Dr. George Dock and Dr. Allen J. Smith both arrived in Galveston within a three year period, to fill professorships in pathology in the only major medical school in Texas. Dr. Dock was hired as a full professor of pathology by the Texas Medical College in 1889. Just two years later, Dr. Smith was hired to fill a similar position in the University of Texas Medical Department, which acquired most of the faculty, students, and laboratory equipment of the Texas Medical College, as well as its dean. Both Dr. Dock and Dr. Smith were young men trained at the University of Pennsylvania Medical School, considered to be the center of American pathology before Johns Hopkins was founded. They had both recently returned from the exciting experience of studying in Germany under the skilled tutelage of some of the 19th century’s most talented pathologists. Each brought with him his microscope, the instrument that epitomized the “new” scientific pathology being taught in Europe.

But Dr. Dock was trained as an internist, and he came imbued with excitement over the wonders of bacteriology, the specificity of diseases, and the value of laboratory tests that provided quantitative measures of disease states. In 1893, Dr. Dock was urging all physicians to perform differential blood cell counts on all their patients, as one of the best measures of health or disease. By contrast, Dr. Smith’s orientation was more toward descriptive pathology, rendered into a newly scientific endeavor by the instrumental augmentation of the pathologist’s senses by microscope. Dr. Smith brought with him preserved tissue blocks for his students to prepare their own tissue slides, and devoted much of his initial efforts at the medical school to building an expansive museum of gross and microscopic tissue specimens.

These two men, under the same title of professor of pathology, embodied a growing dichotomy in pathology that has persisted to this day. One tradition has emphasized the diagnostic value of quantitative measures of body components, however complicated and new those tests may be; while the other has focused on the visual skills of the pathologist in identifying and characterizing pathologic changes in tissues, assisted in increasing degrees by new instruments, new stains, and new understanding of the significance of particular patterns.

What Dr. Dock and Dr. Smith shared was a belief in a scientific empiricism in medical training, with the laboratory providing the best training ground. This included a new view of pathology as a dynamic science bridging the scientific and the clinical, tracking the processes of pathologic change and offering diagnosis, prognosis, and specificity of treatment unavailable with clinical examination alone.

The term *pathology* has served as a very flexible term since Drs. Dock and Smith first set out to teach pathology to medical students in Galveston. The diagnosis of disease and control of therapy with the assistance of laboratory methods, whether
based on visual examination or quantitative measurement, has variously been called \textit{clinical pathology} (to distinguish it from morgue pathology and emphasize its clinical applications), \textit{laboratory diagnosis} (to emphasize the combination of new tools and the diagnostic role of the pathologist), \textit{pathologic anatomy} (to highlight the continuity with normal anatomy), \textit{laboratory science} (as an emphasis on the scientific nature of the enterprise), or just plain \textit{pathology}. Prior to WWI, \textit{clinical pathology} usually referred to the application of pathology to clinical practice, whether that included the examination of tissue or the laboratory analysis of blood chemistry. It was after WWII that \textit{clinical pathology} was increasingly used to describe only some aspects of applied pathology, while \textit{anatomic pathology} was used to describe tissue analysis. Whatever name has been applied, pathology has encompassed a wide variety of professional activities, scientific foci, and modes of practice over the years. Functions that we now associate with pathology research and practice appeared previously under many different names, and areas of science and clinical practice that were once considered part of pathology have long since become specialties in their own rights.

As pathology has evolved over the past century, a number of issues have remained central concerns for pathologists in this area:

1) Education: What role does pathology play in education, and how should it be taught to best effect?

2) Research: How can the need for long-term contributions to the science of pathology be balanced with demands for immediate clinical applications?

3) Practice: Who should practice pathology, how should it be practiced, and where are pathology services best provided?

4) Professionalization: How can the standards of practice be improved and maintained? Who should determine what those standards are?

Although pathologists in this area have differed in their approaches to pathology, as Dr. Dock and Dr. Smith did, they have been united in their efforts to address these questions. Together, the pathologists of Houston and Galveston have fought to gain recognition for pathologists as consulting medical specialists who have much to contribute to the best care of patients, and as basic scientists who add constantly to the fundamental understanding of disease processes through scientific research. They have found common purpose in maintaining high standards in pathology practice, in fostering interest in pathology, in attracting young physicians to the field, and in protecting the profession against government regulation and encroachment by non-physicians.

Although these themes are common to the emergence of pathology as a specialty throughout the United States, the particular challenges faced by pathologists here, and the manner in which problems were resolved, were unique to this place with its own mix of individuals and institutions. The following pages explore some of those episodes.
During the 19th century, European biomedical researchers produced a spectacular amount of new information about the pathologic processes of the human body and the causes of disease. The list is quite familiar—Xavier Bichat and Jacob Henle developed a new histologic approach to pathology. Theodor Schwann and Rudolf Virchow greatly advanced microscopy as a research technique and propounded the cell-theory of disease, with all pathologic reactions occurring at the level of the cell. Louis Pasteur and Robert Koch revolutionized scientific theory of disease by launching bacteriology and the idea of disease specificity and therapeutic (chemical) specificity. Elie Metchnikoff and Paul Ehrlich made great strides in serology and immunology and the instrumental techniques for studying blood. And Édouard Brown-Séquard opened up the field of endocrinology, while Emil Fischer did the same for biochemistry.

While it is easy now to pick out the elements of their work that guide the science and practice of pathology today, the transfer of their theories into clinical practice was not necessarily easy or quick. All of these men contributed substantially to the science of pathology, but their work often advanced in different directions, with at times conflicting results. For instance, Virchow’s insistence that disease processes were alterations of normal cellular processes conflicted with Koch’s findings that bacteria, as external agents, caused specific diseases. At various points, the rapid advances in one area pushed others to the background.

While the brilliant scientific advances in pathology were highly valued in Europe for their contribution to the fundamental understanding of disease, little of it appeared to have much application to medicine, as long as therapeutic options remained so limited. The one major exception was Koch’s work on bacterial disease specificity and the potential for specific chemical therapy, although even this was resisted for several decades by some physicians.

There is often a large gap between the elaboration of important scientific ideas, and their useful application to medical practice. Most of the scientific theories elaborated by those European pathologists appeared to have very little practical application to the physician practicing in Texas for two reasons. First, physicians viewed disease as location specific, even if specific pathogens were implicated as a contributing factor. As a result, the scientific approach used by European pathologists was considered transferable, but the exact disease descriptions considered to be specific to Europe. This idea was reinforced by the great difficulty American researchers had in replicating European bacteriological results in American settings with inadequate laboratory supplies and chronic problems with highly specialized techniques. If research scientists had problems in replicating those results, then general practitioners in Texas were even less equipped to pursue research or incorporate the new techniques into their routine practices. Even microscopes, the hallmark instrument of a pathologist, were still in rare supply among Texas physicians in 1916.
It was not the scientific theories of European pathologists that captured the American mind so much as the methodology the European investigators used that was eagerly adopted by some Americans. Pathology came to Texas as an emblem of objective, efficient, scientific reform in the medical education of future physicians. Dr. Dock and Dr. Smith were infused with ambition for changing the way medicine was taught and practiced in the United States from a tradition-bound enterprise into a truly scientific pursuit.

The clarion call for scientific reform was hardly limited to medicine; from about 1880 to 1920 “scientific efficiency” was considered the progressive approach to any human undertaking, whether the construction and management of new industries, the running of a hospital, or the organization of the household. Laboratory training and experience with research were deemed essential for the proper training of young minds, in medicine as it was in other fields. And pathology, encompassing at the time histology, bacteriology, immunology, parasitology, and biochemistry, was considered to provide the quintessential laboratory science education. Unlike the Germans, who viewed laboratory experience as essential only for an elite group of people destined for positions in the civil service, Americans put a more democratic slant on the subject, as they began to view laboratory experience as essential training in deductive, rather than inductive, reasoning for all medical students.
The choice of Galveston as the ideal location for the first state medical school was based upon several facts: Galveston was the most populous city in Texas at the time and it was considered to be the most healthy location in the state. For decades, Galveston Island had served as refuge for those seeking to restore their health, or to escape from the threat of yellow fever and cholera. People came from as far away as New Orleans and South America to recover their health. One person commented, "That Galveston Island is the most salubrious portion of the whole Texas seaboard, or low flat country, appears to be universally conceded. That is, it is more healthy than any other portion of the confessedly unhealthy coast ranging from seventy to one hundred miles inland from the borders of the Gulf of Mexico...." Despite the healthful benefits offered by the climate of Galveston, the physicians then practicing were mostly considered to be a danger to the health of the population. One commentator on the Galveston medical scene likened physicians to tarantulas, whose poison can kill others but not themselves, while another warned newcomers to Galveston to avoid "lawyers, doctors, and quack medicines, and all other unseemly monsters."  

When Dr. Dock arrived in Galveston in 1889 to teach pathology at the Texas Medical College, he found a reform spirit already in place. The Texas Medical College had been re-established after a seven-year hiatus, during which the University of Texas Medical Department was to have been built. The Texas Medical College reopened its doors with a vastly expanded curriculum of three years, including courses in medical chemistry, general pathology, morbid anatomy, and bacteriology during the second year. Dr. Dock was the professor of pathology, and Dr. H.P. Cooke taught pathological anatomy and physiology. Local businessmen of Galveston contributed thousands of dollars to the school for the equipment of the laboratories, indicating the respect they held for pathology as an essential part of medical education. Clearly the Board of the Texas Medical College viewed pathology in the same light because, of all the eight faculty members hired, Dr. Dock was the only one to receive a salary. The entire income of the college, derived from students' fees, went to paying Dock's salary and for the equipment of the laboratory.

When Dr. J.F.Y. Paine became dean of the new University of Texas Medical Department in 1891, he explicitly noted that the regents "...have organized this school upon a plan that is in line with leading medical colleges in the United States, and we here register the solemn edict: Its standards shall never trail in the dust." By mentioning the leading medical colleges in the United States, he was referring to Harvard, Columbia, and the University of Pennsylvania, which had already adopted a German model of laboratory instruction as the key to training...
good clinicians. Only in these schools had pathology taken on a new guise, encompassing microscopy, chemical analyses, blood testing, histology, bacteriology, and morbid anatomy. By declaring that UTMB was modeled on these schools and would not lag behind them in instilling higher standards of practice in future generations of physicians, the dean was promoting pathology to a new pre-eminent position in the medical curriculum.

The emphasis on pathology laboratory experience did create some complications for the school, since the procurement of bodies for medical students was somewhat tricky. As Dr. Paine explained, "...the rigid execution of the law had to be complied with, and to evade its penalties the dead bodies generally underwent the formality of interment. These subjects were subsequently resurrected by the students. The ghoulish forays, being undertaken after midnight in the dark of the moon, and hair-raising experiences were sometimes associated with these gruesome[sic] missions."

When the UT Medical Department finally made its long-promised appearance in 1891, the school acquired the dean, five faculty members, and most of the chemical, anatomical, bacteriological, and other medical instruments of the Texas Medical College, but not Dr. George Dock as professor of pathology. In his stead, Dr. Allen J. Smith was hired as professor of pathology, after UT had advertised nationally and internationally for faculty members to fill the positions available in the new school. When the University of Texas Medical Department opened its doors in 1891, the school was most unusual in having a university affiliation, the new John Sealy Hospital as a dedicated teaching hospital, and fully salaried faculty. The UT Medical Department was renamed the University of Texas Medical Branch (UTMB) in 1919. From the outset, all of the faculty were salaried; but Dr. Smith, as a professor of pathology, encompassing pathological anatomy, histology, embryology, parasitology, microscopic pharmacognosy, tropical medicine, nervous and mental diseases, general biology, inorganic chemistry, and bacteriology, received an annual salary of $2000, compared to the $3000 received by the professors of surgery, physiology and hygiene, and chemistry and toxicology. This was an interesting reversal of Dr. Dock’s salary situation in the previous year at Texas Medical College.

Dr. Smith made available to his students the large collection of pathological tissues he had brought with him, and his microtome for preparing slides. He put considerable effort into building a large collection of study slides and gross sections for the use of students in pathology lab by sending appeals out to physicians throughout Texas to send in interesting specimens for the pathology museum. Although Dr. Smith investigated bacteriology and parasitology himself, in concentrating on anatomical pathology and the study of many specimens in the medical curriculum, Dr. Smith was following the lead of Dr. William Osler, his previous colleague at the University of Pennsylvania Medical School. Dr. Osler emphasized that the correlation of anatomical pathology findings and clinical outcomes was the very essence of pathology.

Dr. Smith’s first appeal for tissue contributions promised to put the donor’s name on the slide, and keep a detailed record of the patient’s clinical history. Subsequent appeals gave more explicit instructions for proper preservation of materials prior to mailing, because specimens were arriving in various states of putrefaction. The announcement promised that the pathology department would pay the postage. A few years later, the department promised to return a diagnosis to the physician, free of charge, effectively offering free diagnostic lab services by mail.
The U.S. Postal Regulations, effective from 1892 through at least 1916, prohibited the mailing of pathologic specimens to individuals. The enforcement of this regulation became a particular concern when there was a marked increase in the 1910s in the numbers of pathologic specimens mailed routinely, and the breakage of culture tubes and inadequate packing exposed postal workers to potentially contagious disease. Each laboratory was responsible for demonstrating that the lab was equipped to deal safely with the specimens once they were delivered. The postal regulations, when they were enforced, ensured a certain minimum level of competence in laboratories, not in obtaining accurate results, but in the safe handling of hazardous materials, long before any other regulations were in effect for the standards in clinical pathology labs.

Under Dr. Smith’s hand, the teaching laboratories were transformed from virtually bare rooms on the second floor of the medical school into a model of medical education between 1891 and 1905, when the pathology lab and the histology lab were each equipped with 30 microscopes, and the bacteriology lab on the next floor was equipped with microscopes with oil immersion lenses. Dr. Smith pushed for other improvements in the entire school as well.

The school introduced a four year curriculum in 1897, the same year that Dr. Smith became dean of UTMB. The UTMB outpaced most medical schools in the south and midwest in improving the caliber of graduating physicians by raising their educational requirements. Between 1906 and 1910, entrance requirements were raised at UTMB to include one year of college work in inorganic chemistry, biology, and physics; this was four years in advance of the American Medical Association’s Council on Medical Education requirements that Class A schools raise their entrance standards. Only 41 out of 135 medical schools in the U.S. received such a ranking in 1904. The entrance requirement was raised again in 1936 to include three years of college, with some courses in the basic sciences.

The UTMB fared well even in the most stringent of assessments early in this century. When the American Medical Association (AMA) council invited the Carnegie Foundation to evaluate medical schools, the resulting report produced by Abraham Flexner in 1910 accelerated a reform movement in medical schools that was already well underway. Dr. Abraham Flexner was a scientist (Ph.D.), not a physician, and his assessment of medical schools was geared toward a model of medical education based more on research than on practice. He looked first at the level of entrance requirements, the size and training of faculty, and the economic viability of the institution; only those schools with endowment funds and adequate faculty could sustain the higher costs of longer training periods with more time in research. The quality of the laboratories was a primary consideration in the quality...
of the medical education. Dr. Flexner made no evaluation of clinical training of medical students, but only inquired whether the school was affiliated with a general hospital.

The UTMB elicited praise from Dr. Flexner because in 1909 it had admirable teaching laboratory facilities and a pathology museum, adequate general operating funds for both the medical branch and the teaching hospital, and salaries for all faculty members.

After 1900, the pathology curriculum did not remain centralized in the pathology department. The departments of surgery and medicine soon began teaching their own courses in clinical pathology and surgical pathology; and bacteriology, initially taught under pathology, became a separate department in 1904. Dr. James W. McLaughlin, a professor in medicine, established a clinical laboratory at John Sealy Hospital before 1900. Dr. Marie Charlotte Schaefer graduated from UTMB in 1900 and, after further training at Johns Hopkins Medical School, she returned to Galveston to teach histology and embryology in the pathology department. She soon branched off in 1904 as the head of a new section of histology and embryology, recognized as an independent department in 1912. Later, in 1931, Dr. Meyer Bodansky became the one-man Department of Pathological Chemistry, and director of the laboratories for John Sealy Hospital.

This early decentralization of the pathology curriculum was applauded by some. Dr. John T. Moore, a prominent pathologist in Galveston and chairman of the Section on Pathology in the Texas Medical Association (TMA) in 1906, commented favorably on the fact that clinical pathology was no longer taught by the chair of pathology, but within the departments of medicine and surgery. He felt students were too isolated from patients, rarely seeing the person from whom specimens were taken. He commented that this taught medical students to view pathology as an esoteric, expensive enterprise remote from patients. When students were trained by the clinicians who managed the patients in the wards, they were more likely to see the importance of doing the laboratory work, in addition to learning the necessary techniques.

The decentralization of the pathology curriculum at UTMB reflected a changing view of the utility of pathology. By 1906 some physicians no longer viewed the primary utility of pathology as a basic science to be used in training medical
students to think critically, but increasingly viewed pathology as a useful practice for all physicians to apply, with practical clinical results that could guide the physician's diagnosis and treatment of patients. The pathology curriculum, as it was increasingly integrated into all of the clinical departments, was designed primarily to equip medical generalists with sufficient knowledge of pathology and technical skills for good practice, not only to train medical students in scientific thinking. The vast majority of UTMB graduates went into general practice in Texas, so the pathology curriculum was geared to train them accordingly.

The appropriation of pathology by other departments also reflected the success of pathology in depicting itself as the unifying science bridging the basic sciences and clinical practice. Other fields of medical endeavor, in their attempts to become more scientific, turned to pathology as a means to achieve that. Internists were the first to adopt laboratory testing as a scientific tool to aid in clinical diagnosis. Surgeons turned to pathology testing for corroboration of their diagnoses and treatments, since surgeons at the turn of the century were battling a reputation for reckless and excessive surgery. The adoption of aseptic techniques, antisepsis, and anesthesia at the end of the 19th century had made it possible for surgeons to undertake quite lengthy operations, and there were many who believed that surgeons then took the license to operate with very little cause. Surgeons increasingly used laboratory tests as objective, scientific data in their pre-operative evaluation and post-operative monitoring of patients, to lend scientific authority to their clinical practices. Iodine reactions and differential white blood cell counts were viewed as especially useful by surgeons as diagnostic of dangerous hidden infections such as appendicitis, and useful for monitoring the post-operative patient to see if the infection had been eradicated. Red blood cell counts and measurement of hemoglobin were valued for testing the patient's ability to withstand surgery.

The diffusion of pathology instruction to the various departments at UTMB was one of the reasons that the pathology department itself grew so slowly. The pathology department continued to provide instruction in general pathology, but the clinical applications of that pathology were taught as integral parts of the clinical sciences. During Dr. Smith's tenure from 1891 to 1903, he was solo for the first few years, and had the assistance of two demonstrators, one in normal histology, general biology, and embryology, and one in pathology for the remainder of the time. The department shrank again to two members when normal histology, biology and embryology branched off under Dr. Schaefer in 1903. From then until 1927, the pathology department had at most one full professor of pathology, one demonstrator or instructor with a medical degree, and one or two assistants, usually medical students or recently graduated physicians. Between 1928 and 1939, the number of physicians teaching in the pathology department hovered at around four.

It was not until after 1939, when clinical pathology, surgical pathology, general pathology, and experimental pathology were brought together again within one department of pathology, and the shortage of pathologists produced by WWII had eased, that the pathology faculty began to expand again. Dr. Paul Brindley remained the sole full professor in pathology until Dr. Raymond H. Rigdon joined the faculty as the second full professor in 1947. Over the next decade, the full-time faculty expanded to seven. The expansion kept a steady pace, with 12 full-time faculty, 5 part-time, 7 residents, 1 graduate student, and 49 technicians in 1965, growing to 55 full-time faculty, 18 adjunct faculty, and innumerable technicians by 1987.
The post-WWII expansion in the pathology faculty at UMB was paralleled by a similar growth in the pathology department at Baylor College of Medicine, after the institution moved to Houston in 1943. Dr. Stuart A. Wallace, chair of pathology in Dallas, and Mrs. Anna Haley, a tissue technician who had been working under Dr. George T. Caldwell, were the two members of the department who agreed to move as well. Anna Haley was married to Dr. Melvin Haley, who had just graduated from Baylor in Dallas, and came to Houston for an internship at Hermann Hospital. They were joined in the first year by Dr. Paul A. Wheeler, recruited from Washington University School of Medicine, where he was an associate professor of pathology, and Dr. S.E. Kerr, an instructor in pathology.

To supplement the small number of full-time faculty in pathology, Baylor offered pathologists in local hospitals appointments as voluntary faculty; Jefferson Davis Hospital became the first major teaching hospital for Baylor. Clinical appointments were also offered to many pathologists in private laboratories, most of whom accepted the offer. Over the following ten years, Baylor arranged affiliations with Hermann Hospital, Southern Pacific Hospital, Houston Negro Hospital, San Jacinto Memorial Hospital at Baytown, the Veterans Administration Hospital, and Houston Tuberculosis Hospital.

Thus, the list of faculty in pathology at Baylor immediately looked impressively large; but most of those faculty were voluntary faculty. The full-time, salaried faculty in pathology at Baylor grew from the initial two in 1943, to three in 1949, gaining two additional salaried positions by 1952. When Baylor established a residency program in 1946, all pathology residents were appointed as instructors with responsibilities for teaching medical students and performing service work in the many affiliated hospitals, further swelling the ranks in the department. By 1967 the department counted 17 full-time faculty, 6 full-time faculty shared with other departments, 8 instructors, 5 full-appointment volunteer faculty, and 26 volunteer faculty with clinical appointments. There were an additional 30 house staff, fellows, and trainees. The department now numbers a total of 67 faculty members.

The first endowed professorship at Baylor was established in 1943 in the pathology department as a memorial to R. Clarence Fulbright, under the direction of his widow, Mrs. Irene Fulbright. Any funds unused in supporting the professorship were to be used for the maintenance of the department of pathology. Dr. Stuart Wallace was the first professor to fill this chair. Dr. Wallace was known as a man...
who lived very simply, driving a small car and residing in a modest home. Supposedly, Mrs. Fulbright felt that the Fulbright Professor should travel more grandly than he did; and she provided him with a new, very large Cadillac. The only problem was that the car would not fit into his garage, so Dr. Wallace resorted to removing his garage doors to accommodate the new vehicle, until he eventually traded cars with a medical student, ending up with a Pierce Arrow instead.

At Baylor, the curriculum in pathology was spread over the last three years of medical school, with second-year students taking courses in general and systemic pathology, and biology of neoplasms, and attending two full autopsies. Third-year students studied surgical pathology under Dr. Bela Halpert at the Veterans Administration Hospital. They, with the fourth-year students, were required to attend all of the clinical pathology conferences during the year. Fourth-year students learned autopsy technique. The immediate challenges the department encountered were an overload of service work at Jefferson Davis Hospital, and the difficulties of supplying the medical students with fresh surgical and necropsy material for instruction.
DEALING WITH SHORTAGES OF PATHOLOGISTS

However, a more serious long-term concern was the small number of medical students who were attracted to careers in pathology. For many medical students, one of the major appeals of medicine was patient contact; and pathology was seen as a very isolated practice, far removed from patient care. Both Baylor and UTMB found it challenging to find enough high-caliber pathologists for academic work when there was a general shortage of pathologists in practice, and there remains to this day a major discrepancy between salaries for academic pathologists and the incomes pathologists earn in private practice. Dr. Harlan Spjut remembers his former colleague, Dr. Lauren Ackerman at Washington University School of Medicine, commenting in the 1950s on the fact that he could have earned in private practice three to four times what he earned as an academician. The choice of pathology as a profession was also often viewed as odd—Mrs. Anna Haley tells of encountering another physician's wife, who exclaimed with astonishment over the fact that Dr. Haley went all the way through medical training and still went into pathology! With those obstacles to attracting young physicians into the field, academic pathologists tried valiantly to interest greater numbers of medical students in pathology by emphasizing the clinical aspects of pathology, and trying to engage students in the excitement of research.

The UTMB introduced a plan for students who were interested in pathology to devote a year to research or special studies, in between the second and third years of medical school. Baylor followed with a similar scheme, with the year spent in research eligible for board credit. The department even offered financial fellowships to entice students into spending a year in pathology research, with the idea that the research would engage the minds of the medical students early enough that they might be interested in later specializing in pathology. Dr. Spjut explained the logic behind this: Baylor had a great shortage of pathologists, as did most other places in the United States, in part because medical students liked patient contact, and in part because students often had little idea of what pathology really was. The pathology faculty at Baylor hoped that some of the students would be sufficiently interested in their research projects that they would stay on at Baylor after graduation. The majority of the students who did take the additional year for research did indeed go on to specialize in pathology.

Both pathology departments continued to experiment with different methods of teaching, and different curricula, in search of a balance that would best serve the students’ needs and foster their interest in pathology. At both UTMB and Baylor during the 1940s and 1950s, the bulk of the pathology curriculum was concentrated in the sophomore year, with juniors and seniors participating in clinical pathological conferences, surgical pathology training in hospital laboratories, weekly slide seminars, and tumor conferences.

Around 1960, both UTMB and Baylor adopted a revised medical school curriculum allowing the students more time to take elective courses. Pathology was introduced in the freshman year, and even though the majority of instruction in pathology still occupied the sophomore year, both institutions introduced many more options for elective work in the clinical setting. At Baylor, Dr. Joyce Davis, as director of the student teaching program, gradually revised the approach to education in pathology by moving most of the teaching into the hands of clinical faculty in the affiliated hospitals, dividing students into small groups, and emphasizing clinical pathological correlations through case presentation with autopsy materials. Experiments were introduced as a small-group teaching method in 1963, and a greater effort was made to coordinate the pathology course with the course in internal medicine.
When UT-Houston opened its doors to medical students in 1972, the pathology curriculum introduced first-year students to pathology through a histology course; and then most pathology instruction was in general pathology coursework during the sophomore year. Dr. Margo Restrepo, a student in the first class to graduate from the new UT-Houston Medical School, remembers arriving for her first year of medical school and discovering that laboratory work was part of the first year curriculum even though the school had no teaching laboratories set up. All the students were instructed to spread themselves out around the medical center, and find laboratories in which to work for the first year. For those interested in pathology, the laboratories of Hermann Hospital were already well equipped, and the staff were quite experienced in teaching. Dr. Restrepo remembers her dismay the first day of pathology class, when the professor walked in, pointed to boxes holding 5000 pathology slides, and announced that the students would know all 5000 by the end of the term. The exam was almost like an assembly line: the students marched past microscopes lining the room, paced in their examination of each slide by the press of students coming along behind.

The pathology faculty at UT-Houston began to reorganize and expand the pathology curriculum almost as soon as the school opened. Within two years, under Dr. Donald Cannon's leadership, the department had a vastly revised histology course, a new course as introduction to laboratory medicine, and summer fellowships for students to work in the labs over the summer. The department also proposed a masters degree program in medical laboratory sciences. During Dr. Cannon's tenure from 1974-1980, the numbers of hours that medical students spent in pathology doubled, with great expansions in the histology and general pathology courses and in opportunities to participate in the specialized clinical labs at Hermann Hospital. As both UTMB and Baylor had done when their pathology departments were new and expanding, the UT-Houston pathologists found it possible to try a variety of new approaches to teaching pathology to medical students.
As early as 1913, long before residency programs were a formalized arrangement for post-graduate training in a specialty, the pathology department at UTMB effectively ran a residency program, with young physicians serving as instructors in pathology for a number of years before leaving to become pathologists elsewhere. The number of instructors employed at UTMB was usually only one or two per year until 1939. That year all of the pathology instruction that had been formerly scattered in various clinical departments was reconsolidated into the pathology department, which suddenly acquired from them seven instructors of various levels of experience.

The end of WWII led to a great surge in residency positions in pathology, as returning military personnel sought residency positions, and the demand by hospitals for board-certified pathologists escalated. The United States military had reinforced the benefits of residency training by offering higher salaries to medical officers who held board certification in their specialties. There was some confusion among hospital administrators about what the purpose of a residency was. Many hospitals requested approval for residency positions because they were shorthanded and looked to residents as qualified but inexpensive help in the laboratory. Residents were indeed a small cost to the hospital.

When Dr. Melvin Haley came to Hermann Hospital as an intern in 1943, his monthly salary was $25; his wife made three times that much working as a tissue technician at Baylor. By the time Dr. Haley reached his fourth year of residency at Baylor, his monthly income had reached the handsome level of $95. Since residents were expected to be young, unmarried, and to live in the hospital, such low salaries were considered to be sufficient. What was not apparent to many hospital administrators was that residency programs required additional time from the senior pathology staff in training the residents; residents meant more work, not less.

Formalized specialty training in pathology was introduced at Baylor in 1946, as it was in Galveston at UTMB, with just a handful of positions. In 1946, Baylor also instituted a special review course in basic sciences for physicians entering residencies after military service, with classes in anatomy, pathology, physiology, biochemistry, pharmacology, toxicology, parasitology, bacteriology, and hematology. By 1955, UTMB had four residency positions, and Baylor had twelve. When UT-Houston began with 12 approved pathology residencies in 1972, it was building upon the pathology residency positions that had been previously approved at Hermann Hospital under its own aegis since 1957.

From the time pathology residencies were first introduced, the number of positions was determined by the laboratory space and staffing of hospital laboratories. The core of instruction remained in hospitals for the most part, until research came to be considered a requirement in residency training in the 1970s. Until that time, it was the ability of the hospital to handle resident training that determined the number of residencies approved, and hospitals could have approved residencies without academic affiliation. So, for instance, the pathology department at St. Joseph Hospital was accredited for residency placements in both clinical and anatomical pathology from 1953 to 1977, with an average of three residents training each year. Through an informal affiliation with Baylor, residents had access to training in subspecialties. St. Joseph Hospital dropped its residency program at the point that the two medical schools, UT-Houston and Baylor, seemed to be filling the needs for pathology residents through their programs.
M.D. Anderson Cancer Hospital, St. Luke's Episcopal Hospital, and Hermann Hospital were three institutions in the Texas Medical Center (TMC) in Houston that offered residencies in pathology, beginning in the 1950s. M.D. Anderson Cancer Hospital was initially established by the University of Texas in 1941 as a charitable cancer hospital and research institute; the provision of land, buildings, and operating funds by the M.D. Anderson Foundation brought the UT plan to fruition in 1942, with the opening of research facilities, and patient care facilities in 1944. M.D. Anderson Cancer Hospital, now known as the M.D. Anderson Cancer Center (MDACC), began training pathology residents in 1950. The hospital quickly found that the narrow concentration on cancer produced residents with too little breadth of experience. The staff at MDACC decided that it would be more advantageous to have fellowships for two reasons: 1) The shortage of physicians after WWII and the increasing number of residency positions made competition for residents quite intense. The staff at MDACC decided that they would have a better chance of attracting physicians by creating a very high-caliber training program that gave experience with cancer to those who already had other specialty medical training. These fellows would serve some of the traditional functions of a resident, but would have more opportunity for research and study in the basic sciences. 2) There was much resistance to the idea that MDACC might produce “cancer doctors.” A fellowship program that superimposed knowledge about cancer diagnosis and treatment on previous training in another specialty would lead to greatly disseminated knowledge about cancer in the medical community, without creating doctors who specialized solely in cancer.

Like MDACC, St. Luke's Episcopal Hospital, completed in 1954, was a new hospital with its first location in the TMC; in fact, it was the first general hospital built in Houston since 1927. In the Pathology Department at St. Luke’s, Drs. Carl Lind, William Hill, John Milam, and Harlan Spjut, among others, maintained an independent residency program specializing in transfusion medicine and surgical pathology; St. Luke’s pathology residency program remained independent until 1988, when it formed an affiliation with UT-Houston.

Almost as soon as hospitals were built in the Texas Medical Center, the directors of different residency programs met to arrange residency rotations through the different hospitals so that residents would gain from the special expertise of the pathologists in each hospital. The M.D. Anderson Foundation had originally planned on requiring the hospitals that moved to the TMC to specialize in particular diseases, but that plan was met with great opposition. Nevertheless, the hospitals in the TMC did end up with particular strengths in their pathology departments, as did their affiliated medical schools. The Houston-Galveston area has developed well-recognized expertise in such areas as cardiovascular, oncologic, pulmonary, pediatric, forensic, dermatologic, dental, and ophthalmologic pathology, among others. The collaborative program organized by the directors of the various residency programs benefited the residents by giving them the chance to work with senior pathologists with international reputations for excellence in a wide variety of areas.
Texas Medical Center

Although Monroe D. Anderson is the benefactor whose generosity made the Texas Medical Center (TMC) a reality in the 1940s and 1950s, his vision for the creation of a world-class medical center in the woods south of downtown Houston was anticipated years earlier by Will Hogg who had purchased the land currently occupied by the TMC. However, that initial plan for a medical center was not forthcoming, and Mr. Hogg sold the land to the City of Houston. Monroe D. Anderson created a foundation in 1936 for the promotion of health, science and education, and the trustees of that foundation used the funds in 1943 to buy back from the City of Houston the 134 acres of land that Hogg originally intended for a medical center. The foundation then encouraged the congregation of hospitals, research facilities, and institutions of medical education to relocate to the TMC by providing land, building funds, and matching funds. The M.D. Anderson Foundation offered to match the $500,000 appropriated by the Texas legislature to the University of Texas for a cancer research hospital in 1941, and provide land. The foundation also provided 20 acres and a million-dollar grant to Baylor College of Medicine, and the Houston Chamber of Commerce provided an additional $500,000 to assist Baylor in making the move from Dallas to Houston. After 1946, the TMC quickly expanded from Hermann Hospital, with its nurses and intern’s quarters, to include the Hermann Professional Building in 1941, Methodist Hospital in 1951, the Arabia Temple Crippled Children’s Hospital in 1952, and M.D. Anderson Hospital, Texas Children’s Hospital, St. Luke’s Hospital, and Jesse Jones Library, all in 1954. The M.D. Anderson Foundation continued to foster the stability and growth of the institutions in the TMC with subsequent contributions.
EXPANDING THE SPECIALTY

Martha A. Wood, M.D.
Dr. Martha A. Wood received her M.D. from UTMB in 1903 and stayed there for an internship before pursuing graduate work in pathology at Johns Hopkins and the Mayo Clinic. She returned briefly to Galveston before establishing a private clinical pathology laboratory affiliated with two physicians in Houston in 1911; her lab and the one started by E.E. Cooke in 1909 were the only two labs in Houston approved by the AMA in their 1929 directory.

Between 1933 and 1945 she served as director of the clinical and pathology laboratories at Methodist Hospital, after which she set up a completely independent lab and Pasteur Institute. Dr. Wood was a highly influential pathologist in the greater Houston area; she served in turn as a founding member of the Houston Pathological Society in 1914, and the State Pathological Society of Texas in 1916, and vice-president of the newly reorganized State Pathological Society of Texas in 1934. At professional meetings she presented scientific papers and presented discussions on such topics as whether the practice of pathology was a technical or a professional activity.

Methodist Hospital
Methodist Hospital began as a modest building at the corner of Rosalie and San Jacinto Streets in downtown Houston. The hospital, chartered in 1922, was the expansion of a private hospital originally built in 1908 by Dr. Oscar L. Norwothy. During the first two decades of its existence, as the hospital struggled to survive, Dr. Edward F. Cooke served as the hospital's pathologist, sharing his time with Dr. Joseph's Hospital until his death in 1931. The role of chief pathologist was taken by Dr. Martha Wood, who had been in practice in pathology in Houston since 1911. Dr. Wood stayed with Methodist Hospital at its location downtown until her ill-health forced her to retire in 1945. It was through Dr. Wood's unfortunate illness that Baylor and Methodist were brought into an affiliation agreement. Dr. Paul Wheeler, the second professor of pathology to join the Baylor faculty in 1943, was recommended to Methodist as a temporary replacement for Dr. Wood, but the staff at Methodist were so pleased with Dr. Wheeler, and his associate, Dr. Wallace, that a more permanent affiliation was decided upon. The affiliation between the two institutions became more convenient when Methodist relocated to the Texas Medical Center, with a donation of land from the M.D. Anderson Foundation, and building funds from the foundation and from Hugh Roy Cullen.

Dr. Jack Abbott bridged the move from the old location to the new; he served a residency in pathology at Methodist from 1949 to 1952, and then took a full-time position at the hospital for the next 23 years, joined by Dr. Berne Newton, also from the faculty at Baylor.

With pathology changing so quickly after 1910, the problem of educating physicians about pathology services, and maintaining standards of practice among pathologists became more pressing. The institution of clinical pathological conferences in most hospitals helped to keep the pathologist and the clinicians attuned, but it also served as a monitor on the standards of practice within the hospital. During the late 1930s, Dr. Martha Wood helped organize a Friday afternoon seminar for the medical staff at Methodist Hospital, in which she usually distributed slides for the group to identify, and participated in the discussions "...that ran the gamut from philosophy to ethics to fees...."

At Baylor, Dr. Paul Wheeler organized a similar slide seminar, which was open to anyone interested in attending, including residents and basic scientists from other institutions. That tradition was continued for years at Baylor, but local pathologists were soon invited to participate as well. Everyone brought his or her own microscope and slides were provided by any pathologist who had interesting cases to share. The seminars could be grueling, since every person was expected to comment on each of the cases presented by the participants; but it was very well attended all the same. When Dr. Spjut arrived in Houston in 1961, he was impressed with the caliber of the community pathologists who participated in the seminars.

Methodist Hospital Pathology Laboratory, 1922. Courtesy of HAM-TMC.

The Friday afternoon slide seminars at Baylor Department of Pathology, 1952. Dr. Stuart Wallace is seated in the back corner. Courtesy of HAM-TMC.
When the Houston Society of Clinical Pathologists (HSCP) was organized in 1948, one of the express purposes of the society was to raise the standards of work in local clinical pathology labs. The HSCP initially approached this task by sponsoring monthly scientific talks at the Harris County Medical Society (HCMS). The monthly presentations on topics in pathology and the HSCP annual slide seminar were open to non-pathologists as well, and they served as a form of continuing medical education. When Dr. Hill suggested that the HSCP invite instrument manufacturers to demonstrate their equipment at some of the society's meetings, he proposed it as a means for gaining financial support for the society, but also as a way to keep local pathologists up to date on what techniques were currently available.

Dr. William Russell concentrated some of his efforts on fostering on-going education for pathologists through individual contact. When pathology positions became available around the medical center, he encouraged the institutions to hire graduates of Washington University School of Medicine. Dr. Lauren Ackerman was chair of surgical pathology at Washington University, and he was a major proponent for removing the pathologist from isolation in the laboratory and making the pathologist an active participant in the clinic and the operating theater. Through Dr. Russell's influence, a large number of pathologists came from St. Louis to fill positions in almost every institution at the medical center. This included Drs. Paul Wheeler, Harlan Spjut, William Hill, Edward Reynolds, Wilson Brown, Robert O'Neal, Robert Fechner, Joseph Skinner, Sid Anderson, Franz Leidler, Frank Townsend, and Peter Marcuse. Russell's idea was that each pathologist, placed in strategic positions in local hospitals, would be able to educate physicians in each institution about pathology, increase the judicious use of pathology services, and assist in training the next generation of pathologists.
William T. Hill, M.D.

Dr. Hill has played a prominent role in surgical pathology in Houston, as a member of the pathology staff at St. Luke’s Episcopal Hospital, in private practice in west Houston, and as a very active member of the Houston Society of Clinical Pathologists and the Texas Society of Pathology. Dr. Hill completed his medical training at the University of Arkansas Medical School in 1947 and entered family practice for two years. He decided that there was no peace in a small-town family practice, and he applied for residencies in pathology. After being accepted for a pathology residency under Dr. Arthur Purdy Stout at Columbia, Dr. Hill went to Washington University School of Medicine to spend a year with Dr. Lauren Ackerman. His return to Columbia was interrupted by two years of military service in Texas. During Dr. Hill’s military service, Dr. Russell at M.D. Anderson Cancer Hospital borrowed Dr. Hill, as well as two other pathologists, on a rotating basis from the military to help alleviate the severe shortage of pathologists in Houston. Dr. Hill worked briefly as a pathologist in Flint Michigan, but was enticed back to Houston by Dr. Lind at St. Luke’s Episcopal Hospital, and by Dr. Russell, who assured him Houston needed him.

Dr. Hill was instrumental in the organization of the Gulf Coast Regional Blood Center and a program for procurement and transplantation of organs, among many other activities. He has been a particularly active member of the HSCP and the TSB contributing substantially to both organizations’ efforts to maintain high standards of practice among pathologists and to secure their professional standing throughout Texas.

Dr. Hill says that many clinicians were initially uncomfortable with the pathologist coming out of the lab, and many essentially told him to go back where he belonged because pathologists didn’t know clinical diagnosis. However, a number of clinicians quickly came to favor such collaboration after the perspectives he offered as a pathologist proved useful. One of his early experiences with such collaboration was during his military service at Brook Army Hospital, when he was asked to start bacteriologic cultures on two children who had burns covering 80% of their bodies. The patients and the doctors all cried as the children were unbandaged for tissue sampling; eventually the medical group engaged a local opera singer to come distract both physicians and patients during such procedures. Faced with the medical challenge posed by extensive burns, Dr. Hill began using needle biopsies to determine the depth of burns. Once the depth of burn was determined, it was much easier to work out appropriate treatments.

Many of the pathologists who worked in medical institutions here have similar stories to tell of winning over clinical colleagues to the idea of pathologists as valued contributors to clinical decision-making. For example, pathologists specializing in transfusion medicine provided much needed and appreciated medical consultations in a variety of situations, from life-saving apheresis techniques, to the specialized support of cardiovascular surgery, cancer, and trauma patients. Dr. Tomas Klima was particularly impressed when he arrived in Houston in 1970 to see the emphasis placed on cooperation between clinicians and pathologists in the medical institutions here. By comparison, he found European pathologists to be far more isolated from clinicians.
Up to about 1930, pathologists working in the Houston/Galveston area trained their own medical technologists through apprenticeship. At St. Joseph Hospital, as at many other hospitals, training of medical technologists was an informal part of the pathology laboratory's function beginning in 1921 when the lab first became a service under the direction of a single physician, rather than a set of equipment accessible to all physicians. In 1927, Dr. Violet Keiller had the assistance of two hospital interns, whom she shared with all the other medical departments in Hermann Hospital. She had no technicians devoted to laboratory work or trained in its techniques until she began to train them herself. In 1928, the American Society of Clinical Pathologists established an accreditation program for hospitals training medical technologists through apprenticeship, and began a registry of medical technicians meeting acceptable levels of training and skill.

During the 1930s many hospitals in this area further organized their medical technology training programs: Dr. Meyer Bodansky, chair of chemical pathology at UTMB, started a medical technology training program at John Sealy Hospital in 1930. In 1940, Dr. Bodansky favored the eventual integration of medical technology training into the university curriculum, but he insisted that practical experience was far more valuable than lectures and laboratory exercises in the absence of university programs. One of his primary concerns was that the salary of medical technologists was not commensurate with their training, so the temptation to set up independent labs in competition with pathologists would be overwhelming. St. Joseph Hospital also developed a program in the same period. At Hermann Hospital, The School of Medical Technology was approved by the American Society of Clinical Pathologists as a school in June of 1943, the same year that the national Board of Registry of Medical Technologists stopped certifying technologists who were trained by apprenticeship. The Hermann program was unusual, both in requiring three years of college, and in having a college affiliation itself. In the decade after WWII, Memorial, St. Luke’s Episcopal, Methodist, and the Veterans’ Administration hospitals all started schools for medical technologists as well.
Hermann Hospital

Hermann Hospital was established as a charity hospital through the generosity of George Hermann, who had provided for the construction of such a hospital in his will. Patients were admitted by the superintendent, who screened out patients with contagious or incurable diseases and those who were insane. When the original hospital was completed in 1925, laboratory space was built into the outpatient clinic area, not in the traditional location in the basement. The laboratory was a single room, equipped with a sink, microscopes and centrifuges, and the pathologist had an office adjacent. Surprisingly, the clinic area itself was lacking any facilities for washing hands, and a sink had to be added later. Although the operating rooms on the fifth floor had no adjacent laboratory space, there was an elevator connecting this floor with the laboratory in the outpatient clinic. The hospital was considered to be a model of modern hospital facilities, but it was so isolated from downtown Houston four miles away, that the hospital administration found it necessary to build a wild-animal-proof fence around the building to prevent wolves, attracted by the odor of blood and sickness, from parking themselves under the windows and howling endlessly.

Dr. Gibbs Milikian, who had been in the pathology department at UTMB, provided pathology services for the hospital in 1925 and 1927. Dr. Violet Keiller succeeded him, and worked at Hermann Hospital until her retirement in 1948. The excellent pathology services provided by Drs. Milikian and Keiller contributed to Hermann Hospital's accreditation in 1927 by the American College of Surgeons. After Dr. Keiller retired, Dr. Wilson G. Brown joined the staff and also served for 21 years as chief pathologist.

Dr. O. L. Norsworthy left his estate of $200,000 to Hermann Hospital in 1935, to be used for pathological research, education, and equipment. The first major expansion of lab space came with the remodeling of the main hospital in 1949, when new facilities were provided for both blood banking and laboratory equipment and personnel. The original Hermann Hospital building was remodeled in 1955. The same year, a radioisotope committee, headed by Dr. Brown, obtained licensing from the Atomic Energy Commission for the use of radioiodine for diagnostic and therapeutic uses. The committee also requested permission for the use of other radioisotopes as well, under the direction of the newly formed Department of Nuclear Medicine. By 1965, Hermann had more than 20,000 sq. ft dedicated to laboratory space, compared to the 2000 sq. ft originally provided in 1925. The entire third floor of a new wing to the hospital was devoted to pathology labs in 1967.

Hermann Hospital was one of the few local hospitals to gain approval for a pathology residency program in 1957, independent of any academic affiliation. In 1968, the pathology residency program was extended from a three-year program to four years, and the program remained hospital based until Hermann's affiliation with UT-Houston in 1972.

Despite the growing number of schools for medical technology in this area, the shortage of well-trained technologists and the overabundance of inadequately trained and unregistered medical technologists continued to be a major problem for pathologists who increasingly relied upon medical technologists to keep a lab running. The proper training for medical technologists was an issue frequently discussed by pathologists since the 1920s. Technologists inadequately trained in commercial schools posed a danger to patients and made it difficult for pathologists to control the quality of care in hospital laboratories, where technologists were hired by the hospital administrator and not the pathologist.

One of the problems was that graduates of commercial schools with short training courses had no problem finding jobs, given the chronic shortage of medical technicians. There was then little incentive for those entering training to complete three years of college and a year of lab work to qualify as a registered medical technologist when aspiring technicians could complete a short course after finishing high school. Some pathologists feared that the constant push to raise the requirements for registration would create an overly academic atmosphere and thereby discourage all of the better students.
Despite the concern over the proliferation of commercial schools of medical technology, the pathologists vehemently opposed the idea of licensure of medical technologists. One such licensing bill was introduced to the Texas legislature in 1950 by the Association of Medical Technologists, a group of commercial medical technology school owners. Dr. Charles Sanders, the first president of the HSCP, expressed his complete opposition to the bill and suggested that all HSCP members do everything possible to oppose any similar bills. Pathologists objected to any sort of licensing for technologists because it would interpose the state between the pathologist and the technologist, and the requirements for licensing would become quickly outdated as the practice of clinical pathology advanced rapidly.

The HSCP addressed the issue again in 1961. The membership turned to public education for high school seniors about careers in medical technology, and voluntary registration by the AMA and the College of American Pathologists (CAP) to elevate standards of training for technologists and alleviate the chronic shortage of qualified medical technologists. The society organized a committee on health fairs for high school students, and Drs. Elizabeth Powell and John Thomas collaborated with local medical technologists to prepare a display on the different aspects of pathology. The display on tissue work, blood banks, chemical analyses, bacteriology, and hematology were intended to educate high school students about medical technology as a potential career, and to influence them to pursue good training and certification. The display featured all the latest equipment in diagnostic pathology, including a cryostat, many large pieces of apparatus from the clinical lab, slide projections from microbiology, and mannequins representing blood donors and patients. Various members of HSCP also volunteered to attend career days at local high schools to answer questions about medical technology as a profession.
In 1966 Baylor addressed the continuing shortage of qualified technologists by proposing that the directors of all the medical technology schools in Houston organize a central curriculum for the didactic portions of the medical technologists' training. Baylor offered to conduct the didactic lectures for five hours per week. The expressed purpose was to improve the quality of the various programs and, therefore, the quality of the students. An added bonus was the opportunity to decrease the number of instructor hours required to train all the medical technologists. Seven schools chose to participate in the plan: Baptist Memorial, Methodist, St. Joseph, St. Luke's Episcopal, The Veterans Administration, Texas Children's, and Harris Country Hospital District hospitals. Hermann Hospital, with a well-established school of its own, did not participate. The faculty were drawn from all of the schools, and included not only pathologists, but other physicians, medical technologists, microbiologists, biochemists, and immunologists, among others. The lectures proved to be such a thorough training in biochemistry, hematology, blood banking, microbiology, serology, parasitology, and clinical microscopy that residents and graduate students also frequently attended the lectures. In 1972, UT-Houston Medical School formalized the overlap in clinical pathology training for medical technologists, graduate students, and residents by merging their residency program with the Hermann Hospital School of Medical Technology.

Despite innumerable changes in the location and facilities for teaching, the vacillating perspectives of the medical community on pathology, the scientific content in the field, and the overlap between pathology and other departments, pathologists in this area have maintained throughout this century a very strong commitment to education. This emphasis on constantly elevating the standards in education for medical students, for medical technologists, and for themselves, has been one of the most successful tactics used by local pathologists to improve the caliber of pathology practice in this area. It has also contributed substantially to the good reputation of the medical institutions here.