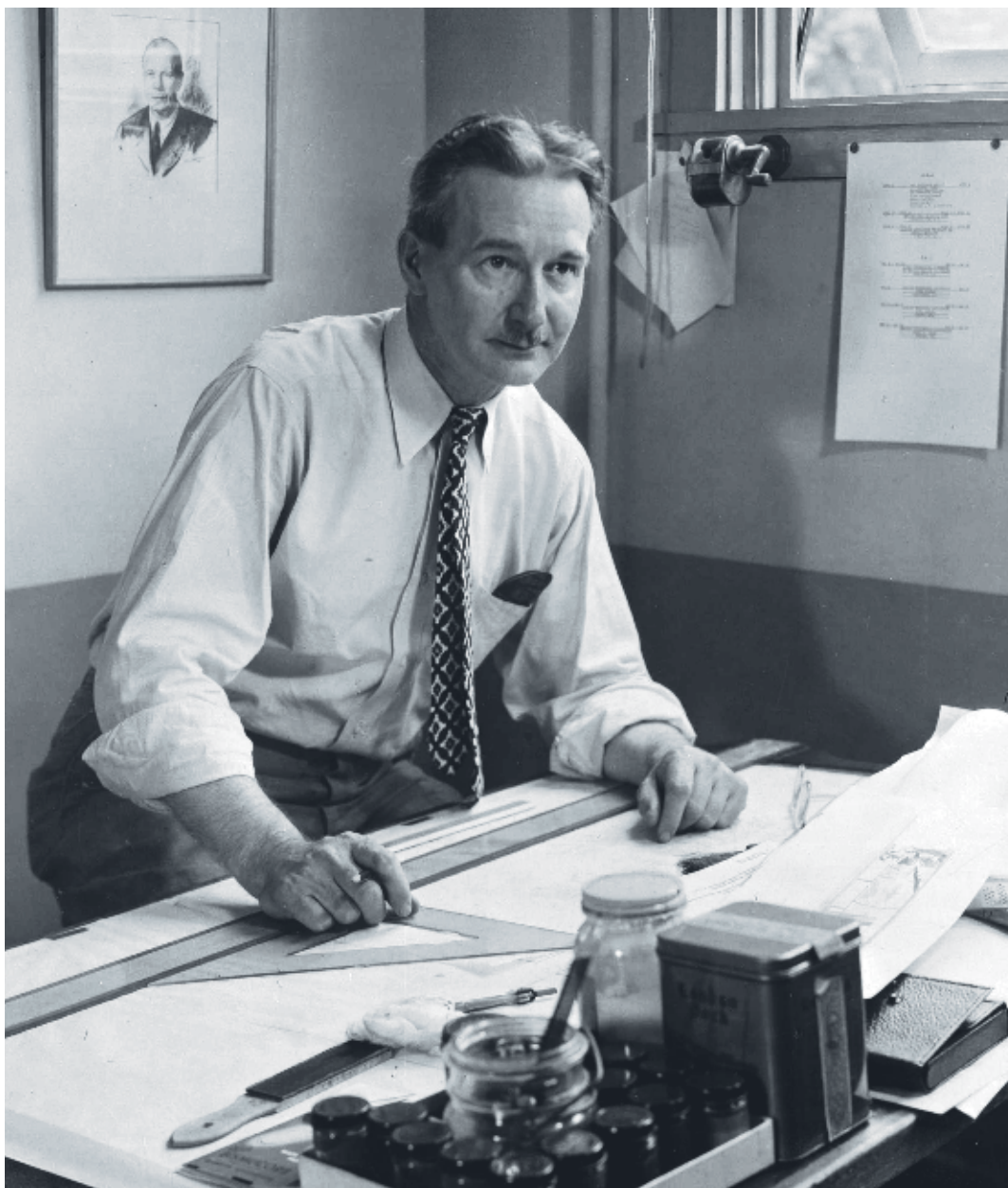
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“OUTSIDE, MY FIRST SIGHT OF THE BUILDING was awesome—a huge concrete monolithic structure with no windows. The only windows I did see were located on the jutting out ends of the building, which I found out were referred to as blisters. I entered the building on the ground level at the south side. Once inside I saw that each of the blister areas was protected by two huge, metal blast doors that rode on a metal plate in the floor. In the event of a nuclear attack on the city, the blister areas were to be evacuated and the blast doors were to be closed and locked.

“I located the rooms I was assigned to near the histology laboratories on the second floor of the North Wing. I selected my work area and began to unpack and set up so that we could be a functional entity quickly. We had to set up everything—paraffin ovens, processors, staining areas and so forth. It was a whole new ballgame—a bit chaotic to say the least. But our supervisors had a good handle on everything and it all went smoothly. We all took some time during the first day to walk around and familiarize ourselves with the different areas and to see where our friends were located. The laboratories themselves were very bright and spacious—the lighting was great and we had all metal, green cabinets with stone tops, as opposed to the wooden cabinetry at Old Red Brick. There were truly many neat things about the building and we were pleased with our new home. It had every amenity to make it a self-sufficient mini-city for at least a week or so in case of a nuclear attack. However, many of us missed two things—the lack of windows and being on the mall next to the Smithsonian.

“I have many great memories of that first day. Everyone pitched in, helping wherever they could and assisting anyone who asked. AFIP was truly a family oriented organization, and the director, Brig Gen Decoursey, was truly a family oriented individual who treated both military and civilians like members of one family. A great place to work and great people to work with. In summary, the first day was AWESOME!” (F Avallone, e-mail, 29 June 2010)





[Left] Herman Van Cott, chief of the AFIP's Medical Illustration Service in the 1940s and 1950s. (MIS 62-2108-3)

[Top] The AFIP emblem designed by Van Cott in 1952 is still in use today.

[Opposite] Ham, the first chimpanzee in space, is greeted by the recovery ship commander following his 1961 flight on NASA's Mercury Redstone rocket. By this time, AFIP veterinary pathologists had already established a strong relationship with NASA and its early experiments with various animals in the space program. As was the case with other space flights using animals, an AFIP veterinary pathologist was on board the recovery ship when Ham landed to conduct a post-flight health examination. Ham was found to be fatigued and slightly dehydrated, but otherwise in good shape. Ham lived until 1983. His skeletal remains are part of the collection in AFIP's National Museum of Health and Medicine. The museum also is the home of the remains of Able, a rhesus monkey. Able and a squirrel monkey were the first American mammals to survive a ride into space. (NASA file photograph: Ham\_Retrieval\_GPN-2000-001004)





[Top] Navy Captain William M Silliphant, third director of the AFIP, 1955–1959. Having previously spent 5 years as director of laboratories for the US Naval Medical School, National Naval Medical Center, Bethesda, Maryland, Silliphant was uniquely positioned to lead the institute during its first years in the new building. (MIS 05-06934)

[Bottom] Dr Ernest W Goodpasture, the AFIP's first scientific director, 1955–1959. Considered one of pathology's greats, Goodpasture was charged with completing the organization and staffing of the Department of Pathology, which previously had been limited to the Pathology Division. Under the new organization, the division was joined by the Basic Laboratories Division and the Dynamic Pathology Division to make up the new department. (MIS 59-01167)











[Opposite] An animal care specialist looks after dogs in AFIP's 5th floor animal housing room circa 1965. During the 1950s and 1960s the institute's veterinary pathologists conducted extensive testing on the over 80 diseases that are communicable from animals to humans. As early as 1960 the Veterinary Pathology Division included 11 veterinarians, one of the largest aggregations of veterinary pathologists in the country at that time. (MIS 59-04678)

[Left] Tissue specimens in storage in large, 20-gallon crock jars. (MIS 56-21661-9)

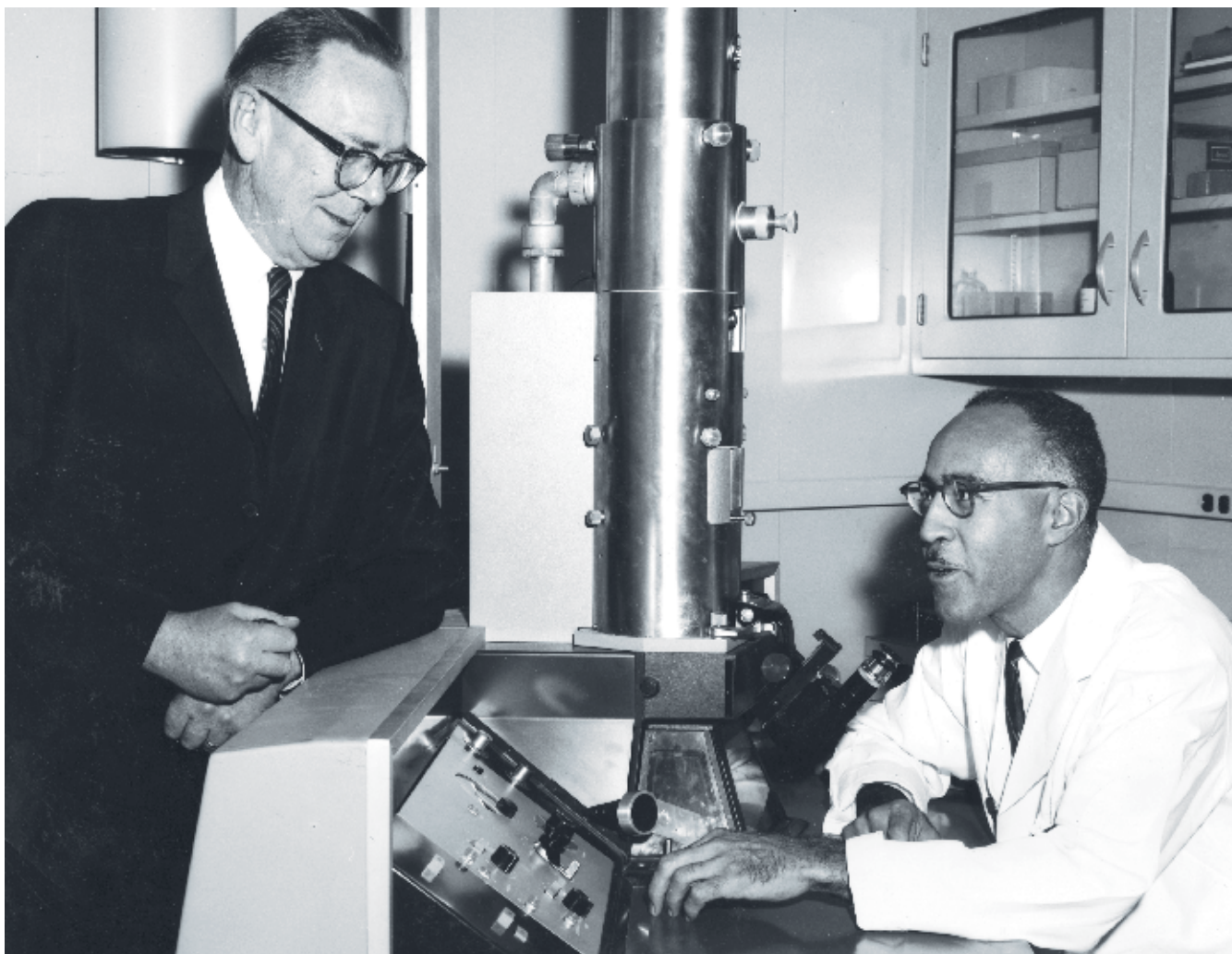


[Right] An AFIP staff member shows visitors specimens stored in sealed plastic bags containing a small amount of formalin, a method that superseded the crock jars in the late 1950s and early 1960s. The plastic bag storage system saved space, eased handling of specimens, and eliminated formalin fumes. At the same time, efforts were underway to find a closer location for storage of the remaining specimens, which were kept in a warehouse in Franconia, Virginia, 25 miles away. This effort eventually led to creation of a permanent tissue repository at Walter Reed's Forest Glen Annex. (MIS 06-3048)

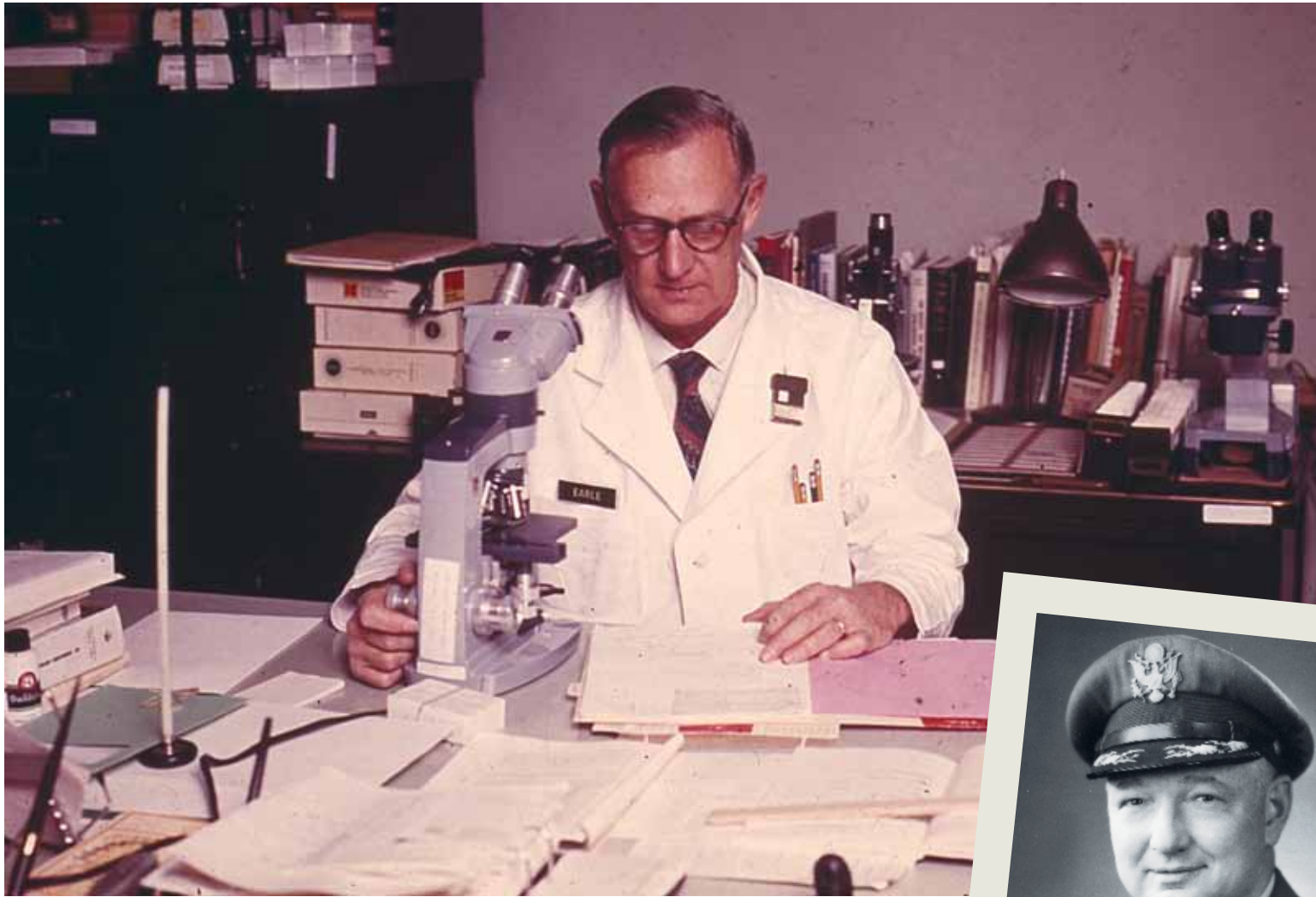


*Famed AFIP pathologist Dr Frank B Johnson (bottom right) with other AFIP staff members of the Histochemistry Branch at Old Red Brick in 1954. Johnson was chief of the section at the time. During his long and distinguished career with the institute, Dr Johnson served in many capacities, including chief of the Basic Sciences Division, chair of the Department of Chemical Pathology, and finally, chief of the Division of Chemical Pathology, Department of Environmental and Toxicologic Pathology from 1990 until his retirement in 2004. Johnson was also the first African-American pathologist appointed to the Senior Executive Service. His expertise in histochemistry and chemical pathology led to comprehensive research projects involving the identification of substances in tissue sections. In 1954 he coauthored a paper called “Chronic idiopathic jaundice with unidentified pigment in liver cells,” a condition that came to be known as Dubin-Johnson syndrome.<sup>3</sup> (NCP 17338)*





*Dr Johnson (right) and Dr Monroe E Freeman, director of the Scientific Information Exchange of the Smithsonian Institute, discuss the benefits of AFIP's electron microscope during Freeman's visit to the AFIP in 1958. Dr Johnson was instrumental in acquiring AFIP's first electron microscope and ultracentrifuge in the mid-1950s. Use of the electron microscope, with a magnifying power on the order of 250,000 diameters, gave pathologists the ability to see farther into the interior cellular structure than was possible with the optical microscope. With such instrumentation and methodology, the pathology of diseases could be traced beyond the cell to the intracellular and molecular level.<sup>1(p350)</sup> The AFIP had acquired six electron microscopes by 1965. (NCP 17339)*



[Top] Dr Kenneth Earle examines a case file circa 1965. Serving as chief of neuropathology from 1962 to 1979, Dr Earle was instrumental in designing a course to prepare pathologists, neurologists, and neurosurgeons for specialty board certification. In February 2010, the AFIP conducted the 48th iteration of this 5-day course, now known as the Dr Kenneth M Earle Memorial Neuropathology Review. (MIS 09-10241-1)



[Inset] Air Force Colonel Frank M Townsend, fourth director of the AFIP, 1959–1963. (MIS 05-07036)



*Dr Vincent J Hyams preparing coursework in the early 1950s, when the institute was still occupying the Old Red Brick. In 1966, then a Navy captain, Hyams was assigned to the institute, where he became director of the Otolaryngic Pathology Branch, a position he held until his retirement from the Navy in 1984. Although highly respected for his breadth of knowledge and diagnostic skills, he is most remembered for his teaching abilities and efforts to gain interest in and an understanding of pathology within the surgical community. (NCP 3075)*



[Top Left] *Captain William Stahl, chief of forensic pathology, 1965–1975. (MIS 05-6973-5-29533)*

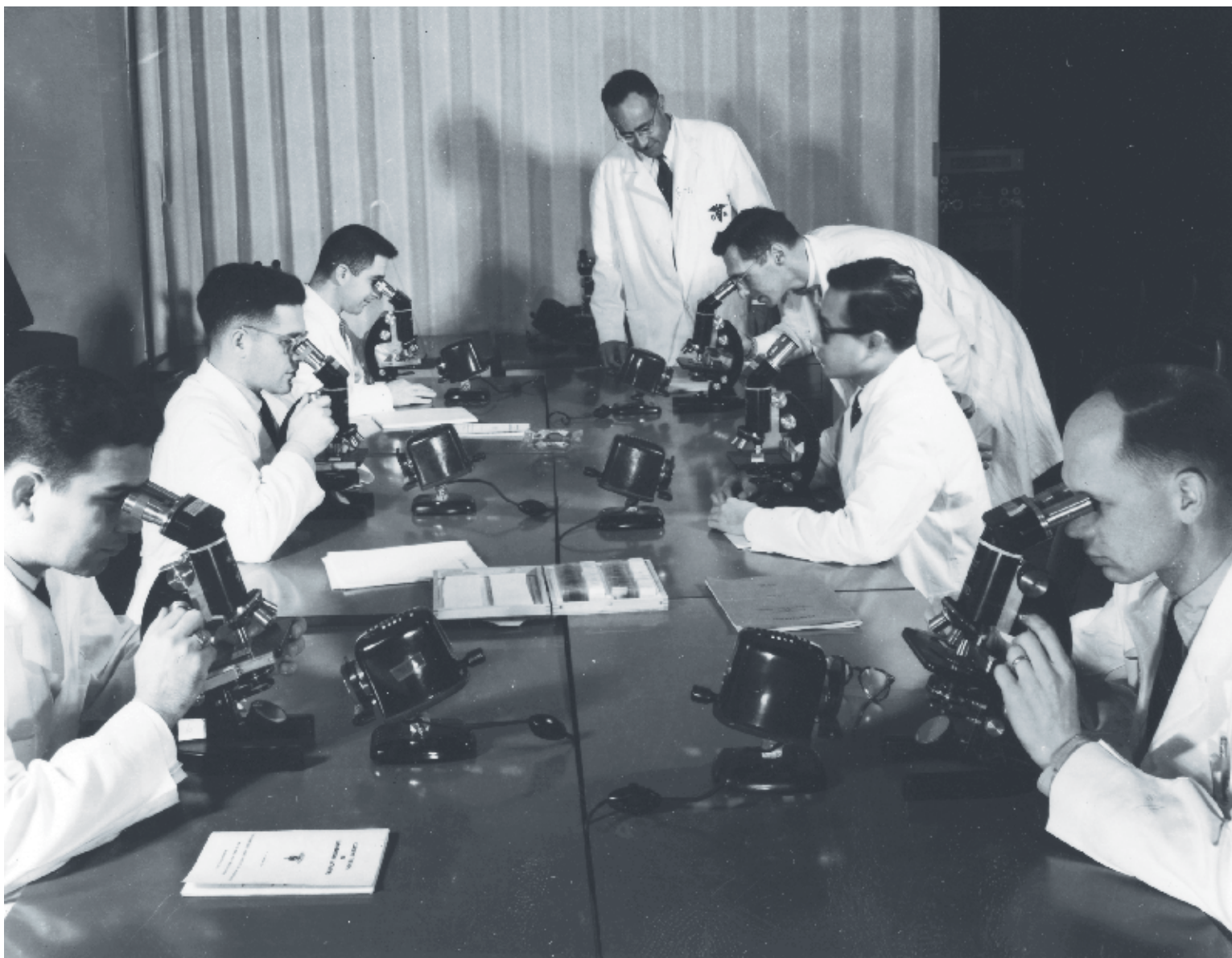
[Top Right] *Colonel Richard Froede, chief of the Department of Forensic Sciences, 1968–1976. (MIS 05-6340-6)*

*Drs Stahl and Froede played vital roles in solidifying the reputation of forensic pathology as a legitimate and valued field within the military. Stahl developed an extensive education program not only for forensic pathologists, but also for military investigators, attorneys, and other officers who might be involved in medico-legal death investigations. This program later evolved into a forensic sciences program at the master's degree level in partnership with George Washington University. In 1968, Stahl and Froede also came up with the initial idea for what is now the Armed Forces Medical Examiner System. This plan came to fruition 20 years later when Froede returned to AFIP as the first armed forces medical examiner, with the charge of establishing the medical examiner system as a separate entity within the institute (see page 141).*



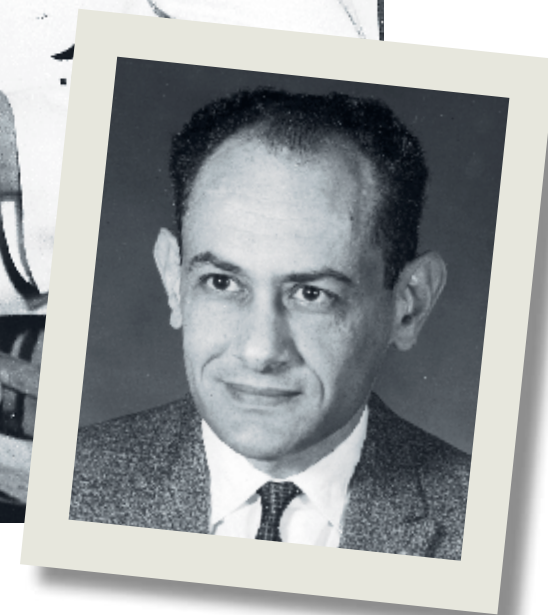
*The expanded space of the AFIP's new home meant increased opportunities for lectures to and by members of the institute staff, such as this one involving several departments in the Callender Teaching Laboratory, circa 1961. At around the same time the AFIP established weekly professional staff conferences for pathologists and scientists to share the results of their diagnostic, research, and investigative efforts with other members of the staff—a tradition that continues today. (MIS 56-5999)*



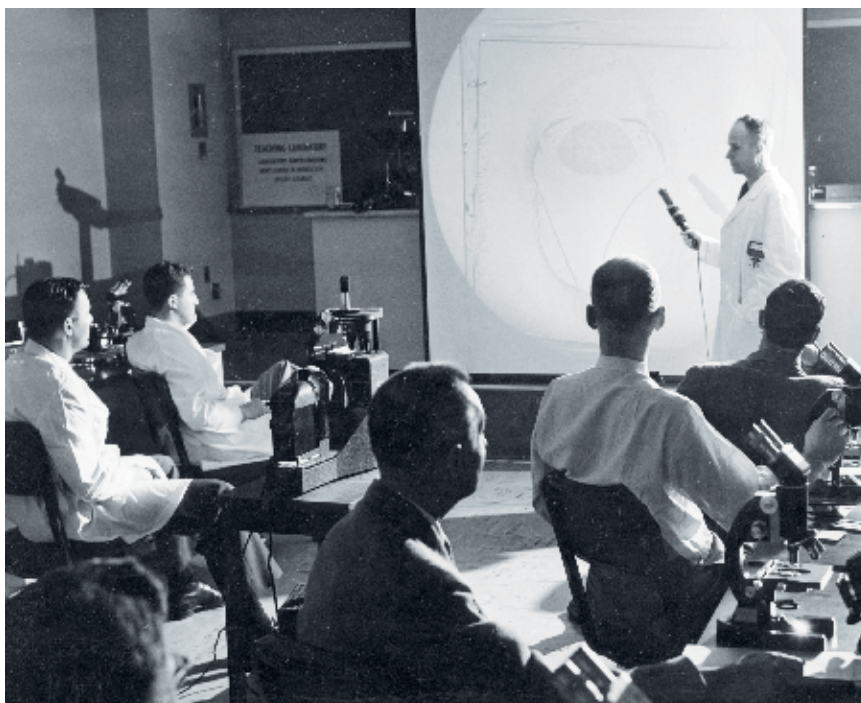


*In addition to lectures involving large numbers of staff, opportunities for more intimate and intensive studies by smaller groups increased throughout the 1960s. (MIS 58-2917-5)*









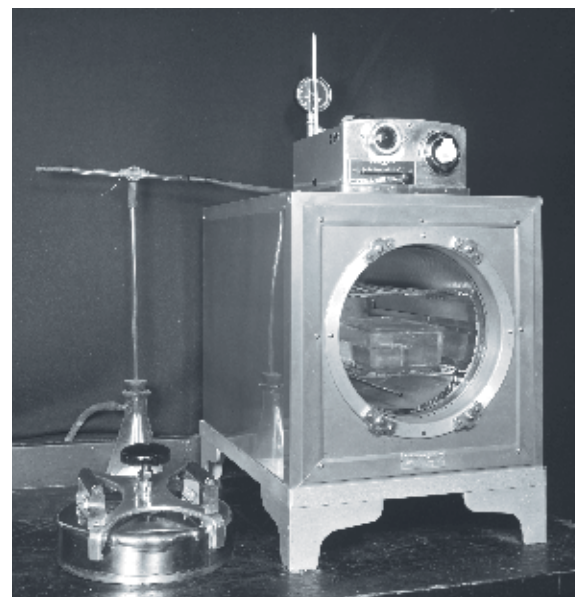
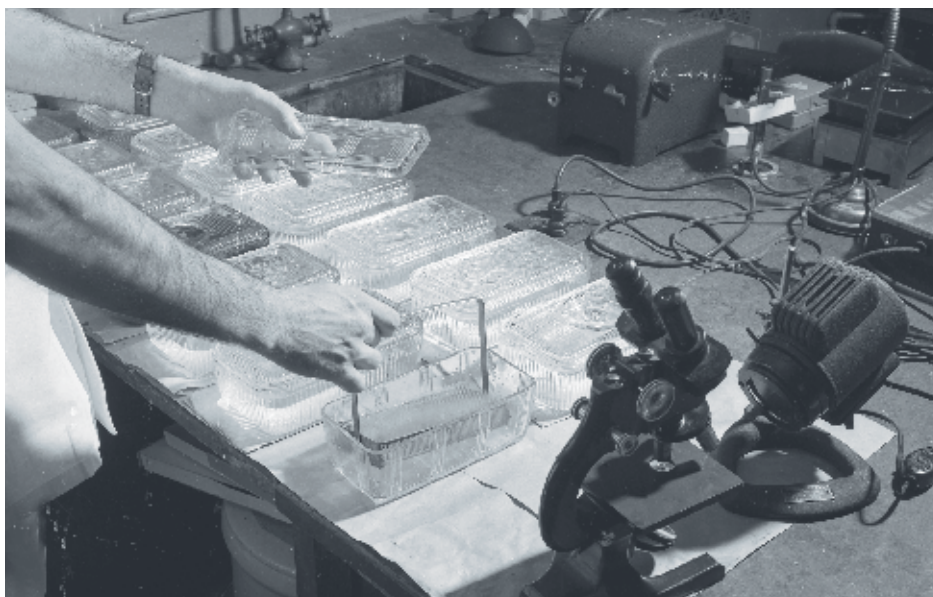
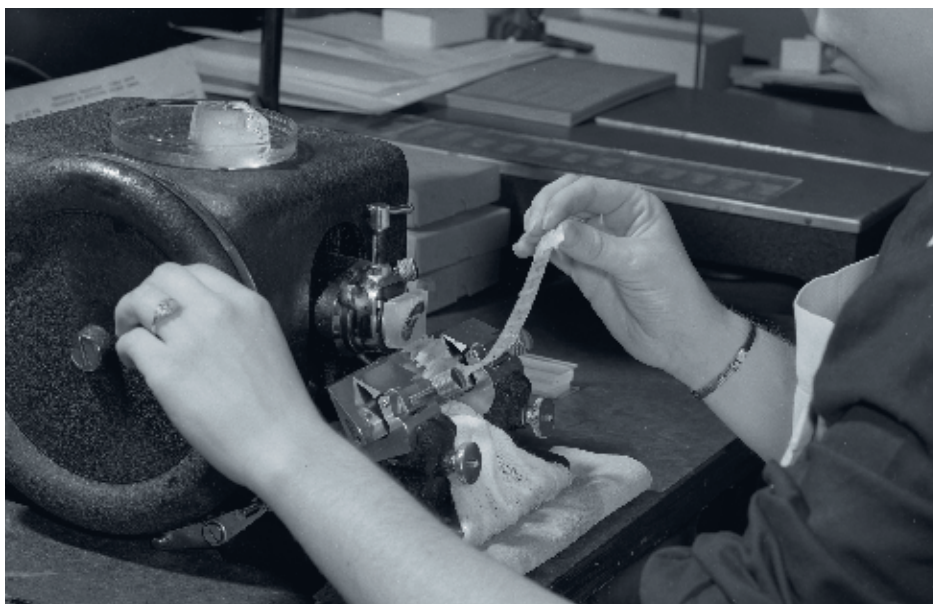
[Opposite] Dr Lent Johnson (left) and Smithsonian anthropologist T Dale Stewart examine various bone sets during a visit to the AFIP by Stewart in 1954. Dr Johnson served as chairman of the Department of Orthopedic Pathology from 1946 to 1980, and then as chairman emeritus from 1980 to 1998. Considered one of the world's leading orthopaedic pathologists, Johnson was responsible for establishing the Bone Sarcoma Registry at the institute, as well as a bone laboratory and X-ray registry. He also developed a 300-hour basic science course for all military orthopaedic residents, as well as a separate 80-hour special training program in orthopaedic pathology. Johnson also performed pioneering work with micro x-rays, ultraviolet light, infrared lights, and polarized light forms to further advance the study of bone sarcomas. (MIS 54-2848-K.)

[Inset] Dr Kamal Ishak, who joined the AFIP staff in 1963 and became chief of the Hepatic Pathology Branch in 1965. Although raised and educated primarily in Egypt, Dr Ishak—as well as other foreign-trained pathologists—was attracted by AFIP's growing reputation as the world leader in pathology. Ishak became one of the foremost hepatic pathologists in the world, starting with a landmark 1967 paper on malignant liver tumors in children that defined hepatoblastoma as an entity distinct from hepatocellular carcinoma. In 1981 he devised the first version of the Histologic Activity Index (HAI) for evaluating biopsies from patients with chronic hepatitis. His further refinement of the HAI came to be known as the Ishak score. (NCP 17331)



[Top] Colonel TC Jones, chief of veterinary pathology, conducts a pathology session in the AFIP teaching lab in March 1956. The veterinary pathology sessions quickly became a weekly tradition named the “Wednesday slide conference.” Now entering its 58th year, the conference is a unique slide exchange program that provides classic veterinary pathology diagnostic training to a broad range of participants, and is an integral part of the core veterinary pathology training at more than 135 participating institutions throughout the world. (NCP 11426)

[Bottom] Dr Franz M Enzinger (at head of table) along with visiting pathologists from the First World Health Organization Committee for the Classification of Soft Tissue Tumors, circa 1961, which produced the first classification system for soft tissue pathologists, a system that came to be known as the Enzinger classification system. Enzinger joined the AFIP staff in 1957 and became chairman of the Department of Soft Tissue in 1960, a position he held until 1988. During a 1993 interview for the AFIP's oral history program, Enzinger said the following about his decision to apply for a job at the institute: “At that time, it was considered the mecca of pathology . . . the staff was very well known. So it was a plum appointment to come to the AFIP . . . the AFIP was actually not only the center of pathology in this country, but in the world.” (NCP 17332)





[Opposite | Top Left] *An AFIP histotechnologist cutting a ribbon of tissue on a microtome in preparation for staining, circa 1954. (MIS 219791-4-29-1)*

[Opposite | Bottom Left] *In this 1953 photo, a histotechnologist stains slides prior to review by a pathologist. (MIS 219816-22-4-1)*

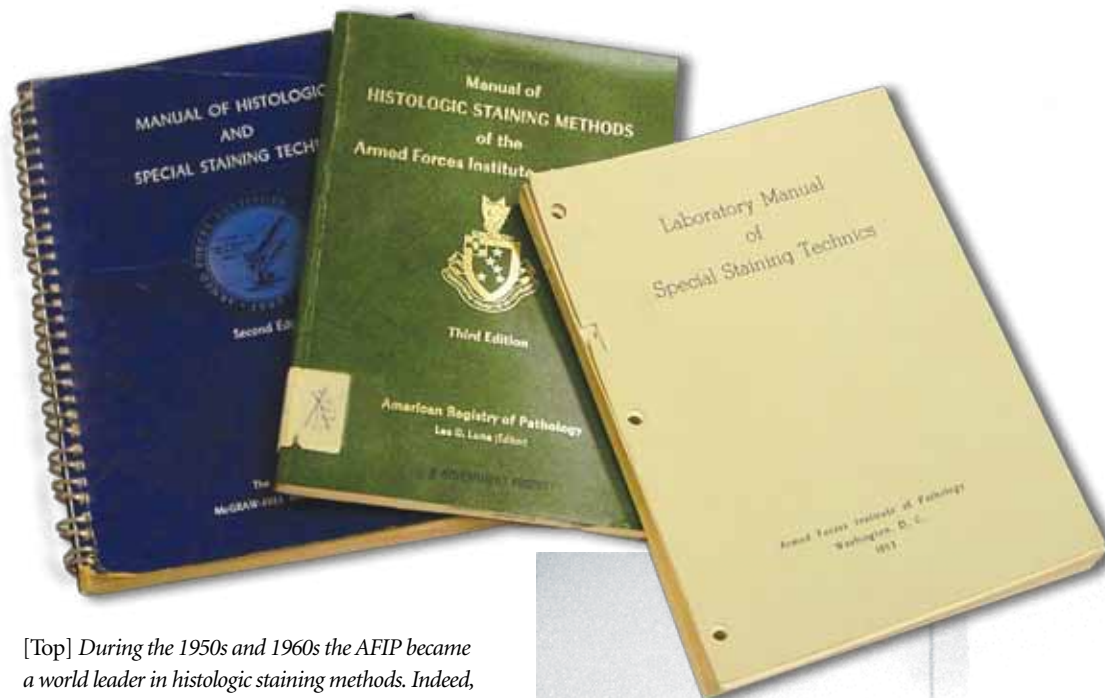
[Opposite | Top Right] *A histotechnologist stains a section of tissue in a petri dish using a medium called cellodin, circa 1954. (MIS 219791-17-3-2)*

[Opposite | Bottom Left] *A vacuum oven used in the 1950s and 1960s, which helped paraffin thoroughly infiltrate a block of tissue, which in turn made the block easier to cut and preserve for future use. (MIS 219546-16041)*

[Right] *In this 1954 photograph, taken just prior to the move from the Old Red Brick, a histotechnologist prepares a tissue processor for operation. The machine sent wet tissue through a process using formalin, alcohol, and xylene, resulting in a paraffin block ready to be cut. It was often referred to as “the spider.” (MIS 219816-22-4-3)*







[Opposite | Top Left] *The AFIP's printing plant, which was included in the design of the new building. (MIS 62-2302-2)*

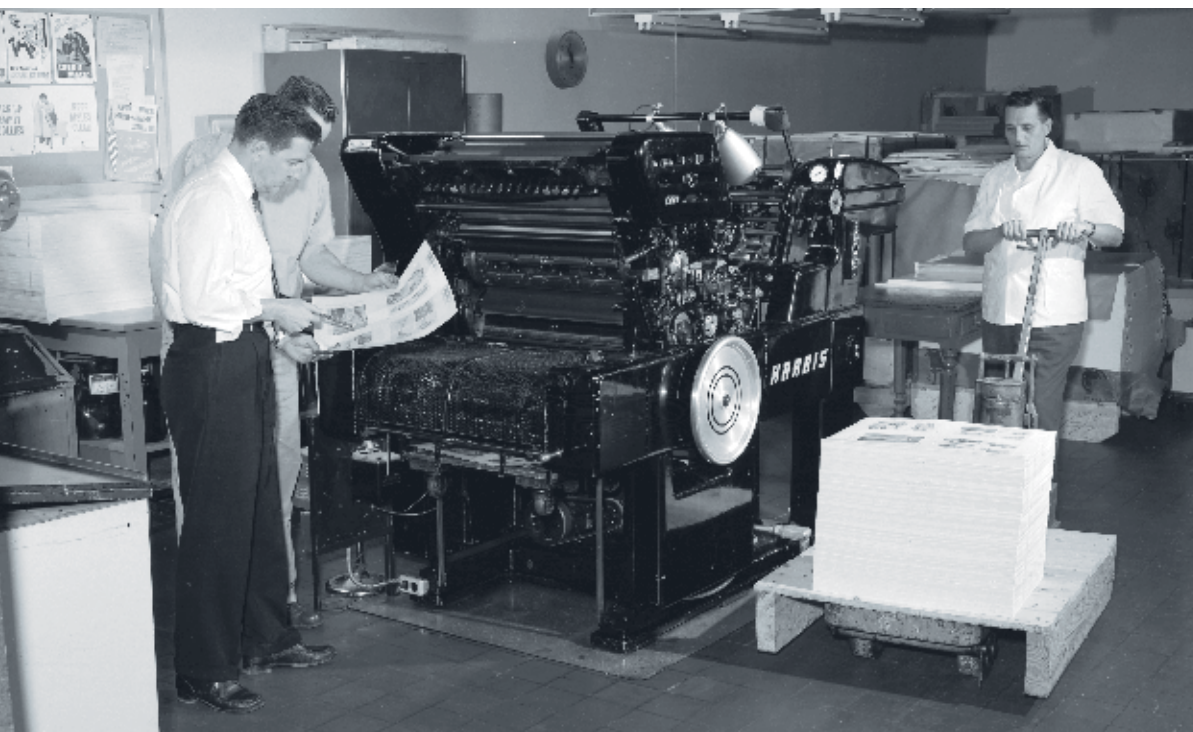
[Opposite | Bottom Left] *Examples of early fascicles of the Atlas of Tumor Pathology. Popularity of the fascicles grew so quickly that by the early 1960s a nightshift had to be added to the printing plant to keep up with worldwide demand. (MIS 62-1976-4)*

[Top] *During the 1950s and 1960s the AFIP became a world leader in histologic staining methods. Indeed, the 1968 edition of the Manual of Histologic Staining Methods of the Armed Forces Institute of Pathology (pictured) by Lee Luna was the most widely used staining reference source in the world. (NCP 17328)*

[Bottom] *AFIP pathologists and officials marvel at the technology of the AFIP Computer Center during its grand opening on May 26, 1967. Left to right: Dr Elson B Helwig, Captain Bruce H Smith, Major General Joseph Blumberg, Dr Fathollah K Mostofi, and an identified staff member. The institute was one of a small group of medical facilities to pioneer the use of computers devoted solely to medicine. At the time, the AFIP had 1.2 million cases on file, which were used by staff members for diagnostic and research activities. The computer system made it possible for pathologists to access cases, which helped to diagnose new cases faster and with greater accuracy. (NCP 17334)*







[Top Right] Luna, who served as chairman of the Department of Histopathology for 33 years, was frequently referred to as the “father of histology” by his peers. In 1965 he held the first AFIP Symposium in Histotechnology, which later grew into the National Society for Histotechnology.<sup>4</sup> (MIS 08-1321-298-625)

[Bottom Right] Brigadier General Joseph M. Blumberg, fifth director of the AFIP, 1963–1967. During his tenure, Blumberg significantly expanded research, particularly in geographic pathology and in the basic sciences of immunology and veterinary surgery. He also led the effort to obtain emerging computer technology for the institute. (MIS 05-06082)





## ▲ The AFIP Crest: Symbolism and Historical Significance



“ADOPTED IN 1964, THE AFIP CREST, or blazon, contains a wealth of symbolism. The gold field and green border of the shield are derived from the yellow guidon with green border, which marked the way to field hospitals during the Civil War. The green stars in the field are taken from the constellation microscopium, a symbol of investigation. The five stars represent the investigative mission of the original Army Medical Museum: collection, preparation, illustration, procedures, and teaching. The canton is an augmentation to memorialize the great humanitarian service which the Army Medical Museum and the present day Armed Forces Institute of Pathology have rendered to the armed forces, the nation, and the world. Its green background is taken from the green robe of the ancient physician to represent the medical profession. The silver cross portrays the crusader spirit of the Hospitaler Orders of Knighthood, which dedicated themselves to the alleviation of suffering and lessening of mortality. The red lozenge is taken from the stone of the ring of the ancient physician, which symbolized protection from disease. The four sides of the lozenge allude to the ancient classification of the parts of man: head, chest, viscera, and limbs. The three conjoined bay leaves of the crest represent the armed forces of the United States: the Departments of the Army, Navy and the Air Force. The golden serpent symbolizes the cross-service medical services performed by the AFIP. Both the bay leaf and the serpent are ancient symbols of the science of pathology. Finally, the motto *Consultatio Eruditio Investigatio* reflects the missions of the AFIP: Consultation, Education, and Research.”<sup>5</sup> (NCP 17335)

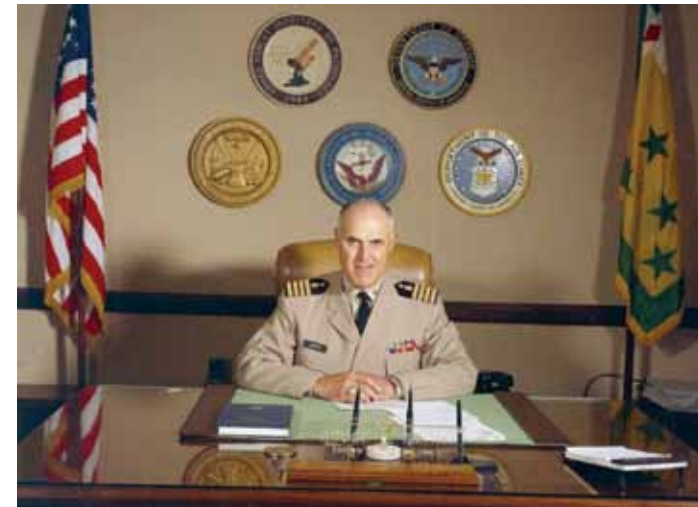
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[Opposite] Forensic pathologists preparing to conduct an autopsy in the AFIP’s autopsy suite. During the 1960s and into the 1970s the institute’s Military Environmental Pathology Division evolved into the Department of Forensic Sciences, which included forensic pathology, aerospace pathology, accident pathology, and legal medicine. A forensic fellowship program was developed, and educational programs were begun to train military investigators how to work with forensic pathologists. By the mid-1970s many of the most prominent forensic pathologists in the nation had trained or worked at the AFIP. These early programs paved the way for what would later become the Armed Forces Medical Examiner System (see page 131). (MIS 59-4678-124)







[Opposite] Dr William Manion, chief of the Cardiovascular Branch (right), discusses cases with visitors to the AFIP circa 1965. Manion joined the AFIP in 1953 and served as chief of the Cardiovascular Branch until 1970. During that time he contributed greatly to the institute's reputation as a world leader in cardiovascular pathology. (MIS 05-6629-A)



[Top Left] Furniture being moved out of the Old Red Brick in 1968. The historic building was subsequently demolished to make room for a new building that would house the Hirshhorn collection of modern art. (NCP 3889-2)

[Bottom Left] Workmen take down the sign from the Old Red Brick that referenced its 1964 designation as a national historic landmark by the Department of the Interior—a designation that was later interpreted as being applicable to the museum's collections, not the building itself. The collections then went into storage while the new addition to the AFIP was being built. (NCP 3833)

[Inset] Captain Bruce H Smith, sixth director of the AFIP, 1967–1971. It was under Captain Smith's watch that the Army Medical Museum moved out of the Old Red Brick, and a new addition to the AFIP was constructed to house the museum. (MIS 05-6949-10B)









[Opposite] Captain Smith turns the sod at the March 22, 1968, groundbreaking ceremony for the new wing of the AFIP to house the museum and additional office space. (MIS 68-2777-37)

[Top] Captain Smith makes welcoming remarks at the May 21, 1971, opening of the Army Medical Museum at its new home. Featured at the ceremony was the surgeon general of the Army, Lieutenant General Hal B Jennings Jr, who observed: "What has been accomplished in the museum in the more than a century since its founding has been done in the interest of humanity. We have seen man's ability to contribute to and control his physical surroundings as steps toward making the world a better place in which to live. So, as we now observe the museum's reopening, and the continuation of its second century of service, it's our earnest belief that the staff of experts in this superb facility will continue to meet the future challenges to medical science as they have in the past and they shall remain dedicated to the conquest of disease for the benefit of all mankind."<sup>6</sup> (MIS 71-6133-38)



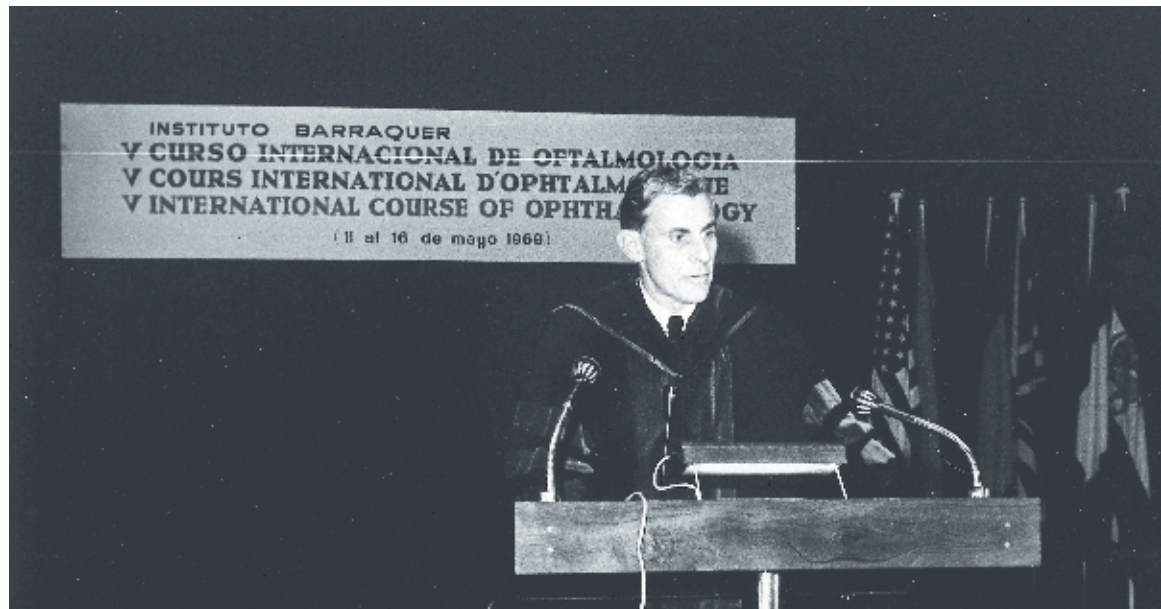
[Bottom] Visitors tour the inside of the museum following opening ceremonies. The public part of the museum was divided into four specialized exhibit halls whose names honored influential leaders in the museum's long and distinguished history. The Hammond Hall of Pathology displayed plastic mounted tissues arranged in an organ system. The Brinton Hall of History portrayed the history of pathology. The Billings Hall of Instruments featured the "Evolution of the Microscope" exhibit. The Silliphant Hall of Current Events featured selected subjects of current research at the institute. (MIS 71-6133-94)

[Top] Construction of the museum space nears completion in this September 2, 1970, photograph. Although different in style from the original, mostly windowless AFIP construction of the 1950s, the cube-like design on top was intended to help give the addition an integrated look. (NCP 2582)



[Bottom] Dr Lorenz Zimmerman addresses the International Course of Ophthalmology in May 1969 in Barcelona, Spain. Now recognized as the founder of modern ophthalmic pathology, Zimmerman joined the AFIP in 1952. Only 2 years later he became chairman of the Department of Ophthalmic Pathology, where he remained for nearly 50 years. During his long and distinguished career Zimmerman made important contributions to understanding the behavior of almost every neoplasm, inflammation, degeneration, and developmental malformation that affects the eye. Indeed, even without the aid of modern immunohistochemistry, he was the first person to describe phacomatous choristoma of the eyelid and identify this tumor as resulting from a malformation in the development of the crystalline lens of the eye. Many ophthalmic pathologists still refer to it as the “Zimmerman tumor.” (NCP 17333)

[Opposite] Dr Elson B Helwig receives the President’s Award for Distinguished Federal Civilian Service from President Lyndon B Johnson in 1966. At left is Dr Helwig’s wife, Mildred. Dr. Helwig, who joined the AFIP in 1946, played an important role in elevating the institute to a position of world prominence. Although he served many roles during his more than 50 years of service to the AFIP, he is best known for his pioneering work in dermatopathology. In addition to his own studies in the field, Helwig offered a popular training program in dermapathology, shared his expertise through weekly slide conferences, and consulted on difficult cases. He was also one of the most influential members of the World Health Organization panel that produced the first Histological Classification of Skin Tumors.<sup>7</sup> (NCP 17330)













[Opposite] Dr Chapman Binford (at microscope) consults with Dr Helwig (left) and Dr Daniel Connor (right), circa 1975. Dr Binford served as chief of the Infectious Disease Branch from 1951 to 1956, and later as chief of the institute's Special Mycobacterial Diseases Branch, from 1972 to 1976. Binford was considered a world leader in the studies of leprosy and fungal diseases. Dr Connor joined the AFIP in 1960 and served as chairman of the Department of Infectious and Parasitic Diseases Pathology. In the early 1960s he spent 3 years in Uganda, where he diagnosed and studied infectious diseases that had previously been unknown to the Western scientific community. (MIS 05-7267-3-36625)

[Left] Dr Florabel G Mullick with Julius Halsman, chief of the Photography Division, shortly after Dr Mullick's arrival to the AFIP in 1970. (NCP 17340)

[Right] Army Colonel James L Hansen, eighth director of the AFIP, 1973–1976. (MIS 05-6406-3C)







[Opposite] Dr Mullick reviews case files with her colleague and mentor, Dr Nelson Irey, chairman of the Department of Environmental and Toxicologic Pathology, in 1972. Dr Irey was not only considered a pioneer in environmental pathology, but by 1972 he was also recognized as the foremost environmental pathologist in the world. His mentorship helped Dr Mullick rise through the ranks of the AFIP to become associate director of the AFIP in 1987, director for the Center for Advanced Pathology in 1994, chair of the Department of Environmental and Infectious Diseases in 1996, the institute's first civilian principal deputy director in 1999, and its first civilian director in June 2007. (NCP 17341)

[Top] Dr. Fathollah K Mostofi (second from right) presides over a 1973 international meeting for standardizing the classification of testis tumors, held at the World Health Organization (WHO) headquarters in Geneva, Switzerland. Mostofi was hired as AFIP's chairman for the Department of Genitourinary Pathology in 1948, a position he held until his death in 2003. He was influential in accomplishing AFIP's 1958 agreement with WHO and the National Research Council for the establishment of several international reference centers that collected tumors for evaluation by international panels to create standardized tumor classifications. By 1973 Mostofi had long been recognized as the foremost genitourinary pathologist in the world. Seated to his right is Dr Leslie Sobin, a WHO pathologist. In 1981 Sobin joined the AFIP staff, where he rose to chief of gastrointestinal pathology and director of scientific publications. (NCP 17432)



[Inset] Air Force Colonel Robert W Morrissey, seventh director of the AFIP, 1971–1973. (MIS 05-6711-2)

“By the mid-1970s, having achieved an enviable level of growth and maturity, the AFIP was poised for the next chapter in its long and distinguished history—a chapter marked by a continued infusion of talent and the incorporation of rapidly evolving technological advances . . .”