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The History of Pathology in Texas

Marilyn Miller Baker

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The History of Pathology in Texas

Marilyn Miller Baker

Texas Society of Pathologists

The History of Pathology in Texas

By Marilyn Miller Baker

FIRST EDITION

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By Marilyn Miller Baker

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New Spain Physician - Early 17th Century

*18th Century Spanish physician in Texas, by El Paso painter Jose Cisneros
From the personal collection of Dr. and Mrs. Vernie A. Stembridge*

Foreword

FRONTIERSMEN IN TEXAS' development were a rough and tumble group. Native Americans and European immigrants satisfied their curiosity about the cause and manner of death through the performance of crude autopsies. Pioneer pathologists, by today's standards, necessarily used coarse approaches to the study of disease.

Like the state, Texas Pathology is a young specialty, the recorded activity of which is scarcely 100 years old. The University of Texas Medical Branch has the distinction of the longest lineal heritage: the early scientific contributions of George Dock and Allen J. Smith and the available autopsy and surgical pathology reports of 1892 and 1903. From that time until the present there have been at least three identifiable growth periods of pathology in the state.

The first significant step was highlighted by World War I. The emergence of bacteriology (and its sequel sanitation) together with the field of immunology did much to establish the importance of the clinical laboratory. In combination with the growth occurring in both surgery and medicine, the specialty of pathology became established and recognized. A remarkable acknowledgment of the contribution of pathologists was emphasized by the American College of Surgeons, which deemed that it would approve no hospital that did not have a pathologist in support of surgery performed by Fellows of the College.

The second significant step occurred in the aftermath of World War II. During the war, the importance of pathologists had been accentuated by their beneficial service in military hospitals, and when pathologists returned home, progress was extrapolated in two major ways: first, via the Hill-Burton Act, which fostered the establishment of first-rate hospitals in less-populated areas of the country and by the requirement that a pathologist direct the clinical labo-

ratory. Second, as a consequence of the war effort, the benefit of targeted research became crystal clear as medical school departments received funding to support the inquiring minds of their faculties.

And what of the future? From a scientific standpoint, the doors have been opened to molecular biology and the human genome. Yet, today momentous struggles continue: First, in the public's mind, providing health care and containing its costs are uppermost. Second, universities seemingly have outrun their resources and are being forced to restructure or downsize with the agonizing prospect of atrophy.

Third, what about medicine's New Wave of physicians, researchers, and others interested in good health? What torch is being passed to our youth (the New Wave) and how will it be handled?

Finally, what about Virchow? Most of us readily acknowledge that Virchow was the founder of much that we consider the body of medical knowledge. Few people realize, however, that he also championed the distinction between the body of medical knowledge and the practice of medicine, or the application of that knowledge. In other words, he focused on both the science and the art of medicine. Perhaps there are lessons yet to be learned from Virchow's seemingly forgotten pronouncements about the art.

From an etymologic standpoint, *Pathology* is the study of the essential changes of disease. With this definition, how could one doubt its future? Ours is a dedication to the essential understanding of disease. For centuries, mankind has acknowledged its "medicine men" with a position of high standing.

It behooves us now to keep to the basics, regardless of the various tuggings by governments, politicians and the like.

VERNIE A. STEMBRIDGE, MD
Ashbel Smith Professor & Chairman
Emeritus of Pathology
University of Texas Southwestern
Medical Center at Dallas
January 1996

Preface & Acknowledgments

IN 1996, THE TEXAS Society of Pathologists celebrates its Seventy-fifth Anniversary and as such is the oldest state pathology organization in the nation. Plans for a Diamond Jubilee Celebration began in 1993 when an ad hoc committee was appointed, consisting of Drs. John J. Andujar, William T. Hill, William Gordon McGee, Susan M. Strate, and Domingo H. Useda, with Drs. Thomas H. McConnell, III, and Vernie A. Stenbridge as Co-Chairs.

Two fine articles of historic nature existed (Beecher F. Stout, 1953, and John J. Andujar, 1967), but clearly the assemblage of a complete history of pathology in Texas would serve a useful purpose. Despite the apparent need, the anticipated cost of the project was outside the realm of the Society alone. Then, Medaphis Physician Services Corporation accepted TSP's offer to become a Premier Sponsor for the Seventy-fifth Anniversary—which permitted arrangements for a book to proceed.

For many years Marilyn Baker has been identified in literary matters at the Texas Medical Association, having served as a top executive and for more than twenty years as editor of *Texas Medicine*—receiving numerous awards for excellence. Now a free-lance agent, her broad understanding of medicine's accomplishments, issues and challenges well suited her for our endeavor. In fact, Mrs. Baker had been developing a similar history for pediatrics, *Caring for the Children: The History of Pediatrics in Texas*. Our task was urgent—we must have a finished product within six months! With her characteristic dedication, Marilyn has devoted full energies to this project: conducting a large number of personal interviews, reviewing innumerable questionnaires, spending countless hours in li-

braries, and ultimately assembling, organizing and synthesizing mountains of information about pathology and pathologists.

An Editorial Advisory Board was appointed to assist Mrs. Baker with the book: Drs. John J. Andujar, Joyce S. Davis, William T. Hill, Thomas H. McConnell, III, William Gordon McGee, George J. Race, Susan M. Strate, Frank M. Townsend, and Vernie A. Stemberge. This committee worked assiduously to accomplish this feat.

A number of other individuals also graciously assisted with providing information, among whom were Susan L. Brock, Director, and her staff, Texas Medical Association Library, Austin; Elizabeth Borst White, Director, Historical Research Center, Houston Academy of Medicine, Texas Medical Center Library, Houston; Inci Bowman, Curator, and Sarita Bullard Oertling, Library Assistant III, Blocker History of Medicine Collections, The University of Texas Medical Branch at Galveston. Appreciation is expressed also to the staff of the Texas Society of Pathologists, Paula Rigling and Angie Sais; to Sharon R. Walker, Texas Medical Association staff, and others for readily providing information and other assistance.

V. A. S.

POSTSCRIPT: Dr. Vernie A. Stemberge has failed to mention his monumental effort in assembling and sharing information on the history of pathology, both in Texas and globally, and in reviewing the manuscript. Without the *true* mountain of information that he had been gathering for more than two years and his sage guidance, it would have been impossible to complete this book within a matter of months. Texas Pathology has a rich history, and there are many special people whose stories are not told, particularly because of the short time frame for preparing this bound volume. It is hoped, however, that "the story" of Texas Pathology conveyed here will provide both interesting reading and the insight that history brings to future choices and decisions.

M. M. B.

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Chapter 1

Autopsy of a Bloody Era

(1800–1860)

The most nearly trustworthy records of diseases prevalent when Europeans first touched American shores are those of the Spanish explorers, for they were the earliest visitors who left enduring records . . .

Esmond R. Long in
A History of American Pathology.¹

IT WAS LATE January, practically springtime in South Texas, and the day was still fresh with the hope that morning brings. Suddenly, Francisco Básquez walked up to Private Francisco Gutiérrez of the Alamo Company.²

“I am going to send you to the devil,” he vowed, swiftly plunging his hunting knife into Gutiérrez. As the long keen blade slid between the soldier’s fourth and fifth left ribs, Básquez imparted a quick, downward thrust.

Soon after, on that morning of January 27, 1808, Don Jayme Gurza,³ Royal surgeon for the Alamo hospital at San Antonio de Bexar, examined the victim, reporting that he showed evidence of serious injury, had a weak and fast pulse, and was vomiting blood.

“After observing all the rules and regulations demanded by medical procedure, Doctor Gurza applied the ‘proper remedies,’ including a plaster.” Gutiérrez, however, died about twelve hours after admission to the Alamo hospital, and the doctor then performed his

final diagnosis—the autopsy. He found the abdomen full of blood. The hunting knife had wounded the lung, lacerated the diaphragm, and severed large “near by” vessels.

“Justice then, as now, was slow and halting,” Pat Ireland Nixon observes, “Básquez skipped the country. However, he was tried *in absentia*, the trial lasting three months and filling 56 pages of the *Spanish Archives*, and was condemned to die by hanging.”

Dr. Gurza himself later was imprisoned, as were other loyalists, during a Mexican uprising against the Spaniards. After pleas from his patients, he was allowed to continue attending them, but was forced to testify that the leader of the revolt, Captain Juan Bautista Casas, was physically able to stand trial for high treason. The trial participants at Monclova ordered Casas demoted, shot through the back, his head cut off and sent back to San Antonio where “it was displayed aloft a pole on the *Plaza de Armas* as a grim reminder to all potential traitors.”

By now, Dr. Gurza’s health was broken, and on August 29, 1811, the Governor of the Province of Texas requested his release. Apparently reassigned to duty in Coahuila, he signed his last record in Monclova on June 14, 1817, testifying to the disabled status of a soldier.

Dr. Gurza’s autopsy of Private Gutiérrez nine years earlier had not been the first recorded on a Texas sojourner. In 1754,⁴ another unfortunate immigrant, Joseph Blancpain, one of three Frenchmen, was captured at the mouth of the Trinity River. Charged with illegal traffic in guns and ammunition with the Indians, he was taken to Mexico City.

“Possession of 2300 deerskins was proof,” comments Nixon, “that his business was good.”

In prison, Blancpain grew sick, and on February 6, 1756, he died. Dr. Francisco Camarena, court physician, was assigned to perform the autopsy, and reported the prisoner had been “sick of malignant fever and had clots in the blood. He also had pleuro-pneumonia.”

“Each of these diseases,” Dr. Camarena stated, “would have been fatal to him. This is what we declare and certify.”

Autopsies in early Spanish America were cited more often than in North America,⁵ and as early as 1694 in Peru.⁶ However, the first reported autopsy in North America was performed at Baltimore in

1637,⁷ and by the early nineteenth century in the United States, a considerable number were recorded. For example, “hospital cases” at Pennsylvania Hospital date to 1804, with many more autopsies recorded in the 1820s.⁸

In Spanish Texas, aside from the occasional autopsy or incident, professionally-trained physicians rarely had been available in the remote province since Cabeza de Vaca’s landing at Galveston in 1528, Spanish armies customarily not sending physicians with their soldiers to Texas. In some ways, however, the conquistadores found their “hosts,” the Stone-Age Indians, offered a fairly sophisticated understanding of medicine. In addition to their well-known use of herbs and certain medical and surgical techniques, they had learned something about anatomy through the dissection of animals, and they knew the names and forms of human bones. Travelers brought and concocted their own home remedies, and adapted others from the Indians. Later, the Spanish *padres* also provided medical care, but it was not their priority—Christianizing the Indians was.⁹ The more sophisticated physicians of the day remained near Mexico City where there was civilization and better facilities. Although there were at least ten hospitals in Mexico, the first Texas hospital—where Dr. Gurza had been assigned—was not set up until 1805 in the Alamo, with straw mats as beds.^{10,11} That year, the Spanish Monarchy did give heightened medical attention to the Province of Texas, promoting free smallpox vaccinations. Ironically, the Spaniards likely had introduced smallpox—plus measles and syphilis—to the New World. All three diseases devastated the Texas Indians.¹²

Another autopsy, with engaging circumstances, was recorded a few years after Mexico won independence from Spain, and Texas and Coahuila were tied together as one Mexican state. It shows perhaps that the justice-of-the-peace system had an early foothold in Texas.

In San Fernando de Béjar, Dr. Joseph Brown, a physician, died on the night of September 21, 1829. Early the next morning, Jorge Antonio Nixon appeared before Gaspar Flores, “sole constitutional *alcalde* of the city,” declaring the doctor died of natural causes. The *alcalde* went to the Brown residence, found the body lying on the ground “with cadaverous aspect and dead of natural causes.”

Dr. Brown had no heirs, so after an autopsy, the *alcalde* “pro-

ceeded at once to inventory his furniture, jewelry and other personal property found in the house and said to belong to him."

By law, Dr. Brown's property was to have been valued at its lowest appraisalment "by some skillful or intelligent person in the medical and surgical profession," but, said the *alcalde*, "there not being any professors of said Science in this city, I, Flores have named and appointed Phillip De Witt and Geronimo Gazano as appraisers."¹³

Despite not being "men of science," De Witt and Gazano somehow appraised the "not inconsiderable" estate," which also included colorful and fashionable clothes and Dr. Brown's accounts. Although 1 to 142 pesos were due, none had been paid—except the "faithful Juana Segunda on four occasions brought in nine eggs and James Martin was credited with 11 pounds of bacon on a bill of 142 pesos."¹⁴

Elsewhere in the world, post-mortem examinations were receiving a great deal of attention. Anatomical pathology at this time was experiencing a zenith and was advancing particularly rapidly in France. After their own revolution, the French had worked with fervor to make science analytical and practical. They also had to face abhorrent conditions in their hospitals, which they were zealously addressing.

"Out of this, in the opening years of the nineteenth century," Long writes, "came if not an understanding of human ills, at least a clearer correlation than ever before of symptoms and underlying organic changes. An industry surpassing belief pervaded all medical instruction. Masters and pupils were in the wards at daybreak. Students finished their day's work late at night, completing in their bedrooms the dissection of noisome specimens from the day's post-mortems. The most brilliant clinical teachers the world has ever seen carried the triple load of care of the sick, clinical instruction, and painstaking dissection of the dead, burning out their strength in a fever of investigation. Two above all others in this manner brought pathology to new ways, François Bichat and René Théophile Hyacinthe Laënnec . . ."¹⁵

Bichat had introduced tissue pathology, Laënnec had contributed significantly to special pathology, and Cruveilhier's teaching atlas and text had influenced the field. In England, John Hunter had established experimental pathology, and Matthew Baillie had published a series of engravings and the first modern text of pathology.¹⁶

And, although pathologists had long studied the dead to determine the causes and nature of disease, another development in England during the 1820s facilitated greater attention to disease in the living. Joseph Jackson Lister had improved the "one essential mechanical aid" in pathology by developing the compound microscope with achromatic objectives.¹⁷

It would be a long while, however, before the benefits of French and English pathology and the "new and improved" microscope reached the distant Texas frontier. In the 1820s, physicians remained scarce in the remote and dangerous territory where Americans had begun to arrive. Despite the physician shortage, Stephen F. Austin was attempting to establish the foundations for good health care. In 1823, he had the vision to include public health in the outline of the constitution he wrote for the Republic of Mexico, and in 1828, he promulgated health rules, calling for hospitals and poor houses; clean streets, markets, public places, and prisons; draining of lakes to prevent stagnation, and credentialling of physicians.¹⁸ In 1830, vaccination for smallpox was required and the first board of medical examiners was formed; in 1831, the first board of health was established to address smallpox in Bexar and Goliad.¹⁹ Coincidentally, that same year, the San Felipe *Ayuntamiento*, the town council, began addressing regulation of physicians' fees.^{20,21}

It had been nearly twenty years since smallpox had ravaged Texas, but the outbreak of 1830 and 1831 called for concerted action. Along with orders from Coahuila came a detailed brochure written by Citizen Miguel Muñoz²² of Mexico City. Besides extensive advice on treatment, Muñoz described autopsy findings:

After death the smell of the corpse is unbearable, its external appearance is horrifying and the history of its sufferings is very pitiful. The face is hideous and carbonized in many spots, as well as the body. The skin is shrunk, thick and swollen, and full of varied blisters, alternating with openings or cracks of different length and depth. The eyes are turned, the hair raised, the tongue destroyed, the palate and throat ulcerated, and, at last, the anus torn.

If the body be opened, similar gangrenous ulcerations are found on all internal surfaces which were in contact with the external air, from the mouth down to the stomach and lungs on the upper part, and from the margin of the anus up to the rectum in the lower, etc.: the rest of the digestive canal is just like the lungs, spongy-like, thick, and flooded by greasy, bloody, mucous flu-

ids,—a result of the extra secretion during the blistering and disorganization of the individual. The capillary system, white and red, is very much injected with black blood, and the arterial system is empty in its common branches; but the blood accumulated in the heart is carbonized and completely dissolved.

Eager to settle in Texas for the new land, immigrants primarily were concerned not with their health but in taming the frontier. Except during acute epidemics of smallpox and cholera—when the boards of health invoked strong measures—the settlers knew they could not depend on a doctor's help. Ferociously independent anyway, the Texans generally chose to treat themselves with endless varieties of herbs. Although physicians arriving from the United States no doubt were familiar with medical advances both there and in Europe, they, too, usually came for the land, and their own priorities often prevented them from practicing medicine. Instead, they led or joined the "Texians" agitating for independence from Mexico. In fact, when the War for Texas Independence began in the mid-1830s, many would fight—some to die on battlefields from the Alamo to San Jacinto.

Despite the lack of physicians in the early years, Dr. John Paul North reports that surprisingly good medicine was sometimes practiced. He cites, for example, Dr. Alexander Ewing who had attended courses at the Royal College of Surgeons at Edinburgh and Ireland and was surgeon general of the Texas army at San Jacinto. Dr. Ewing treated General Sam Houston for a compound fracture of the ankle, and accompanied the general to New Orleans—against orders of President David G. Burnet. For the insubordination, Burnet discharged him from the army.²³ There were other notable physicians, too, whose names long would be remembered by Texas medicine—among them Drs. Ashbel Smith and Anson Jones.

When the War for Texas Independence was settled, and the Republic of Texas became a reality in 1836, citizens faced the immense challenges of forging a sovereign nation out of the raw frontier. It was in this era that physicians became "all-important figures in social and civic obligations and in the daily lives of patients and friends."²⁴

Doctors in practice during this period gave considerable attention to diagnosis, utilizing only the crudest of clinical pathologic techniques. Diabetes, for example, might be detected by the gathering of flies around the individual's urine.

"Laboratory aids were practically non-existent at the time," writes Nixon.²⁵ "Diabetic urine was detected by taste and perhaps by fermentation, but that was about all. Consequently much store was laid by observation, palpation, and common sense. The pulse was studied very closely. Twenty-one different types of pulse are described by Massie [J. C.] and the diagnostic significance of each is explained. The facial expression, the type of breathing, the shape of the abdomen, the position in bed, the appearance of the sputum and the stools, and many other observations are emphasized."

Texas newspapers were the source of most medical information, and delighted in carrying advice. Yet, they often avoided publication of news regarding serious epidemics of smallpox, measles, cholera and yellow fever—not wanting to discourage immigration.²⁶ The first "medical text" in Texas was a pamphlet published in 1838 by Dr. Theodore Leger, *Essay on the Particular Influence of Prejudices in Medicine, Over the Treatment of the Disease Most Common in Texas, Intermittent Fever*. Dr. Leger thoroughly condemned his fellow medical practitioners and then retired to run the *Texas Planter*, his weekly 2,000-circulation newspaper at Brazoria.

Other physicians, however, in 1838, also sought to raise standards, and Houston doctors formed the Medical and Surgical Society of Houston—its first president, Dr. Alexander Ewing.²⁷

The first book of "great medical merit" published in Texas was Dr. Ashbel Smith's *An Account of the Yellow Fever Which Appeared in the City of Galveston, Republic of Texas, In the Autumn of 1839, With Cases and Dissections*. Dr. Smith, a Yale medical graduate, had arrived in Texas in 1837 to serve as surgeon-general of the Army after practicing in North Carolina and postgraduate work in England and Paris, "the mecca of medical students of that day." He would serve also in many other capacities in the Republic and the state, and become president of The University of Texas.²⁸

At the time of Dr. Smith's 1839 paper, the first formal pathology society in the United States for which there are records, the Philadelphia Pathological Society was established.²⁹ Pathology was gaining more attention in American medical schools, but still was met with apathy. In 1839, Samuel D. Gross published his *Elements of Pathological Anatomy*.³⁰ The latter, Long says, was "a great achievement and an honor to America. Its three editions covered the period in which pathology was making its greatest advances in Europe under Rokitansky and Virchow." Gross was "hardly touched by this

movement, however, building the text out of his understanding of French pathology and his own constantly increasing surgical experience. Virchow himself considered it an excellent book. It never achieved the popularity it merited as a text, however, not because it was itself inferior, but simply because in America the time was not ripe. Yet, except for the discussions of pathology in medical and surgical texts, and the newly appearing compilations on medicine and surgery, it was the only comprehensive American text until the compendia of Welch and Delafield and Prudden appeared in 1880s."³¹

During the second quarter of the nineteenth century, a few journals in the United States also carried information on pathology. Most journals, however, were short-lived and did not add significantly to American pathology."³²

As Long notes, "... it is impossible to distinguish medicine and pathology in the formative years of medical progress in America. For the development of pathology a medical profession was essential, and that profession had to be supported by schools, societies, journals and all the material adjuncts necessary for instruction and communication of ideas."³³

Far from the activity on America's eastern seaboard, Texans were molding their new Republic and lacked even basic institutions—not to mention the schools, journals, and societies necessary to support a scientific medical profession and therefore the development of pathology.

Even statehood would not nurture immediate advancements. On July 4, 1845, Congress approved the annexation of Texas to the United States, and the last president of Texas, Dr. Anson Jones, solemnly declared, "The Republic of Texas is no more." He and others had contributed mightily to public service in Texas during the Republic, and their work was far from finished. Again, however, war would interfere with the building of a stable society, for annexation brought on a dispute over the Southern boundary leading to the Mexican American War. And, once again, physicians, including the famed warrior-physician-Texas Ranger John Salmon "Rip" Ford, would become leaders of war.

The formally-declared war over the land between the Nueces and the Rio Grande wasn't the only worry of Texans. Many original occupants of the state, various tribes of Texas Indians, remained adverse to intruders in the territory they had long roamed. In 1849

alone some 200 settlers were killed or carried into captivity, and for years to come there would be clashes and bloodshed.³⁴

Meanwhile, physicians tried once more to establish a medical infrastructure. In 1848, Ashbel Smith led a group of Galveston physicians in seeking a state charter for the Galveston Medical and Surgical Society—which almost became a statewide society—but the entire effort became bogged down in the state legislature and failed.

More medical texts by Texas physicians had begun to appear. In the year that the American Medical Association was being formed, 1847, Dr. Absalom C. Denson of Cherokee County published *The Southern and Western Waybill to Health*, and Dr. J. C. Massie in 1854 published his *Treatise on Eclectic Southern Practice of Medicine*.³⁵

Massie's book devotes "much space to the recognized infectious diseases and less to epilepsy, scurvy, menstrual disorders, skin affections, and other less well known ailments." Massie believed rickets was due to a "deficiency of the earthy substances in the formation and growth of the bones" and gave cod liver oil for its relief. He also used mercury and potassium iodide for syphilis; and, for gonorrhea, he used copaiba and sweet spirits of nitre with injections of zinc sulphate and silver nitrate.

Far around the globe in Germany, Rudolf Virchow was about to shake the world of pathology, assuring the future preeminence of German pathology. In 1848, the Prussian government had sent Virchow to Silesia to investigate a serious epidemic of typhus fever. "His report was a masterly compilation of terrible medical and social facts regarding the unfortunate inhabitants of the region studied, but too democratic in spirit for the reigning powers. While writing his report the indefatigable Virchow was also cooperating in the publication of a semi-political journal *Die medicinische Reform* and airing views in sympathy with the revolutionary movement then in progress. This was too much, and the young pathologist was removed from his position."³⁶

But Virchow quickly was called to Würzburg to assume the chair of pathological anatomy, the first full professorship in this branch in Germany. In 1855, he produced his profound work on cellular pathology, and began teaching students that cells reproduce from other cells and that disease results from injury or irritation of cells.^{37,38}

"His view on inflammation," Long writes, "led directly into his Cellular Pathology . . . the simple but early recognition of the prin-

ciple to which all biological teaching had to come, cellular life . . . All fields of pathology were cleared by the new knowledge . . ."³⁹ In the early days, Long comments, Virchow had only his microscope, "a fairly refined instrument by that time, razors with which he could cut moderately thin sections by hand, and the simplest of stains."^{40,41}

Although the great German school of pathology would become a beacon to Americans, alas, even Virchow's simple tools and techniques were nonexistent in Texas. From its humid, ocean-lapped beaches to its dry and hostile western deserts, wars, skirmishes, and economic struggles had absorbed the Texans for most of the century. Life had been threatened further by epidemics of smallpox, cholera, and yellow fever. In more recent times there had been other epidemics: scarlet fever in 1849, measles in 1850, typhoid fever in 1852, dengue in 1852, and in 1860, diphtheria would strike.⁴²

As the state continued to struggle, so did medicine. Newspapers remained the primary source of medical information.⁴³ "The numerous doctors in the state were poorly trained and educated, and their practice was hardly brilliant," Fehrenbach states. "Many frontier doctors served also as dentists; a medico who could set broken limbs while someone held the patient down could also pull teeth by the same method. One brilliant exception to the rule was Dr. Ferdinand Ludwig von Herff, who practiced distinguished medicine at San Antonio. Herff brought German medicine to Texas, used chloroform as early as 1854, and founded a medical dynasty that kept in touch with Vienna."⁴⁴

Dr. Herff indeed was a remarkable physician and leader, practicing complicated surgeries, often under primitive conditions, and insisting always upon cleanliness. He knew something of pathology, and carried with him a fine ocular piece to examine water in the countryside for foreign matter—especially when he performed cataract procedures^{45,46} His first use of chloroform was during the successful removal of two large bladder stones from a Texas Ranger "witnessed by a crowd of onlookers which included noted Ranger Big Foot Wallace." Dr. Herff also identified hookworm as a cause of disease and predicted the advent of antibiotics.

Another sign of progress appeared in 1853 when thirty-five Texas doctors formed the Texas Medical Association in Austin. In the group of "gentlemen" were Dr. Ashbel Smith and Dr. J. W. Throckmorton, who would be governor of the state at a painful time in Texas history. During its first year, the group chartered two dis-

strict societies, Bexar Medical Society, which comprised physicians in Bexar and Medina counties, and Travis Medical Society in Austin. The state association soon picked up more members, including two outstanding early physicians from San Antonio, Dr. Ferdinand Herff and Dr. George Cupples, whose presidential speech to the association was said to represent the "flowering of medicine in Texas."⁴⁷ Both physicians, Nixon declares, were men of whom any country or century would have been proud—Cupples a "cultured, Chesterfieldian gentleman and idealist; Herff, the brusque, yet gentle, man of action."⁴⁸ Despite their contributions, the state society lapsed after two years, after which there was scattered organizational activity, including the formation of the Houston Medical Association in 1857.⁴⁹

During this era physicians were still divided into dogmatic schools of thought based on theories of practice. "The dominant school, the allopaths," Henry writes, "depended upon the administration of powerful dosages of drugs to combat the suppositious causes of sickness or to neutralize its effects; the homeopaths believed in small doses of medicine, operating on the theory that 'like cures like.' The nature of the curative agents largely relied upon by the medical profession led Dr. Oliver Wendell Holmes to observe, in an address before the Massachusetts Medical Society in May 1860, that 'if the whole materia medica, as now used, could sink to the bottom of the sea, it would be all the better for mankind—and all the worse for the fishes.' Dr. Holmes granted that there were exceptions to his sweeping condemnation, but his opinion as to the efficacy of much of the orthodox treatment of disease was warranted by the fact that methods of treatment were derived more from speculation and theory than from directed and controlled experimentation."⁵⁰

"Even if there had been a more general recognition of the importance of experiment and scientific observation," Henry adds, "there was, in America in the early 1860's, little of the apparatus or equipment for observation of even simple symptoms. Even such familiar tools of the physician as the clinical thermometer and the stethoscope were all but unknown and little used . . ."

Perhaps the Texans weren't so very far behind the rest of America. They were, however, skeptical of higher education, including that for medicine. Nevertheless, in 1856, the Methodist Episcopal church established Soule University at Chappell Hill, but, like

other institutions, the school struggled for financial stability. In 1858, the State of Texas also attempted to provide for higher education, passing legislation to establish a university that included instruction in surgery and medicine, but action was to be delayed for years to come. In 1860, however, with its six faculty members, Soule University was serious about adding more components of higher learning, including a medical department. Under the leadership of George W. Carter, there was renewed optimism, but by March 1861, the campus scene was bleak. A faculty member wrote, "The crises, secession, the prospect of war, and the current famine in our land of Texas have produced their effects . . . The scarcity of money and provisions and a general destruction of all commercial faith [have] shut up supplies to cash transactions."⁵¹

Whatever hopes the Texans had for a stable society and its accoutrements dwindled, and on April 12, 1861, Confederate guns fired on Fort Sumter, South Carolina. Everything fell apart at Chappell Hill, Texas. The president left for Virginia, supposedly marching off with his own regiment and taking most of the students with him. Enrollment declined further, faculty members left, and the buildings eventually became a dilapidated Confederate convalescent hospital."^{52,53}

Two weeks earlier, on April 1, the first blood of the war had been spilled on Texas soil as Colonel Ford quelled an uprising in the Zapata area by a Mexican national who had declared against the Confederacy and hanged a judge. As the war grew to full scale, hundreds of Texas doctors and lawyers, many of whom had been leaders in building the state and its institutions, left as soldiers—most with the Confederacy but a few with the Union. Colonels Ford and Ashbel Smith wore the grey of the South along with others, including two physician generals, Richard Gano and Jerome Robertson. Officers Wilburn King and William Rogers had degrees in both medicine and law. "These men lent a certain blaze of glory to the Southern legions under the Bonny Blue Flag," Fehrenbach states, "Their blood, and the loss of this high-minded elite put a somber, lasting pall over the future of the land." Interestingly, Texas physicians primarily joined the war as soldiers—not to practice their profession—yet disease plagued the Confederate armies—from diarrhea to measles, from malaria to typhoid fever to smallpox. Texas had sent fewer men to war than had other Confederate states—probably because there were fewer people altogether on the frontier. But the

war was to take “a hideous toll” of landowners and ordinary men, the state’s loss “in blood and bone” proportionally higher than that of any Northern state.^{54,55}

For the moment, any dreams of importing scientific advancement, including the precocious work of Virchow, were placed on indefinite hold in Texas—and in many other sections of the not-so-united states of America.

Even in the better-equipped North, the war would be half over before headquarters of the Army’s Medical Department would possess the basic working tool of the pathologist—an achromatic microscope.⁵⁶

For now, Texas physicians, educated and not-so-well educated, more as warriors than healers, focused again on the battlefield as their laboratory, the blood of kindred their stains.

Chapter 2

A Profession Struggles; A Specialty Emerges (1860–1890)

The ancient history of pathology in Texas is, of course, not very ancient.

John J. Andujar, MD, recalling the history of Pathology, in *Texas Medicine*, March 1967.⁵⁷

OUT OF THE “HIDEOUS” Civil War would come one of the most profound influences on American pathology—the works of the Army Medical Museum, the *Medical History of the War of the Rebellion* and the collection for the Office of the Surgeon General of specimens of morbid anatomy.

Of these works, Rudolf Virchow would comment, “From this time dates a new era in military science. Whoever reads these publications will be constantly astonished at the wealth of experience, the exactness of detail, the careful statistics and scholarly statements embracing all sides of medical experience which preserve to posterity the knowledge bought at so vast an expense.”⁵⁸

Another innovation, photomicrography, also would come from the work of the Museum during the Civil War.⁵⁹

Someday Texans would be leaders in this armed forces institution that was to play so vital a role in pathology worldwide, but it would be a long time before the new knowledge and innovation de-

veloping on America's eastern seaboard would help the dispirited Texans.

Although there were a few escapades at the mouth of the Rio Grande, most of the Civil War had been fought beyond Texas soil. Yet, internal conflicts festered. A "latent dissatisfaction" had developed, and many Texans were uncertain about their commitment to the Confederacy. Then, because a draft law was unevenly applied exempting many men of property, thousands of Texans protested, and much of the state was placed under Confederate marshal law.⁶⁰ Fehrenbach writes that "at the least sign of resistance, military officers were prone to declare whole counties or regions in 'rebellion' and dispatch troops. . . . Martial law interfered with legitimate business, and it humiliated important men traveling legitimately from their residences to other counties. A doctor, lawyer, merchant, or planter could not leave his county of residence, on any business, except with a passport signed by a military officer, who sometimes insulted him in the process."⁶¹ A group of German neutralists, fleeing the state for Mexico, were massacred as they camped on the Nueces River, touching off other riots in San Antonio and elsewhere.⁶² There were other conflicts in the Southern part of the state, creating "an incredibly complex" four-sided war, involving Mexico, which also was experiencing civil war.⁶³ Colonel Ford, heading the "Cavalry of the West," was sent to deal with the situation, using his own approaches to diplomacy. Ironically, at Palmito Hill near the Rio Grande, Ford and his troops would win the last battle of the war—a month after General Robert E. Lee had conceded victory to the North.

"There was no formal surrender in Texas after Palmito Hill," writes Fehrenbach. "The Confederate army and state government simply melted away."⁶⁴

Meanwhile, in Washington the nation had been shaken by another event, the assassination of President Abraham Lincoln, and the pathologists at the Army Medical Museum had "the most melancholy mission" of performing the autopsy after his death at 7:20 A.M. on April 15, 1865. They were "summoned to the White House at eleven A.M. to perform the grievous task of finding and removing the bullet fired into Mr. Lincoln's head by the assassin, John Wilkes Booth." Later the Museum also was involved in the examination of Booth.⁶⁵ Less than 100 years later, Texas physicians in Dallas would

be painfully and intimately involved in the aftermath of another presidential tragedy including a president and his alleged assassin.

The Civil War brought both joy and despair to Texas soil. On June 19, 1865, General Gordon Granger arrived in Galveston, announcing that all slaves were free. It was Emancipation Day, long to be recalled by Black Americans as "Juneteenth." After the war, however Texas veterans returned home, demoralized and embittered, many concerned that their sacrifices had not been shared by other citizens. Some seized state property for military families. "Stores in San Antonio were pillaged; the state treasury was robbed. All government had collapsed."⁶⁶

The worst was yet to come. Economic and political hardship once again would forestall the building of strong medical institutions in the state. In 1867, the First Reconstruction Act was passed in Congress, and that summer, General Phil Sheridan issued an order deeming Texans "an impediment to progress," and dismissing Dr. J. W. Throckmorton as governor of Texas.

"Neither the Mexican invasion of 1836 nor the bloody days of the Civil war marked the most disastrous period in Texas history," Fehrenbach declares, "it began now."⁶⁷

The "Carpetbagger" years not only brought military rule and economic chaos but also the disenfranchisement of men who had held state or federal office before the war and later supported the Confederacy.

Medicine builds an infrastructure

IN THE MEANTIME, in 1865, Soule University had opened its medical department, the Galveston Medical College. Among faculty listed in the announcement for the first session were Robert Fluelen, MD, professor of anatomy; W. H. Gantt, MD, professor of physiology and pathology, and N. H. Boring, MD, demonstrator of anatomy.⁶⁸

In 1866, physicians established the Galveston Medical Society and the Waco Medical Association. That same year in Marshall a few doctors sought to form the Harrison County Medical Society, finally succeeding in 1869, and physicians in other communities also attempted to form societies.⁶⁹

Dr. Greenville Dowell, a man "far above the ordinary," joined the Galveston Medical College during its second year, 1866, as pro-

fessor of anatomy and surgery, and became dean, "the leading spirit" of the college.⁷⁰ Anne Brindley writes, "This school operated seven years and was housed in Dr. Dowell's home, a two story frame building on the southeast corner of Avenue L and 22nd. He leased the Island City Hospital, which was built in 1845 on the same site as the present John Sealy Hospital, for clinical training. Thus, the embryo of medical education may owe its very being to this man who later published the first medical journal in Texas—*The Galveston Medical Journal*, 1866–1871, and two books: One on yellow fever (Dowell theorized five years before Finlay of Cuba that yellow fever was spread by the mosquito); and one on hernia."^{71,72}

In Europe in 1866, there was another important improvement in the microscope when Ernst Abbé developed his condenser and improved oculars and objectives. With these and other enhancements, microscopy, "instead of being a pastime, was becoming indispensable in many fields, including anatomy."⁷³ Skill with the microscope, Lester S. King writes, became a "new and determining feature" of pathology. Mastery of it was a special skill, and at the time required training abroad.

During this era also, King writes, "The clinical laboratory developed out of pathology, but did so in a clinical and not an academic setting. During the 1860s and the 1870s, pathology in medical schools was entirely didactic, but in hospitals it had a definite relation to practice. It contributed a service function and bore a close connection with clinical work. The clinicians who had a special interest in pathology performed post-mortem examinations and the information thus acquired helped them in their care of patients. Pathology was ordinarily a stepping stone to clinical eminence."⁷⁴

In 1869, physicians from Washington County in Texas issued a call for reorganization of the Texas Medical Association, which had not met for sixteen years. Those answering the call—among them Dr. Ashbel Smith—held a three-day reorganizational meeting in Houston. Dr. Smith was the only member also to have attended the earlier sessions of the association. Restructured as the Texas State Medical Association, the society would perhaps at last, through meetings and publication of its Proceedings,⁷⁵ provide a stable foundation for the evolution of a medical profession in the state.

The challenges were immense. Fehrenbach declares that "No Texas doctor ascribed to the theory of germs in the 1870's, nor

could any perform abdominal surgery or remove an inflamed appendix."⁷⁶ Nevertheless the Texans still weren't terribly far behind the nation with respect to belief in germs. For example, Dr. Joseph Woodward, an eminent scientist and physician at the Army Medical Museum, had worked on the vast post-Civil War history, had used aniline in 1864 for coloring specimens in microscopy, and had developed photomicrography. In a letter published November 13, 1872, in the *Washington Evening Star*, Dr. Woodward presented his views on the matter of germs.

"During the last few years," he wrote, "it has been a favorite speculation in certain quarters that epidemic diseases are produced by the presence in the atmosphere of vegetable germs, so minute as to be visible only with the microscope. Considerable labor has been bestowed upon microscopical work in this direction, but the results which have been confidently announced from time to time by enthusiasts have been either contradicted or so materially modified by subsequent observations that the question still remains in the domain of mere speculation . . . nevertheless I certainly regard the microscopical forms which exist in the atmosphere and their possible effect on man as a proper matter for scientific study, and by way of contributing my mite to the difficult subject . . . I have collected the organic forms from a quantity of air of a stable in this city where there are a number of sick horses, and submitted them to the highest power of the microscope, without finding any which are not usually encountered when no epidemic is prevailing. . . ." Woodward later used the term "bacteriafanatics" and said that Virchow's "splendid rhetoric has lent plausibility to arguments which appeal almost as much to faith as to reason."⁷⁷

"Dr. Woodward," comments Henry, "was well aware of the presence of inconceivable numbers of bacteria, but he was doubtful of the disease-producing effects of what he referred to, somewhat slightly, as 'those convenient bacteria which have played so conspicuous a part in modern pathological speculation.'" Dr. Woodward's skepticisms were published two years after Capt. A. C. Girard of Fort Randall in Dakota Territory, reported enthusiastically on the results of Joseph Lister's antiseptic surgery he had seen in Europe. "Captain Girard was willing to 'leave to other pens the task of elucidating the nature of bacteria and how they acted upon the body,' but he stoutly maintained, 'the indisputable fact that there are germs or ferments in the atmosphere which will produce putre-

faction in wounds, and that by preventing their ingress we can in most cases avert the complications which cause the greatest fatality in surgery. . . . This is the key to Lister's system."⁷⁸

In Texas in 1873, the isolated particles of a rudimentary medical profession were beginning to crystallize into something recognizable as progress. The Texas Medical Association sent accredited delegates to the American Medical Association, and the state Legislature passed a law to regulate the practice of medicine, requiring that a practitioner of medicine have a degree of doctor of medicine or a certificate of qualification from an authorized board of medical examiners.⁷⁹

This year, too, marked the earliest mention of any formal pathology education in Texas.

William Penny, first professor of pathology

"THE LATE DR. Albert O. Singleton, professor of surgery at the University of Texas Medical Branch in Galveston, is authority for the unconfirmed statement that the first professor of pathology was Dr. William Penny, who was head of the Department of Physiology and Pathology at the Texas Medical College, organized in 1873 in Galveston," states Beecher F. Stout, MD, in the *Texas State Journal of Medicine*.⁸⁰ Little is known of Dr. Penny, but in later years he would be involved in a medical publishing venture as vice president of the *Texas Medical and Surgical Record*, along with Dr. Ferdinand Herff and others.

John J. Andujar, MD, writing in *Texas Medicine*, comments on the status of pathology in Texas at this time: "Presumably, there was no very great clamor for the development of pathology in the second half of the nineteenth century in Texas, nor, for that matter, anywhere else."⁸¹

That was understandable. The foundations of medicine, including medical education, remained unstable. At the Galveston Medical College, Soule University's Medical Department, Dr. Greenville Dowell "either was irascible and difficult to work with, or he was intolerant of his colleagues' lack of knowledge," deduces Brindley. "Anyway, his faculty resigned in a body in 1873, and for a while, in an effort to keep the school going, he taught every subject himself. Later that same year, 1873, the Texas Medical College was organized in Galveston (perhaps as a means of losing Dr. Dowell). Ashbel

Smith became dean, and had an appropriation of \$5,000 to spend on clinical teaching. Competitive examinations were used in selecting the faculty. Dr. Dowell made the highest grade and consequently became professor of surgery. This position he held until 1881 when the school voluntarily disbanded to make way for the Medical Branch of the University of Texas. But, as usual, the legislators were dilatory in appropriating funds. In 1889 the Texas Medical College was requested to reorganize and fill the gap until the university could begin operating. This time the colorful Greenville Dowell was not on the faculty . . .⁸²

But Dr. Dowell had left his own legacy to the medical college and to Texas medical education. Chester R. Burns, MD, writes that in a lecture the colorful physician, "celebrated the outstanding 'advancements' in the medical sciences that had occurred during the twenty-five years between his medical student days of 1845 and those of his pupils in 1869. Improvements in the microscope had led to the new sciences of histology and cellular pathology. The discovery of general anaesthetics had revolutionized surgery." Finally, declared Dr. Dowell, "the science of medicine has in these few years increased the ratio of man's life from twenty-eight to forty-two years—over one fourth in twenty years. What a glorious result!"⁸³

There were other scattered signs of progress in Texas. In the United States in 1874 there may have been only fifty microscopes in use,⁸⁴ but at least one or two were in Texas—whether used or merely on display. Regardless, Nixon writes that a Civil War veteran, Isaac Lycurgus Van Zandt of Fort Worth, reportedly brought the first microscope to Texas.⁸⁵ Dr. Van Zandt moved from Marshall to Fort Worth in May 1868, bringing the microscope from Bellville.⁸⁶ By 1874 microscopes were being used by at least one Texan. At the Texas State Medical Association meeting that year in Dallas, Dr. B. E. Hadra of San Antonio—who also would teach at Galveston Medical College and the Texas Medical College—reported "six cases of trichiniasis in which a microscope was used to identify the 'threadlike, spiral and rounded worms' in the uncooked pork which the patients had eaten."⁸⁷

Again, a paper before the Texas State Medical Association in 1875 in Austin showed there was some awareness of the importance of pathology. "The 'Report on Surgery,' by Thomas D. Wooten, was most scholarly," Nixon writes.⁸⁸ "His language was clear and his approach was forward-looking. In great detail he outlined the known

facts about the histological changes that take place in inflammation, quoting Cohnheim, Billroth, and Burton Sanderson.

The essence of inflammation, therefore, is not to be ascribed to the action of the vaso-motor nerves, dilatation of vessels, rapid flow of blood, or subsequent contraction of the vessels; but is due to some unknown change or alteration in the walls of the capillaries of the affected part. . . . The exuded liquor sanguinis that occurs in the reparative process contains the fibrin-producing elements of the blood; certain conditions determine the coagulation, upon which depends the subsequent capillary and granulation tissue formation. In a stratum of this coagulated fibrin, capillaries and granulating tissue cells form, the latter spring up around the newly formed capillaries, and by the coalescence of capillaries, through the medium of these granulating cells wounds are closed and parts healed."

Slowly, Texas doctors came to believe in germs. In 1877, Dr. R. H. L. Bibb in a twenty-page report on preventive medicine before the Texas State Medical Association in Galveston, "toyed with the idea that infectious diseases were due to 'living germs.' 'A disease germ,' he ventured, is 'a living, solid, insoluble, indiffusible colloidal particle, the smallest quantity of which, when supplied with its proper pabulum, will grow and multiply, giving rise to millions of little particles like itself, each particle capable of being transmitted through certain media to human organisms, and there inducing the violent perturbation of its specific disease.' And then he added: 'There is, therefore, always danger lurking in water liable to contamination from animal matter, and more especially when such matter contains evacuations from patients suffering from certain specific diseases, such as cholera or enteric fever.'"⁸⁹

In 1878, in San Antonio during the Texas State Medical Association's Section on Practical Medicine, Materia Medica, and Pathology, Dr. T. J. Heard called attention to the danger of transmitting "certain taints, syphilis, scrofula, etc., when cowpox vaccination was done from arm to arm. . . ."⁹⁰

In 1881, a powerful gunshot reverberated across the country. Another president, James A. Garfield, had been assassinated—shot and fatally wounded by Charles J. Guiteau on July 2. Once again

pathologists from the Army Medical Museum had the unpleasant task of performing a presidential autopsy.⁹¹

Pathology expands; Texas commits to education

PATHOLOGY WAS becoming more important in America, and in the mid-1880s, the men who became the "big four" at Johns Hopkins University in Baltimore—William Osler, William S. Halsted, Howard A. Kelly, and William H. Welch—were developing modern clinical teaching. Work at Johns Hopkins would firmly define pathology "as an independent science in America, making use of all other biological and medical disciplines in its environment."⁹²

In Texas, knowledge of pathology was spreading, and having an effect on the practitioner. Dr. B. E. Hadra of San Antonio and Galveston, who had studied in Berlin, removed a large uterine tumor from a woman *per vaginam*. It was examined microscopically, and "showed very large granular cells, partly caudate with many nuclei—in short, sarcomatous cells."⁹³ Virchow's knowledge of cellular pathology had crossed the boundaries of the Texas frontier.

Another important decision regarding medical education was decided this year as Texas voters went to the polls, selecting Austin as the site of their Main University and Galveston for their Medical Department. In 1883, the doors would open in Austin, but the Medical Department would languish for a few more years, awaiting funding.

A glimpse into a recommended curriculum for medical education was seen at the 1883 meeting of the Texas State Medical Association in Tyler. Dr. John A. Wyeth of New York offered his plan, which included the prerequisite "of a good, well-rounded education with emphasis on Latin and Greek." He advocated a four-year course of eight months each, and he thought anatomy should be taught only in the dissecting room. For the first year, he recommended anatomy, chemistry, botany, and physics; for the second year, anatomy, histology, physiology, materia medica, pathology, and chemistry, "by recitations and laboratory exercises;" for the third year, anatomy, pathology, therapeutics in laboratory work, and "to the lectures and recitations in surgery," medicine and obstetrics and their various subdivisions. Finally, his fourth year would be limited "entirely to practical and clinical study under experienced teachers."⁹⁴

A medical publishing venture had been started in 1881 by a group of Texas physicians, among them the pathologist Dr. William Penny. The group's *Texas Medical and Surgical Record* failed in 1883, but was a "credit" to medical journalism.⁹⁵

Across the country in Philadelphia, Sir William Osler was becoming known as the doctor's pathologist. "Never unmindful of the essential role of pathological-anatomical investigation in the development of pathology as a science, he was concerned primarily with the precise information each examination gave for understanding the course of the disease in the individual patient, and at the same time in utilizing the opportunity for teaching students pathological facts that would aid them thenceforth in clinical medicine."⁹⁶

Autopsy was the focus of a paper reported before the 1887 state association meeting in the House of Representatives Chamber in Austin. "Typhlitis and 'perityphlitis,'" Nixon writes,⁹⁷ "were names given to inflammatory processes in the right lower abdomen. Drs. P. J. Bowers, W. H. Lancaster, and C. M. Alexander, of Coleman, Texas, reported such a condition in a little girl. After six weeks the child had died, and at autopsy the appendix was 'lost in and completely obstructed by the inflammatory mass in the caecum.'" "Was there a time," the doctors asked, "had the family been better advised, and sought advice earlier, that this could all have been successfully treated?" Nixon commented: "Had they followed the appendix more closely, they might have shared an important discovery with Reginald Heber Fitz, who had described the pathology of appendicitis a few months earlier. These Coleman doctors, in their final paragraph, were somewhat apologetic about the absence of the autopsy specimen. 'We very much regret,' they said, 'that the condition of the parts involved in this pathological structure, together with a very strict vigilance maintained over us during the autopsy, prevents the exhibition of the dried mass on this occasion.'"

Texas was backsliding in some ways about this time. The 1873 Texas law to require registration of diplomas and the subsequent amendments in 1876 had been stripped in 1879. The sole requirement for a practitioner now was that county clerks record all diplomas from recognized medical colleges. To remedy this, in 1889, the Texas State Medical Association undertook new efforts to seek regulation of medicine, also seeking a single board of medical examiners appointed by the governor.⁹⁸

The true beginning of pathology in Texas

IN A WELCOMING address to the Texas State Medical Association in San Antonio, Dr. Ferdinand Herff described the improving economic status of his city. It was a place, he said, that had grown from an overgrown frontier village ten years ago to a city with three railroads, waterworks, parks, club and opera house, monumental business buildings, large hotels, ornamental private residences, electric lights and two large public buildings.

"Great, however, as these changes are," he declared, "they cannot be compared with the giant strides which the medical sciences have made on the road of progress during the last decade. . . . I may state with satisfaction and pride that our Association has not lagged behind neither in writings nor deeds . . . our delegates to the National and International Medical Congress meetings have been conspicuous by their able essays and active participation in discussions. This is the more creditable since we have neither large hospitals, universities nor pathological or microscopical laboratories."⁹⁹

A powerful moment for Texas pathology followed Dr. Herff's talk. "There was a high point in the medical section," Nixon writes, "when a modest but serious young man walked down the aisle with a microscope in his hand. His name was **George Dock**, professor of pathology and bacteriology in the Texas Medical School and Hospital. He was twenty-nine years old and only five years out of the University of Pennsylvania. The record states simply that 'Dr. Dock gave an interesting demonstration of malarial parasites and was listened to with great attention.' Dr. Dock summarized the facts about the parasite, beginning with the work of Laveran in 1881. He then proceeded to demonstrate the making of blood films and the examination of fresh and stained specimens. He described the parasite in its several forms and expressed himself as being convinced that it definitely was the cause of malaria."¹⁰⁰ Dr. Dock also demonstrated two cases of leprosy at this meeting.¹⁰¹

"The subject of pathology in Texas had its beginning that day in 1889," writes Stout, "when young George Dock of Galveston walked to the speaker's stand with a microscope in his hand and proceeded to demonstrate the various phases of the malarial parasite to members of the Texas State Medical Association. Prior to this time, some progress had been made. But this was the real beginning." There was another beginning that also should be noted.

Young Dr. Dock had studied under Sir William Osler at Pennsylvania, beginning a genealogical tradition that would link the masters and their students all across Texas.

As Esmond Long once stated, "For the development of a knowledge of pathology a medical profession was essential, and that profession had to be supported by schools, societies, journals and all the material adjuncts necessary for instruction and communication of ideas."¹⁰²

Perhaps, at last, the loose particles of medicine were coalescing in the Lone Star State. Would they form enough of a mass to permit the development of pathology? Certainly Dr. Dock had demonstrated the value of a microscope and "a knowledge of pathology." Yet, Dr. Ferdinand Herff, while extolling the accomplishments of physicians, had reported the state was without large hospitals, universities, or pathological and microscopical laboratories.

At least, Texas pathology had a firm cornerstone in Dr. Dock—and a one-person specialty. Already the man—using his microscope, knowledge, and teaching ability to command attention before the Texas State Medical Association—was playing the role of the physician's pathologist, the first known to do so in Texas.

Chapter 3

Education at Last

(1890–1900)

The portrait of him which appeared in our July number hardly did him justice. The doctor is blessed with a strong physical organization, none other could stand the tremendous drafts made upon his nerve force by such an active and hard worked brain ”

Daniel's *Texas Medical Journal* on
Professor Allen J. Smith, MD, in 1892.¹⁰³

MOMENTOUS CHANGE was in the wind when the Texas State Medical Association convened at the Fort Worth Opera House in April of 1890. The association adopted three “important” resolutions. Two dealt with proceedings: selecting a competent stenographer/typewriter and assuring that presentations remained under twenty minutes.

The third resolution signified something more pertinent to Texas pathologists. The association, in essence, “gave full recognition to the microscope and the part it had come to play in Texas medicine.” It did so by establishing a standing Committee on Microscopy and Pathology “to the end that these branches of study be thereby fostered and the wants of the profession in these directions met by competent investigators.”¹⁰⁴

Dr. George Dock was named chairman, Drs. J. W. McLaughlin of Austin and E. J. Ward of Waxahachie, members.

At this same meeting, Dr. McLaughlin also presented a paper

on immunity and contagion, and in 1892, would expand his concepts in a book entitled, *Fermentation, Infection, and Immunity A New Theory of These Processes, Which Unifies Their Primary Causation and Places the Explanation of Their Phenomena in Chemistry, Biology and the Dynamics of Molecular Physics*

There were other views at the 1890 meeting, and Dr. J. H. Sears of Waco railed against "the influence ascribed to 'so-called germs.'" Another physician, Dr. C. M. Ramsdell of Lampasas, declared, "The profession of medicine in the United States is sick; it is very sick."¹⁰⁵

While there was a tug between forward thinking and skepticism, and perhaps an honest assessment of an ailing profession, the country itself was in malaise. The new decade began with the national economic panic of 1890, to be followed by another panic in three years. Texans, who had long suffered economic hardships and political turmoil, were to endure more. There were problems related to the railroads and insurance companies, Governor James S. Hogg cracking down with strong regulations. And the state's cotton price dropped below five cents a pound.¹⁰⁶ Even during reconstruction, when it was the only cash crop and had dropped drastically, the lowest price had been thirteen cents a pound, then "savaging" the small farmer.¹⁰⁷

Yet, there were mixed blessings for Texans in the 1890s. Medical education was laying cornerstones that would draw many great minds to the state, but Texas physicians also bid adieu to the living cornerstone of Texas pathology, Dr. George Dock. He had enjoyed his years in Galveston, but left when The University of Texas Medical Department opened in 1891. He first joined the faculty of medicine at the University of Michigan, and later would be on the faculties of Tulane University in New Orleans and Washington University in St. Louis. He also would be the author of many articles, including works on protozoan diseases of the blood, pernicious anemia, ductless glands, and hookworm. Fortunately, Dr. Dock would not say a permanent goodbye to Texas, returning often as a lecturer at meetings.^{108,109}

As Dr. Dock left, the state would say hello to his successor.

"One September day in 1891 a tall, broad-shouldered, well dressed blonde young man got off the train in Galveston," Anne Brindley writes. "One noticed him particularly because of an unusual look of friendliness in his blue eyes and an infectious smile which a small mustache failed to hide. It was good, Allen J. Smith

reflected, as he helped his beautiful young wife and two-year-old son down the steps, to be at the end of that long trip from Philadelphia and at the beginning of a new life.

"The little family stood for an instant and looked about them at the town that was to be their new home. It was odd, Dr. Smith thought, that no one had mentioned the dreary aspect of the place, the high-raised houses. But small matter. Husband and wife turned to each other and smiled enthusiastically as they climbed into a carriage, for, was not he at twenty-seven, a full professor in the newly organized University of Texas School of Medicine? True, he always had expected to be a professor someday. That is why he had been serving as a demonstrator in the department of pathology of the University of Pennsylvania, where he was graduated. But even in his wildest dreams he had never thought of attaining it so soon. Probably his discovery of the *Bacillus coerules*, the year after he finished medical school, had influenced the regents to offer him the Texas chair.

"As he drove through the busy streets of Galveston for the first time, Dr. Smith made a pledge to himself that neither the men who selected him nor the State of Texas ever should have cause to regret the youthfulness of their choice (he was to learn later that five of his eight colleagues were also in their twenties). He would give Texas his best."

Called to the chair of Pathology, Microscopy and Bacteriology at The University of Texas, Dr. Smith's arrival as a faculty member of the long-awaited Medical Department meant that pathology would not lag after Dr. Dock's departure. He, in fact, had studied in the same department as Dr. Dock at the University of Pennsylvania and had been demonstrator under Dr. John Guit  ras. At his new school, Dr. Smith would not only lecture on pathology, but on histology, mental and nervous diseases, tropical medicine, inorganic chemistry and medical jurisprudence. He also would bring to his new assignment a "genial charm and sincere interest in people," a "strong physique that could stand up under long, strenuous hours of teaching and research," and "a brilliant mind which had won the coveted Medical News and Anatomic prizes and already had made a definite contribution to medical science. . . . and was to go on to greater achievements."¹¹⁰

The announcement for the School of Medicine for the 1892-1893 session¹¹¹ stated that the school had opened on October 5,

1891, and that the Board of Regents felt "pride in announcing that the institution has been organized upon a plane that will gratify the high requirements of modern medicine." The brochure further extolled the attributes of the college building "erected at large expense in modern and imposing architecture, large and commodious, complete in all its departments, and constructed with reference to the health, comfort and convenience of students." The attributes of the John Sealy Hospital were praised as "unsurpassed by any similar institution in the United States" with room for 180 patients, and Galveston as an "admirably situated" place.

"With a refined and hospitable people, mild and equable climate, and freedom from malaria and epidemic diseases," the notice said, "it would seem to afford the most favorable conditions for the performance of mental labor."

The cost of living for students was described as moderate "as in other cities."

To obtain admission to the school, students had to write an essay of about three hundred words, as a "test of orthography and grammar," and to pass an examination in elementary physics. Those with a college degree or equivalent or who had a certificate covering the required subjects from a recognized high school or a "duly organized county medical society" that had instituted a preliminary examination could enter without examination. Others, such as students who had attended one course in a non-homeopathic or eclectic school, could be admitted to the second year course upon passing satisfactory examinations, among which was "Elements of General Pathology, including Bacteriology and Helminthology." There also were provisions for certain candidates to be admitted in the third year, including those who had attended two courses or were graduates of regular medical schools. Interestingly, graduates of colleges of pharmacy in good standing could be admitted to the second year upon passing the entrance examination of the first year in anatomy, histology and general pathology.

The announcement described the pathology course for the School of Medicine as follows:

The course in pathology extends over the entire three years of instruction, and includes didactic, demonstrative and laboratory teaching upon the subjects embraced in this department.

The didactic teaching of the first year is devoted to the ele-

ments of pathology, especially including the subjects of the causes, development and classification of diseases. The laboratory instruction during this period is applied to the study of bacteriology. . . . consideration of animal parasites is also included in this course.

During the first year also the study of normal histology is conducted in the Pathological Laboratory. . . .

In the second year didactic instruction covers the subjects usually included under the term General Pathological Anatomy, the elementary pathological processes and those of inflammation and regeneration, of tumor formation and of the infectious granulomata. In the laboratory the clinical uses of the microscope as applied to the blood and various excretory substances of the body are demonstrated at length, opportunity for personal practice being given each student.

During the third year the application of pathological study to the individual organs, with special reference to the pathological physiology of each and the development of symptoms, is taken up systematically and at length.

Throughout the year laboratory exercises in the microscopic study of pathological anatomy are offered to the class; and demonstrations and practical work in the performance of post-mortem examinations constitute a feature of plan of instruction.

Throughout the course the laboratories and equipments are available to such students as may desire to prosecute special lines of study or investigation, without further expense. . . .

Especial mention should be made of the pathological museum, which has been started with the idea of creating a large collection of gross specimens of pathological interest for the use of the class. This collection is in charge of the professor of pathology; each specimen is kept in spirits, in clean and well labelled jars; and a record of the clinical history as well as the description is kept in a specially prepared catalogue, for reference by the students and the profession. Contributions to this museum are solicited from the physicians of the state, the professor of pathology making himself responsible for their care and proper description the museum catalogue. Due credit will always be made upon the labels and in the catalogue for any contributions.

The textbooks for pathology were Wagner's *General Pathology*, Green's *Pathology*, and Ziegler's *Pathology*. For bacteriology, there were Abbott's *Principles of Bacteriology* and Klein's *Micro-organisms and Disease*. Klein's also was named for histology, and, for anatomy,

Gray, Ellis's *Demonstrations of Anatomy*, and Heath's *Dissection Guide*.

With money scarce during the medical school's opening year, Dr. Allen J. Smith performed his own janitorial work. "In fact, washing bottles was his chief relaxation," Brindley reports. "One day he met an interesting ambulatory case of [patient with] leprosy at St. Mary's Hospital and hired him as janitor. This was an ideal arrangement for years. The man did satisfactory work and Dr. Smith had an opportunity to study the disease daily. (He later produced evidence proving that bedbugs were conveyors of leprosy.) Finally, a zealous student, with a nose for news, recognized the janitor . . . and gave the story to the newspapers. Consequently, the janitor was fired and confined to St. Mary's Hospital. He was so chagrined at the loss of both his job and his freedom that he reneged on his promise to Dr. Smith of an interesting future autopsy."

"Dr. Smith," continues Brindley, "believed that the first duty of a teacher was to teach; and he carried this doctrine to its ultimate conclusion. He and his classes in pathology habitually became so engrossed in their findings as to forget the classes to follow and thus trespassed on the time of the other departments. He always was disarmingly contrite when the injured professors protested; but, at the next class meeting he and the students again became oblivious to all except pathology."¹¹²

In 1892, Daniel's *Texas Medical Journal* noted that Dr. Smith had done a review of cholera in India for the journal, and would "contribute to its pages during the coming year, a part of the rich clinical material falling under his observation as a Microscopist, Pathologist and Bacteriologist" at the Medical Department in Galveston. . . .¹¹³

It appeared that Dr. Smith would be a creditable successor to the admired Dr. Dock, whose arrival and presence had signified the true beginning of modern pathology in the state.

During the first blush of the decade, the Medical Department of The University of Texas was not alone in opening a new school with a professor of pathology. The Fort Worth Medical School, the medical department for the nonexistent Fort Worth University, also began classes in the early 1890s,¹¹⁴ with **William Howard, MD**, the professor of pathology. Dr. Howard also ran the Fort Worth Laboratories at Cannon and College Streets, a forerunner of Ter-

rell's Laboratories, between 1886 and 1912. His focus was on pathology and microbiology.¹¹⁵

Pathology thus began to propagate ever so subtly across the Lone Star State. There were at least two professors in the specialty, and modest diffusion of knowledge among practicing physicians. One of the early papers on laboratory techniques was presented at the 1891 meeting of the Texas State Medical Association in Waco. Dr. J. H. Wysong of Galveston reviewed "Some Points of Interest in the Clinical Examination of the Urine," including observations in the naked-eye appearance of urine, description of the Fehling test for sugar and the heat and nitric acid test for albumen. He also demonstrated a comprehensive chart of "many laboratory methods of urinalysis."¹¹⁶

Dr. Allen J. Smith spoke "authoritatively" at the 1893 meeting of the state association in Galveston. Under the title, "Generalization of Cancer of the Stomach," he reviewed the literature on the known modes of metastasis, direct extension, transference by the blood, and transference by lymph vessels.¹¹⁷

Microscopic examination apparently was done in Austin in 1893. Doctors there posted a detailed fee schedule. Microscopic examination of urine cost from \$5 to \$10 and examination of pathological specimens was \$10 to \$25. In addition, examination of urine for albumen and sugar cost from \$2.50 to \$5. Interestingly, the fee for "venereal practice, in advance" was from \$5 to \$50. Consultation and written opinions ranged from \$5 to \$25.¹¹⁸

A special section for pathology

THE YEAR 1893 is distinct in the history of pathology in Texas. Until then, there had been no special section for pathology in conjunction with meetings of the Texas State Medical Association. Instead, the Section on Practice of Medicine, *Materia Medica* and Therapeutics had been used "as a depository for pathology, pathology being a caudal appendage." This year, the association established the new Section on Microscopy and Pathology, naming Dr. Smith the chairman. Under various names, the new section would meet uninterruptedly until 1918.¹¹⁹ Contrastingly, the American Medical Association would not create its section on pathology until after the turn of the century. In a friendly way, could the Texans be slipping ahead of their peers on the national front?

Some might say they were, judging by the quality of Dr. Smith's talk and the composition of the program. Dr. Smith "ably reviewed the status of pathology, the most significant feature being the early stress on what we now call clinical pathology." Andujar writes, "Even before this twentieth century, the morgue-and-arm-chair pathologists of Texas did not dominate the interested-in-the-living pathologists! The pioneer Section on Microscopy and Pathology discussed a wide variety of subjects, including parasitology, microbiology, cancer, and other fields. . . ." ¹²⁰

Dr. Smith continued his imposing presence in Texas medicine during 1894, speaking before the Texas State Medical Association in the Senate Chamber in Austin. It was another powerful landmark for Texas pathology. Nixon writes that Dr. Smith, "in his notable address on 'The Relative Importance of Pathology in the Medical Curriculum,' proceeded to place pathology in its proper position and to convince his auditors that 'pathology deals with living, moving questions, as well as with the dead and offal of disease.' He saw this subject as an introduction to the study of diseases which every doctor would meet in his everyday practice. Pathology . . . was more than the study of abnormal tissues; it was more than the study of bacteria and effects on tissues: it comprised also the field of pathological physiology, which concerned itself with altered function of organs as well as the reasons for symptoms of disease. Knowledge of true pathology 'makes of a man an intelligent practitioner of medicine,' and ignorance of it 'makes of him the routine follower of other men's methods.' Dr. Smith's many students at the University of Texas and the University of Pennsylvania will recall his deep sincerity as they read his words, 'The failure to thus acquire the habits of pathological reasoning, of comparing the diseased with the normal structure, the diseased function with the normal function, of seeking for the influences such changes may have upon the rest of the body, and their probable sequences; the failure to thus acquire the habits of study of the natural history of disease, leaves a man hampered in his medical life to a degree that years of study, even a lifetime may never overcome.'" ¹²¹

During the 1894 graduating ceremonies of The University of Texas Medical Department, Dr. Smith spoke on one of his other favorite topics, the influence of medical studies upon religious thought. Seven students graduated, and a first-year student, John T.

Moore, was awarded the prize in histology, offered annually by the professor of pathology. This year's prize was a copy of the last edition of Carpenter on the Microscope and its Revelations.¹²²

In 1895, the Fort Worth Medical School also graduated five students.

About this time in Washington, D.C., a subtle change was taking place at the Army Medical Museum, an appointment that would propel the focus of American pathology beyond the Civil War. Walter Reed became Curator of the Army Medical Museum, and at the first session of the Army Medical School, was professor of clinical and sanitary microscopy and director of the pathological laboratory.¹²³

Across America, pathology had made dynamic progress in medical schools, in research, and in hospitals. "The last quarter of the nineteenth century proved extraordinarily rich for the development of pathology," Long writes, "not only through the extension of pathological histology and the closer approach of physiology and pathology through experiment, but particularly through remarkable discoveries on the cause of disease. The new science of bacteriology solved some of the major problems which had puzzled medicine for twenty centuries."¹²⁴

In 1896, there were other discoveries paralleling the advancement of pathology. Wilhelm Roentgen announced his discovery of x-rays and A. H. Becquerel discovered radioactivity. There also were issues that would continue for at least another century. Scientific experimentation brought on apprehension about animal cruelty, and such a charge was made against the Army Medical Museum, which it felt was not true. Nevertheless, Congress considered a bill that "in the opinion of most doctors, would have so restricted animal experimentation as to have the practical effect of prohibiting the use of this avenue to increased medical knowledge."¹²⁵

Yellow fever was of growing concern to the medical profession in Texas, but in the fall of 1897, doctors were divided on the subject, some believing the disease was dengue.¹²⁶ At the 1898 Texas State Medical Association meeting in Houston, Dr. H. A. West of Galveston reported a thorough study of the epidemic that had begun in late July in Galveston, Houston, and San Antonio, and spread rapidly over 100 miles in every direction. The epidemic reportedly affected 60 to 90 percent of the population, and the Marine Hospital

Service had sent Dr. John Guitéras, professor of pathology at the University of Pennsylvania, to Texas to help.

Dr. West feared widespread effects from the epidemic, including "paralysis of commerce, the wheels of industry arrested, enforced idleness with consequent poverty and suffering of thousands, enormous depreciation in property values of every kind, universal fear and panic, and the possibility of widespread death and desolation." He traced the history and progress of the epidemic, detailed the symptoms contrasting the symptoms of yellow fever and dengue, and "quoted all available authorities." Observing that the epidemic subsided with cold weather, he theorized that the diseases were transmitted "by persons and things to other persons." He concluded that both yellow fever and dengue were present in Texas, with which Professor Guitéras agreed. At least one autopsy had been confirmed by Professor Allen J. Smith.

Nevertheless, Dr. West's views were "vigorously opposed for eight pages of the Transactions and, indeed, over the state generally."

It seemed that Texans always would remain stubborn about changes in medicine. It also seemed that they never would overcome hardship. To compound the problem of yellow fever, the Spanish American War loomed over the country, and during the conflict there would be nearly seven times as many deaths from disease as from bullets. More than half the deaths would be from typhoid fever.¹²⁷

Walter Reed and his commission were put to work to resolve the spread of typhoid in army camps, revealing flies as carriers, and dust and uncleanness as mechanisms facilitating the spread of the disease.

There were other findings exposing insects as vectors of disease, and, in the final year of the decade, after several years of work, Theobald Smith and others established the tick as the vector in the transmission of Texas cattle fever.¹²⁸

Beyond seeking solutions to such overwhelming challenges demanding concerted teamwork, individual physicians sometimes experimented on a smaller scale with their own research. Dr. Rudolph Menger of San Antonio did "some very creditable work," publishing it under "Photo-Micrography as Related to Medical and Scientific Research."¹²⁹

With such bright minds at work during the final decade of the nineteenth century, could there be anything but optimism for the future of medicine and pathology in the state?

Texas doctors were on the brink of building a respectable medical profession. They now enjoyed the camaraderie of meetings, the exchange of information through a few publications, and the accessibility of medical education institutions on Texas soil. A more fertile medical milieu permitted the nucleus of a new pathology specialty.

It was a time to be reflective, to look back at the century gone by—at the amazing eighty years since Texas had been barely a gleam in Stephen F. Austin's eyes. What perilous, unforgettable hardships the Texans had endured! Yet, somehow, out of the raw frontier, they had indeed forged a state. There was much for Texas physicians to appreciate in the closing days of the century but there were great challenges ahead. Medicine in the new century would demand excellence—it would cater to no less. Education would be the key to success, and the “doctor's doctor” would play an important role in helping physicians understand the “how's and why's” of medicine. In Allen J. Smith's words, that meant demonstrating first that the pathologist's work dealt “with living, moving questions, as well as with the dead and offal of disease.”

Already the hardy successors to Drs. George Dock and Allen J. Smith—some born of and molded by the rugged Texas frontier—were in the wings, waiting to take on the challenges of the new century.

Chapter 4

Acceptance is Slow

(1900–1910)

It is well within the memory of many of the Association when this branch was not regarded as of sufficient importance and practical value to the active physician to require its adoption in the school curriculum; and even today, there are more schools than one, of well-recognized merit, in which it is represented by a lectureship, whose instruction is open to the voluntary attention of the student, but of which a trial of his knowledge is not regarded as essential to graduation. . . .

Allen J. Smith, MD, in 1901, speaking to the State Medical Association of Texas Section on Pathology.¹³⁰

GALVESTON WAS IN CHAOS, thousands dead from the powerful hurricane that surprised inhabitants on September 8 and 9, 1900.¹³¹

Amid the debris and shock, two men stood in front of the Romanesque, red brick building housing the nine-year-old University of Texas Medical Department. Like every building in the city, the school had been damaged, much of its “adventurous architecture” and the great dome gone. A huge gap was left in the middle of the roof. Inside, rubbish of chemical tables, bottles, and apparatus lay twisted and tangled. To the north, the dead-house had been unroofed, and under the debris its inhabitants, once scheduled for dissection, rested strangely, unfit for further use.^{132,133}

As Dean Allen J. Smith and Dr. Edward Randall, the city's new health officer, conversed, a third man arrived. The president of The University of Texas, William L. Prather, had rushed to Galveston with military officials on the first boat from the mainland.

"I've just telegraphed Beauregard Bryan," Prather announced, "there's five feet of water in the basement. . . . school should not open this term."

Judge Bryan, chairman of the Board of Regents' medical committee, however, did not see eye-to-eye with the president. He soon wired back. "The University of Texas can't stop for a storm. School must open."¹³⁴ Two weeks later, the Board of Regents appropriated funds for repair, and school opened on November 15.

The turn of the century had brought its first great shock to Texas, the worst single natural disaster in American history.¹³⁵ But the century also brought a second, more pleasant shock—one perhaps to be handled less stoically. Spindletop, the great oil gusher, erupted near Beaumont in 1901,¹³⁶ creating a world-wide sensation and stirring dreams of unimaginable wealth pumping from the earth. It was followed soon by the Humble and Goose Creek discoveries, promising dramatic change for the leisurely business style of the cotton economy.¹³⁷

In this generally quiet post-Victorian era, change of another kind also fermented. Already the telephone was becoming widely used—there were 2,000 of them in Houston in 1900. Wealth pumped from the minds of great scientists, arriving in the form of radio, quantum theory, discovery of the laws of radiation, and solutions to historically destructive diseases.¹³⁸ Dr. Walter Reed of the Army Medical Museum had headed two national commissions, finally resolving the method of transmission of yellow fever, and reporting the findings in Havana on February 6, 1901.^{139,140}

Reed's team also sustained English physician William Budd's 1874 declaration that typhoid was a "perfectly preventable plague." Flourishing in the filth too commonly prevalent in Army camps, flies became vectors of the disease that was disseminated by transfer of alimentary canal excretions.¹⁴¹ Further, in 1907, the "Typhoid Mary" report would identify the presence of carriers.¹⁴²

Colonel William Crawford Gorgas, who had overseen the eradication of mosquitoes transmitting yellow fever in Cuba, turned his sights on the Panama Canal Zone, tactically attacking and wiping out the fever there by 1906 and also eliminating rats carrying bu-

bonic plague. His efforts would allow Army engineers to build the long-awaited canal connecting the Atlantic and Pacific Oceans.^{143,144}

The first decades of the twentieth century, recalled San Antonio pathologist Dr. B. F. Stout, were to bring to medicine "the glorious days of the Big Four at Baltimore [William H. Welch, pathology; William Osler, medicine; Howard A. Kelly, obstetrics-gynecology; William S. Halsted, surgery] and they, with their contemporaries in other great American medical centers, were to transform American medicine and transfer premier medical science from Europe to our own land. Clinical pathology was practiced only in medical schools and in the larger hospitals attached to these schools; therefore, large sections of the country were without such services and to fill this need volunteers began to explore the field. Formal training was obtainable only in Europe, which was remote and expensive. Those who took these courses were in great demand as teachers and in the larger hospital centers."¹⁴⁵

Yet, early in the century, the science of pathology clearly was expanding rapidly, bringing a true scientific base to medicine. In 1900, the American Medical Association marked the growth, forming its Section on Pathology and Bacteriology.¹⁴⁶ Seven years earlier Texas had created its Section on Microscopy and Pathology.¹⁴⁷

No medical science could have been more needed than pathology. Many branches of medicine were undeveloped, and only a dozen drugs were in common use. Despite systematic approaches to medical education, physicians too often had to rely on their empirical experiences to diagnose and treat. Too often, they could only provide attentive bedside care—and simply hope for the best.^{148,149}

In the aftermath of the horrifying hurricane that had struck only a few months earlier, Texas physicians resolutely held their planned annual meeting in Galveston in May 1901. Dr. Allen Smith addressed his colleagues attending the Section on Pathology, speaking "in unhurried and beautiful English."^{150,151,152} He summarized the status of pathology, recalling the days when it was considered not practical enough to be in the school curriculum, and commending members of the state association for supporting the section.

"The medical training of the first three quarters of the past century presents a curious gap," he said. "The student was carefully instructed in those matters of normal life, anatomy and physiology, which were and are appreciated as basal to the understanding of dis-

eased condition; and then immediately, without present 'hows' and 'whys' the student was led to the clinical picture of the symptoms, memory of a more or less defined group being demanded without reason for their manifestation. This gap is sought to be filled by the special study of pathology."

Nevertheless, Dr. Smith also predicted that pathology probably never would, "clear up all the mists from our power of recognizing the principles of disease and their bearings."

Another paper at the post-hurricane Galveston meeting came from Marie Charlotte Schaefer, MD, who would become the first woman faculty member at UTMB and was the first woman appearing on a State Medical Association of Texas program.^{153,154} Her manuscript, entitled, "Anchylostoma Duodenale in Texas," arose from her work as an interne in Dr. Allen Smith's laboratory where she had become interested in intestinal parasites.

"The subject of hookworm infestation in Texas and in the South was new," writes Nixon. "In 1893, Dr. Smith had demonstrated the ova of the parasite in a specimen of stool taken from 'the general closet [toilet] of the Medical School,' but had been unable to find the person who was host to the parasite. One year later, Dr. Ferdinand Herff had found the parasites at autopsy.' The patient reported by Dr. Schaefer was a sailor who had been in the Orient and had lived in Mexico. The ova were found in the stools, and after the administration of thymol, more than one hundred parasites were expelled. Following this experience, Dr. Smith again found hookworm ova in a mixed specimen of stool which he was using for the purpose of class demonstration. He examined the blood of all the students and found marked eosinophilia in two individuals. With this as a clue, he examined the stools of these two students and was able to demonstrate ova of *Anchylostoma duodenale*."¹⁵⁵

Private Texas physicians also studied hookworm disease in their laboratories. Among them was Dr. Beecher F. Stout, who "read a most scientific paper upon Hookworm Disease with a demonstration of the worm and eggs under the microscope," at a meeting of the Bexar County Medical Society in 1904.¹⁵⁶

The world of medicine in Texas was pulsating. Medical schools rapidly proliferated, stirring conflict as the desperate need to raise standards juxtaposed against sometimes well-meaning entrepreneurial efforts. Texas also was "plagued" by diploma mills attributable to its lax regulations.¹⁵⁷ Before the turn of the century, only The

University of Texas Medical Department in Galveston and the Fort Worth University Medical Department provided substantial medical education in Texas. Suddenly, scores of schools, including at least ten in Dallas, emerged. Accounts of their beginnings vary, but indicate not only intertwined and swiftly changing alliances, but a considerable amount of competitiveness. The *American Medical Directory* carries the following scenarios. In 1900, the University of Dallas Medical Department opened its doors, affiliating in 1903 with Baylor University at Waco to become Baylor University College of Medicine. Organized also in Dallas were the Physio-Medical College of Texas, 1902; Southwestern University Medical College, 1903; College of Physicians and Surgeons, (organized as Bell Medical College in 1903), and Dallas Medical College, 1900. The latter school merged in 1904 with Baylor University College of Medicine. Also in Dallas was Gate City Medical College, which had been organized in Texarkana, Arkansas, in 1902, then an outgrowth of a school previously formed in 1898.^{158,159,160}

Who taught pathology in most of these schools is not always clear, and most faculty taught several subjects. Dr. A. C. Bell at one time taught pathology at the Dallas Medical College, and Drs. David Davidson and A. E. Blount taught at the University of Dallas Medical Department.¹⁶¹ From 1903 to 1908, Dr. Joe Becton taught surgical pathology at Baylor University College of Medicine, Dallas.¹⁶²

Baylor University College of Medicine, Moursund writes, considered the pathology chair one of its most important areas, and planned a course similar to that of Johns Hopkins. Students were taught by lectures and demonstrations directed toward practical needs; clinical microscopy included blood and urine examination, and the laboratory was said to be supplied with "modern centrifuges, hematocrits, hemocytometers, and hemoglobinometers."¹⁶³

Hospitals for both students and patients, however, were scarce and separated by distance in 1901. Dallas, with a population of 50,000 in 1903, had perhaps 100 hospital beds. Although Parkland Memorial Hospital had been organized in 1884 as the Dallas City Hospital,¹⁶⁴ students at the new University of Dallas Medical Department considered it too far to travel by wagon. Charles Rosser, MD, founder of the school, then bought a two-story, fourteen-room house and converted it into the twenty-five-bed Good Samaritan Hospital. In 1903 Texas Baptists initiated plans for a larger hospital, opening the Texas Baptist Memorial Sanitarium on November

5, 1904, and launching what would become Baylor University Medical Center.^{165,166}

In 1900, the state had abandoned an earlier plan to have a joint board of medical examiners, and had passed an act calling for three boards, keeping allopathic, homeopathic and eclectic physicians separate. Christian Scientists and kindred practitioners were exempt, as were all physicians practicing medicine in Texas before 1885; those recording diplomas since 1891 issued by "medical colleges of respectable standing," and those from other states with requirements equal to those of Texas. Applicants who were examined had to know the following subjects: anatomy, physiology, chemistry, materia medica, therapeutics, histology, pathology, practice of medicine; surgery (including diseases of the eye, ear, nose and throat), obstetrics, gynecology, hygiene, and medical jurisprudence. Texas continued its system of having physicians record their diplomas with district clerks.¹⁶⁷

Despite the inadequacy of the state board, medical practice in Texas did begin to improve, and at least some awareness of laboratory tests was evident at the 1903 meeting of the State Medical Association of Texas. There, Major Charles F. Mason reported on Malta fever in a soldier at Fort Sam Houston, stating that a positive agglutination test with *Micrococcus melitensis* had clinched the diagnosis. Quinine and potassium iodide apparently did not influence the course of the disease, but the patient recovered slowly. Asked whether the physician cured the patient or whether he just got well, the Major replied frankly, "He got well."¹⁶⁸

"The most notable paper at the 1903 session," Nixon attests, "was by Charles Wardell Stiles, chief of the Division of Zoology, United States Public Health and Marine Hospital Service, who spoke on 'The Significance of the Recently recognized Hookworm Disease for the Texas Practitioner.' Although not a physician, Stiles "had almost singlehandedly impressed the physicians of the South with the prevalence of this disease. Giving Dr. Allen J. Smith of Galveston full credit for his pioneer work, Stiles took up the subject from every angle, using many illustrations and charts. Those who were fortunate enough to hear his eighty-seven-page paper must have realized they were listening to a master."¹⁶⁹

In 1903, Dr. Smith left The University of Texas for the University of Pennsylvania, and was succeeded by A. E. Thayer, MD, of Meridian, Mississippi. Dr. Thayer served until 1907, leaving because

of his wife's ill health. In 1908, he became a professor of pathology at Baylor University College of Medicine in Dallas, and would serve until 1912. Graduating from Williams College in 1881, he had undertaken medical training at The New York College of Physicians and Surgeons, and received his medical degree from Columbia in 1884. He had taken further work in New York, Germany, Austria, and at Johns Hopkins, where he had been an instructor in anatomy. He also had been a statistician at the New York City Health Department; assistant surgeon of the Marine Hospital Service; assistant professor of materia medica, pathology and bacteriology at the University of Virginia, and instructor in pathology at Cornell University.

"Dr. Thayer was an excellent teacher, according to Dr. Edward Randall, who described him as being a 'polished and cosmopolitan gentleman who played the piano well and invited his intimate friends into his kitchen, where he liked to prepare odd, foreign dishes for their enjoyment.'"¹⁷⁰

Since 1901, the American Medical Association, Association of American Medical Colleges, and state medical licensing boards had been cooperating on medical education reforms.¹⁷¹ In 1904, efforts to raise medical education standards—including pathology—intensified across America as the AMA created its Council on Medical Education with surgeon Dr. Arthur Dean Bevan as chairman. Dr. William T. Councilman, a pathologist on the council, conducted an exhaustive study of pathology, establishing a pattern for the first class schools. He specified the best time for the subject in the curriculum, the proper number of hours, and emphasized the importance of full-time tenure for professors of pathology and close clinical associations for the assistants.¹⁷²

First private pathology laboratories in Texas

OUTSIDE THE REALMS of medical education, there was considerable activity in the private sector of pathology. In 1904, **Beecher F. Stout, MD**, established the state's first private laboratory for clinical pathology in San Antonio. Others soon followed: In 1907, **W. F. Thomson, MD**, in Beaumont and **J. H. Black, MD**, in Dallas; in 1909, **E. F. Cooke, MD**, and in 1911, **Martha A. Wood, MD**, both in Houston; in 1912, **J. E. Robinson, MD**, in Temple; in 1913, **Willis Waite, MD**, in El Paso; in 1915, **Truman C. Terrell, MD**, in Fort

Worth, and in 1917, **W. W. Coulter, MD**, at Southwestern State Hospital in San Antonio.^{173,174}

Interestingly, during this era, physicians in other fields also practiced clinical pathology. A dermatologist and professor at the original Southwestern University Medical College, **J. B. Shelmire, MD**, was intrigued by the fields of mycology and histopathology and was said to have brought the first microscope to Dallas in 1902. Since few physicians in Dallas at the time had any knowledge of clinical pathology, "before long Shelmire was the clinical pathologist, performing urinalyses and examining blood smears for his colleagues."^{175,176,177} **Matthew Ferdinand Kreisle, MD**, lectured in pathology at The University of Texas Medical Department in 1912-1913, the year after he graduated. He opened a general practice in Austin, had a microtome, stains and microscope in his office and did tissue studies for his and other physicians' patients, quitting only after becoming too busy.¹⁷⁸

Clinical pathology and much more

"WHEN I ARRIVED in San Antonio," Dr. Stout recalled, "there were a few microscopes owned by physicians, but most of these were kept under glass for exhibition purposes."

Reflecting on his acceptance by the medical profession, however, Dr. Stout admitted, "The doctors were rather slow to accept either me or the services which I had to offer, so I added the title of 'professional anesthetist' to that of clinical pathologist. It must have had some measure of success because the late Dr. T. T. Jackson then made his famous statement that previous to this time, 'Anesthesia consisted of either doing artificial respiration or chasing the patient around the house to get him back on the table.'" That same year, Dr. Stout said, came his first "claim to fame"—he reported the first case of hookworm infection in Bexar County.

Pathologists often had to function in many capacities. **Claudia Potter, MD**, faced this and one other challenge on June 23, 1906, when she arrived at Temple Sanitarium, the sixth woman to have graduated from UTMB, Galveston. In the absence of **Raleigh R. White, Jr., MD**, she was interviewed by **Arthur C. Scott, MD**, and it was agreed she would remain until White returned. "I was to be an anesthetist, and thrown in for good measure with this position, would also serve as pathologist, house doctor, stretcher boy and

general flunky. For all this service I was to receive \$25 per month, room and board. I would only be on probation until Doctor White returned and such a contract met his approval."

When Dr. White heard the news, he replied to Dr. Scott, "I will be home soon, for I know you have lost your mind if you have employed a woman doctor."

Nevertheless, upon his return, he asked her to report monthly to him and kept her on a month-to-month probation. During the fourth month, he advised her she no longer had to report to him, but added that she was still on probation. Dr. Potter thus became the first pathologist at what was later Scott and White Clinic and Hospital. She spent her mornings giving anesthesia at the Temple Sanitarium and her afternoons in the city offices of Drs. Scott and White working in the small laboratory located there. She examined specimens which she brought from the sanitarium and specimens left by patients at the city offices. Her "probation" would last until retirement on July 31, 1947, Dr. White never telling her she was a permanent staff member.^{179,180}

For Texans, the year 1905 had been a thrilling one. In the spring, President Theodore Roosevelt, on the way from Denison to San Antonio for a reunion of his Rough Riders, received continuous ovations along the way. In Dallas, he paused for a memorable banquet at the grand Oriental Hotel, an important site in the future of Texas pathologists.¹⁸¹

There was another tool this year to help convey basic knowledge of pathology to medical colleagues. A new medical journal founded in July 1905 by the State Medical Association of Texas—the *Texas State Journal of Medicine*—carried in its first issue, "The Value of Leucocyte Count in Appendicitis," by W. L. Brown, MD, of El Paso.¹⁸² In August, John T. Moore, MD, of Galveston published, "The Differential Diagnosis of the Type of Malarial Parasites by the Microscope."¹⁸³

There also was other scientific progress in Texas. After being ridiculed by the Texas Legislature, the Texas anatomical law, designed to obtain cadavers for education of first-year medical students in anatomy, was passed in 1906.¹⁸⁴

Of global importance, there was promising news on the diagnosis of syphilis. In 1901, Jules Bordet and Octave Gengou had discovered the phenomenon of complement-deviation; in 1905, Fritz Schaudinn and Eric Hoffmann, the *Treponema pallida*, and in 1906,

August von Wassermann developed his sero-diagnostic test for syphilis, building upon the earlier work and that of Paul Ehrlich on immunity and serum reactions.^{185,186,187}

It was an energetic period. "Emerson published his first edition of *Clinical Diagnosis* in 1906," Stout writes. "The contents were devoted to the chemical and microscopic examination of urine, sputum, feces, blood, gastric contents, and other body fluids. In the daily routine of present day work [1948], pathologists have added remarkably little to what was then done. The physical aspects of these various substances were studied in the most minute detail. Blood chemistry was, of course, unknown and only came into general use at about the time of World War I. Uric acid was carefully looked for in the urine, it being the era of 'the uric acid diathesis.' The leukocyte count and differential and the red cell count and hemoglobin were done almost as accurately as now but the Schilling count came much later . . . Landsteiner in 1900 discovered the blood groups. It was not until 1914 that the citrate method for blood transfusions was made available, rendering the use of transfusions more feasible . . ."

One of the most interesting books of that time, Stout writes, was Palmer Finley's *The Diagnosis of Diseases of Women*. And because of that "magnificent book by Cullen published in 1900, and illustrated by paintings made by the first great medical artist, Max Brödel," he recalls, "we were able to diagnose the malignant tumors of the uterus more accurately." Further, he adds, "We were not pressed for fine distinctions because the surgical approach and roentgen-ray treatment were also in a state of evolution."

"Then, as now," Dr. Stout lamented later, "inadequate histories were sent to us with tissues for examination. The fixatives for biopsies were . . . sent in unknown strengths of formalin—some too weak, some too strong, and always too little in amount. In addition, I have received biopsy specimens in plain water, dried, in commercial wood alcohol, and even in Listerine. Physicians seem to believe that the pathologist should be able to identify sufficiently any tumors without any knowledge of the patient's history. I recall that one of my colleagues sent me a biopsy specimen which puzzled me quite a bit, and on asking him by telephone the source of the specimen, his reply was, 'A Mexican woman.'"¹⁸⁸

Autopsy work during the early years of the century was not only frustrating, but fraught with danger. Dr. Stout mused, "We had

considerable difficulty in obtaining permission to perform post-mortem examinations, sometimes being discouraged by cold eyed gentlemen with ten gallon hats, boots and spurs, and a Winchester rifle carelessly displayed." Often during this era animals were sent in for autopsy, and hunters cleaning their kill would send in odd specimens.¹⁸⁹

Again, in 1906, there was an appeal for better medical education in Texas. This time it came from John T. Moore, MD, the Texas representative to the AMA Council on Medical Education. Whereas nationally, Johns Hopkins and Harvard were the only schools requiring college degrees for admission,¹⁹⁰ most Texas schools now required only a high-school education for admission; The University of Texas Medical Department, one year of college. The state, in some ways, at least on paper, was approaching AMA standards, which called for a high-school education as a prerequisite. The AMA also called for medical training in a medical college having four years of not less than thirty weeks per year and thirty hours per week of actual work. Further it called for graduation from an approved college to entitle one to a state examination board, and a satisfactory examination before the licensing board. According to Dr. Moore, the AMA also felt the entrance examinations should be taken out of the hands of the medical schools, whose examinations then often were "but a farce." It was noted that The University of Texas already had taken over the examination for the Medical Department in Galveston, and that the exam now was "practically the same as for admission to the Main University."¹⁹¹

Soon, a new Texas Board of Medical Examiners would honor the AMA recommendations, requiring that all applicants come from schools with curricula approved by the Association of American Medical Colleges.

Dr. John T. Moore of Galveston apparently was quite active in medical affairs and in clinical pathology. In June 1906, he published, "The Laboratory of Clinical Pathology and Its Relation to the Practice of Medicine and Surgery," in the new medical journal of the State Medical Society of Texas.¹⁹² In the same issue, Dr. Wm. R. Howard of Fort Worth wrote, "The Examination of Sputum by Expert Laboratory Methods and Its Clinical Significance,"¹⁹³ and Dr. Albert Woldert of Tyler wrote, "The Diagnosis of the Different Forms of Nephritis and the Unreliability of the Nitric Acid Tests."

Socioeconomic issues were becoming more contentious, and during the 1907 meeting of the State Medical Association of Texas, the insurance committee wrestled with an issue that might have been pertinent to pathologists. "For several years," Nixon writes, "individual physicians had been skirmishing with life insurance companies about examination fees. Three dollars was the usual fee, and the companies insisted that some of the doctors were overpaid at that. It seems that the 'sink test' for urine was not unknown at that time."¹⁹⁴

The "stepped-up tempo of medical progress," nevertheless, was evident, and at that same state medical meeting in 1907, among the papers presented were "The Microscopic Diagnosis of Diseases of the Uterus and Cervix Uteri from Scrapings and Sections," by James J. Terrill, MD; "The Spirochete Pallida," by John T. Moore, MD, and Martha A. Wood, MD; "Historical Review of the Microorganisms of Syphilis," by A. E. Thayer, MD, and "Pathology of Colica Mucosa," by Wm. R. Howard, MD.¹⁹⁵

Finally, in 1907, the State of Texas adopted its strengthened, One-Board Medical Practice Act, supplanting and merging the allopathic, homeopathic, and eclectic boards into one.¹⁹⁶ It was this board that would try to erase the poor Texas record regarding the quality of medical practitioners in the state.

Despite the struggles to assure high standards in medicine, life in general was pleasant in Texas during "the dawn of the motor age." Dr. Stout later reminisced about his first years of practice."

I drove a motor car, a snappy one cylinder job, in 1907, with thrills that cannot be known now, such as being arrested and fined \$15 for driving fifteen miles per hour, and driving as far as twenty miles without a puncture or other minor incident.

We could buy a porterhouse steak large enough for the family for two bits and have a pound of liver thrown in for the cat. The dollar was a dollar then and the income tax had not yet been dreamed of. Our wives and sweethearts wore clothes that are now [1948] back in style except for the bathing suits. Radio was not yet known, but we were spared the crooners, and the golden voice of the politician could not hypnotize an entire nation.

In 1907, at The University of Texas Medical Department in Galveston, Dr. James J. Terrill succeeded Dr. A. E. Thayer as professor of pathology. He had graduated in 1902, served as an instructor under Dr. Thayer, and now became the first graduate of the school to head its pathology department.^{197,198}

"Jimmie Terrill, as he was generally known," writes Brindley, "was beloved by all his associates; but in 1913 he went to Scott and White as chief of laboratory services."¹⁹⁹

"Dr. Potter," reports Robert F. Peterson, MD, of Scott and White, "characterized him as a natural born teacher, a great diplomat, and an unsurpassed storyteller . . . stated that it was under his guidance that our Pathology Department became a real Pathology Laboratory." At the time, Dr. Peterson adds, the Scott and White laboratory also did outside work for other doctors—marking the hospital's first recorded venture into the laboratory referral service business.

In 1917, Dr. Terrill moved to Dallas where he and Dr. Guy F. Witt established Timberlawn Sanitarium, a neuropsychiatric hospital. In 1921, he reportedly gave "a flowery speech" nominating Dr. C. M. Rosser of Dallas as president-elect of the State Medical Association of Texas.²⁰⁰

With more stringent rules coming from the Texas State Board of Medical Examiners, many Texas medical schools suddenly had to close their doors—resulting in a number of suits and threats of harm to the state board. Disappearing in 1908 were two Dallas schools—the Physio-Medical College and the Gate City Medical College.²⁰¹

Also in 1908, the AMA Council on Medical Education, concerned about the quality of education and stung by criticism from certain schools receiving low grades in their surveys, invited the Carnegie Foundation to conduct a study of U.S. schools.²⁰² Abraham Flexner²⁰³ headed this famous study, which evaluated four Texas medical schools in November 1909. It highlighted the status of Texas medical school laboratories at the time.

The state then had a population of 3,789,574, with 5,789 physicians, a ratio of 1:563. The first two schools studied were in Dallas, a city with a population of 56,119.

Fifty-three students attended Baylor University College of Medicine, which required three years of high school or the equivalent for admission. It had twenty-nine teaching staff including sixteen professors, and all teachers were practitioners. The school's new laboratory adjoining the hospital seemed "quite bare," but the dissecting room apparently was in good condition. There was a

"fair" chemical laboratory, but a meagerly-equipped laboratory for pathology and bacteriology.

"There was nothing else," the report declared, "and no assurance of funds with which to provide additional laboratories or to maintain those already in part provided."

Adjoining the laboratory building was a new hospital of some 200 beds, and the school had access to two free wards containing thirty-two beds and an additional "negro" ward of twenty-two beds in "a pavilion close by."

There was no clinical laboratory at the hospital. Clinical opportunities were obtained at two other institutions, but infectious diseases and little obstetrical work was obtainable. The reviewers concluded, "The clinical opportunities are thus decidedly inadequate."

The other school in Dallas was Southwestern University Medical College, organized in 1903 nominally as the medical department of Southwestern University, Georgetown. It had sixty-eight students with thirty-two on the teaching staff, including seventeen professors. A three-year high school course or its equivalent was required for entrance.

The Flexner report commented that the "school possesses a new building, externally attractive, but wretchedly kept. It contains a disorderly and incomplete chemical laboratory, a small amount of new physiological apparatus, a single laboratory fairly well equipped for pathology and bacteriology, and an ordinary dissecting room." There is a 'reading room' with nothing to read. The lecture-rooms are bare, except for chairs; in a corner of one of them is an abused manikin." The school held amphitheatre clinics in surgery once weekly at an institution across the street, where "perhaps" fifty beds, mostly surgical, were accessible, and one afternoon a week at the City Hospital "one and a half miles distant." No infectious diseases were obtainable and neither hospital had a clinical laboratory.

"Clinical opportunities are therefore decidedly inadequate," the report declared.²⁰⁴

In Fort Worth, which had a population of 27,096, the Fort Worth University Medical Department had been organized in 1894 as a nominal department of a nonexistent local "university." A three-year high school course or its equivalent was required for admission; 100 students attended, and there was a teaching staff of forty-seven, including fourteen professors, all of whom were practitioners. Laboratory facilities included a dissecting room, ordinary

laboratories for chemistry and bacteriology, and a single laboratory with "routine outfit" for pathology and histology, and there had been a recent small-scale provision for physiology. The classrooms were bare except for a reflectoscope and a defective skeleton. There was a small museum of unlabeled specimens and a small library.

The clinical facilities in the basement of the school building, the report attested, made "a wretched hospital of fifty beds, twenty of them free." There was no clinical laboratory, and one surgical clinic was held weekly at a private hospital two miles away."

Galveston at the time had a population of 37,834, and on that island was located the only existing state-supported medical school, The University of Texas Medical Department. Entrance requirements included a four-year high school education, "passed on" by the state university. Attending were 206 students. There were twenty-six members on the teaching staff, nine of whom were professors. Three professors and seven instructors were full-time, and all instructors were on salary.

The report was complimentary to The University of Texas in one area. "The school has a complete series of admirable teaching laboratories, covering anatomy, physics, chemistry, physical chemistry, pathology, bacteriology, histology, and embryology. There is a large pathological museum, beautifully kept, every specimen classified, labeled, and indexed; and a notable anatomical museum in which special preparations are most advantageously arranged for teaching use. The library is good and is in regular receipt of foreign and domestic journals; animals in abundance are on hand. Competent helpers are provided for each floor. No effort, however, is made in the direction of research."

The clinical facilities included a university hospital of 155 beds adjoining the laboratories, whose "organization is along sound lines—the service with a single chief being continuous, but students have not as yet been actively utilized in the wards. As elevated standards improve the student body, this innovation will become more feasible. . . ."

Flexner concluded: "Texas is indubitably a state destined to a great development; its educational institutions must from time to time be readjusted to take account of its expanded needs. It is neither wise nor possible to provide now for requirements that will a generation hence become imperative. Sufficient for the people of Texas today to meet in the most effective way possible their own needs."

"There is now," he said, "only one educational institution in the state capable of maintaining a medical school whose graduates deserve the right to practice among its inhabitants; there is only one medical school in the state fit to continue in the work of training physicians. That institution is the state university; the medical school is its department at Galveston. The other three schools are without resources, without ideals, without facilities, though at Baylor the conjunction of hospital and laboratory might be made effective if large sums, specifically applicable to medical education, were at hand,—which is not, however, the case."

He further declared, "There is no indication on the face of things that any of the three inferior schools can live through the dry period to the opportunities of the future. Their enrolment (cq) is small; and the state is badly overcrowded with just the kind of doctor that they are engaged in producing. Should the loopholes in the present state standard be stopped up, all three would quickly disappear."

"The course of the state university needs to be carefully considered. Whether a college requirement will soon be wise is a question to be pondered. The institution has not yet exhausted the possibilities of the high school standard; its laboratories—admirable for undergraduate teaching—need further development on the productive side; its hospital must be enlarged; more effective teaching methods can be introduced into it; the dispensary is not yet effective. It is worth asking whether from the four-year high school basis the university will not be wise to get complete control of the field, driving out the low-grade schools, educating the people of the state to regard it as their main source of supplies in the matter of doctors and the active conservator of public health, before endeavoring to push ahead to a higher standard, which may not be so well adapted to local conditions in a relatively new country."

The annual budget for all Texas medical schools at the time equalled \$63,342, all of which went to The University of Texas Medical Department. The department was carried by the general funds of the university, Flexner wrote, and of the budgeted monies, \$6,500 was derived from fees. In addition, the hospital budget required \$39,611. Budgets were not cited for the other schools, whose sole income came from fees of slightly more than \$7,000 to \$10,500 for the Fort Worth University Medical Department.

Medical school standards were then led by Johns Hopkins in

Baltimore, which required a college degree,²⁰⁵ but Flexner noted that the Texas state board had dealt vigorously with the worst of the Texas schools. Commenting generally about the Southern states, he said, "Thus far, Texas alone has made an effort to keep pace."²⁰⁶

Flexner thoroughly condemned many pathology museums. "Such specimens as one meets are often putrid, rarely labeled properly, and still more rarely catalogued. But a few exceptions may be fortunately noted: the great anatomical and pathological museum at McGill. . . . To the same class belong the excellent collections made by Souchon at Tulane and by Keiller at Galveston (University of Texas). . . ."²⁰⁷

"None of the southern state universities, indeed, is wisely placed: Texas has no alternative but a remote department, such as it now supports at Galveston . . ."²⁰⁸ Flexner made it clear he thought the state should have placed its medical school in Austin.

Pathology came in for considerable additional discussion by Flexner, who concluded by saying that pathology's "greatest contribution to the comprehension and mastery of disease" had been illuminating its causation or etiology.^{209,210}

Flexner's call for standards was to have a profound influence on medical education—and the teaching of pathology—throughout the United States and Texas. Historian Esmond R. Long, in his review of pathology programs during the first quarter century, cited several colleges in Texas among schools of distinction.²¹¹

The chief centers of teaching and research in pathology in Texas in this period were at the Medical Branch of the University of Texas in Galveston and Baylor University in Dallas. In Galveston the most prominent was A. J. Smith (1863–1926; tenure 1891–1903), a student of parasitology, who initiated investigations on tropical medicine in Texas and continued them at the University of Pennsylvania. . . . He was succeeded by the peripatetic Alfred E. Thayer (1863–1953; tenure 1903–07), who had headed the Department of Pathology at West Virginia (1899–1900) and was to fill the position later at Baylor in Dallas (1908–1912) and Alabama (1912–1913). At Baylor the chief pathologist up to the time of George T. Caldwell (1882–1947) was W. H. Moursund (1884–1959; tenure 1913–17), noted for his organization of the Department and the school, of which he was Dean from 1923–1953. Caldwell, trained by H. G. Wells at the University of Chicago, was recognized as

one of the most energetic and progressive teachers in the Southwest. He did much to promote high standards in pathology throughout the region.²¹²

At the close of a phenomenal decade, Texas pathologists in private practice and in medical schools indeed were ready to extend the proud heritage that Virchow so remarkably defined for them. Eagerly absorbing new scientific information, they experimented in their own laboratories and applied their new knowledge to patient care. They also continued their roles as teachers, sharing their knowledge with colleagues.²¹³

Acceptance by their peers sometimes was slow, and, over the horizon, there would be more challenges. With dogged persistence, however, the leaders of Texas pathology would continue their quest to infuse science into the practice of medicine throughout the Lone Star State.

Chapter 5

The Laboratory Comes of Age

(1910–1920)

The rapid adoption of methods of precision for medical and surgical diagnosis presents an ever increasing problem to the medical profession. Laboratory examinations have almost transformed the best medical practice in a decade. Clinical diagnosis is equipping a higher class of graduates from our medical colleges. It has been estimated that about one practicing physician in every twenty possesses a microscope. Comparatively few who own them are skilled in their use.

Holman Taylor, MD, in an editorial
in the *Texas State Journal of Medicine*,
December 1916 ²¹⁴

PORFIRIO DIAZ HAD fled Mexico, leaving the revolution behind him. With trouble extending to the Texas border, the United States in March 1911 mobilized an entire American Army division to the state. The dispatch would lead to control of typhoid, the disease that had so devastated troops during the Spanish American War. Vaccination for typhoid had been voluntary since 1909, but it now was made compulsory for the 10,000 men in Texas camps.^{215,216}

Surgeon General George H. Torney expressed astonishment “that among the number of men in the camps at Texas City and Galveston, and among those in the numerous camps along the Mexican border, constantly exposed to infection, not a single case [of typhoid] has occurred.” There was one death—a civilian teamster had refused vaccination.²¹⁷

On September 30, 1911, vaccination became compulsory for the entire Army, and by the end of 1911, 85 percent of all personnel had been vaccinated. By 1913, there were only 0.004 cases per thousand in the Army.²¹⁸

Optimism about conquering another disease—syphilis—also was high. The Wassermann test had been developed in 1906, then along came Paul Ehrlich's report on salvarsan, or "606," in 1910. The combination of the two intrigued Dr. B. F. Stout, who reportedly performed the first Wassermann test and administered the first dose of salvarsan in Texas.^{219,220}

In January 1911, the *Texas State Journal of Medicine* announced that Dr. J. H. Black of Dallas and Dr. Stout were "prepared to make the test." The next month, the journal reported that others also were ready to administer it: W. G. Cook, MD, and J. D. Covert, MD, Fort Worth; M. W. Colgin, MD, and W. S. Witte, MD, Waco, and Wilson's Sanitarium, Memphis.²²¹

Administering 606 was terrifically painful, Nixon writes, and the preparation and administration of the solution for intravenous use a careful ritual. A general anesthetic often was required. "The unrestrained enthusiasm over '606' could not see beyond to the many failures, a good many fatalities, and the necrotic abscesses in multiple glutei muscles of hopeful patients. But withal, this drug was one of the early steps in the chemo-therapy of syphilis."²²²

Dr. Stout recalled the era as "one of the most dramatic episodes in medical history. . . the rapid sequence of events leading to the diagnosis and treatment of syphilis." Fascinated by the combination of Wassermann's test and the new drug salvarsan, he had traveled to Berlin in 1910 to study with two of Ehrlich's associates, Julius Citron and Paul Fleischmann.

With all the thrills of modern discoveries, such as the antibiotics, I think that nothing can equal the excitement which we in our class of American, British, French, and Polish students experienced in seeing this new drug used in the clinics in Berlin, one year after its discovery. It was Ehrlich's belief that one dose would sterilize the entire body of spirochetes. This dose was given intramuscularly, producing large, extremely painful indurated lumps that not only lasted for weeks but subsequently, in some cases, had to be excised. It became my duty on my return home to administer this remedy, and I can remember yet the agonizing pains these produced and also some humorous features such as seeing a

man having to wear an ice bustle for days at a time to keep the pain and inflammation down.

It was a few years later that the intravenous method was introduced in which 250 cc of the diluted drug was given. I recall that the first time I used this method, I forgot to empty the long rubber tube of air and was somewhat startled when the entire tube full of air gurgled into the vein.

Stout reported that in January 1911, he did the first complement-fixation in Texas and "a notice of the fact was published in the *Texas State Journal of Medicine* by Ira C. Chase, MD, the editor at that time. The test was soon taken up by others in Texas . . ."

The fees for complement-fixation tests were high because of the few persons qualified to make these tests. At first \$25 was charged; that was finally graded down to \$10 in the early 1920s.

Dr. Stout also addressed the status of tissue pathology during the era.

In the period of which I speak, we diagnosed with sufficient clinical accuracy the definitely benign and malignant tumors, although great changes have been made as to their behavior and their derivation from the embryonic structures from which they arise. Grading of tumors was made popular by Broders in 1916, but was taught by Von Hanseemann as early as 1890. He called the process of de-differentiation, "reversion to embryonic type." In those days we called mixed tumors of the salivary glands, endothelioma. Indeed, the endothelioma group was large and was championed by the late James Ewing up until the time of his death. It is now [1948] considered that these tumors are limited to a small group arising chiefly from vascular structures. We regarded the embryonic carcinomas of the testes as sarcomas. Melanomas we knew as melanotic sarcoma, and one of the mistakes which we all made for many years was the mistaking of adenosis of the breast for cancer, thus causing much useless surgery.

Changes in medical education

IN 1910 IN TEMPLE, Henry Charles Hartman, MD, became the first full-time pathologist at Scott and White, leaving in 1913 to succeed Dr. James J. Terrill as professor of pathology at The University of Texas Medical Department in Galveston. In 1926, he would be-

come dean of the school, leaving in 1928 to practice in San Antonio. Having graduated from the Medical Department in 1907 and serving an internship at John Sealy Hospital, 1908–1909, he also had been assistant State Health Officer between 1911 and 1913.

Anne Brindley writes that he was “a gentle, courteous, and scholarly man, with a quiet, but keen sense of humor, deeply loved, and appreciated by his intimates, but scarcely known by many of his colleagues.”^{223,224}

In 1911, Walter H. Moursund, MD, a 1906 graduate of The University of Texas Medical Department, joined Baylor University College of Medicine in Dallas as an assistant in pathology and bacteriology. In 1912, he reported that the study of pathology at the school included general, special and gross pathology; autopsy methods, clinical pathology, bacteriology, hygiene, sanitation, and preventive medicine. General pathology was a second-year course of 240 hours and special and clinical pathology were third-year courses, totaling 240 hours. Dr. Moursund became professor of pathology and bacteriology in 1913, and his department also performed the tissue work, bacteriology and serology for the Texas Baptist Memorial Hospital, later the Baylor University Hospital. Originally, the hospital had no provision for a central laboratory, and, as they had done from the beginning, interns continued to provide most of the laboratory work.²²⁵

There were other medical advances in Texas in 1913. The cornerstone for the new city hospital, Parkland, was laid, and the Association of American Medical Colleges elected Baylor University College of Medicine into membership. By the 1913–1914 term, all branches of the curriculum at the school were set and comprised anatomy, physiology and pharmacodynamics, chemistry, pharmacology, pathology, bacteriology and hygiene, medicine, surgery, and gynecology and obstetrics.

Clinical facilities were expanded considerably for Baylor students in 1913 and 1914, when Woodlawn Hospital for tuberculosis patients and the new general hospital, Parkland, were completed.²²⁶

J. H. Black, MD, who would become a state and national leader in pathology and allergy, was prominent in the context of the Southern Methodist University Medical Department in 1912. A letter of

appointment to Dr. Black, dated July 22, 1912, Dallas, Texas, was sent to him at 920 Catherine West, Montreal, Canada.

My dear Doctor:

In reply to yours of recent date I beg to say that you have been elected Professor of Pathology, Bacteriology and Physiology. In preparing the budget for our salaried men the following scheme has been suggested:

Anatomy Professor, \$600, First Assistant, \$400.00, Second Assistant \$200.00. Pathology, Bacteriology and Physiology, \$2,000.00, first Assistant, \$300, three Student Assistants, \$300. Chemistry Professor and Assistants, \$1,200.00. Pharmaceutical Professor and Assistants \$1,000.00. Professor of Histology and Embryology, \$320.00, Mr. Ragsdale, \$600.00. Kindly let me know if the appropriation for your department is equitable and satisfactory.

If you can suggest a way to make our Chemistry Laboratory (*sic*) more efficient (*sic*) I shall be very much pleased. Would it be possible to put the Department of Chemistry and Pharmacy under one Head Professor? and appropriate \$2,200.00 to this work? Do you know a good man for the place? Prof. Laney has resigned and Prof. Schrodtt has been offered the place at \$100.00 per month. He is not willing to take charge of the Chemical Laboratory also. Do you think Barkley would be satisfactory for another year? If not, name me another better man.

Kindly reply at your earliest convenience in order that matters will be definitely settled. Am glad to learn that you are having a pleasant Summer.

With kindest regards, I am

Yours truly,
[Signature not shown]

Another letter to Dr. Black included, at his request, a statement of expenditures from June 1911 to the date of the letter, February 22, 1913. This letter was addressed to him at the Medical and Pharmaceutical Departments, Southern Methodist University, Dallas, and signed by the bursar. It listed charges (equipment, \$6,022.82; supplies, \$1,060.22; improvements, \$412.32; insurance and expenses, \$3,095.68) and faculty. Dr. Black was at the top of the list at \$250 per month.

A letter dated August 25, 1914, to Dr. R. S. Hyer indicated that

Dr. Black declined to take over the duties of the dean due to the "retrenchment policy" on the budget. He did, however, offer to continue "any work you may put upon me. The official responsibility, however, I cannot assume." He was to be required to work within \$20,000; after much thought, he proposed \$24,000. "I am not able to see how any of the department can be run on less than this estimate allows, yet it is four thousand dollars too high."

On April 14, 1913, N. F. Colwell, Secretary of the Council on Medical Education, wrote to Dr. John O. McReynolds, the dean of the Southern Methodist University Medical Department. He enclosed the statement issued by the Joint Committee on Medical Inspection following its recent visit to the school, noting it was only fair "if we did other than present matters as we see them, with the knowledge we have of medical education throughout this country, and the rapidly increasing tendency of State Medical Licensing Boards to withdraw recognition from other than acceptable medical schools."

The inspection report dated April 8, 1913, on the Southern Methodist University Medical Department—originally the Southwestern University Medical College—called for full-time professors in the laboratory and for additional space for expansion of teaching and research. In addition, it specified a minimum expenditure of \$15,000 for salaries for competent full-time teachers, an additional \$5,000 for maintenance, and an aggregate annual expenditure of at least \$20,000 for the laboratory departments.²²⁷

Among photographs published in an SMU brochure about this time were those of Dr. Black, listed as vice dean/professor of pathology, physiology, bacteriology, and biology. Dr. Black had started as a histology lecturer at Southwestern University Medical College in 1907, taught histology and bacteriology in 1908, and had been professor of physiology and bacteriology since 1908. He also was a member of the executive committee, and at the time limited his practice to pathology.²²⁸

In 1915, the SMU Board of Trustees closed the medical and pharmaceutical departments, commenting that the "pronounced" expenses would be spent to better advantage in the College of Liberal Arts. Although the medical department had now received a Class A grade from the State Board of Medical Examiners, the trust-

ees felt that the entrance requirements were so rigid that only "a few of the many applicants" would be able to enter classes.²²⁹

The struggles of Southern Methodist University to develop a medical school reflected those of Baylor, which faced its own financial challenges during this era, but decided to remain in the medical education business whereas SMU opted to focus on liberal arts.

Houston Pathological Society formed

AS MEDICAL EDUCATION strove for ever higher standards, private Texas pathologists also sought to promote higher ideals and standards of practice. One way to do that was by forming associations, and on March 11, 1914, a group of Houston pathologists formed the Houston Pathological Society. Its purposes were to promote interest in the study of pathology "in all its phases and relations to medicine;" to promote good fellowship; to bring its members into more "friendly relation" and better mutual understanding, and to cooperate with the Harris County Medical Society in upholding the ideals of the medical profession.

Charter members of the society were Drs. E. M. Arnold, C. M. Aves, C. C. Cody, Jr., E. F. Cooke, E. L. Goar, C. C. Green, A. E. Greer, R. F. Herndon, C. W. Hoeflich, E. H. Lancaster, M. W. McMurrey, H. L. McNeil, J. C. Michael, R. H. Moers, I. E. Pritchett, M. B. Stokes, A. E. White, and Martha A. Wood. The group met at the county medical society meeting hall, and in April 1915, Dr. E. F. Cooke was elected president; Dr. E. M. Arnold, vice-president, and Dr. M. B. Stokes, secretary.

Dr. Cooke would play "a very prominent part in developing the specialty of pathology and bringing to it the recognition it deserved."²³⁰

An unspoken purpose of the Houston Pathological Society, according to William T. Hill, MD, of Houston, was to influence the American College of Surgeons, then establishing criteria for hospital accreditation. The effort, he said, led to formation of the Joint Commission on Accreditation of Hospitals, later the Joint Commission on Accreditation of Healthcare Organizations. The College required that a hospital in which an ACS member performed surgery must have a laboratory director whose specialty and training was in clinical or anatomical pathology, or both. Although hospital accreditation was voluntary, for a surgeon to be a fellow of the ACS

meant that hospitals had to comply for the surgeon to operate in their facilities. The requirements set new standards and established pathology as an important specialty.

Migration and expansion

GRADUALLY, MORE and more pathologists were moving into Texas communities. In 1914, A. E. von Toble, MD, arrived at Scott and White, according to the *Temple Daily Telegram*.²³¹ He had graduated from Yale, and "because of defective hearing, chose pathology. Likable and popular with hospital employees, he was a 'wit,'" reports Peterson. "His hearing may have been dull but his vision was keen and he saw much that was funny and kept those about him laughing at his comments."²³²

In 1916, A. C. Broders, Sr., MD—a man who would join Scott and White Hospital in Temple after retiring from the Mayo Clinic in 1951—developed his widely recognized classification system for tumors. Using the grading of tumors, he attempted to relate the histologic appearance of a neoplasm to longevity or prognosis.²³³

This year also, during the Galveston meeting of the State Medical Association of Texas, women medical students at The University of Texas invited all the women physicians of Texas to an open house at University Hall. The *Texas State Journal of Medicine* printed forty-nine names of known women physicians, but acknowledged there could be others in the state. On the list were F. May McAdams,²³⁴ Bryan Hospital, Bryan; Claudia Potter, Temple; Martha Wood, Houston, known to have been involved in the specialty of pathology. Others on the list also may have practiced pathology.²³⁵ In April 1916, Daniel's *Texas Medical Journal* devoted its issue to "a demonstration of what women are doing in the practice of medicine in Texas." The contributors were Mary Harper, of San Antonio; Ethel L. Heard and Violet H. Keiller, of Galveston; Minnie L. Maffett, of Dallas; and Ray K. Daily and Martha A. Wood, of Houston.²³⁶ Drs. Keiller and Wood were pathologists.

Texas pathologists must have felt a large measure of satisfaction, spiced with a pinch of wry advice, when they read a December 1916 editorial in the *Texas State Journal of Medicine*. Under the title, "The Community Pathologist," the editor wrote, "Hundreds of communities are without a man who is master of the standard diagnostic methods. Yet every serious case of illness anywhere demands

either a Widal, or a red cell or a leucocyte count, a hemoglobin or color index estimation, a microscopic urinalysis, a pus or a sputum examination, a Wassermann, a spinal fluid cell count, or something of the kind. Without such helps diagnosis is so imperfect that the physician is more of a comfort than a help to his patients, treatment is often misdirected, needed medication or operation overlooked and prognosis veritable guess-work. Every physician without such aids feels helpless, oppressed and disgusted at times with medical practice. These methods are the crowning gifts of human wisdom for the welfare of man."

Reporting that municipal and private laboratories had "sprung up in the larger cities," he observed that they were patronized to an increasing extent, and "did not and could not" meet the daily needs of general medical practice. Stating that every practitioner must become proficient in simpler procedures, he nevertheless felt that the community pathologist was the best solution to remaining problems. Advising that the physician selected by a community must not compete in general practice, he said, "He must equip himself and his laboratory for chemical, microscopic, bacteriologic, serologic and X-ray work and may in addition give anaesthetics or add some specialty agreeable to all physicians in the community. There is a good living for him if he has the proper professional co-operation."

He then urged every county society not having a local clinical laboratory to consider the subject during its annual meeting in December.²³⁷

In 1916, socioeconomic topics portended years of future discussions by the profession of medicine. On the agenda of the State Medical Association of Texas was social and health insurance, and cited were practices in England similar to the "condemned custom" of contract medicine. Two Texas companies, in Dallas and Waco, already were selling health insurance, but the Board of Councilors of the State Medical Association of Texas did not approve of their methods. The advice at the state meeting was to "go slow and wait."²³⁸

There was good news this year for Baylor University College of Medicine. In 1916, it received an A rating from the AMA Council on Medical Education.

Worldwide, however, the conditions were bleak, and on April 6, 1917, the U.S. entered World War I. Texas doctors—791 of them—were commissioned in the Medical Officers Reserve Corps,

National Guard, Regular Army, and Navy. That equalled 14.5 percent of all licensed physicians of the state and 20 percent of the State Medical Association of Texas membership.²³⁹ Because of the large number of volunteers, there was no necessity for a physician draft during World War I.

At the beginning of the 1916–1917 session, Dr. Moursund, then professor of pathology, registrar, and secretary of the faculty at Baylor University College of Medicine, resigned his latter two positions. Having been a member of the Medical Officers Reserve Corps of the United States Army since 1910, he was ordered to active duty in June 1917. Serving first in Dallas as examiner of officer personnel, he then reported in July to Fort Sam Houston as commanding officer of the Eighth Corps Area Laboratory.²⁴⁰ Marvin DeWitt Bell, MD, of Dallas, who had worked part-time for Dr. Moursund as a senior medical student, took over the laboratory work for Texas Baptist Memorial Sanitarium in 1917.²⁴¹

Section on Pathology abolished

A STRANGE CURVE was thrown Texas pathologists in May 1917. The State Medical Association of Texas voted to abolish the Section on Pathology, the editor of the *Texas State Journal of Medicine* observing that a “very interesting discussion” on the topic was contained in the Transactions.^{242,243}

Indeed there was. The Committee on Scientific Work had recommended abolishment of both the Sections on Pathology and on Life Insurance. But, more intriguing, the prominent pathologist, Dr. E. F. Cooke of Houston, was somehow involved. During the discussion, he commented, “One of the reasons we had for supporting the Committee on Scientific Work is that the Section on Pathology is absolutely useless.”

As an alternative to the Committee’s proposal, he suggested the section could be combined with an already proposed conglomerate section. A subchairman in pathology, he said, then might gather papers on pathology and distribute them to sections where they best fit (an interesting foreshadowing of superspecialization many years later). Dr. Ira Chase, the secretary of the State Medical Association of Texas, however, felt that sections should be related to a specialty, and that pathologists deeply interested in their topic would not be interested in a section that combined life insurance and state medicine.

The recommendation of the Committee on Scientific Work was accepted, and the Section on Pathology abolished.

A follow-up article in the June 1916 *Texas State Journal of Medicine* reported that the Committee on Scientific Work had recommended that a Section on Roentgenology or x-ray might be established in place of the pathology section, but left further action up to the specialists in the field.²⁴⁴

In Washington, Surgeon General William C. Gorgas reported that the Army Medical Museum, which had nearly 48,000 specimens, was "one of the largest, most instructive, and valuable collections in existence,"²⁴⁵ important information for the field of pathology. With war bearing down on the country, it also became essential for the Army to "make pathologists in a hurry."²⁴⁶ Eventually, this production, too, would have an impact on the specialty and on communities everywhere.

The status of pathology in the military services of the time could perhaps be glimpsed through the eyes of Dr. James Ewing of Cornell University Medical School and the father of oncology. As during the Civil War, the Army again requested specimens from physicians in the field, and again they were slow in coming. In 1918, the Army sent Dr. Ewing to obtain the specimens, where "it became apparent that the laboratories had been built, equipped and manned chiefly for clinical microscopy," and not for anatomic pathology.

"There was always an impressive array of test tubes, Wassermann trays, blood counters, urinometers, etc., and a rather superabundant personnel trained in their use, but I found the pathologist at only one of the seven hospitals visited, and he was busily engaged as admitting officer of the hospital."²⁴⁷

During the war also, the museum would improve its graphic arts, adding photographic, pictorial and plastic to its repertoire. Also used were animated drawings and "stop-motion pictures." All of these would become tools for pathologists of the future.

A motion picture film prepared by the museum, "Fit to Fight," was shown in revised form to civilian audiences.²⁴⁸ Showings planned for September or early October were postponed to November because of the ban on public gatherings arising from the "appalling influenza epidemic" in the country. One such showing was to the Rotary Club in Dallas. W. C. Temple, club secretary, wrote:

The first showing, by invitation only, was made to about one hundred and fifty men. We did this to feel out the local situation, and after those invited had witnessed the film, they were unanimous in their opinion that it should be shown to as many males as possible, so we gave another showing of the picture, giving the matter publicity through the local press, at which time the film was shown to something like two thousand men and boys over fifteen years of age. . . . In my opinion this is just such education work as should be carried on throughout this country.

Among films shown to servicemen during this era were those dealing with insects, "Mosquito Eradication," and "Fighting the Cootie."²⁴⁹

More Texans soon were on their way to war, and on February 19, 1918, the Baylor University Base Hospital Unit, under the command of Major M. F. Lott, received orders to report to Fort McPherson, Georgia, preceding service in France.²⁵⁰

In 1918, the Section on Pathology of the State Medical Association of Texas, following the decision of the latter's House of Delegates in 1917, did not meet.^{251,252} Nevertheless, pathologists did participate in various sections, presenting several papers.²⁵³

Fort Worth University School of Medicine in 1911 had affiliated with Texas Christian University, but announced that it would close after the 1917-1918 session. "The higher requirements for medical education, the endowment long expected but not materialized, the strain of war conditions, and future permanency not satisfactorily assured," writes Moursund, were given as reasons for closing. The school then merged with Baylor University College of Medicine, the last of the surviving medical schools in the Dallas area.²⁵⁴

The concept of suffrage for women, a major topic for some time, was condemned this year by the editor of the *Texas State Journal of Medicine*. He wrote, "The recent act of our Legislature giving woman the right to vote in primary elections marks another step in our vigorous but experimental government . . . women could be admitted to primaries without constitutional amendment. . . . As to the reason behind this step, to our mind there is none. . . . Women have on the average better education but less business and executive

experience than men, so that in the main woman's suffrage about duplicates the present low average of voting wisdom." Nevertheless, the editor prophesied that women's suffrage would lead to the betterment of public health and education.

"We expect to see larger educational appropriations, better schools, better paid teachers, more playgrounds, more parks, more medical examination of school children, better water, better sanitation, better public hospitals, more sanatoria for the tuberculous, more hospitals for crippled children, better care of lying-in-poor, and a better supported State Board of Health."²⁵⁵

Also in 1918, the Texas Legislature ratified the eighteenth amendment to the U.S. Constitution, to be known as the Prohibition Amendment. It would have a powerful influence on the coming decade.

By 1919, the State Medical Association of Texas reported that 929 Texas doctors were in military service, representing one-third of the members of the association and one-fifth of all Texas physicians.²⁵⁶

Medical needs of Texans did not stop during World War I. Dr. B. F. Stout, for example, received a poignant plea from a patient:

for doc B. F. Stout spit from m. Smith suffing with asthma Bin treated by Doc Brown the doc now what he has to do he has made me some vaccane before i am suffing very much canot get my win and straining coff taring me up got a aulful wheasing cannot lay down at night fair puty well in dry sunshine days from m. Smith.²⁵⁷

Following World War I, the Army Medical Museum focused on raising the number of trained pathologists in the country, noting there were insufficient numbers in the military and in civilian life.

"Pathology," according to Surgeon General Merritte W. Ireland, "is a subject in which a large experience is acquired slowly, and, in spite of efforts to train additional men by the arrangement of special courses of instruction, the number of qualified pathologists could not be greatly increased during the war." The museum also became the central exchange for pathology specimens of the American and Canadian Sections of the International Association of Medical Museums, work carried on previously by Dr. Maude E. Abbott of McGill University.²⁵⁸

After the war

SLOWLY, PRIVATE LABORATORIES were being installed in Texas hospitals. In Houston, **B. F. Smith, MD**, made a laboratory available to St. Joseph's Hospital, one of the oldest private hospitals in the state. His equipment included a microscope, Bunsen burner and test tubes. The laboratory, however, had no pathologist and no laboratory personnel. Physicians obtained specimens and did the testing themselves, primarily urinalysis and blood counts. "Between 1912 and 1921," Sister Coffey writes, "the Laboratory was under the supervision of the resident staff and visiting pathologists, notably **E. F. Cooke, MD.**"²⁵⁹

In 1919, a man of immense future influence in Texas pathology, **George T. Caldwell, MD**, joined Baylor University College of Medicine as professor of pathology and chairman of the department. He was the first scientifically trained and full-time faculty member at the young institution. Arriving at the school in Dallas, he was taken aback at its sparse facilities, and later commented that he had just returned from his honeymoon somewhat impoverished and was forced, for monetary reasons, to stay in Dallas rather than return to Chicago.

Even later, however, he was to admonish a student, "Young man, marble halls do not make the institution. You could study medicine in a barn if you had the brain to study."

Dr. Caldwell's new wife, **Janet Caldwell, MD**, also a pathologist, assisted him in the laboratory, and became director of the laboratory at Baylor University Hospital.²⁶⁰

Born December 18, 1882, of Scotch parents in Cabel, Ohio, a small village near Urbana, Ohio, he worked on the farm, and after graduation from high school, taught school from 1900 to 1902. He then attended Ohio State University, graduating in 1910 with a degree in chemistry. He obtained a master's degree in chemistry, a PhD in pathology under Dr. H. Gideon Wells, and an MD in 1919 from the University of Chicago.

"From the beginning," Dr. A. O. Severance writes, "Dr. Caldwell made no compromise with honesty, hard work, exactness and accuracy of scientific endeavors. With students, he was demanding in his requirements yet he furnished them with the means of meeting those demands. His associates learned that he would correct one's errors but this was always done without offense."

Although he became a giant in early Texas pathology and a highly respected teacher, he had experienced a few difficulties with his teaching approach when he was younger.

"While teaching in his first position," reports Dr. Severance,²⁶¹ "he was considered too lenient by the school board so he was not rehired after one year's experience. The next year he reversed his methods by using an iron hand but again he wasn't asked back to teach, he had been too strict. These experiences probably had a lot to do with his way of merging harsh, sometimes cynical criticism with wit, and good humor, and led to some of his priceless anecdotes and to his lasting impression on his students."

While at the University of Chicago, one of his research projects involved trying to find an aniline dye to combat the tubercle bacillus.

"By the end of the project," said Dr. Severance, "most of Dr. Caldwell's colleagues developed active tuberculosis, but Dr. Caldwell himself escaped with only a small tubercle on his finger. However, this experience with this research project quickly prompted him to protect himself whenever he was performing autopsies."

Dr. Caldwell was also selected by Dr. E. H. LeCount's Pathology Service, "a distinct honor at that time," and his work as a coroner's physician proved of great value. He was about to accept a prized internship at Rush Medical College, when Dr. E. H. Cary of Dallas offered him a teaching position in pathology "based on his degrees, his maturity and his teaching ability. All this in spite of being underweight and having glycosuria. Even with three years of extensive treatment for this condition, he still failed a military draft examination for World War I sometime around 1917 to 1918."

"His medical writings were minimal," Dr. Severance reports. "He published twelve articles and left one unpublished manuscript. At least these are all that were furnished to me by his son-in-law, Dr. Ellis. . . . He was pursued by publishers such as Saunders and others to write a well rounded textbook of pathology. He refused. He wrote a scientific paper only if he had time to do a complete study on a rare condition or a very interesting case. It was teaching that he did best and for which he is long remembered."

Dr. Caldwell also became known for his acerbic "sayings" that would be recalled vividly by his students years later.

For instance, he once was testifying in court about a certain case in which he had emphatically stated the cause of death. The

opposing attorney, however, demanded, "Dr. Caldwell, by whose authority have you made that statement?"

Dr. Caldwell replied, "Young man, I speak from no authority. I am authority within myself. I have more letters after my name than you have in your first or second name and I don't care to know how long it is, and if you doubt any of my statements, just please dispense the court messenger out to my office and bring back the papers that I have written and the books that I have quoted, and my diplomas to prove them."

The statement won the jury's support and the case.

A forceful, demanding teacher, Dr. George Caldwell urged his students on with his witty or curt comments, and also would be fondly remembered for his appropriate poetry quotes—a carryover from his days as a common-school teacher. He often chided those he felt were dallying. "You may leave the laboratory," he might say, "you are wasting the microscope's time."

His wily students, however, held their own, quickly spotting and manipulating one of his nervous mannerisms. Upon entering the classroom, Dr. Caldwell typically kicked aside anything in the doorway. Mischievously, the students began planting tiny articles—a wad of paper, a match, a candy bar wrapping—in the doorway, and wagering among themselves about whether he would kick the item away. He almost never failed to do so.^{262,263}

Often teaching by case discussion, he was known to remark to students responding incorrectly to his question, "If I had wanted to be wrong, that is exactly what I would have said."

A strong administrator, he also recruited able assistants to the department—even when few were available. He elevated the standard of the medical school, and also maintained a continued interest in nursing education.

"Twice in the history of medicine and the community he played a major role," Dr. Severance writes, "He became the keystone which held Baylor Medical School together after the first World War. Then, in 1943, when Baylor moved to Houston, he performed the incredible task of organizing a new department at Southwestern Medical College in only a few weeks."

In the fall of 1919, Dr. W. H. Moursund returned to Baylor from active military service, re-joining the faculty as professor of clinical pathology and as pathologist for the Texas Baptist Memorial

Sanitarium. In 1920, he was appointed acting dean of the school. This year, too, the hospital and the Baylor University School of Nursing became known as the Baylor Hospital.²⁶⁴

Medical education standards in Texas also were being raised. The University of Texas Medical Department in Galveston, which in 1919 officially became The University of Texas Medical Branch, had raised admission standards, requiring two years of college.²⁶⁵

"The end of the World War unleashed new energies, new tendencies and new problems in the life of Texas," writes Sam Acheson of *The Dallas Morning News*, recalling that the immediate, post-war boom climaxed in 1919, with swift deflation in 1920. "But the nation righted itself rapidly, due chiefly to the stabilizing influence of the Federal Reserve Banking System. Then began the near decade of steadily mounting prosperity. . . ." ²⁶⁶

There also were new issues on the horizon in 1920: the filing of income tax forms began, and an event foreshadowing change in medicine—Congress passed the Sheppard-Towner bill, a bill providing grants to states to develop health services for poor mothers and children. In some minds, its passage marked the beginning of the "socialization" of medicine.²⁶⁷

Two "prominent visitors" addressed Bexar County Medical Society in 1920: Dr. George Dock and Dr. G. Frank Lydston. Dr. Dock discussed "in a masterly way the subject of Hodgkin's Disease and allied conditions. Dr. Lydston, who was an ardent advocate of rejuvenation by gonad transplantation, gave his personal experience with several operations on himself. He testified that after each transplantation he noticed improved physical strength, increased mental vigor and a change of his hair from gray to black!" ²⁶⁸

Malone Duggan, MD, of San Antonio that year initiated roundtable meetings on physiology and surgical pathology in that city. "These gatherings were well attended and were worthwhile," said Pat Ireland Nixon, observing that Dr. Duggan's idea likely precipitated the annual January clinics held by Bexar County.²⁶⁹ There also were plans to build "up a museum, a room in the basement of a home to be utilized" for a course on surgical pathology, Dr. Stout speaking to the advantages to be obtained from the establishment of a museum. Progress on the idea, however, would move slowly.²⁷⁰

The *Texas State Journal of Medicine* in September 1920 carried a collection of articles on advertising that raised the heckles of some readers. In them, the journal editor discussed the merits of a doctor or the medical profession advertising in the lay press; the advertising of medical laboratories, and honest advertising. In headlines, he asked, "Should Doctors Advertise in the Lay Press?" and "Should the Medical Profession Be Advertised in the Lay Press?"²⁷¹

On advertising medical laboratories, the editor wrote:

Criticism has come to us concerning the character of some of the laboratory advertising accepted by medical journals, even of the highest type. Referring to certain ads recently appearing in leading medical journals, a correspondent suggests the following parallel, requesting to know whether we would sell him half-page space in the Journal for the inclusion of such copy:

"DR. W. E. R. GOOD,
Surgery and Gynecology.

Modern equipment—skilled assistants. 25 years of successful surgery. Patients sent to me given the benefit of my latest and best surgical procedure.

Physicians referring cases are given the most courteous consideration.

Information regarding best procedure for sending your patients to me FREE. Appendectomy and Cholecstomy. [*sic*]
(Kelly-Goode Operation.)

One fee, \$100.

Send for fee list."

While the case appears to parallel the advertising under criticism, there is an important difference. The laboratory and its development constitutes a problem in itself, entirely aside and apart from the practice of medicine or any of its specialties. It is really a business, but based materially on equipment and professional skill. It is recognized that the practice of medicine is also to some extent a business, and certainly also based on equipment and skill; but we believe the reader will grasp the point we are seeking to call attention to. It is easily possible for a laboratory chief to tell the profession just what equipment he has, including skilled technicians and professional supervisors, but it is not possible for a physician to advertise his personal skill or the personal skill of his assistants. There is a vast difference between the two. The work of the laboratory is of such nature that a uniform fee can be estab-

lished, and that the fee is charged to the physician and not to the patient. If all of our laboratory work had to be done by highly educated physicians, the cost of it would be almost prohibitive. As it is, much of the detail work in any modern laboratory catering to the profession at large, is done by technicians, so-called. We would not be willing to accept the verdict of these technicians in every instance, and it becomes necessary for us to understand that they are under the supervision of a physician who is skilled in laboratory work as well as informed in pathology, chemistry or whatever the line involved. In this connection it does not sound so unethical to say that the "Laboratory is directed by one skilled in modern medicine as well as in technical procedures."

The editor did concede there was "a limit to which even a laboratory should go in advertising itself to the medical profession," and that "good taste" would have to be the criterion and not simply medical ethics.

A followup article appeared in the October 1920 issue of the journal:²⁷²

Advertising Medical Laboratories (Encore).—Our editorial on this subject in the September JOURNAL has attracted the attention of at least one reader. An eminent pathologist and clinician, [Dr. E. F. Cooke] who has for a number of years conducted a laboratory of clinical pathology in the State, writes us in absolute and positive disagreement. His letter is of a personal nature and we quote only such portions therefrom as will be of interest to our readers:

"I do not for the life of me see wherein the fact that a physician has devoted himself to the study of the various subjects comprised in the generic term 'clinical pathology,' differs in the slightest degree from the fact that another physician has devoted himself to the various subjects that constitute the science and skill of the surgeon, eye, ear, nose and throat specialist, etc., etc. Why is the physician who conducts a laboratory of clinical pathology any more conducting a business, as distinguished from, say, an eye man who, in addition to his own skill, employs a bookkeeper, an office girl, a nurse and an optician?

"Where is the difference between our supposed laboratory man and a firm of doctors, who, in addition to themselves, employ bookkeepers, P. B. X. girls, nurses, and medical assistants? What about the general practitioner who has a partially trained technician in his offices and who has said technician make laboratory

examinations, not only for himself but other doctors, and who charges his own patients a laboratory fee for the work done in his office? Also, the practitioner who employs a more or less trained nurse who does his dressings for him? I do not agree with you that the fee of the laboratory man is charged to the physician. * * * The great majority of my fees are charged to the patient, and I think you will find that it is the custom of practically all laboratories to do this when practicable. Of course, in many cases it is not practicable, or would not be courteous, just as an anaesthetist or assistant at an operation, even a grave and dignified consultant, is not infrequently handed his fee through the physician in charge of the case.

"I do not agree that the problems of the laboratory are in any way different from the problems of the profession at large, and I think that such an editorial is capable of doing a great deal of harm, by practically saying to those who undertake to do such work, 'Go as far as you like, you are not bound by the same ethical considerations that bind *gentlemen of the medical profession*.'

"I am of the same mind as the correspondent who sent you the parallel advertisement. The run of advertising of the commercial laboratories accepted by the medical press is abominable and damnable. I personally do not care to be placed in their class. I am of the opinion that the commercial laboratory has no more place in medicine than the commercial physician, surgeon, roentgenologist, etc., and it doesn't help the argument to say that half the profession at the present time is commercial; nor does it help that under the plea of scientific progress and the great benefit to the public they endeavor to conceal their commercialism.

"Brain is all that doctors ever have to sell; some of them do not have much, some have more, but none of them too much. Skill is only brain translated, and modest men do not call attention to their skill in billiards, football, tennis or business. Then, why should doctors ever be expected to step outside the ranks of the modest gentlemen?"

The editor concluded that "our correspondent" had missed the point of the editorial and misconstrued the discussion. He pointed out that the reference in the editorial was to institutions employing "numerous technicians, operating under the more or less direct supervision of physicians who are themselves trained in laboratory technique. The situation would be different in the case of a physician using a laboratory of clinical pathology for the purpose of mak-

ing diagnoses outright and who poses as a consultant. In such a case the practice of medicine in all of its refinement is involved."

Under some conditions, the editor added, the laboratory came "nearer being a business than the practice of the surgeon or any group of physicians presuming to make diagnoses, prescribe and carry out appropriate treatment, in which the judgment of the individual or group is the principal item involved. It must be admitted that the question is somewhat involved and a bit intricate, and not subject to mathematical solution, but we feel that our position will be clear to most of our readers."²⁷³

Another pertinent and timely topic was cited in the September 1920 journal: "A Vindication of Vivisection," referred to a course of lectures on animal experimentation, "delivered by those high in authority in the medical and other professions, under the auspices of the Georgetown University School of Medicine, Washington, D.C., March 28 to May 16, 1920." Among the lecturers was Simon Flexner of the Rockefeller Institute for Medical Research. The article stated, "These lectures are of extreme interest to the medical profession and will serve as helpful material in offsetting the argument of those individuals so frequently encountered who are afflicted with the necessary mental slant to bring them in opposition to this very essential method of medical research."²⁷⁴

Texas also had public health problems this year, as two Gulf Coast cities were struck by the long tail of the bubonic plague pandemic that started in China in 1894. Dr. Moise D. Levy of Galveston, an internist—and in the tradition of Osler also a pathologist—published articles in the *Texas State Journal of Medicine* on the situation in Beaumont and Galveston.²⁷⁵

As the decade drew to a close, it was apparent that the specialty of pathology was developing rapidly and "in ferment." There were continuing concerns regarding quality assurance and socioeconomics, and there had been disputes and organizational setbacks. It was a time for unity among pathologists, but no organization existed to bring them together.

A few pathologists, however, attending the State Medical Association of Texas annual meeting in 1920, decided to rectify the situation. They made a commitment for the following year in Dallas.²⁷⁶

Chapter 6

A Society is Born; A Specialty Matures (1921–1941)

There is a unity about medicine which cannot be interfered with without serious handicap. That unit is the human being.

R. L. Wilbur on altering the medical curriculum, *JAMA*, 1927.²⁷⁷

Pathology continues to be the subject which has the best ability to accomplish this oneness. The staunch position of pathology in the early curriculum was based on its uniqueness as the single medical science which spanned the gap between the basic and the clinical sciences, bringing together the normal and the abnormal through physiology, biochemistry, and morphology . . .

Vernie A. Stembridge, MD, *AJCP*, 1982 ²⁷⁸

ALMOST GONE were the days of quiet reading and reflection. Radio, once a toy, was about to become widely available, its sound waves blaring into most homes. Pittsburgh station KDKA in 1921 transmitted the first regular radio programs in the country, but a year later Dallas station WFAA also was broadcasting. First a mere 100 watts of power, WFAA would grow to 50,000 watts by the end of the decade, becoming the first station of its size in the South.^{279,280}

Although most Texans remained poor—having long adapted to such status—vast oil fields continued to be discovered during this mad, post-war era. Business was expanding rapidly, and times generally were viewed as prosperous—though in 1921, Texas Governor

Pat M. Neff warned the Texas Legislature that danger lay ahead. "Things are abnormal," he declared.

Prohibition and women's suffrage were new. The Ku Klux Klan increased its vigilante activity, and in 1924, Miriam "Ma" Ferguson would be elected governor, ostensibly on an anti-Ku Klux Klan platform.^{281,282}

Meanwhile, in the initial climate of optimism and anticipation, the physicians of the Lone Star State convened in Dallas for the State Medical Association of Texas meeting. The University Club Rooms of the Oriental Hotel—the grand lady with a historic past—were the designated gathering places for Texas pathologists. On May 9, 1921, sixteen of them assembled there with a purpose in mind. Three years earlier, the State Medical Association of Texas had abolished its Section on Pathology. Now, the vacuum demanded attention.

Proceeding to fill it were Drs. Marvin D. Bell, James H. Black, Charles F. Carter, and Walter H. Moursund, Dallas; Edward F. Cooke and Martha A. Wood, Houston; Richard C. Curtis, Corsicana; Moise D. Levy and Henry C. Hartman, Galveston; James E. Robinson and Frank W. Hartman, Temple; B. F. Stout, San Antonio; W. F. Thomson, Beaumont; George M. Graham, Austin; F. May McAdams, Bryan, and Truman C. Terrell, Fort Worth.²⁸³

Dr. Levy, temporary chairman, stated the object of the meeting, and then Dr. Thomson was appointed temporary chairman.

Efficiently, with forethought and foresight, they established the State Pathological Society of Texas, the foundation for the Texas Society of Pathologists. Although the historic Oriental Hotel would last only a few more years,²⁸⁴ the Society would grow in size, influence, and usefulness.

A Constitution and By-Laws, drafted by Drs. Levy, Cooke and Thomson, was submitted to those present—section by section—for adoption or amendment and adoption.

The "purpose of this Society," they stated, "shall be to federate and bring into one compact organization, the pathologists and bacteriologists of the State of Texas and to affiliate with similar associations of other states; to advance and to extend a knowledge of pathology and bacteriology; to promote friendly intercourse among pathologists and bacteriologists, and to guard and foster the material interests of its members and protect them against imposition."

The Society would consist of Active Members, Honorary Members, and Associate Members. Active Members would be qualified physicians engaged in the teaching of pathology, bacteriology or allied subjects—or limiting their practice to clinical pathology or bacteriology. Honorary Members would be individuals who had attained prominence in pathology or allied subjects. Associate Members would be physicians who, while not limiting their work to pathology, combined pathology with some other branch of medicine.

The By-Laws stated membership requirements: "All physicians in good standing in the Texas State Medical Association, or are limiting their practice to clinical pathology or bacteriology or who are actually engaged in the teaching of pathology or bacteriology, may be elected to active membership in this Society." (Little did they know that one of the requirements would be controversial even seventy-five years later.)

"Semi-annual" meetings were to be held one day in advance of the annual meeting of the Texas State Medical Association. Officers were to be elected at that meeting.

Five members would constitute a quorum but "a smaller number," could "adjourn to any given time."

Annual dues were set at \$5, payable the first day of January.

Members also thought ahead about the cost of motions and resolutions, placing a statement in the By-Laws that "All resolutions or motions appropriating money shall specify definite amounts or so much thereof as may be necessary for the purpose indicated."

After adopting their new Constitution and By-Laws, the charter members adjourned for lunch, and afterward elected officers for the current year: Dr. Levy, president; Dr. Black, vice-president, and Dr. Thomson, secretary-treasurer.

In a roundtable discussion, the members considered whether to establish a school for technicians in connection with The University of Texas Medical Branch. In essence, however, they felt such an innovation "would not, for various reasons, be desirable."

Pathologists had been appalled at statements carried in the September 1920 issue of the *Texas State Journal of Medicine*, and the members of the new society wasted no time in becoming politically active on the subject. Adopting a resolution submitted by Dr. Cooke, they eloquently expressed their views. One journal article, they felt, had "endeavored to draw a line between the Laboratory of Clinical Pathology and other specialties in medicine; said article

categorically denying that the Laboratory of Clinical Pathology was a branch or specialty in medicine."

There was further concern that if such a view were accepted, the practice of clinical pathology could be left outside the jurisdiction of the Medical Practice Act, thus permitting its practice "by any and all persons, whether qualified or not." They pointed out that such practice consisted of the examination of a patient through the medium of that patient's "tissues, secretions or excretions etc., by the aided senses, thereby extending" the clinician's facilities for such examinations.

They pronounced "that the Practice of Clinical Pathology is a branch and specialty of the practice of medicine, inasmuch as in any and all cases the pathologist is in consultation with the clinician, even though he only reports his actual findings without expressing any opinion as to diagnosis." However, they made clear "that only duly qualified and competent physicians should be allowed to conduct such laboratories, and that any others attempting to do so are subject to the penalties prescribed by the Medical Practice Act for those persons practicing medicine without proper licensure." They further declared that they were not in accord with the idea of licensed and qualified physicians acting "as coverers for unlicensed technicians to enable such technicians to conduct laboratories of clinical pathology, and that such practice should be condemned." Finally, they asserted that advertising of clinical pathology laboratories should be restricted to limits permissible to other branches of the profession, and "that to exceed such limits is as much a violation of ethics in the case of a laboratory of clinical pathology as it would be in the case of a surgeon, or an ear, eye, nose and throat specialist."

A letter drafted by Dr. Cooke—with approval moved by Dr. Stout and seconded by Dr. Moursund—was directed to the president and members of the House of Delegates of the Texas State Medical Association:

The State Pathological Society of Texas has heard, and approved the resolution to be introduced in the House of Delegates, by the Delegates from the Harris County Medical Society, and this Society by a majority vote urges on the House of Delegates the adoption of the resolutions referring to the status of clinical laboratories and the advertising of such laboratories.

It is the sense of this Organization that much harm can be

done to the medical profession by the uncontrolled and irresponsible laboratories of clinical pathology.

It is also the sense of this Society that the practice of Clinical Pathology is a branch of the Practice of Medicine, and that it is a worthy and an important branch, and that no encouragement should be given to individuals who, without being physicians, essay to engage in this branch of the practice of medicine.

Dr. B. F. Stout, who attended the meeting, reported that the group made up "the first state society of its kind in the Union."²⁸⁵

Dr. John J. Andujar also observed later, "Undoubtedly, the impetus to the founding of this society was the fact that although the Texas Medical Association Section was not meeting separately, there was a definite ferment in pathology in Texas, as well as in Colorado. In fact, the Colorado Society of Clinical Pathologists was founded just six weeks later, on June 21, 1921. From the two societies sprang the American Society of Clinical Pathologists, founded May 22, 1922, in St. Louis, on call from Dr. Ward Burdick, a pathologist of Denver. The ASCP became the largest and most prestigious scientific society of pathologists in the world."²⁸⁶ By 1996 ASCP would have more than 60,000 members.

Drs. George T. Caldwell of Dallas and W. F. Thomson of Beaumont were among participants in the opening discussion of the first ASCP meeting, following a review of the status of the clinical pathologist by Dr. Philip Hillkowitz of Denver, temporary chairman. Dr. Thomson also was among three physicians appointed to the nominations committee to select permanent officers. Elected were Drs. Hillkowitz of Denver, president; William C. MacCarty, Rochester, Minnesota, first vice president; H. R. Brown, Rochester, New York, second vice president, and Ward Burdick, Denver, secretary-treasurer. Two Texans, Drs. J. H. Black and J. J. Moore were among those elected to the Executive Committee.^{287,288}

The fledgling State Pathological Society of Texas held its second meeting in Galveston on October 12, 1921,²⁸⁹ with seven members present. Among them was a new member, **Mary E. Roe, MD**, of Galveston. Others attending were Drs. J. H. Black, Dallas; E. F. Cooke, Houston; Henry Hartman, Galveston; Frank Hartman, Temple; W. F. Thomson, Beaumont, and Martha A. Wood, Houston.

At this meeting, Dr. Cooke reported that the House of Delegates of the State Medical Association of Texas had referred his

resolution to the Committee on Resolutions which, "in turn, referred the matter to the Board of Councilors—in whose hands the resolution rests."

Key individuals around the country sent their good wishes to the new organization, among them Dr. A. Parker Hitchens, secretary, Society of American Bacteriologists; Dr. Alexander Craig, secretary, American Medical Association; Will C. Braun, business manager of the *Journal of the American Medical Association*; C. P. Loranze, business manager of the *Southern Medical Journal*; Dr. Holman Taylor, secretary, State Medical Association of Texas; Dr. Ward Burdick, secretary, Colorado Society of Clinical Pathologists; Dr. Wm. H. Bailey, president, Oklahoma Society of Serologists; Dr. John A. Kolmer, University of Pennsylvania; Dr. George Dock, Washington University; Dr. Wm. C. MacCarty, Mayo Clinic; Dr. F. M. Johns, Tulane University, and telegraphic greetings from the Colorado Society of Clinical Pathologists.

The small group of attendees spent the morning inspecting the laboratories of the John Sealy Hospital and the medical school, where Dr. Roe, the pathologist at the hospital, demonstrated the use of the Benedict Metabolism Apparatus for them.

Concisely foreshadowing many future issues for Texas pathologists, the afternoon roundtables comprised nine topics on the practice of clinical pathology as a specialty in medicine.

On the question of how the practice of clinical medicine and surgery and the practice of clinical pathology might be more closely correlated, members agreed there was a need for better understanding between clinicians, surgeons, and clinical pathologists regarding their interdependence. When speaking to medical societies, they felt clinical pathologists should discuss interpretations of results, "the practical application of laboratory methods in diagnosis of disease," rather than "technic of the methods."

Dr. Martha A. Wood of Houston led a discussion on whether the practice of clinical pathology was "technical" or "professional," and, if professional, whether clinical pathologists were consultants. Dr. Moursund led the discussion on whether clinicians should be invited to become members of the new society.

Of concern also to pathologists had been the *Journal of the American Medical Association's* placement of classified advertisements for pathologists under its existing "technician" heading. A letter was read from the business manager of *JAMA*, who wrote that

a "number of years ago when the propriety of accepting advertisements of pathological laboratories was first considered, the ethical question was given serious attention, and it was decided that the service was of a technical rather than a professional character."

Dr. Wood, however, "held that clinical pathology determines the cause and the functional and anatomical changes produced by disease in the living. The practice of clinical pathology, then, implies the detection of disease causes and the changes in tissue structure and function by laboratory procedures. The clinician, on the other hand, interprets the signs and symptoms of disease by the unaided senses. Clinical pathologists are physicians practicing a branch of medicine. They are, therefore, 'professional' men. They, by their special knowledge of chemistry, bacteriology and microscopy, aid the clinician and the surgeon in the diagnosis and prognosis of disease: they are, then, 'consultants.' With the science of medicine as its foundation, the practice of clinical pathology is not and cannot be considered 'technical.' The amputation of a limb is 'technical,' but the skill required to save a badly lacerated limb determines professional surgery."

Dr. M. L. Graves of Galveston felt that consultation implied responsibility in a given case, that a routine blood or urine examination could not be considered consultation, but that the calling of the clinical pathologist into a given case to assist in diagnosis would be considered consultation.

Addressing the status of the pathologist on the hospital staff, Dr. Frank Hartman of Temple asked how the laboratory service might aid in the standardization of hospitals. Drs. Levy and Black led the discussion on whether provision should be made for adequate training of laboratory technicians in Texas. Laboratory service in all well-regulated hospitals, the group observed, constituted the bulwark of the institution and the position of the pathologist was one of growing importance; that the efficiency of the laboratory determined "in a manner" the efficiency of the staff and the reputation of the institution; that laboratory methods now contributed a part of the diagnostic armamentarium of every progressive surgeon or clinician, and that, without adequate laboratory facilities, properly directed by a competent pathologist, a hospital could not now fulfill the requirements for standardization of the American College of Surgeons.

Dr. Levy presented a syllabus on a fourteen-week-thirty-six

hour weekly-course for technicians in clinical pathology, and Dr. Black reported a "definite demand" by hospitals and privately conducted laboratories for properly trained technicians. He pointed out that the current supply of technicians was limited, that institutional and privately conducted laboratories currently had "to train their own help, resulting in a variable standard of ability." In addition, he said, there was a definite demand "on the part of young women" for training of this type. He added that the completion of a short, intensive course in some qualified institution "not conducted for gain" would be satisfactory evidence that the individual was capable of being further trained under proper, private tutelage.

"Such a course would relieve laboratory directors of much labor involved in the preliminary training of laboratory technicians," he concluded.

"In the general discussion," Dr. Thomson wrote in the minutes, "a warning was expressed that commercially inclined technicians, after such training, might attempt the establishment of laboratories" under their own direction.

Dr. Wood felt fourteen weeks of training was insufficient "for even preliminary training," and Dr. Frank Hartman felt such a school would result in too many technicians.

"Eventually," he said, "we would be confronted with a demand for recognition on a par with the optometrist and chiropractors." He favored training "our own technicians—in our own methods." Dr. Henry Hartman added that the object of the course would not be to graduate finished technicians but to give them a foundation for further development.

Observing there were good and bad features, Dr. Cooke predicted there would be a surplus of technicians and that "this surplus would seek service in physicians' offices."

Dr. Roe pointed out that Dr. Levy's idea was to secure "only hand picked applicants—girls with special qualifications—for preliminary training."

On other matters, Dr. Truman Terrell of Fort Worth wondered whether the publication of fee schedules and literature by clinical laboratories was in conformity with the AMA Principles of Medical Ethics, and Dr. Cooke asked the same about laboratory advertisements in journals. He declared that clinical pathologists, as physicians and members of "the great national and state medical organizations," were instilled with the principles of those organiza-

tions, and that the AMA Principles of Medical Ethics did not "tolerate commercial tendencies." That included self-laudation through advertisement by surgeons, clinicians, or any specialty in medicine. Some prominent journals, he felt, were violating that code, and, furthermore, advertising by members of the State Pathological Society of Texas should be limited to professional cards indicating "not more than name, specialty and address."

Members of the new State Pathological Society of Texas then adopted a resolution previously passed by the Colorado Society of Clinical Pathologists. Stating their concern that diagnosis of disease by laboratory methods was not being confined to physicians, they declared there was a "danger of this specialty in medicine becoming degraded by unseemingly and blatant advertisements of commercial laboratories, now appearing in certain medical journals."

The status of the clinical pathologist, they said, "was on a par with that of the internist, surgeon or other specialist in medicine, and conformable to the same code of ethics and high moral standards." They condemned as "contrary to good taste" and as "subversive ethics" the publication of advertisements that called attention to the merits of a particular laboratory or the announcement of prices of various laboratory examinations. The *Journal of the American Medical Association*, the *Southern Medical Journal*, the official journals of the state medical associations, and other reputable medical publications were requested to bar advertisements of commercial laboratories, permitting only licensed graduates of medicine an insertion of their cards "giving but name, specialty, and address."

They also sought to expand the number of pathologists in Texas. In "the interests of the patient and for the advancement of scientific medicine," they beseeched, "encouragement should be given to the establishment of resident clinical pathologists in all communities whose population and number of physicians warrant specializing in this field of medicine."

Was it possible that there had been more than a little communication between Dr. Cooke and the editor of the *Texas State Journal of Medicine*? Whatever the case, editorials from that journal and the *Medical Record and Annals* were read, and both editors were commended for "their valuable support in the matter of placing clinical pathology on a par with other medical specialties."

Another communication from the Colorado Society of Clinical Pathologists regarded endorsement of the National Pathological

Laboratories, Chicago, by Drs. Ludvig Hektoen, George Dock, and Otto Folin. The secretary was instructed to "indicate the Society's disapproval of this endorsement."

Opposing the adoption of any fee schedule "as such," members also agreed that fees advertised by commercial laboratories were, in many instances, ridiculously low and not consistent with high class service nor with fees charged by other specialists for similar service." Fees for services, they felt, often were not commensurate to the service provided—such as earning only \$5 for professional service in making a differential diagnosis "in the case of a new growth," or for preparing an autogenous vaccine or making a laboratory diagnosis of syphilis.

At this meeting also Dr. G. M. Graham of Austin led a discussion on whether it was within the jurisdiction of national, state, or municipal health agencies to supply "gratuitous" laboratory service to private individuals at the expense of the taxpayer. Cited was an item from the August 1921 *Texas State Journal of Medicine*, signed by Manton M. Carrick, State Health Officer.²⁹⁰

The laboratories of the State Board of Health have been established for the purpose of giving aid to the people of this State, through physicians, by making examinations and reporting findings which may be of assistance in diagnosing disease. There is no charge for this service. Physicians and surgeons in need of laboratory service are earnestly urged to make use of the facilities offered by the laboratories of the State Board of Health.

The group's "attention was directed to the danger of state medicine involving, in time, other specialties and, eventually, the entire practice of medicine—including surgery. That there was a well defined place where public health laboratories should function was unquestioned, but the tendency to undertake the diagnosis of diseases, in no sense communicable and which, in no way involve the consideration of public health, was regarded as a misapplication of purpose and the incurrence of expense which should not be charged to the tax payer."

The Society then disapproved Dr. Carrick's "notice," and instructed the secretary to communicate with him.

Responding later, Dr. Carrick said, "... I, personally, did not write the notice mentioned in your letter, and the only gratuitous

laboratory services to private individuals given by our laboratory is to the indigent, or where it is rendered for the protection of the public health."²⁹¹

In June 1921, the editor of the *Texas State Journal of Medicine* noted that the status of the "technician," particularly as it related to clinical pathology, was to be established by the Board of Councilors of the State Medical Association of Texas. The editor also declared:

We do not intend to re-open the controversy with our friends, principally because, in our opinion, the distinction is without a difference. We are rather emphatic in our opinion that the medical profession should supervise and control all potential agencies for the diagnosis, prevention, and cure of disease, and we yield to no pathologist or set of pathologists in our view that clinical pathology should by all means be considered a specialty and maintained on the highest possible professional basis. At the same time we are firmly convinced that there is a place for the "technician," in the proper interpretation of the term. We recognize at once the danger of a "little knowledge," and the disposition of partly trained people to aspire to higher things and their attainment by the shortest possible cut. We now see the result of just this sort of thing in the development of the optometrist from the legitimate field of the optician. We are told that the situation is being paralleled in the matter of clinical pathology, in that laboratory assistants are launching out as clinical pathologists, to the hurt of the practice of medicine and those depending upon the physician for help in time of illness and distress. This must not be, and we are against it.

The editor added, however, "Our original contention was that a laboratory which employed technicians to any considerable extent for the performance of routine laboratory work and not for the advancement of opinion as to diagnosis and treatment, occupied a different position from an ethical standpoint from the clinical pathologist who undertakes to do these things, and that there the commercial and professional elements were combined to an extent not tolerable in the field of the practice of medicine proper. For that reason we were inclined to condone if not entirely excuse, some of the advertising methods of some of the larger laboratories. However that may be, the JOURNAL is not going to take issue very seriously with those who are seeking to correct the abuses that have grown up around the heretofore poorly defined field of the clinical pathologist."²⁹²

Clearly, from its very first year, the new organization of Texas pathologists was neither shy nor wary about leaping into controversy! Members also made it clear they would define the specialty of pathology, building it upon the AMA *Principles of Medical Ethics* and the highest scientific standards.

Meetings of the Society often were held in a variety of locations in the towns visited. At the third semiannual meeting of the State Pathological Society of Texas held in El Paso on May 8, 1922, a clinical meeting was conducted on the third floor of the county courthouse. Topics included the pathology of goiter by Dr. A. C. Scott, Jr., Temple; photography of specimens and defects of patients by Dr. Willis W. Waite, El Paso; correlation and interpretation of basal metabolism, Dr. Frank W. Hartman, Temple; and the effect of tartar emetic, intravenously, on the nonprotein nitrogen of the blood, Dr. M. D. Levy of Galveston. According to a printed program, there also were roundtable discussions on a variety of topics—blood chemistry in diabetes and hypertension; kidney function from the standpoint of blood chemistry; the bacteriology of pyelitis; and the selective action of streptococci in focal infections.

Social life was not omitted at the early meetings, and comprised interesting combinations. The program this year referred to a joint evening meeting with the Texas Railway Surgical and Hygienical Association and the Texas Roentgen Ray Society.²⁹³

A secretary's report for the year ending May 9, 1922, signed by Dr. W. F. Thomson, indicated that the Society had received \$80 in cash, and that expenditures included printing and stationery at \$61.12 and postage at \$2.94. Membership applications had been received and "duly recommended" for Kenneth M. Lynch, MD, Dallas; George Turner, MD, and W. W. Waite, MD, both of El Paso, and Mary E. Roe, MD, Galveston. Received for associate membership was Albert H. Braden, MD, Sherman, a pathologist at St. Vincent's Sanitarium, and a "not whole time pathologist."²⁹⁴

When the group held its fourth semiannual meeting in Waco on October 17, 1922, it was in the Lawyer's Library of the Amicable Building.²⁹⁵ A scientific section featured fads, fetishes, foibles, and follies, by E. F. Cooke, MD, Houston; relation of public health laboratories to private clinical laboratories, M. D. Bell, MD, Dallas; value of gastric analysis, M. D. Levy, MD, of Galveston; and intestinal parasites, C. V. Wells, MD, Waco. In his presentation, Dr. Cooke again elicited discussion about the role of the pathologist as a

consultant rather than a technician, and on the value and meaning of standardization in the laboratory.

"A certain amount of standardization," commented Dr. B. F. Stout, "is a step in the right direction. Members of this organization could well raise the standard of equipment and methods, though I feel that the matter of technique is an individual one."

Dr. Kenneth Lynch, however, felt the term was misinterpreted. "The present movement at standardization seeks to define minimum requirements in laboratories and laboratory methods so that physicians may have some basis for judgment regarding the efficiency of a given laboratory. Minimum requirements, in this instance, does not interfere with the attainment of maximum provisions."

"There should be a minimum requirement for laboratory apparatus and provision for conducting laboratory work," declared Dr. Moursund, doubting the wisdom of the effort "to standardize the individual."

Dr. Levy contended that laboratory conditions would be improved by the adoption of minimum standards for ability. "There is no standard of ability," he said, "and, at present, laboratory men are not sufficiently trained. The era of improvement in laboratory work is just beginning, and such organizations as this should adopt some minimum requirement for those who wish to conduct laboratories."

Dr. Cooke emphasized he did not object to a high standard—believing that raising the standard was the important function of the Society. He had no objection to adopting minimum standards for apparatus "and so on."

"But I do protest against being standardized," he said emphatically.

Again, the issue of public health laboratories arose. Dr. Black reported that in the North and the East, there was a serious question about the public health laboratory, and that the greater part of the laboratory work was done at the expense of the taxpayer. Dr. Lynch pointed out the tendency of public health laboratories to reach out for a greater volume of work in order to make a better showing before those responsible for their jobs. "The best way to stop public laboratory activities," he said, "is to call attention to the encroachment on the rights of the individual citizen."

"It is a well known fact," Dr. Stout added, "that such men, on meager salaries, are not efficient. Public institutions are notoriously

stingy when it comes to the appropriation of funds for laboratory work. Technicians must have the personal stimulus and, for that reason, they are not as efficient in public as in privately owned laboratories. What is everybody's business is nobody's business."

Dr. Levy proposed educating the general medical profession to the "dangerous possibilities that, eventually, the entire field of medicine will be under the direction of public health services."

"With the multiplication of public health laboratories and non-medical technicians," Dr. Cooke warned, ten years would "find private pathologists extinct."

A new group of applicants was accepted at this meeting, including Dr. Lynch; Dr. C. V. Wells of Waco, and Drs. W. W. Coulter and A. H. Braden of Houston. More interesting, however, were the applications of members not accepted—those of Drs. Willis W. Waite of El Paso and George T. Caldwell of Dallas. Neither were members of the State Medical Association of Texas. Dr. Waite's application was returned until he could meet that restriction of the Constitution and By-Laws. Dr. Caldwell's application was returned for the same reason, but members voted to invite him to participate as an associate member until he could qualify. Although listed as having joined the Society in 1922, he apparently did not become a member of the State Medical Association of Texas until 1926.²⁹⁶

One of the new members, Dr. Lynch, would travel to South Carolina, becoming a "giant" as the leading pathologist in the area, the dean at the Medical College of South Carolina for many years. Dr. Caldwell, of course, already was making a significant name for himself among Texas pathologists, and others would become prominent in Texas pathology.

Dr. J. H. Black of Dallas was elected president of the State Pathological Society of Texas; Dr. B. F. Stout, San Antonio, vice-president, and Dr. W. F. Thomson, Beaumont, reelected secretary-treasurer. The retiring president, Dr. Levy, was elected the first honorary member of the Society.

Several leaders during these first years of the Society would become prominent both in the state and nationally. Dr. Black would become president of the American Society of Clinical Pathologists and of the American Society of Allergists. Dr. Frank W. Hartman would become the president of the American Society of Clinical Pathologists in 1928, the first president of the College of American Pathologists from 1947 to 1949, the president of the American Soci-

ety for Experimental Pathology, 1956, and a founding fellow of the American Society of Cytology in 1951. Under his leadership, the American Board of Pathology and the College of American Pathologists also would be formed. In addition, Dr. Hartman would become the first medical research advisor to the Surgeon General of the United States Air Force.²⁹⁷

In Texas, Dr. Truman Terrell would become president of the Texas Medical Association.

From early on, these pioneering pathologists also would be active in yeoman positions in their home towns. Reminiscent of early Spanish and Mexican boards of health in San Antonio, the mayor of San Antonio in 1923 asked that the Bexar County Medical Society elect members of the city's Board of Health. Among those elected was Dr. B. F. Stout.

During business discussions at this meeting, Dr. John A. Kolmer requested that clinicians be invited as associate members. Though there was hesitancy, the group decided to amend the Constitution and By-Laws, allowing them to join as associate members. At this meeting also, a committee was appointed to consider the question of laboratory standardization, an issue that would be discussed for some time to come.

The printed program for the meeting proudly announced the American Society of Clinical Pathologists as "Our National Organization."

Apparently, unification and formation of a strong organization already had yielded important benefits. Through the activities of the new organization, the program announced, there had been a change of policy by the Executive Committee of the AMA Board of Trustees regarding laboratory advertising in *JAMA*.

The following Texans were reported as members of the new national society: Drs. J. Harvey Black, Dallas; R. C. Curtis, Corsicana; Frank Hartman, Detroit, Michigan; M. D. Levy, Houston; W. H. Moursund, Dallas; W. F. Thomson, Beaumont; M. A. Wood, Houston; George Turner, El Paso, and Willis Waite, El Paso. The report, signed by Dr. W. F. Thomson, Councilor for Texas, said, "Let us make it unanimous."

During this time, more pathologists were setting up laboratories in Texas hospitals. In Houston, Dr. Albert H. Braden, Sr., became the first, regular full-time pathologist at St. Joseph Hospital on July 18, 1922. He set up "a modern pathology department," per-

formed autopsies, and read frozen sections. Paraffin blocks were not yet available. Sister M. Angelique Crabbe, the first sister assigned to the laboratory, soon joined Dr. Braden, and many years later still recalled "with a chuckle some of the experiences of those early days."²⁹⁸

Concerns about the cost of health care arose in 1922 at the meeting of the State Medical Association of Texas, and the concept of group medicine was advanced as one answer. Dr. H. L. Hilgartner of Austin argued there and in the *Texas State Journal of Medicine*, in "A Criticism of Group Medicine,"²⁹⁹ that the worst fate that could befall the profession "would be its evolution into narrow specialists, the practitioners of which had lost contact with the foundations they possessed at graduation." He added that "specialization in the practice of medicine is necessary, but it must be guarded against its two besetting dangers—excessive narrowness and the tendency to fall away from the foundations upon which it should ever stand in structural unity." The editor of the *Texas State Journal of Medicine*, Holman Taylor, wrote favorably about the group idea, viewing group medicine as a partnership to which medical ethics would apply.³⁰⁰

Attendance was large at the fifth semiannual meeting of the State Pathological Society of Texas held in the Texas Hotel in Fort Worth on May 7, 1923.³⁰¹ The scientific program included a comparative value of Kolmer's new antigen in the routine Wassermann, by Dr. Kenneth M. Lynch, Dallas; comparative studies in the Wassermann reaction with particular reference to the Kolmer technique, Dr. Truman C. Terrell, Fort Worth; the fifteen drop method—a modification of the Wassermann Test, Dr. Willis W. Waite, El Paso; the Wassermann, positive or negative, Dr. E. F. Cooke, Houston; the preparation of insulin, Dr. G. T. Caldwell, Dallas; primary carcinoma of the lungs: report of a case, with specimen, Dr. B. F. Stout, San Antonio; case of mediastinal tumor-lymphosarcoma of the thymus, Dr. R. C. Curtis, Corsicana; pathology, physiology, and morbid anatomy of pernicious anemia, Dr. Gibbs Milliken, Galveston.³⁰²

Drs. George Turner and Willis W. Waite of El Paso were elected to active membership. New officers were Drs. W. F. Thomson, Beaumont, president; W. H. Moursund, Dallas, vice-president, and R. C. Curtis, Corsicana, secretary-treasurer.

At the 1924 meeting, Dr. Gibbs Milliken of Galveston was

elected to active membership; Dr. R. C. Curtis to associate membership, and the first reading was made of the application of **Fleta Woolsey, MD**, of Waco.

Also, Dr. W. W. Coulter was elected as the representative to the American Society of Clinical Pathologists, and instructed to advise the ASCP that the State Pathological Society of Texas "contends that Pathologists should conform to the code of ethics of A.M.A. just the same as Surgeons, etc."

The secretary was to write all members regarding an amendment to the Constitution "that when a member branches out into any other line of work and includes it with his Pathology he automatically becomes an Associate Member."

Officers elected for 1924–1925 were Drs. B. F. Stout, San Antonio, president; A. H. Braden, Houston, vice-president, and W. W. Coulter, Houston, secretary-treasurer.

In 1926, "sad news came to the medical profession of Texas," writes Nixon. A man "who had done much for medicine in Texas and the United States" had died—Dr. Allen J. Smith.³⁰³

Dr. W. H. Moursund of Dallas this year was named the Texas delegate to the Association of American Medical Colleges.³⁰⁴

Now, the cost of medical education in Texas became a worry. By 1926, it had risen to \$274, with some schools "charging as much as \$525" per year. In 1910, the cost had been only \$118 per year.

"The day of the medical school maintained solely by tuition fees had long passed," Nixon observed, "the average expenditure by the schools per student was about three times the average fee paid by the student."³⁰⁵

Another change was in the offering for physicians. This year, the State Medical Association of Texas proposed the idea of the annual registration of physicians, with each physician to be charged a fee.³⁰⁶

Many pathologists during these early years did not start out in the specialty. **John M. Moore, MD**, [1890–1987] born in Franklin County, Georgia, grew up on a farm in Bell County, Texas, with his eleven brothers and sisters. At age twenty-four he left to take his premedical education at Texas Christian University in Fort Worth.

After one year, he was accepted into Tulane Medical School at New Orleans, from which he received his medical degree in 1920 followed by a one-year rotating internship and a six-month preceptorship with John A. Lankford, MD, at Touro Infirmary.

"This was the extent of his formal education in pathology," writes **Norman Jacob, MD**, of San Antonio. "In 1922, he began his long career as a hospital pathologist at Santa Rosa Medical Center [San Antonio]. He established a residency program, a school of medical technology, a blood bank, a tumor registry and actively participated in the affairs of the organized medical staff. In 1926 he established his own private laboratory, reasoning that pathology is the practice of medicine and should be practiced like all other branches of medicine. For this and many other reasons he was widely respected and beloved by the medical community."³⁰⁷

Reportedly also Dr. Moore performed the first blood glucose test in San Antonio. He died at age ninety-seven in 1987.

In 1926, after **W. W. Klatt, MD**, was graduated from The University of Texas Medical Branch in Galveston, he moved to Waco for an internship at Providence Hospital, and then entered private medical practice with two other physicians. However, reports **R. E. Henderson, Jr., MD**, of Waco, Dr. Klatt "did not enjoy patient contact and began helping with hospital operations, usually becoming the anesthesiologist." He developed an interest in pathology when he began examining tissues removed by surgeons, and retrieved them from the discard bucket at the end of the operating table after each procedure.

"With the help of a few self-bought instruments and a pathology textbook," writes Dr. Henderson, Dr. Klatt began processing tissue by hand and became the only pathologist in Central Texas. "The remarkable thing about Dr. Klatt was that he was completely self-taught with not one day of formal pathology training in his life."

After Dr. Cora V. Wells left Waco in 1938, Dr. Klatt would be the only pathologist in Waco until 1953, serving both the Providence Hospital and the Hillcrest Baptist Hospital, as well as small surrounding community hospitals which mailed in specimens for his examination.³⁰⁸

In Austin, **Sidney Bohls, MD**, who had completed his internship at Santa Rosa Hospital in San Antonio on June 31, 1926, "went on the pay roll of the Pasteur Institute (the precursor of the State

Health Department's laboratories) on July 1, 1926," writes **Charles Pelfrey, MD**, of Austin. (His wife, Elvira, would work for Dr. Bohls while he was director of laboratories for the state.) Dr. Bohls had been the assistant to the superintendent, Dr. Wilhite, and when the latter died in 1927, Dr. Bohls succeeded him. W. Lloyd Huff of Austin, who worked for many years in the rabies department, reported that Dr. Bohls got his training in pathology "by taking courses from time to time."³⁰⁹

Reflecting the emergence of pathologists specifically trained in the field was **John L. Goforth, MD**, who in 1926 joined St. Paul Hospital in Dallas as its first full-time pathologist.

His insight was apparent even in the early days. Though retaining the skepticism marked by Dr. Allen J. Smith's 1901 speech to Texas pathologists, his prescient views were more optimistic.

"If disease, in its broadest sense is ever completely subdued," Dr. Goforth declared in a 1927 lecture, "it will be, I believe, largely through the revelations of immunology—not through drugs, radium, electricity or the knife."³¹⁰

Not only did "he believe in high standards for physicians, he recognized the need for similar standards of training and performance for medical laboratory personnel. He was instrumental in establishing nationally the Certified Laboratory Assistant Program." He also established St. Paul's Medical Technology School in 1926; would serve as president of St. Paul's medical staff from 1954 to 1955 and become chairman of the professional division of the fundraising committee for the new St. Paul Hospital in 1957. In 1963, he would be honored as a pathologist emeritus. He would serve St. Paul Hospital, later St. Paul Medical Center, as director of pathology for thirty-five years, and from 1961 to 1976 as a pathology consultant. In addition, he became the pathologist at Children's Medical Center of Dallas, Methodist Medical Center and Medical Arts Hospital, and would serve on the Dallas Health Advisory Board for seventeen years. For many years he also would run J. L. Goforth Laboratories in Dallas.

"Dr. Goforth was a courtly gentleman with a small mustache," recalls Dr. George Race of Dallas, and "very adept at working with surgeons and practitioners at St. Paul, where he was Director of Laboratories."

Born in Beeville in 1897, he had attended Marshall Training School for Boys in San Antonio, and in 1918 graduated with honors

from The University of Texas, Austin. In the Army, he served as a bacteriologist in France and Germany for eleven months as a part of the American Expeditionary Forces, and in 1923, had graduated from Johns Hopkins Medical School, completing an internship there and pathology residencies at Philadelphia General Hospital and the University of Pennsylvania. Years later, Dr. Goforth would receive the joint distinguished service award from the American Society of Clinical Pathologists and the College of American Pathologists, and the George T. Caldwell Award from the Texas Society of Pathologists. Patsy Goforth, his wife, would be instrumental in establishing an endowment fund at UT Southwestern Medical School in Dallas honoring him in 1986—the John Lawrence and Patsy Louise Goforth Professorship in Pathology.³¹¹

Section on Pathology reinstated

IN 1927, THE PROGRAM of the State Pathological Society of Texas, scheduled for El Paso on April 25, had to be abandoned.³¹² The secretary wrote that the “program was prepared but not presented because of poor attendance . . .”

There was action, however, from four members who did attend. Drs. W. H. Moursund, J. E. Robinson, George T. Caldwell, and W. W. Coulter prepared a resolution calling for the State Medical Association of Texas to reinstate the Section on Pathology abolished in 1917.

“We members of the State Pathological Society present at the El Paso meeting respectfully petition that the Section on Pathology be reestablished as one of the official constituent sections of the State Medical Association of Texas.” A handwritten note on a program containing these words was signed by the four physicians. The resolution later was adopted by the House of Delegates of the State Medical Association of Texas, and the Section on Pathology was authorized for the 1928 session.

Dr. Caldwell this year was elected secretary-treasurer of the Society.

As planned, the Section on Pathology resumed meetings at the 1928 annual session of the State Medical Association of Texas.³¹³ A handwritten note following the minutes stated that the “Section on Pathology of State Medical then became in effect the Texas Society of Pathologists, until 1934 meeting only as a Section.” No separate

meetings of the State Pathological Society of Texas were held between the years of 1928 and 1934. Often during this era, Andujar writes, the Texas Society of Pathologists merged its programs with the Section.

In 1928, at The University of Texas Medical Branch in Galveston, **Paul Brindley, MD**, associate professor in pathology, became the acting head of the Department of Pathology, following Dr. Henry Hartman's resignation. In 1929, he was named professor and chairman of the department, and would be on the staff for twenty-nine years, twenty-five as head of the department.³¹⁴

Born in Maypearl, Texas, on December 27, 1896, Dr. Brindley graduated from The University of Texas Medical Branch in 1925. He also pursued graduate work at the Mayo Clinic under Drs. W. C. MacCarty and A. C. Broders, and at Boston City Hospital under Dr. F. B. Mallory. He would become a Fellow of the American College of Physicians in 1934 and would serve as honorary president; become a Fellow of the College of American Pathologists in 1947, and was active in the American Society of Clinical Pathologists, the American Society for Experimental Pathology, and the AAPB. He also would publish more than thirty papers, focusing on gastric, nerve, tissue and lung malignancies and experimental anemias.

He was known to be an exceptionally gifted teacher and speaker, "neither gaudy nor dramatic, yet clear, careful, and articulate." A tribute to him in a history of UTMB states, "Meticulous is an adjective characteristically descriptive of Dr. Brindley's mode of teaching, of administering his department, and of living. Whenever graduates came to visit their alma mater, they always sought out Dr. Brindley. He inspired in them the greatest admiration and respect and they showed their affection by referring to him as 'Uncle Paul.'"³¹⁵

Self-effacing and quiet, he founded the Galveston County unit of the American Cancer Society, and would be president of the Texas Society of Pathologists. He also was a consultant pathologist for the United States Public Health Service Hospital at Galveston and for Lackland Air Force Base in San Antonio. Selected as the first recipient of the George T. Caldwell Award in 1954, he was aware of the accolade but died before it could be presented in 1955.

"During most of his youth and young manhood," his wife, Anne Brindley, reveals, "he suffered from active osteomyelitis—

from the age of ten until he was thirty-five. This resulted in the permanent use of crutches; he handles them so well and is of such a cheerful disposition that most of his co-workers quickly forget that he is a so-called handicapped individual; and he generally carries more than his rightful share of any responsibility.”³¹⁶

A new member of the State Pathological Society of Texas in 1928 was **Thomas P. Churchill, MD**, joining the year he graduated from UTMB. He would be a Northwest Texas pioneer in pathology, would practice in Amarillo for thirty-five years, serving many communities, and would be instrumental in the formation of the Potter-Randall County Memorial Blood Bank and its first director. In his senior year at UTMB, he had been a student instructor in clinical pathology, and later was an assistant resident in pathology at Cleveland General Hospital, spending his second year of residency at Terrell’s Laboratory in Fort Worth. From 1930 to 1934, he served as an instructor in pathology at Northwestern University Medical School, and as pathologist at the Illinois Masonic Hospital in Chicago. He became interested in research on the experimental production of ulcers, and in allergy—as did many of his peers during this era.³¹⁷

Life as a pathologist has ups and downs

GEORGE MALCOLM GRAHAM, MD, of Austin, born in 1886 and a Charter Member of the State Pathological Society of Texas, had an intriguing, if uncomfortable, experience as a young man.³¹⁸

“The shallow limestone cavern . . . near the mouth of Falls Creek,” Dr. Vernon T. Schuhardt writes in his book, *Pathogenic Microbiology*,³¹⁹ “has an interesting history in the annals of relapsing fever in Texas.” At the base of the 104-foot falls there was a clear pool, resulting from “a spring-fed creek plunging over a fern-covered cliff to the river bottom.”

In 1929, after four University of Texas students explored the Falls Creek pool, three developed chills and fever. Dr. Burford Well-er, physician at The University of Texas, and Dr. Graham found spirochetes in the blood of one. Dr. Graham collected ticks (*O. turicata*) from the cavern, and was able to transmit the infection from the ticks to animals. A week after his trip, he also developed relapsing fever. Then, in 1932 “Dr. Graham received a telegram from Dr.

E. Brumpt, professor of parasitology at the University of Paris. Brumpt stated that he planned to be in Austin on a certain day and would like to go to the Falls Creek cavern and collect some of the ticks for his laboratory studies. Since I had isolated spirochetes from another patient into white mice at the State Department of Health Laboratory, Dr. Graham asked the director of the laboratory, Dr. Bohls, and me if we would care to go along. . . ."

"Apparently the thought of a noted parasitologist from Europe coming to visit a country-boy doctor from Texas was too much for Dr. Graham," recalled Schuhardt. "When we picked him up he was pretty well inebriated and continued to nip at his bottle on the way to the cavern."

Considered immune because he had had relapsing fever, Dr. Graham was asked to crawl into the cave to gather the ticks. Again, a week later, he came down with relapsing fever.

"With some humor," remembers Schuhardt, "he later proclaimed he had proved two things: an attack of relapsing fever didn't result in immunity, and alcohol in the system didn't protect against the infection."³²⁰

Drs. Graham and Weller reported their findings in the *Journal of the American Medical Association* in 1930. It was one of the early reports of relapsing fever in Texas.³²¹

The 1929 *American Medical Directory*, published by the American Medical Association, carried a new section—"Pathologists Conducting Approved Laboratories."³²² On the list were George M. Graham, MD, Austin; W. F. Thomson, MD, Beaumont; R. C. Curtis, MD, Corsicana; J. H. Black, MD, Chas. F. Carter, MD, and Marvin D. Bell, MD, all of Dallas; Paul Pierce, MD, Denison; George Turner, MD, and Willis W. Waite, MD, El Paso; T. C. Terrell, Fort Worth; Joseph Kopecky, MD, Galveston; Edward F. Cooke, MD, and Martha A. Wood, MD, Houston; B. F. Stout, MD, San Antonio; J. E. Robinson, MD, Temple, and M. H. Glover, MD, Wichita Falls.

In this issue of the directory also, Dr. Terrell published two duplicate quarter-page advertisements: "The Oklahoma and North Texas Pasteur Institutes, Pathological: Chemical: X-Ray: Radium; T. C. Terrell, MD, Director. Our completely equipped Laboratories are at the service of the Physicians of the SOUTHWEST. Laboratories in Fort Worth, Tulsa, Muskogee, and Amarillo."³²³

Earlier editions of the directory had noted the specialty memberships of pathologists and other organizations, and these, too, contained names of a few Texas pathologists. Among the organizations listed in the 1925 directory was the "El Paso Clinical and Pathological Club," cited along with national organizations such as the American Society of Clinical Pathologists.³²⁴

Pathologists during the 1920s continued the pattern of combining pathology with other services, some entering pathology as a sideline to their primary focus. For instance, Dr. George Race reports that Dr. James Harvey Black, "a very distinguished physician," and many of his contemporaries became involved in laboratory work when doing allergy testing. Among the latter were Drs. Sim Hulsey and T. C. Terrell of Fort Worth, George Turner of El Paso, and Thomas P. Churchill of Amarillo.

"All of them," said Dr. Race, "were experts in infectious disease in that that was the most predominant thing treated in those days—pneumonia, abscesses, and tuberculosis especially."

In May 1929, the State Medical Association of Texas amended its Bylaws, changing the name of the Section on Pathology to the Section on Clinical Pathology.³²⁵ The Section met this year in Brownsville. Apparently, some years the Section and the Society merged their meetings, maintaining continuity, but this year there were particular problems with the distance to the session.^{326,327} In fact, there were complaints about the lack of pathology exhibits. In addition to the long distance, the exhibit chairman's conflicting schedule contributed to the failing.³²⁸

On October 28, 1929, the U.S. Stock Exchange collapsed in New York, and "Black Friday" ended the sometimes glorious excesses of the 1920s. Though perhaps not immediately felt in much of Texas, its effects eventually would strike, particularly hampering donations to hospitals. In some ways, though, Texans would remember the devastation of the "dust bowl" years more vividly than the Great Depression, stirred by Wall Street, that was about to descend upon the country. Jobs, nevertheless, would be scarce and salaries low.³²⁹

In 1930, the State Pathological Society of Texas accepted into membership two women who would be prominent in Texas medicine—**Violet H. Keiller, MD**, of Houston, whose father had been on the first faculty of The University of Texas Medical Department in Galveston, and **May Owen, MD**, of Fort Worth, whose father virtually disowned her for entering the field of medicine. Both women would become widely respected leaders. Early in the 1930s, Dr. Owen also discovered that talc used in surgical gloves was not absorbable by the human body and could cause inflammation with the formation of scar tissue. Dr. Keiller also would have the distinction of becoming the only woman member of the Texas Surgical Society during its first fifty years.³³⁰

At the meeting of the State Medical Association of Texas in Beaumont in 1931, new technological devices were a hit, states Nixon. "Perhaps previously there has never been a better group of scientific programs than presented by our scientific sections this year, and the lantern exhibits, including motion pictures, both talkie and silent, would have done credit to the American Medical Association." The Association had just purchased four new projection lanterns. All of these were used by Dr. Bloodgood, of Baltimore, projecting pictures and charts on four screens simultaneously. Dr. Bloodgood's subject was 'Borderline Tumors, Types Difficult to Distinguish the Benign from the Malignant in the Microscopic Section.' This address was delivered on Wednesday before a full auditorium of laymen and doctors. . . .³³¹

Another sad day in early Texas pathology occurred when one of the organizers of the State Pathological Society of Texas, **Dr. Edward F. Cooke**, died January 8, 1931, age fifty-five, at his home in Houston. He had been a member of the State Medical Association of Texas and the AMA, first through the Ellis County Medical Society and after 1907, Harris County Medical Society.

Dr. Cooke's obituary stated, "He was intensely interested in his elective specialty, clinical pathology, in which he achieved signal recognition. He had perhaps no peer in this state, in this field. He had, throughout his career as a physician, a great interest in all of the activities of organized medicine, and took a militant part for what he thought was right. He was a man of strong convictions and did not hesitate to state those convictions, regardless of whether he was in the minority."

The journal editors³³² wrote, "We are extremely fortunate in that Dr. Cooke, realizing the value of a biographical record in the archives of the State Association, on May 17, 1916, took the time and trouble to briefly make of record the details of his life up to that time, in the form of a letter to the State Secretary. We reproduce here, excerpts of this letter. We do not feel that the sense of humor as revealed in the letter, is unbecoming in an obituary notice, as it was a part of Dr. Cooke, and will be appreciated by his friends." Dr. Cooke reported he was born in Oldham, Lancashire, England, August 24, 1875, and that he had "read" medicine in several smaller towns around Manchester, England before moving with his parents to the United States in 1890, first to Iowa, then to Galveston in 1891.

He had left school after one year at Ball High School, Galveston, and worked as an office boy and minor clerk for a ship broking firm. Entering the Medical Department of the University of Texas in 1894, he wrote that he had graduated "after the usual ups and downs of student life," on May 15, 1897. "Some of my classmates insist that I was at one time vice-president or president of my class. I was fortunate enough to secure an internship in St. Mary's Infirmary, for one year. I did not quite finish out the year, resigning with the consent of the Sisters to take advantage of an opening at a sawmill, doing contract practice for one year and a half. This sawmill was located in Montgomery County between Conroe and Montgomery."

In July 1900, I moved to Ellis County, starved for six months in Waxahachie, and then moved to Forreston, a small town nine miles south of Waxahachie. While practicing in Forreston, the reorganization of the State Medical Association took place, and I joined the Ellis County Medical Society. I moved to Houston. In January 1907, tried to get a practice for two years, and then a favorable opportunity offering, decided to limit my work to clinical pathology.

My history in reference to organized medicine begins with my appointment as chairman of the Committee on Public Health and Legislation for the Ellis County Medical Society (to be exact, in the fall of 1907), and I was able in this capacity to help in securing some enforcement of the law regulating the practice of medicine.

Shortly after transferring to the Harris County Medical Soci-

ety (to be exact, in the fall of 1907), I was elected Secretary of the South Texas District Medical Society, serving in this capacity for six years, at the end of which time the members, seeing no other way to get rid of me, elected me President and I served in this position one year, 1913–1914.

At the annual business meeting of the Harris County Medical Society held in December 1908, I was elected Secretary, served two years, and in 1910, was elected President of the same organization; elected delegate to the State Association in December 1912, serving two years, and, in 1914, was elected as a member of the Council on Medical Defense, then newly created; in 1915, I was elected to succeed myself on this Council.

At Dallas in 1910, I was elected president of the newly organized society of the County Secretaries of Texas, serving for one year.

I now hold and have held for several years the chair of Pathology, Histology and Bacteriology in the Texas Dental College of this City (Houston).

At the time of death, he was a pathologist at the Methodist Hospital in Houston, and consultant pathologist of the staff of Jefferson Davis Hospital. At one time, he had also been pathologist for St. Joseph's Infirmary.

The intertwined history of Texas pathologists' separate organization and the state medical society's section is substantiated in Dr. Cooke's obituary. According to the journal he was president of the "Texas Pathological Society" at the time "it was dissolved to become the Section on Clinical Pathology of the State Medical Association." It also notes that Dr. Cooke was a charter member of the American Society of Clinical Pathologists.

In 1931, Charles Phillips, MD, joined Scott and White Hospital in Temple as director of both surgical and clinical laboratories. Dr. Phillips developed a classification system of departmental records that became the basis for the Scott and White Tumor Registry. He actively directed the program, which was approved by the American College of Surgeons in 1933, reportedly the first approved program in Texas. Upon retirement from Scott and White in 1955, Dr. Phillips would join M.D. Anderson Hospital and Tumor Institute in Houston and later practice in Houston with Dr. C. B. Sanders.

During Dr. Phillips' stay at Scott and White, reports **Robert F. Peterson, MD**, another "very significant event" was the employment of Mr. and Mrs. Kenneth G. Phillips as medical artists. In 1932, the couple began making medical moulages, Mrs. Phillips quickly sketching a water color painting, and Mr. Phillips then making a plaster of Paris cast of the organ. After the moulage was made, she painted it with oils "which in part accounts for the very realistic replicas." Wax also was used in the moulages, thus they were fragile. With care by the department of pathology, however, the moulage collection became one of the largest in the United States, consisting of more than 1,300 individual pieces.

In state politics on January 1, 1932, the State Board of Medical Examiners was authorized to annually register all Texas physicians, at a fee of \$2 each. Previously, this had been an activity of the State Medical Association of Texas, but had become too costly. The Texas Legislature also gave the state Board of Health the power to select a state health officer and passed a vital statistics law, finally placing Texas in the United States registration area.³³³

The state was now "in mid-stream of the depression," and considerable unrest was reported at the 1932 meeting of the State Medical Association of Texas in Waco.

"Naturally," Nixon observes, "much was said about medical economics and state medicine." The director of the Bureau of Medical Economics of the AMA pointed out that medical attitudes must change with changing economic conditions. "We recognize it not only a part of medicine to discuss economics, but we have discarded that old idea that it is unethical to consider the business side of the profession." There also was discussion regarding the inadequacy of socialism and the menace of state medicine. Nixon observes that contract medicine "was not truly a by-product of the depression, but that hard times accentuated it." The members of the staff of Dallas Medical and Surgical Clinic, for instance, were suspended by Dallas County Medical Society for making a contract with the Federal Land Bank and the Dallas Railway Benefit Association.³³⁴

Two days after the State Medical Association of Texas met in Waco, the American Medical Association convened in New Orleans. At this meeting, Dr. J. H. Black of Dallas was chairman of the AMA Section on Pathology and Physiology.³³⁵

Texas pathologists reorganize

A HANDWRITTEN NOTE in the Minutes Book of the State Pathological Society of Texas states, "In the spring of 1934, Dr. J. H. Black of Dallas, in correspondence with members of the former State Pathological Society of Texas, found that there was a desire on the part of the members to reestablish the Society for business and social purposes. One of the expressed aims of the Society would be to encourage independent observation and research by the presentation annually of an award for meritorious publications on some phase of scientific medicine by members of the Texas State Medical Society." The note further states that a "temporary organization was formed with Dr. J. H. Black as temporary president and Dr. George T. Caldwell as temporary secretary. The members of the committee were Dr. J. H. Black, Dallas; Dr. Truman C. Terrell, Fort Worth; Dr. Charles F. Carter, Dallas; and Dr. George T. Caldwell, Dallas. The Secretary was instructed to announce a luncheon to be held at the St. Anthony Hotel in San Antonio during the meeting of the Texas State Medical Association."³³⁶

As planned, on May 16, 1934, the Society was reorganized.³³⁷ To open discussion, Dr. Truman C. Terrell of Fort Worth read a paper, "The Future of the Clinical Pathologists."

Pathologists attending agreed they should be recognized as charter members of the reorganized society, and included:

Braun, Harry E., MD, Houston
 Todd, David A., MD, San Antonio
 Sanders, C. B., MD, Dallas
 Hulsey, Sim, MD, Fort Worth
 Jackson, J. Warren, MD, Austin
 Terrell, Truman C., MD, Fort
 Worth
 Turner, George, MD, El Paso
 Robinson, J. E., MD, Temple
 Hartman, Henry, MD, San
 Antonio

Wood, Martha A., MD, Houston
 Bell, Marvin D., MD, Dallas
 Phillips, Charles, MD, Temple
 Moore, J. M., MD, San Antonio
 Goforth, John L., MD, Dallas
 Lewis, Seaborn J., MD, Beaumont
 Stout, B. F., MD, San Antonio
 Black, J. H., MD, Dallas
 Moursund, W. H., MD, Dallas
 Braden, A. H., MD, Houston
 Caldwell, Geo. T., MD, Dallas

The group then adopted a new Constitution and By-Laws with the same name as the previous organization, and defined its purposes as "to federate and to bring into one compact organization the pathologists of the State of Texas, and to affiliate with similar orga-

nizations of other states; to advance and to extend a knowledge of pathology; to promote friendly intercourse among pathologists and to guard and foster the material interests of its members and protect them against imposition.”³³⁸

There were two classifications of members—Members and Honorary Members. Members were physicians engaged in the teaching of pathology and allied subjects, limiting their practice to clinical pathology, or interested in the promotion of clinical pathology. Honorary Members were individuals who had attained prominence in pathology or allied subjects.

Meetings were to be held annually at the same time and place as the State Medical Association of Texas annual meeting. Forty percent of Society members were to constitute a quorum but a smaller number could “adjourn to any given time.”

Also adopted were extensive rules for an award, the purpose of which was “to stimulate original scientific investigation in the fundamental medical sciences.” Eligible were “all persons licensed to practice medicine in the State of Texas, to teachers in the medical schools in the state and undergraduates in medicine in the State of Texas.” Interestingly, the language for the award was “gender neutral” long before the topic became popular.

The award was to consist of a scroll suitable for framing and stating that it was granted “for meritorious investigation published or submitted for publication within the year previous to its bestowal.” The award was to be made annually at the time of the State Medical Association of Texas meeting, providing that “suitable investigations” had been completed during that year.

Named officers were Dr. Black, president; Dr. Martha Wood, Houston, vice-president; and Dr. George T. Caldwell, Dallas, secretary-treasurer.

Appointed by Dr. Black to the first Awards Committee in 1934, on a staggered basis, were Drs. Terrell, Stout, and Brindley.

That fall of 1934, the Society held a luncheon meeting in San Antonio in conjunction with the Southern Medical Association.³³⁹ About thirty members attended the November 14 session where Dr. Sidney W. Bohls of the State Health Department’s Laboratory in Austin discussed the “diagnostic” activities of the laboratory. Also at this meeting, Dr. Charles Phillips was named chairman of a committee to meet with Dr. Bohls to formulate regulations for laboratory approval by the State Board of Health.

The regulations, cited in the minutes, were entitled, "The Essentials and Regulations for an Approved Laboratory Governing Tests and Examinations Pertaining to Diseases and Public Welfare as it Relates to the Control of Disease." They defined the nature of an approved laboratory, called for annual registration of every person, firm, or corporation maintaining a laboratory "in which body fluids, secretions, excretions, or tissues are examined for the determination of the presence or absence of disease in the person or animal from which the specimen was secured, or where laboratory tests that pertain to public health are made . . ." After inspection, those found to conform to the standards would be given a certificate of approval at no charge as an "approved laboratory."

On January 19, 1935,³⁴⁰ Dr. Bohls wrote the Society that the proposed rules for approved laboratories, formulated on December 9, 1934, by a committee of the Society, had been introduced "into the Legislature along with other public health laws, and had been received favorably except for "some opposition."

Meeting in Dallas on May 14, 1935, the Society heard Dr. A. C. Broders of Rochester, Minnesota. His subject: The Technic and Practical Applications of Fresh Frozen Sections.³⁴¹

The Awards Committee, consisting of Drs. Terrell, Stout, and Brindley "decided to grant two Certificates of Merit for contributions to scientific medicine" for 1934. Recipients were Dr. Hardy A. Kemp, Dallas, for his work on relapsing fever, and Dr. Robert M. Moore, Galveston, for his contribution to the principles underlying the surgery of visceral nerves. The certificates were presented on May 15 at the general meeting of the State Medical Association of Texas. Nixon also reported the citation in his history of the Texas Medical Association.³⁴²

An "interim note" inserted in the Society's Minutes Notebook, states that "the State Pathological Society of Texas apparently ceased to exist at the close of 1935. During the ensuing three years, that is, 1936, 1937, and 1938, no meetings were held or records kept."³⁴³ Again, other sources have indicated that the Society essentially met during this period as the Section on Clinical Pathology of the State Medical Association of Texas.^{344,345}

Perhaps following the advice of the State Pathological Society of Texas and the editor of the *Texas State Journal of Medicine* who were encouraging more "community" pathologists—or simply be-

cause there was a need—a physician in 1935 instituted a pathology practice in the Lower Rio Grande Valley. Herschel E. Whigham, MD, a self-taught pathologist, established his practice in McAllen, and would serve physicians in that locale until 1965.

In San Antonio, a long-ago idea—having a pathology museum—finally was coming to fruition. “Dr. Frederick Fink,” Nixon writes, “brought about the remarkable medical, surgical and pathological exhibits shown by the Bexar County Medical Society at meetings in 1933, 1934, 1935. The *Southern Medical Journal* of December 1934, had this editorial praise for the exhibit at the Southern Medical Association: ‘The collective exhibit of the Bexar County Medical Society, San Antonio, embraced one hundred individual exhibits displayed in specially constructed view boxes. It was a new idea in scientific exhibits and is worthy of special commendation both for the quality of the exhibits and the attractiveness of the display.’ These view boxes were originated by Dr. E. M. Sykes.”³⁴⁶

Uncertainty regarding reforms in Washington shadowed the 1935 meeting of the State Medical Association of Texas in Dallas. Socialized medicine and compulsory health insurance were much discussed, and plans for “checkmating” the social reformers were made.³⁴⁷

Also for the first time, the State Medical Association of Texas, through its new Committee on Scientific Awards, issued awards of excellence in the field of scientific exhibits. Receiving awards were Drs. W. W. Brandes and Lewis Waters of Baylor University College of Medicine, Dallas, for their display of photomicrographs of peripheral nerve tumors; and Drs. J. M. Horn, C. N. Hamlin, and J. F. Pilcher of The University of Texas Medical Branch for their exhibit on nephritis.³⁴⁸

The close of another era was marked with the passing of Civil War veterans. Drs. Alex W. Acheson of Denison and Isaac Lycurgus Van Zandt of Fort Worth both had died, writes Nixon, “at the respective ages of ninety-one and ninety-five—one a wearer of the blue uniform of the North in the Civil War, the other a wearer of the gray of the South. Both had been officers in the army; both became privates in organized medicine in Texas.”³⁴⁹ Dr. Van Zandt was the physician who reportedly brought the first microscope to Texas.

Despite the economic woes of the time, Texans celebrated their centennial in 1936, marking their first year as a Republic free of Mexican rule.

Also, in 1936, an important development in assuring high national standards in pathology came to fruition. The AMA Section on Pathology and Physiology and the American Society of Clinical Pathologists had been meeting since June 1935 to develop a national qualifying board. In 1936, their recommendation was approved by the American Board for Medical Specialties and the AMA Council on Medical Education and Hospitals. The American Board of Pathology resulted, and in 1936 began its program of examination and investigation to determine the quality of individuals it would certify. Texas pathologists who met the criteria soon after the Board began its certification program were Drs. Sidney William Bohls, Austin, 1939; Marvin DeWitt Bell, 1937, Arthur Buell Cairns, 1939, George Thomas Caldwell, 1937, Janet Anderson Caldwell, 1937, John Lawrence Goforth, 1937, Joseph MacGlashan Hill, 1937, Charles B. Sanders, 1936, Stuart Allen Wallace, 1937, all of Dallas; May Owen, 1937, and Truman Conner Terrell, 1937, both of Fort Worth; Meyer Bodansky, 1937, and Paul Brindley, 1937, both of Galveston; Albert Henry Braden, 1937, W. W. Coulter, 1938, Donald George Henderson, 1938, Violet Hannah Keiller, 1937, all of Houston; Elbert DeCoursey, 1936, Ellen D. Furey, 1937, John M. Moore, 1937, and Beecher F. Stout, 1937, all of San Antonio; Donald Hunter Kaump, 1938, Temple; and Douglas Randolph Venable, 1936, Wichita Falls.³⁵⁰

Over the years, Texas pathologists were proving themselves as substantial contributors to the medical literature. Examples in 1937 were articles by J. H. Black, MD, who wrote, "Serum Sensitivity," in the *Texas State Journal of Medicine*.³⁵¹ Publishing in the same issue was S. W. Bohls, MD, with "Laboratory Technic and Research Work As It Pertains to Malaria."³⁵²

In Fort Worth in 1937, Methodist Hospital had been bought on the courthouse steps for \$92,000 through an intermediary for Charles Harris, and the revived institution needed a pathologist. Harris persuaded Dr. John J. Andujar, a professor at the University of Arkansas Medical School, to come to Texas in 1938.³⁵³ When he arrived in Fort Worth, Dr. Andujar remembers, he found the organization of Texas pathologists in disarray—intertwined with the

State Medical Association of Texas Section on Clinical Pathology, but not functioning separately. A call was placed to Dr. John L. Goforth in Dallas, asking if he could get twenty to thirty people together for an August meeting at Terrell's Laboratories in the Medical Arts Building in downtown Fort Worth to reconstitute the organization. Six stalwarts responded, including Dallas pathologists, Drs. George Thomas Caldwell, A. Buell Cairns, and John L. Goforth, and Fort Worth pathologists, Drs. Andujar, May Owen, and T. C. Terrell. Dr. Terrell would serve five times as president of the Society, often pulling the group together when it wavered.³⁵⁴

Dr. Caldwell also substantiates information that between 1936 and 1938 the Section on Clinical Pathology provided organizational continuity for the Society.^{355,356} Late in 1938, he writes, the pathologists of Texas formally reestablished the Society as the Texas Society of Pathologists.

Both the Section and the Society then continued as separate organizations, with one of the two yearly meetings of the Society held in conjunction with the Section.

Dr. Caldwell, former secretary and newly elected president, also reports that the establishment of the American Board of Pathology in 1936 and the certification of many clinical pathologists of Texas in 1937 and 1938 made it apparent "that a more coherent group should now be established to further the interests of the pathologists of Texas and incidentally to help carry out the policies of the American Society of Clinical Pathologists."

One of the first problems faced by the reactivated group, he said, was an attempt to secure the adoption of a new Sanitary Code for the State of Texas, including a section giving recognition to clinical pathology as a specialty.

Dr. Andujar, who did much of the work to reconstitute the Constitution and By-Laws for the Society, reports in the *Texas State Journal of Medicine* that "on August 9, 1938, at a meeting in Fort Worth, the Texas Society of Pathologists was encouraged to resume programs separate from the TMA Section. Dr. George T. Caldwell, beloved professor of pathology at Baylor-Southwestern, Dallas, was one of the prime movers in proposing a separate existence for the Society."³⁵⁷

Following the 1938 meeting in Fort Worth, Dr. Terrell also advocated a mid-winter meeting for transaction of business and the study of rare and unusual tumors.

Another important meeting also was held in 1938. Dr. Sidney Bohls reported details of a meeting held on August 12 in Austin devoted "to the creation of a committee of seven physicians, one of whom shall be the Director of the State Department of Health Laboratories, provided he is a clinical pathologist and, a majority of whom shall be composed of clinical pathologists." The Committee thereafter was to be termed the "Texas Board for Standardization of Clinical Laboratories." The Board was to be empowered to do "any and all things" necessary to carry out the agreement and was to be regarded as representative "of all ethically and completely operated private and public clinical laboratories, their supervisors and employees, operating in Texas at this time, or hereafter." The Board also could publicize the names of the certified institutions and individuals operating under the agreement in Texas and advise the public "in such manner as it deems best" of the revocation or withdrawal of certificates from an individual or institution.

On the first board were Drs. John T. Moore, Houston; Arthur Schoch, Dallas; George Turner, El Paso; T. C. Terrell, Fort Worth; D. A. Todd, San Antonio; Charles Phillips, Temple (Chairman) and the permanent member, Dr. Bohls. Members drew lots to determine their period of service.³⁵⁸

Dr. John T. Moore of Houston, who joined the Texas Society of Pathologists in 1938, was extremely active in medical and health circles in Texas, and served the State Medical Association of Texas as president in 1910 and as chairman of the Board of Trustees for twenty-nine years. In 1935, he and Dr. Marvin L. Graves were the first two members of the State Medical Association of Texas to receive its emeritus membership status for "exceptional and distinguished service to scientific or organized medicine, or both." Of him, Nixon wrote, "Words are inadequate; real replacement for such a man comes rarely."³⁵⁹

On January 8, 1939, the Texas Society of Pathologists met in Fort Worth, continuing discussion regarding the standardization of laboratories and the control of syphilis. Deciding "the matter of the standardization of laboratories" was too complicated to be determined by the entire body, a committee was appointed to revise the portion of the Sanitary Code pertaining to it. Members also decided to draw up an independent bill in case the Sanitary Code was defeated.³⁶⁰

In San Antonio on May 10, 1939, accepting changes in the Con-

stitution and By-Laws proposed by the committee, the Society added membership for “pathologists of the U.S. Army,” the “U.S. Navy and Board of Health Laboratories.” It also modified its statement from “eligible to membership into the Texas State Medical Association” to requiring such membership—thus reverting back to its original position.³⁶¹ The term “eligible” had been used based on the assumption that boards of censors of county medical societies would be a sufficient screen for membership. However, it was discovered that the local boards of censors often “looked the other way” if dues were not paid in one year or members dropped out. Therefore, county medical societies long maintained ineligible members on the “eligible” list. The state pathology society thus decided that membership in the State Medical Association of Texas should be required.³⁶²

Dr. Bohls, for the committee on evaluation of serological results, asked how many specimens should be sent to cooperating laboratories, and a committee was to study the idea that 100 specimens should be sent to each cooperating laboratory for the serological evaluation survey.

At this meeting, the Society also supported Dr. John J. Andujar’s motion that no city or clinical laboratory would be approved unless it was under the direct or indirect supervision of a recognized clinical pathologist.³⁶³

Around the state, a gentle trend was continuing—the movement of formally trained pathologists into new communities. Among pathologists making such a move was **Ellen D. Furey, MD**, a 1930 graduate of UTMB. She had taken her pathology training in Minnesota under Drs. E. T. Bell, Arthur H. Sanford, B. F. McGrath, W. C. MacCarty and A. C. Broders. Serving first at the Robert B. Green Hospital in San Antonio and the M & S Hospital in San Angelo, she moved to Beaumont in the late 1930s, becoming the pathologist at Hotel Dieu. She also would share her knowledge with others by publishing articles on malignant melanoma and serum proteins.

In Wichita Falls, Terrell’s Laboratories of Fort Worth had provided pathology services for many years.³⁶⁴ **Douglas Randolph Venable, MD**, arrived in the late 1930s, and was one of the first physicians to earn board certification from the American Board of Pathology—receiving it in 1936, the first year certification was offered

by the board.³⁶⁵ In 1941, he left Wichita Falls for Columbus, Georgia. Following his departure **P. K. Smith, MD**, an internist who had spent an extra year as a pathology assistant at UTMB, Galveston, provided pathology services. **Eleanor Irvine, MD**, reports that he was a good pathologist and did frozen sections, seeking considerable help from Dr. Truman C. Terrell and Dr. C. T. Ashworth at Terrell's Laboratories in Fort Worth. For a time also, pathology and radiology were performed by two brothers, **Milton and Leonard Glover**, both of whom were doctors of medicine, one doing pathology and the other radiology. They were not formally trained but went to regular training sessions to upgrade their skills. In the mid-1940s, one brother suffered a stroke; the other contracted tuberculosis requiring a search for a pathologist and radiologist, reports **Susan Strate, MD**.

Harbert Davenport, MD, born in 1912 in Brownsville, was a 1938 graduate of Baylor University College of Medicine, Dallas, and had undertaken his pathology residency at Baylor University Hospital and at the school. He was on the staff of Methodist Hospital, Houston, until 1940, when he moved to Jacksonville, Texas. He also that year entered the US Army, where he would become a colonel. He returned to Jacksonville as the pathologist at Nan Travis Memorial Hospital, where he would remain for thirty years.

From Jacksonville, Texas, a young man with a goal to become a physician, **Kenneth M. Earle**, would learn first-hand just how difficult transfusions were in those days. Although his father had died when he was fifteen and his mother worked as a seamstress, he had managed to pay his fees of \$100 to Rice Institute in Houston, where there was no tuition. He had saved the money earned as a ticket-taker at the theatre, working from two P.M. until eleven P.M. every day after school for \$7.50 a week.

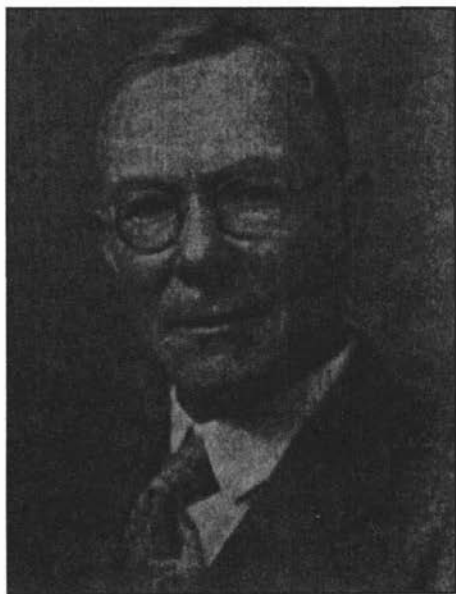
Once in Houston, he began working his way through Rice Institute, first as a bellhop at the Rice Hotel. The Great Depression was still very much on in 1938, and jobs were scarce. Fortunately, the chairman of the board of the new Jefferson Davis Hospital on Buffalo Drive lived in the hotel. Carrying the man's bags one night, **Kenny Earle** revealed he was a pre-med student and asked if there might be a spot for him in the new hospital. The chairman advised him to go see the superintendent at Jefferson Davis, who "must have thought I was a relative of Mr. Ben Taub," he said later. The superintendent sent him to the social services area, where he was assigned to



George Dock, MD, professor of pathology at the reorganized Texas Medical College, Galveston. His arrival marks true beginning of Pathology in Texas.



Allen J. Smith, MD, first chairman of pathology, microscopy and bacteriology at the new University of Texas Medical Department, Galveston, in 1891.



Edward F. Cooke, MD, Houston, in 1909 limited his practice to clinical pathology. First president of "Houston Pathological Society," 1914, and a founder of Texas Society of Pathologists, 1921.



Beecher F. Stout, MD, San Antonio, in 1904 opened first private laboratory in Texas. Performed first Wassermann test and administered first salvarsan dose in Texas. A founder of Texas Society of Pathologists.



J. Harvey Black, MD, of Dallas opened a private laboratory there in 1907. Involved with SMU Medical School. A founder of the Texas Society of Pathologists.



Martha A. Wood, MD, Houston, 1903 UTMB graduate, opened a private laboratory in Houston in 1911. A founder of Texas Society of Pathologists.



Violet H. Keiller, MD, Houston, 1914 UTMB graduate. Became chief pathologist at Hermann Hospital in Houston.



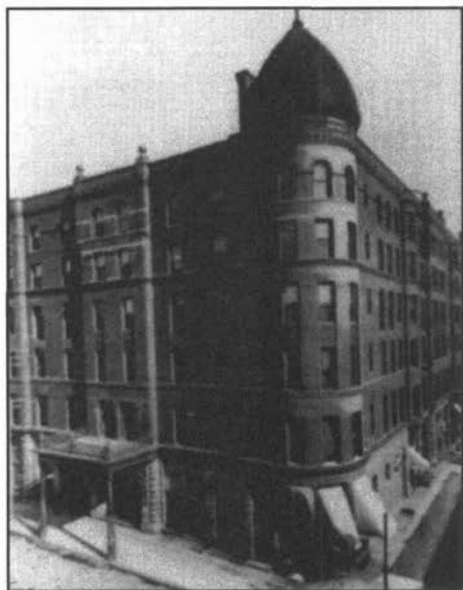
W. H. Moursund, MD, in 1911 joined Baylor pathology faculty in Dallas. Became professor of pathology and dean of medicine. A founder of the Texas Society of Pathologists.



"Old Red," opened in 1891 in Galveston, the first building for The University of Texas Medical Department. Originally, the building had a dome, which was blown off during the 1900 Galveston hurricane. This photograph was taken in the 1930s.



Surgical Pathology Museum, University of Texas Medical Branch at Galveston, 1929. This outstanding museum of cherrywood cabinets would be replaced by 35mm slides.



Oriental Hotel in Dallas. Site of founding of the Texas Society of Pathologists in 1921. Hotel burned and was not rebuilt.



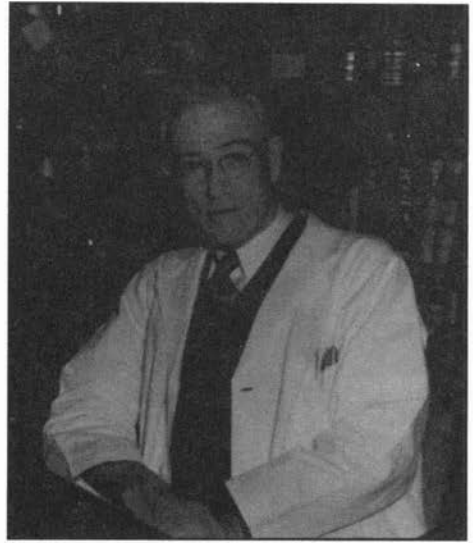
Typical appearance of early microscope, around 1870, manufactured in the US, the first with more than one objective.



Medical student laboratory, Baylor University College of Medicine, Dallas, early 1940s.



George T. Caldwell, MD, arrived in Dallas in 1919 as pathology department chairman at Baylor. Remained in Dallas to become chairman at Southwestern. Considered a "giant" in Texas pathology.



Paul Brindley, MD, of Galveston in 1929 became pathology chairman at The University of Texas Medical Branch, and would serve 25 years. Also considered a "giant" in Texas pathology.



Stuart Wallace, MD, became chairman of pathology after Baylor moved to Houston in 1943. An excellent surgical pathologist and kind teacher.



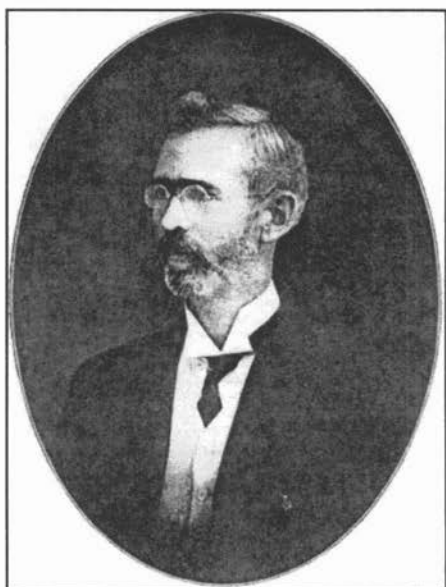
Joseph M. Hill, MD, Dallas, first clinical pathology professor at Southwestern Medical College. Pioneer in hematology and blood transfusion.



Laboratory Department at Jefferson Davis Hospital, early 1950s. Pathology faculty seen on the second row, second from left are Stuart Wallace, MD, [in suit and standing] and third from left, Melvin D. Haley, MD. In center of third row, standing, is S. Donald Greenberg, MD. Bottom row, kneeling, second from left, Jim Ferguson, MD; fourth from left, Frank Chapman, MD.



C.B. Sanders, MD, practiced in Dallas, moved to Houston; first president of Houston Society of Clinical Pathologists, 1949.



John T. Moore, MD, visiting pathologist, St. Mary's Hospital, Galveston. Became a surgeon. President, Texas Medical Association, 1910.



Truman C. Terrell, MD, of Fort Worth, a founder of the Texas Society of Pathologists, became president of Texas Medical Association (1952). Terrell's Laboratories served a large cross-section of Texas and Oklahoma.



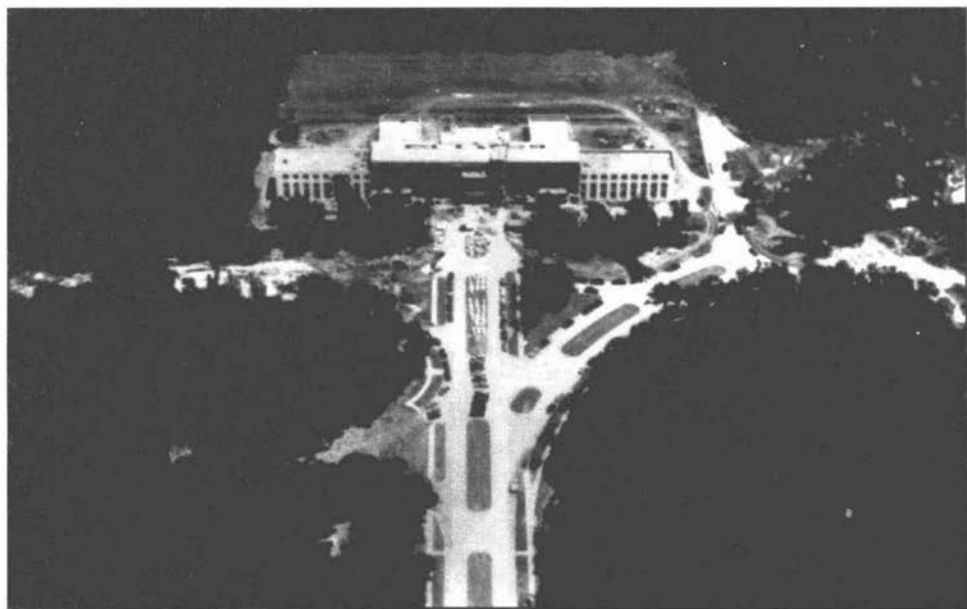
George Turner, MD, of El Paso became TMA president in 1953. Introduced resolution authorizing TMA to develop plans for a new office and library in Austin, after delegates voted to move from Fort Worth to Austin.



May Owen, MD, of Fort Worth became TMA president in 1960. Spent her entire career at Terrell's Laboratories in Fort Worth. Put scores of medical students through school, and established a professorship at Texas Tech Medical School.



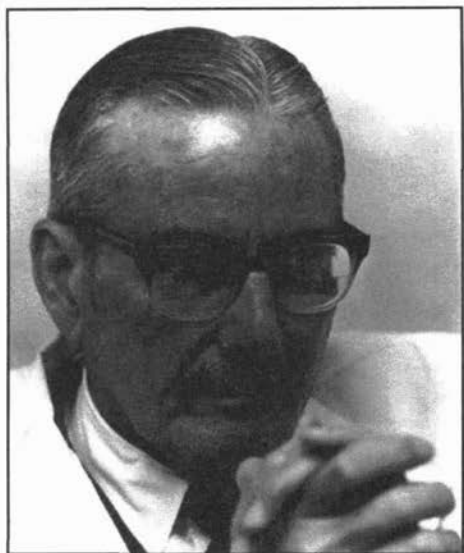
William Gordon McGee, MD, of El Paso became TMA president in 1990. Founder of PathLab of El Paso and senior partner for many years. Deeply involved in medical organizational activities.



In 1947, Baylor College of Medicine occupied this new structure in Houston's Hermann Park, site of the future Texas Medical Center. Originally surrounded by a forest of oak, pine, and hackberry trees as seen here.



In 1943, following Baylor's move to Houston, Army barracks served as the first quarters of Southwestern Medical College. The barracks came to be known as "the shacks."



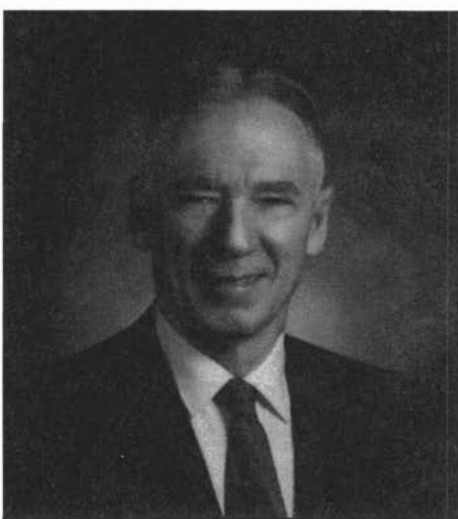
Atticus James Gill, MD, of Dallas, dean and chief administrative officer of Southwestern 1955-1967. Guided its development during early building phases and built cohesive relationships with physicians in private practice.



John L. Goforth, MD, Dallas, in 1926 joined St. Paul Hospital as its first full-time pathologist; later had private laboratory. Predicted in 1927 that immunology would play large role in subduing disease.



Paul Wheeler, MD, arrived in Houston as associate professor to assist Dr. Stuart Wallace build the Baylor pathology program during World War II. Remembered for his lively leadership of popular "Friday" slide conferences.



A.O. Severance, MD, of San Antonio was director of laboratories at Baptist Memorial Hospital. Became known as "the professor" and directed a free-standing pathology residency program. Received numerous honors.



C.T. Ashworth, MD, professor of pathology at both Baylor and Southwestern. Known for his outstanding teaching and broad areas of research. Became owner of AM Laboratories, Dallas.



Elwood E. Baird, MD, became professor of clinical pathology at UTMB; also director of clinical laboratories and of the school of medical technology. Headed the ASCP Board of Schools.



Major General Elbert DeCoursey, MD, organized and directed Army's Medical Laboratory in Pacific during WWII. Member, Atomic Bomb Joint Commission. Director, Armed Forces Institute of Pathology.



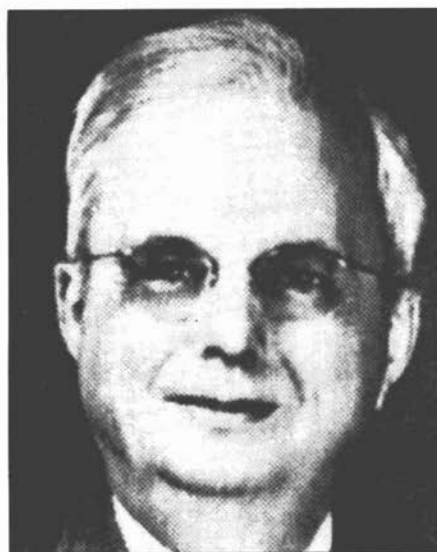
E. Eric Muirhead, MD, chairman of the department of pathology at UT Southwestern Medical School in the early 1950s. Known as an outstanding teacher and scientist, and for his work on hypertension. Conducted autopsy on singer Elvis Presley.



John R. Rainey, MD, of Austin joined Charles F. Pelphrey, MD, in 1952. Served as a CAP governor and as a member of Texas delegation to AMA.



Carl J. Lind, Jr., MD, in 1959 retired from the Army, and became chief of pathology, St. Luke's Episcopal Hospital, Houston. Served as CAP governor.



Albert H. Braden, MD, began practice in Sherman, and became first full-time pathologist at St. Joseph's Hospital, Houston.



Maynard Hart, MD, entered private practice of pathology in El Paso in 1940; and became director of clinical laboratory at Hotel Dieu Hospital, El Paso.



John J. Andujar, MD, of Fort Worth has been described as the "prime mover and shaker" of the Texas Society of Pathologists beginning in the late 1930s. Served as president of numerous pathology organizations. Received many awards.



Frank M. Townsend, MD, of San Antonio served as director of the Armed Forces Institute of Pathology and as pathology chairman, UT Health Science Center at San Antonio.



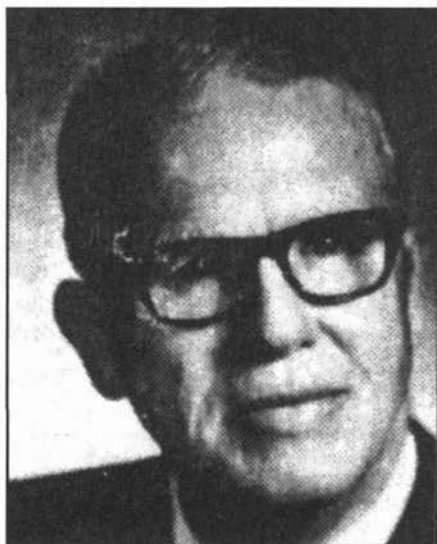
C. B. Phillips, MD, became director of laboratories, Scott and White, Temple, 1931. Developed cancer classification system adopted by American College of Surgeons in 1933.



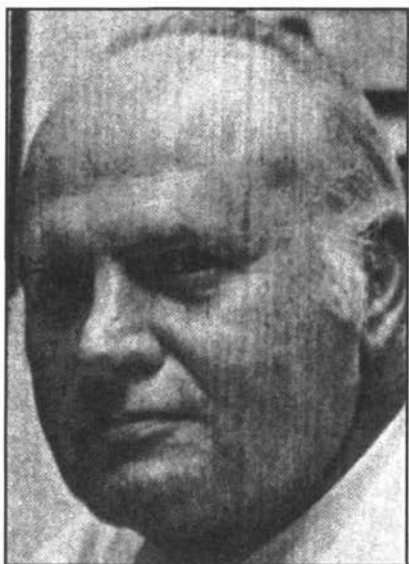
William N. Powell, MD, was director of clinical pathology division at Scott and White, Temple, for many years, beginning in the 1930s and retiring in 1969.



John Childers, MD, was director of surgical pathology at UTMB, then director of the pathology department at St. Paul Hospital, Dallas. In 1979 returned to teaching at Southwestern.



Jarrett Williams, MD, became the first clinical pathology director from the pathology staff at UTMB, after it was taken out of the surgery department in 1939. Moved to Abilene in 1950 and established the first clinical pathology laboratory in the region.



Oscar J. Wollenman, Jr., MD, Fort Worth, worked at Terrell's Laboratories and St. Joseph's Hospital, Fort Worth. Helped establish blood bank in Fort Worth through support of Amon Carter Foundation.



W. W. Coulter, Sr., MD, of Houston served as the county pathologist and as director of Jefferson Davis Hospital. A founder of Texas Society of Pathologists.



Staff, Baylor University Medical Center, Dallas. Front row, left to right: G. V. K. Rao, PhD; H. Richard Pasco, MD; Norman G. P. Helgeson, MD; George J. Race, MD; William B. Kingsley, MD; Doris D. Vendrell, MD; Marie Shaw, MD; Robert Speer, MD; Harold H. Varon, MD, and Dighton Rowan, PhD. Second row: Jack Porter, PhD; David M. Adamson, PhD; James H. Martin, PhD; Sara V. Irrigane, MD; Flo McClurg, MD; Susan Miner, MD; Gwendolyn Crass, MD; Doris James, MD, and Forrest Goodall, PhD. Kenneth Macknet, MD. Back row: James W. Finney, PhD; James B. Goodman, MD; John Lewis, MD; Warner Massey, MD; Faye Spruill, MD; Victor Lary, MD; Arthur L. Rains, MD; Mark Gilbert, MD; Richard G. Chambers, MD, and Alan Campbell, MD.



Members of the Fort Worth pathology group in Dr. Truman C. Terrell's home, mid-1950s: Seated on floor, left to right: Frances E. Council, MD; Dorothy Ashworth (wife of Dr. C. T. Ashworth); Senator Betty Andujar; Charles T. Ashworth, MD; and farther to the right, George J. Race, MD. Second row, left to right, seated on floor: Oscar J. Wollenman, Jr., MD; unknown. Far left to right, seated: second from left Anne R. Race, MD; fifth from left, Mrs. Feliks Gwozdz; Marie L. Shaw, MD; John Liles, MD; John J. Andujar, MD, and Feliks Gwozdz, MD. Back row, center, standing: Vincent C. Cirone, MD; unknown; May Owen, MD.



Pathology faculty of Baylor University College of Medicine, Houston, early 1950s. Faculty shown in front row, left to right: Drs. Berne Newton, Wilson G. Brown, Stuart A. Wallace [chairman of the department], Béla Halpert, and Harold Wood. Second row from front, Drs. Dan M. Queen, John Thomas, Melvin D. Haley, R.S. Gottschalk, Ethel Erickson, and Robert C. Burger. Third row from front, second person from left, Dr. Jack Pruitt. Back row, Drs. Jack Abbott, Jim Ferguson, Arch Brown, and Wayne Eaton.



1967 faculty, The University of Texas Southwestern Medical School at Dallas. Left to right, front row: Sloan Leonard, H. P. Clifton, Robert Putnam, Vernie A. Stembridge, Ruth Guy (PhD), Phil D' Roca, Stanley Lightfoot, and Thomas H. McConnell. Second row from front: Joseph Lawrence, George Peacock, Dudley Jones, Bruce Fallis, A. J. Gill, Albert Ben C. Dowdey, Anthony D'Agostino. Third row: David Werner, Clifford Daniel, Morton F. Mason, Robert Daniel, James Schultz, John Martin. Back row: Ed Seaman, Rod M. Nugent, Joe Paul, and Edwin H. Eigenbrodt.



1959 pathology department caricature, UT Southwestern. Left to right, bottom row: Drs. Bob Trotter, Jamil Ahmed, Ted Kim, George Race, Virgil Gonzalez, Joe Luibel. Middle row: Charles Ashworth, Vince Cirone, Bruce Fallis, Vernie Stembridge, Eric Muirhead, Philip Montgomery. Top row: Rolland Reynolds, Jim Gill, Ben Dowdey, Ralph Erdmann. Caricature by Bob Trotter.

filing and allowed to mop the emergency room floor. A few weeks later, the hospital had difficulty covering the laboratory at night, and asked if he'd be willing to train as a *stat* technician. Building upon his knowledge of biology and physics and skill in use of the microscope, he was quickly trained, and moved to the top floor of Jefferson Davis Hospital. He worked from seven P.M. to seven A.M., six nights a week for \$60, room, board, laundry, and school. A year or two later when there was trouble with the x-ray technicians, he was asked to train also for that position. He soon became the only technician for both the laboratory and x-ray.

"I lived very well," he laughs, "but had no social life—on the day off I had to make up for studying." The House staff, however, he said, "was good to me. They knew if they killed me they would have to do the work—so they usually called me only for the real *stats*."

Medicine was still quite primitive in 1938, he recalls, and the pathologist, **D. G. Henderson, MD**, with whom he was quite impressed, was still doing direct transfusions. The procedure "required a lot of people and was very troublesome." After attending a meeting, however, Dr. Henderson returned to set up one of the earliest blood banks in Texas. Blood was drawn with 50 cc syringes, mixed with an anticoagulant, poured into a large Erlenmeyer flask, shaken up, and kept chilled. It was then transfused in reverse fashion. Using the 50 cc syringe, blood was removed from the flask and then injected into the patient.

Needless to say, Dr. Earle recalled years later, transfusions were not often ordered—for good reason. First it was necessary to round up donors—usually twenty to thirty family members or friends—and then undertake several hours of serology for syphilis and blood typing. "We used the old Moss system—types one to four, but then within the year we converted to the ABO system. Antigens for syphilis were extremely primitive. The older technicians made the antigen—they went to the butcher shop, bought a beef heart, made the extract and ran titers. This was our antigen." About 1940, they were able to obtain the Kahn antigen, which was "far more reliable" than the homemade system although it probably caught the more advanced cases of syphilis. "We also did dark fields for syphilis on chancres," he recalls, summing up one of his earliest introductions to clinical pathology.

As the "night man," he was asked also by Dr. Henderson to

help with autopsies. Although not many were performed, they usually were at night.

Dr. Henderson, he adds, who did all the hiring and firing of technicians, was either salaried by the hospital or on a one-year contract. Otherwise it was difficult to make a living.³⁶⁶

In Fort Worth, Dr. John J. Andujar quickly established a blood bank, the first in the city, but recalls using only human blood in running titers. Of course, only whole blood was used at the time, but Dr. Andujar also undertook his own experimentation, and years later would develop the Plasmacrit test which did not use serum for swift screening.

Not long after his arrival in Fort Worth, Dr. Andujar also created a school for medical technologists to assure high training standards for staff supporting pathologists. In 1939, the program would become a part of Texas Christian University, which in the 1940s also would develop the only masters degree program in medical technology in Texas and the fourth in the nation.

On July 1, 1939, A. O. Severance, MD, moved to San Antonio, joining Drs. B. F. Stout and D. A. Todd in their group practice of pathology.³⁶⁷ Before his arrival, he reports, there had been seven pathologists in the city. One of long-standing was Dr. Stout, who had been born in Baldwin City, Kansas, on May 27, 1877, the son of Reverend Andrew V. Stout. He had graduated from the Kansas City Medical College in 1900, and moved to San Antonio in 1904. "I am told," reports Dr. Severance, "he used to ride around the City on a bicycle to go from his office to the hospital where he gave the anesthetic. After a year, he finally decided that he could make a go of it and so he returned to Olathe, Kansas, where his sweetheart Llorca Beach lived." They married in Kansas City, Missouri, October 18, 1905, and returned to San Antonio. "As time went on, Dr. Stout developed his small clinical and pathological laboratory and gave up the practice of anesthesiology."

Dr. Severance, a native of Bloomsburg, Pennsylvania, had received his medical degree from Johns Hopkins, participated in several residencies including one at Henry Ford Hospital in Detroit, and served in several hospitals as a surgical pathologist. After leaving Presbyterian Hospital in New York City, he joined the staff of Robert B. Green Hospital in San Antonio before being named director

of laboratories at Baptist Memorial Hospital and later consulting pathologist to Brooke Army Medical Center. He would become known as "the professor."

Remembering his friend and partner as "a super teacher," Dr. Merle Delmer later would recall him as an extra kind and patient individual who never spoke ill of anyone. Once, when a particularly seamy incident was reported to him, Dr. Severance responded, "I guess they had their reasons."

When Severance came to San Antonio, surgical pathology was in its infancy. With his extensive training, he brought a new day to surgical pathology there, soon establishing a regular monthly gathering to discuss cases and scientific development. He was a founder of the San Antonio Society of Pathologists, and instrumental in starting San Antonio's annual tumor seminar, the oldest continuous tumor seminar in the country. As consultant to Brooke Army Medical Center, he religiously conducted teaching conferences twice a week. He had received just about every award that the Army could give, observes Dr. Delmer.

In Dallas in 1939, E. H. Cary, MD, who was prominent in the affairs of Baylor University College of Medicine and a past president of the American Medical Association, formed the Southwestern Medical Foundation, and shortly thereafter extended a gift which allowed Dr. Joseph M. Hill to establish the Buchanan Blood, Plasma and Serum Center at Baylor University Hospital.

Dr. Hill worked with D. C. Pfeiffer, an engineer with the Dallas Power and Light Company, to develop the absorption control vacuum (ADTEVAC), a machine that could freeze-dry biological materials such as plasma. The important development was to significantly improve the ability to transfuse blood and make it available and safer in remote locations. The technology would help save thousands of people during World War II.³⁶⁸

Doing some of the original work with Dr. Hill was Dr. E. Eric Muirhead, "a distinguished professor." In addition to his pathology training, Dr. Muirhead took considerable training in internal medicine, "which I'm sure helped to make him a better teacher of pathology," said Dr. George Race. "He became a great teacher . . . very well known."³⁶⁹

Sol Haberman, PhD, and many residents also worked with Drs. Hill and Muirhead, assisting in teaching and research projects.

Dr. Ashworth, recalls Dr. Race, was one who later became very prominent at the medical school, a very well known pathologist, and "a very honored man." Some of his later research, Dr. Vernie A. Stembridge believes, was a precursor to work on cholesterol metabolism, for which Brown and Goldstein received the Nobel Prize.³⁷⁰ Dr. Charles Ashworth had attended Baylor University College of Medicine, receiving the inspiration of Dr. George T. Caldwell. He later liked to think of himself as "a kind of biologist," and said that pathology was the "basic and scientific part of medicine" that dealt with the biologic aspects of disease. In 1940 he became an instructor in the Department of Pathology in the school.³⁷¹

War and pathology

ON SEPTEMBER 1, 1939, Hitler's Third Reich armies plunged into Poland, launching World War II. Twenty days later they had won Warsaw, the capital. A young soldier in the Polish Army, Feliks Gwozdz, was captured, along with many others, and interned in a Nazi concentration camp. He would have an interesting destiny in Texas.

Meanwhile, as Americans sought to lift themselves out of the severe economic depression, on January 20, 1940, the State Pathological Society of Texas met in the lecture room of Cary Hall, Baylor University College of Medicine, Dallas.³⁷² Leading the group was Dr. George T. Caldwell, a professor at the school and current president of the Society. He presented a history of the "Clinical Pathological" organization in Texas, and Dr. J. Harvey Black cited the purposes and accomplishments of the first state society, suggesting that the Constitution make provision for associate memberships in the new organization. No action was taken on the matter, however.

But there was one significant action at the meeting. On a motion by Sim Hulsey, MD, the name of the organization was changed to the Texas Society of Pathologists. The group also deleted a membership reference to "physicians who are pathologists of hospitals" and "pathologists of the U.S. Army, Navy and Public Health Laboratories." Instead, the new requirements stated that the Society should consist of members of the American Society of Clinical Pathologists, diplomates of the American Board of Pathology, and additional licensed physicians who have met the training requirements of the American Society of Clinical Pathologists. The latter candi-

dates could be elected by the Society at large only on nomination of the president. The new Constitution was adopted, and current officers were reelected.

With Dr. Caldwell presiding, the Society devoted its afternoon session to "the study of microscopic slides furnished by members of the Society," an historic event that was to mark many future meetings.

The spring of 1940 was a time of terror in many parts of the world. In Europe, the Nazi *blitzkrieg* conquered Denmark and Norway in April and finally France in mid-June. Texas physicians were urged to join the Medical Reserve Corps.³⁷³

In May 1940, the Texas Society of Pathologists did not hold a separate meeting when the State Medical Association of Texas convened in Dallas, but the Section on Clinical Pathology conducted a very lengthy scientific program.^{374, 375}

On January 26, 1941, the Texas Society of Pathologists met again in the lecture room of Cary Hall at Baylor University College of Medicine, again called to order by the President, Dr. Caldwell.³⁷⁶ Housekeeping was in order at this meeting. A membership blank was to be sent to each pathologist in the state, and by-laws were amended, making the fiscal year correspond to the calendar year.

The topic of the standardization of laboratories surfaced, Dr. Charles Phillips reporting that last year thirty-two laboratories cooperated in the Serological Evaluation Survey and this year, fifty-five participated.

Dr. Caldwell discussed the examination of tissues for indigents, and the Society voted to study the subject. It also voted to recommend that one member of the State Cancer Committee be a pathologist and a member of the Society.

A committee also was to investigate the possibility of laboratories receiving pay for the serological examination of draftees.

Licensing of technologists continued to be a concern during this period, and would remain a concern for many years to come. Dr. John Andujar of Fort Worth urged cooperation with technologists.

Dr. Truman Terrell was elected president; Dr. Albert H. Braden, vice-president, and Dr. Marvin D. Bell, secretary-treasurer.

As was becoming customary, the afternoon session, presided over by Dr. Caldwell, was devoted to the study of pathological slides prepared and submitted by members of the Society.

At the May 1941 meeting of the State Medical Association of

Texas in Fort Worth medical preparedness was the major theme. There also was some discussion about New Deal programs, including the Hill-Burton bill, under which Franklin D. Roosevelt had deemed that every community should have a hospital. This spring also the association gathered names and addresses of all physicians, their choice of service, and other relevant information.³⁷⁷

At the May 1941 meeting of the Texas Society of Pathologists, Dr. Bohls discussed his serological survey results, recommending that laboratories be divided into four classes, A, B, C, and D. He reported that thirty-three laboratories participated in the survey, and of those, twenty-two were satisfactory and eleven not satisfactory.³⁷⁸

Dr. Terrell at this meeting was designated as delegate to the national meeting of the American Society of Clinical Pathologists. Already he had begun what would be "a remarkable career" in pathology and medicine, business, and as an organizational leader. Dr. George Race, who would later work for Dr. Terrell, terms him "the most business oriented, organizationally-minded physician that I have ever encountered. At one time he owned all of the bonds that controlled All Saints Hospital, and he personally started two oil companies that were very profitable." A friend of Sid Richardson of Richardson and Bass, and Amon Carter of the *Fort Worth-Star Telegram*, Dr. Terrell was among the elite in Fort Worth and spent much time at the Fort Worth Club, two blocks from the Medical Arts Building which housed his laboratory and office.

"He was a very bright individual who was pleasantly aggressive and had a lot of energy. He founded a good laboratory—a particularly good clinical laboratory," Dr. Race states, and its influence spread all over West Texas. If there was a downside, he adds, it was that Dr. Terrell brought in a number of pathologists, promising them partnerships that never materialized. Among those who would spend time with him were Drs. Merrill Whorton, who left for Jacksonville, Florida; O. J. Wollenman, later director of laboratories at St. Joseph Hospital in Fort Worth; Dr. Charles T. Ashworth, who would leave to become professor and chairman of the pathology department at The University of Texas Southwestern Medical School, and Dr. Race, who also would leave to join the school. Throughout the years, Dr. May Owen managed the laboratory and "did the slides" while Dr. Terrell undertook other business. Like the others, she also never became a partner.³⁷⁹ Alice Smith, MD, of Dallas, a

long-time friend and for a short time a co-worker, reported that if Dr. Owen minded that fact, she never indicated it.³⁸⁰

In 1952, Dr. Terrell would become president of the State Medical Association of Texas (followed immediately by Dr. George Turner of El Paso). Yet, with all his successes, Dr. Terrell would lament to Dr. Race about a missed calling of his childhood.

"You know, George," he said, "I would have been a classmate of Admiral Nimitz at the US Naval Academy, and Admiral Nimitz and I were both going to the Naval Academy together, but my father called me aside and said, 'Son, you will never be able to make any money in the Navy, and I'm sending you to the UTMB Medical School to be a doctor and come back and practice medicine.'" Wistfully, he added, he was certain he could have been an admiral, too, if he'd gone to the Academy.³⁸¹

Dr. Owen, a "lady" who never married, attended "every meeting of the Tarrant County Medical Society, every pathology meeting of any Texas group, and many national groups." She also was extremely active in the State Medical Association of Texas, particularly in the realm of medical education.

"Dr. Owen was a good surgical pathologist," Dr. Race notes, and "through the microscope, she could diagnose any activity. She was in fact appreciated throughout Fort Worth and West Texas."

Working her entire career for Terrell's Laboratories, in 1960 Dr. Owen would become the first woman to serve as president of the Texas Medical Association.

During the early years of pathology in Texas, private laboratories often had unwritten agreements about the territories they served. Dr. Terrell's reach extended from Fort Worth to Stephenville and Abilene, and throughout West Texas and into Oklahoma. Conversely, Dr. John L. Goforth extended his reach from Dallas far into East Texas. "They pretty much kept out of each other's way," Dr. Race declares.

Curiously, there was a parallel in the field of radiology—a service that often was offered in the early days by pathologists. Drs. Tom Bond and James Martin were general practitioners in Hillsboro when they ordered through the catalogue, "this fancy new x-ray machine that Roentgen had developed in Germany," reports Dr. Race. "They set this up and promptly decided that Hillsboro wasn't

big enough for both of them.” Dr. Bond then moved to Fort Worth and Dr. Martin to Dallas, where they were the only radiologists for many years.³⁸²

As the members of the Texas Society of Pathologists wrestled with how to cover the costs of testing draftees in 1941, war became an ever more imminent threat.

On the Texas coast there were rumors of German submarines, and spies operating across the border in Mexico. Already, many Americans—including physicians—had volunteered for military duty.

A young officer in the U.S. Army Medical Corps, **First Lt. Frank M. Townsend, MD**, of Texas, a 1938 graduate of Tulane, had been deployed to the Panama Canal Zone, assigned to Fort Amador. On a day during the warm, dry season he and other personnel were summoned to a meeting in the only possible place for secret discussions on the base—the library. Most buildings did not have windows, an unnecessary addition for a structure on the usually dry isthmus. But since books had to be protected occasionally from the elements, there were shutters. On this particular day they were closed. Inside, it was hot, steamy. The dim lighting was inadequate, the bulbs fluttering because the electrical system in the Canal Zone was set at a twenty-five-cycle current (compared to the sixty-cycle current of the standard American system). Still, it was better than nothing. The message from Lt. General Frank M. Andrews, in charge of U.S. forces in the Caribbean Sea, was somber: Japan was expected to strike an American base. No one knew where, but Fort Amador was to immediately go on twenty-four-hour alert.

All military personnel on the base geared up for the worst.

On December 7, 1941, the shattering news from family radios across America broke the Sunday morning calm. The target was known: the American base at Pearl Harbor on Oahu, Hawaii, had been bombed.

Thousands of miles away, Feliks Gwozdz had been released from a Nazi concentration camp and returned to Krakow where he entered medical school and began earning a living as a pianist. But his worst ordeals were yet to come.³⁸³

Through the upheavals of the past two decades—the incorrigible optimism of the twenties and the economic depression of the

thirties—there nevertheless had been considerable scientific progress—sulfa drugs; discoveries of vitamins and better understanding of nutrition that had for so long devastated children; the discoveries of antibiotics, fission, and the insecticide DDT. Television had been invented and tested, and major telescopes had allowed the “big bang” theory to be developed, with a remarkable new view that the universe was expanding.³⁸⁴ Medicine, though still largely based on clinical acumen, was being bolstered by the science of pathology.

In Texas, the still small cadre of pathologists had struggled to bring their specialty and their organization into maturity. In fact, they had done that, but in the face of a war too heinous to fathom, could there be any further progress?

Chapter 7

War Intervenes

(1941–1945)

The physician, who recognizes the imperative duty of dwelling in things, ought to guard himself from being supposed to mean only things that stand still; his sphere is, on the contrary, with things in motion—he is a master of dynamics.

Sir Thomas Clifford Allbutt (1836–1925),
quoted by Dr. F. H. Garrison in 1928.³⁸⁵

WORLD WAR II HAD SHOCKED Americans from their isolationism, and preparations were made for the worst. Yet, as their country declared war against Italy, Germany, and Japan, plans also continued for the future—after “the duration.”

Physicians were a valued resource in war-time, and their training was encouraged and accelerated.

Peter M. Marcuse, MD, who had received his medical degree from the University of Basel in Switzerland in 1938, arrived in Houston as a resident in pathology at Jefferson Davis Hospital. A city of more than a “half million” people, Houston prided itself on its azalea and camellia gardens in the spring, its many estates and its “stretches of almost virgin” woods.³⁸⁶

Dr. Marcuse recalls the status of pathology in Houston as the War began.

“There were some highly competent pathologists in Houston at that time,” he states, “notably Dr. Martha Wood, Dr. Violet

Keiller and Dr. Donald Henderson. The latter was the director of pathology at J. D. [Jefferson Davis Hospital] but was called into service with the Armed Forces soon after outbreak of World War II. Houston lacked most of the facilities that we now take for granted in our specialty. There was no formal teaching research or any organized exchange of opinion between the pathologists.”³⁸⁷

Kenneth Earle now had been accepted into The University of Texas Medical Branch at Galveston beginning October 1942, but, upon news of Pearl Harbor, he went down to the draft board to volunteer. Instead, the board advised deferment. They would need doctors for the long war. He would continue in school, make Alpha Omega Alpha (AOA) honorary society, later intern with “Uncle Paul” Brindley at Galveston—and be offered the same type of job he had had at Jefferson Davis—seven P.M. to seven A.M., six nights a week—once again as the “stat” man. Again, he would help with autopsies and become deeply interested in pathology—especially intrigued by the nervous system and the brain. In effect, he was focusing on neuropathology, but there was no such specialty at the time. He considered becoming a neurosurgeon, but instead would become a neuropathologist, joining the staff of The University of Texas Medical Branch in 1953, and in 1962 becoming head of neuropathology at the Armed Forces Institute of Pathology in Washington, D.C. Serving the AFIP for more than twenty years, he would be highly recognized for his contributions.

Rationing of certain food items, gasoline, and tires became a way of life, although the State Medical Association of Texas helped to assure that there was a more liberal interpretation for physicians on automobiles, tires and gasoline.³⁸⁸

Feliks Gwozdz, the young Polish student incarcerated after the Nazi *blitzkrieg* and later released, had returned to his studies. A brilliant musician, he now played with a band to support himself and his wife, Eugenia, whom he had married in 1941. Suddenly, in reprisal for underground bombings, Nazi soldiers swarmed into the restaurant where he and other musicians played, blew the restaurant up, and carted the musicians off—he in his tuxedo. He would end up in a new encampment—Dachau. The Nazis also arrested Eugenia, and she would be held in Ravensbruck and Auschwitz. Ripped apart, the young couple were left to suffer the horrors of war separately and alone.³⁸⁹

As the carnage of the war continued, a most precious commod-

ity became a desperate need. The American Red Cross began setting up centers around the country to acquire blood for the wounded, and calls went out for donors. Texas physicians would be involved, including Dr. Joseph M. Hill in Dallas, Dr. T. C. Terrell in Fort Worth, and Dr. Walter G. Stuck, San Antonio, who would serve as technical directors of distribution centers.^{390,391}

Life went on outside the war zone, and the hassles of daily management sometimes bogged down in ways not quite foreseen. For example, Baylor University College of Medicine in Dallas, which had suffered some financial difficulty, was faced with further stress in supporting war-time demands. Meanwhile, the Southwestern Medical Foundation had now acquired considerable funds, and the two organizations concurred on a joint plan, involving possible new construction of buildings. The agreement, however, was to be tenuous and fraught with controversy.³⁹²

There was other dissent on the homefront. In Galveston, there had been a raging controversy between the dean, Dr. John W. Spies, and the faculty and students of UTMB virtually since his arrival in 1939. Reportedly, upon arrival, he had ordered the main switchboard of the school tapped and a tape recorder "installed in his office in such a way that it could be activated surreptitiously." Accused of being dictatorial and showing favoritism, it was said, among other allegations, that he promoted incompetence, forcing faculty to pass incompetent students. There also was "apparent inequity" of allocation of the fund for special clinics and laboratories maintenance and equipment research. In May 1942, the Association of American Medical Colleges and the AMA Council on Medical Education and Hospitals placed the school on probation. Then, the day before Independence Day that year, students held a lynching party "in traditional Western style," hanging in effigy the dean, the president, and a member of the Board of Regents of The University of Texas. The dean was dismissed, and in the fall of 1943, the probation was lifted.^{393,394}

Regardless of difficulties, both of the state's two existing medical schools—UTMB at Galveston and Baylor in Dallas—participated in military training programs. The Navy "V-12" or Army ASTP (Army Special Training Program, based in Dallas) allowed students to complete their education for deferred military obligations and to assure a continuing supply of physicians for what was expected to be a long war. Each student enlisted in a medical unit

received \$50 per month pay.³⁹⁵ Both schools also developed accelerated three-year teaching programs. Gone were summer vacations, and classes were conducted almost year-round.³⁹⁶

On January 25, 1942, Dr. Truman Terrell opened the "annual convention" of the Texas Society of Pathologists. An executive committee was formed to represent the Society between meetings and a nominating committee was established, with Dr. Caldwell as the first chairman, and Drs. David A. Todd and George Turner as members. Previously, Dr. Andujar recalls, nominations were extremely informal and a self-appointed nominating committee, usually consisting of past presidents and the current secretary, made officer recommendations. At this time, of course, the Society was small and finances still "penurious." Not many members sought office.³⁹⁷

The maturing Society was gaining influence with other organizations, and Dr. Terrell reported that Dr. N. D. Buie of Marlin, president of the State Medical Association of Texas, had agreed to appoint a member of the Society to the association's Cancer Committee. Dr. Caldwell was selected as the group's first nominee to the committee.

There was concern by members that they were imposing on Dallas pathologists by continuing "to enjoy their hospitality with no opportunity of reciprocating." They discussed the merits of moving the meeting elsewhere, but a proposal to meet outside the Dallas-Fort Worth area every other year failed. The 1943 meeting then was scheduled again for Dallas at Baylor University College of Medicine.

As World War II continued to intensify, Dr. John Lee Lattimore of Topeka, Kansas, president of the American Society of Clinical Pathologists (ASCP), delineated "some of the pressing problems in connection with the war." At his suggestion, Dr. George Turner was nominated informally as a member of the ASCP Council, which was formed of representatives from state societies. To improve participation in ASCP, the national society voted to allow the Council to have representation on its Board of Directors.³⁹⁸

Another war-time-related problem regarded the "very marked shortage of medical technologists and the problem of their train-

ing." Although there always had been a scarcity of trained technologists, the War years made the problem more acute, particularly with duplication of services in the large hospitals.³⁹⁹

Efforts toward improving the quality of serological testing in laboratories continued around the state, and eighty-two laboratories now had participated in the annual evaluation studies. Seventy-seven had completed the portion related to serological tests, but forty-three failed in one or more tests. A number of laboratories had technologists without sufficient postgraduate training, and it was recommended that "the unsatisfactory group" should recommend their technologists for graduate work in serology.⁴⁰⁰

Dr. Alvin O. Severance of San Antonio was approved as a new member in 1942. Although H. H. Sweets, MD, of Galveston could not qualify because he had not transferred membership from Missouri to the State Medical Association of Texas, he was voted in as a member on a "deferred" basis pending the transfer.

A subject that was to be of continuing concern for the next several decades was put in motion by pathologists in 1942. Following Dr. John Andujar's request, the Texas Society of Pathologists established a committee to investigate the activity of justices of the peace, coroners, and medical examiners, and Dr. Todd was appointed chairman of the Society's Coroner Investigation Committee.⁴⁰¹

Officers for 1942 were Drs. Terrell, Fort Worth, president; C. B. Sanders, Dallas, vice president; John Goforth, Dallas, for the new position of president-elect, and Dr. Andujar, Fort Worth, secretary-treasurer.⁴⁰² The Society, like other organizations during wartime, suspended its dues for members in the armed forces. Along with Drs. Severance and Sweet, Meyer Bodansky, MD, of Houston, chairman of the Section on Clinical Pathology of the State Medical Association of Texas, was selected as a new member. (Dr. Bodansky died soon after his admission to the Society.)

Dr. Caldwell conducted the 1942 tumor seminar at Baylor University College of Medicine. Typical of previous seminars held by the Society, it featured "interesting cases" presented by the pathologists. As usual, slides of tissues were provided each member for the discussion period. Speakers and their case presentations were Dr. J. L. Goforth, dysgerminoma or granulosa cell tumor of ovary; Dr. Paul Brindley, rhabdomyosarcoma, or possibly a neurogenic sarcoma, and carcinoma in situ or so called intra-epithelial carcinoma; Dr. John L. Pilcher, benign lymphocytoma of breast; Dr. G. Shep-

heard, carotid body tumor and aberrant pancreas sectioned from the stomach; Dr. J. J. Moore, parathyroid adenoma; and Dr. May Owen, leiomyosarcoma of leg."⁴⁰³

At a later meeting, Dr. Caldwell, as the Society's representative to the cancer committee of the State Medical Association of Texas, reported on a matter developing in Houston—a "most interesting account of his experience to the Anderson Fund State Cancer Hospital." The fund had been established in 1936 by the M. D. Anderson Foundation, and would become a highly visible, if not an occasionally controversial, presence in Texas medicine.^{404,405}

Texas pathologists were active beyond their own organization, and in 1942, Drs. E. E. Muirhead, and C. T. Ashworth received compliments from a "high official" of the American Medical Association for their publications on plasma, shock, and other matters related to medical concerns during the war.⁴⁰⁶

May 1942 marked the passing of a colorful physician in the annals of medical marketing. Termed a charlatan by the American Medical Association, Dr. John L Brinkley of Del Rio, known widely as the "goat gland" doctor, had used his radio station to sell Formula 1020 in six ampule lots for \$100, which the AMA declared was 1 part of indigo in 100,000 parts of water. From station KFKB in Kansas he could be heard throughout the midwest but later from XERA across the Rio Grande from Del Rio, he could be heard around the world on a 500,000-watt station.^{407,408}

Unknown to the American people in 1942 was a deeply secret effort that would initiate the nuclear age. The Manhattan Project, created by the United States government to develop the atomic bomb,⁴⁰⁹ would have far-reaching impact for researchers and practitioners in the field of pathology.

"Sharing top priority" for federal funds was development of another project—the refinement and production of penicillin, a concept brought to America by British researchers. Since 1935, an Australian pathologist, Howard Florey, head of pathology at Oxford; Ernst Chain, a German Jew who had escaped the Nazis, and Norman Heatley, a British biochemist, had isolated and purified the drug. They had been searching for an antibacterial drug and, after lengthy study, ran across Alexander Fleming's 1928 discovery of *Penicillium notatum*.⁴¹⁰

As planned, the Texas Society of Pathologists held a semian-

nual meeting on January 31, 1943, meeting again in Cary Hall at Baylor University College of Medicine, Dallas.⁴¹¹

"Unfortunate" situations seemed to be occurring right and left. Dr. Arthur Schoch of Dallas, who in essence was a dermatopathologist,⁴¹² addressed the Society "on the unfortunate situation resulting from the fact that a lay-operated group in Dallas (the David Graham Hall Foundation) was providing free pathologic service on a state-wide basis." In another case, the Committee on Medical Technologists was to investigate the "present unfortunate situation of the teaching of Medical Technology in State colleges." It was felt that inadequate courses were being conducted by non-medical individuals in several larger State institutions, some "erroneously entitled as courses in Clinical Pathology."

The State Medical Association of Texas had indicated that its spring meeting would be abandoned except "for a small meeting of the official family,"⁴¹³ but the Texas Society of Pathologists nevertheless decided to hold its own meeting in June or July 1943.

In April, a long-brewing issue erupted into controversy in Dallas, and the trustees of Baylor University College of Medicine voted to annul their earlier agreement with Southwestern Medical Foundation. They conferred with the M. D. Anderson Foundation in Houston about moving to its planned medical center there, and in early May decided to graduate the last Dallas class at the end of the month.

Without avail, Pat Neff of Waco, president of Baylor University, attempted to persuade the entire faculty and student body to transfer to Houston. The majority, however, chose to remain in Dallas.

Disagreements between Baylor and Southwestern Medical Foundation had been philosophic. Although Baylor University provided no funding to the medical school, Baylor trustees wanted to assure that the school remained under the control of the University, itself directed by the Baptist General Convention of Texas. On the other hand, Southwestern Medical Foundation had contracted with the City of Dallas and Dallas County for hospital facilities and wanted to assure that the school was non-denominational.

"A split in old Baylor" occurred, Dr. George Race recalls, and pathology faculty had to make decisions regarding whether to remain in Dallas or move to Houston. Dr. Joseph Hill, who became head of clinical pathology at the new Southwestern Medical College

of the Southwestern Medical Foundation in Dallas, commented that the move "was such a wrenching thing . . . the fine clinicians in town were very upset." Dr. Race adds that many associate professors, such as **Stuart Wallace, MD**, in pathology, and **Joe Gast, MD**, in biochemistry, moved to Houston, becoming chairmen of their respective departments. In general, observes Dr. Vernie Stenbridge, those in basic sciences moved to Houston and those in clinical science remained in Dallas.

Before Baylor left Dallas, Southwestern Medical College had a new dean, and had found space in Spence Junior High in East Dallas for temporary quarters. Both schools worked furiously to establish themselves in suitable, if uncomfortable, quarters in time for the next class of students.^{414,415} Drs. Hill and Sol Haberman taught parasitology in the cafeteria of the school, Dr. Hill later recalling with laughter the implications of teaching the topic and demonstrating "stool examinations and so forth" in the cafeteria.

Despite the rift in Dallas, Dr. Hill did not recall any rancor between faculty going in different directions. Drs. Caldwell, C. T. Ashworth, and Muirhead had remained in Dallas to join Southwestern Medical College, and Dr. Wallace moved to Houston to become head of pathology at Baylor University College of Medicine there. Volunteer clinical faculty aided both schools.

Dr. C. T. Ashworth, who remained in Dallas to teach, would become remarkably memorable to his students and peers. In 1949, he would leave teaching and join Terrell's Laboratories in Fort Worth. A colleague, Dr. May Owen of Fort Worth, remembered the first time she heard of Charlie Ashworth as a young man. "The Caldwells (a couple who were both physicians) told me all about him," she recalled. "Mrs. Caldwell said that George had found someone 'who is going to be a teacher.' When I met Charlie, he was a stimulus to me. I helped him do autopsies, helped him do many things. I don't know anybody I admire more."⁴¹⁶

Also joining the pathology department of the new Southwestern Medical College was **Atticus James Gill, MD**, who "in his youth was independent and somewhat adventurous." As a teenager, he and a companion had flown an open cockpit two-seater biplane from Oklahoma to Minnesota, "flying near the ground so they could read road signs along the way and thus stay on course."

Dr. Gill arrived in 1943 as an assistant professor at Southwestern Medical College in Dallas, and taught, along with his colleagues, in the Army barracks set up for classes behind Parkland Memorial Hospital on Maple Avenue. He would later reminisce often about problems associated with the “shacks”—windows falling out and the occasion when a student actually fell through the weakened wooden floor.⁴¹⁷

Many volunteers assisted with teaching at both Baylor and Dallas during the years when Southwestern was launching a new school and Baylor was launching a new beginning. In Dallas, among those assisting in the teaching of pathology was Gladys Fashena, MD, professor of pediatrics who had also trained in pediatric pathology. In Houston, Wilson Brown, MD, who built a large pathology group at Hermann Hospital, did much of the teaching before the Baylor program was built.⁴¹⁸

In Dallas, the pathology museum also had to be developed “from scratch,” and pathologists throughout the area donated specimens to help get it started. Dr. John J. Andujar recalls giving his “prized gross specimen.”⁴¹⁹

Students also had to make decisions regarding whether to move to Houston with Baylor or remain in Dallas with Southwestern. The Navy, however, promptly ordered students enrolled in the V-12 program to Houston. Students enrolled in the Dallas-based ASTP program were assigned to the Southwestern Medical College ASTP unit. The few civilians chose to stay in Dallas.

Meanwhile, Dallas students, Privates George Race, Joe White (who became UTMB dean of medicine) and Harry Renken (who became a Dallas internist), were in an Army infantry training group at Camp Walters, Texas, ready to be shipped to the 103rd infantry. It would be decimated in 1944 in the Battle of the Bulge.

“One morning at 4:30 A.M., standing in drizzling rain,” recalls Dr. Race, “the loud speaker summoned Privates White, Renken and Race to the orderly room whereupon we were given bus passes to Dallas to enter the Army STP at the new Southwestern Medical College.” The students thus “were sprung” from being riflemen to becoming freshmen medical students. “The so-called exigencies of war,” Dr. Race reflects.

By 1943, one-third of the members of the State Medical Association of Texas had been called into military service—57 percent

above the state quota.⁴²⁰ The call-up also affected the association's planned meeting place. Because of the large number of military personnel assigned to San Antonio, the annual session was moved to Fort Worth, and later reduced to only members of the "official family."⁴²¹

At that session, the House of Delegates continued to fret over "State Medicine" and the extension of medical care through such programs as the National Youth Administration, the Farm Security Administration, and the Sheppard-Towner Maternal Welfare Act. There also was considerable worry about the Wagner-Murray-Dingell bill in Congress, which members felt certain would "scrap" the private practice of medicine.⁴²²

There was, of course, no meeting of the Section on Clinical Pathology—or any other section—in 1943; however, the Texas Society of Pathologists previously had decided to hold a summer session. Interestingly, the Society met on June 27, 1943, in the Alumni Library at Baylor University College of Medicine, adjacent to Baylor University Hospital. By this time, Baylor had graduated its last class in Dallas, and was frantically completing arrangements for its move to Houston.

At this meeting, Dr. Truman Terrell, reporting for the Coroners Investigation Committee, said no progress had been made beyond the formulation of eventual legislative enactment to remedy "the present unfortunate situation." Cognizant of the pressures of war, the Society decided to invite all Army and Navy pathologists to all sessions, without "any financial obligation occurring." Elected to honorary membership in 1942 were Drs. Willis W. Waite of El Paso and Henry Hartman of San Antonio.⁴²³

Observing a "five year period of constant growth" since the Society's reestablishment January 8, 1939, the secretary of the Society, Dr. Andujar, reported that six founders remained strong supporters and active members: Drs. Bell, Black, Carter, Robinson, Stout, and Wood. Dr. Andujar also reminded the group that on April 25, 1927, the Society had disbanded after six years of activity, becoming the Section on Clinical Pathology of the State Medical Association of Texas.⁴²⁴

"The ensuing five years, he said, "marked the gradual emergence of a unified, well integrated Society which gives every promise of steady and powerful growth. From a loosely knit group of some

fifty physicians, many of whom were on the [membership] roll, yet had never applied or paid dues, we now have a group of forty-one highly qualified members. The year represented another "epoch" for members. All had formal applications on file and had paid their dues in full. Of the forty-one members, two were honorary members (Drs. Henry Hartman and Willis W. Waite). Six also were in the armed forces—Drs. A. B. Cairns, D. G. Henderson, Sim Hulsey, Seaborn J. Lewis, David A. Todd and Herman B. Williford—leaving thirty-three active members at home. "Fortunately," Dr. Andujar said, "we have not lost any through death or transfer."

Of the scientific session, Dr. Andujar wrote: "Dr. Joseph M. Hill and associates conducted a seminar in hematology, presenting five interesting cases with slides for each member. Following the examination of each file, an extended informal discussion was launched."⁴²⁵

Dr. Hill, who had established the state's first blood bank, played a special role during the course of the War, the slaughter of which caused a severe need for blood. He rounded up donors, drew blood, and made plasma for soldiers throughout the world. He also was instrumental in working with the Army to send trained personnel to other major cities to set up plasma-drawing units. Plasma was freeze-dried, and later rehydrated on the battlefield to obtain injectable liquid plasma for wounded soldiers.⁴²⁶

In addition, Dr. Hill also sought to develop international relationships in the field of hematology—particularly in Mexico—organizing or helping to organize societies including the International Society of Hematology. With Dr. Muirhead and others, he also founded the American Association of Blood Banks.⁴²⁷

On the far west side of Texas, a young student, Vernie Stemberge, completed his degree in biological sciences in 1943 at the Texas College of Mines and Metallurgy, El Paso, later The University of Texas at El Paso. He and his wife, Aileen, both just twenty years old, boarded a train for the long ride to the Texas Coast, stopping briefly for a night or two at the Rice Hotel in Houston, before going on to UTMB in Galveston. Aileen worked to help put him through medical school. Many years later, they would reminisce about the era, surprised at how little they remembered about "the War."

"Perhaps," said Dr. Stemberge later, "it was because we were

so caught up in medical school and our own lives. Burning the midnight oil was routine." Nevertheless, there were German submarine sightings in the Gulf of Mexico, and Galveston was prepared for danger. Military vehicles bore blackout lights, and gun emplacements were set at strategic points around the city. He particularly recalled those at the current site of the San Luis Hotel.

As in other schools, class schedules at UTMB were accelerated. The 1942–1943 school catalogue stated that the calendar year had been divided into three trimesters of fifteen weeks each. "Two of these," it said, "constitutes an academic year. Eight trimesters comprise the training course for the degree of Doctor of Medicine. For the present, the first two academic years will be on a trimester basis (four trimesters), while the last two academic years will be on the quarter system (six quarters). The time allotments are tabulated for each academic year's work."

After 1943, classes were admitted only once a year, but each calendar year contained three and one-third semesters. Students completed their doctor of medicine degrees in thirty-six consecutive months, and graduations were held at irregular times.⁴²⁸

In addition, interns were scarce. Selected students served as acting interns during their senior years. Reportedly, during one long and difficult period, only seven interns were available at John Sealy Hospital. "In facilities strained by the speed-up—more than one hundred students were crammed into lecture rooms in July and August." The John Sealy College of Nursing also had adopted an accelerated program.

A UTMB military unit had been formed, and became the 30th Evacuation Hospital, which in 1943 was sent to New Guinea to serve for two-and-one-half years. In addition, a General Military Hospital Unit—which had been on paper since World War I—was activated. The 127th General Hospital, a 1,000-bed-unit, was sent to the European Theater, and crossed into Europe eleven weeks after D-Day, becoming the only American hospital in central and eastern Brittany during the Allies' major offensive. The unit also followed the Allies to the outskirts of Nancy, in France, while General Patton's Army was headquartered there. It later received high praise for its war efforts.⁴²⁹

When Baylor University College of Medicine moved to Houston in July, during the height of World War II, it would precipitate

vast changes in the medical landscape, but much work had to be done—and rapidly.

“Stuart Wallace did yeoman’s service,” said Peter Marcuse, “in which he was later ably assisted by Dr. Paul Wheeler, associate professor. The temporary quarters of the school were in an old Sears-Roebuck building, and Jefferson Davis Hospital was used for teaching. I was privileged to help out and, thereby, get the benefit of learning from Drs. Wallace and Wheeler. When Baylor moved to its new quarters, the Pathology Department was organized and ready for lectures and courses.”

Paul Wheeler, MD, had come to Houston from St. Louis to join Dr. Wallace. Among those joining them later was Melvin Haley, MD, the son of an anatomy professor. He had moved with Baylor from Dallas to Houston to undertake an internship, which, because of the war, would be for nine months only. Dr. Wallace offered him a position, and he began helping with teaching.

He also performed his first autopsy under Dr. Peter Marcuse, who now headed the laboratory at Jefferson Davis Hospital. After study at the University of Alabama, Dr. Haley would return to teach full-time at Baylor. He would have many fond memories of his experiences as the new school began operation with its small faculty and many volunteers. He especially reminisces about “the Scotsman,” as Dr. Wallace was called. A mild-mannered professor, who was soft spoken in his lectures, he was known for his pleasure in smoking a pipe. A surgical pathologist, he directed the pathology laboratories at Jefferson Davis Hospital for the care of indigent persons—a difficult task at first because the hospital was several miles away from the Sears warehouse. Dr. Wallace and Dr. Wheeler later began conducting slide conferences on Fridays. Together, they drew in the entire pathology community and other physicians in Houston.

Dr. Haley describes Dr. Wheeler as “a dynamic person, wonderful surgical pathologist.” Although others saw the professor as confrontational, Dr. Haley laughs at memories of his typical statements at his slide sessions. “I see you came to share your ignorance today,” he might say, and after frozen sections were available, he queried, “Are you smart enough to change?”

In 1944, Joyce S. Davis, MD, began her medical education at Baylor University College of Medicine in Houston, and recalls Dr. Wheeler not only for his dynamic personality and quips, but because he was one of the professors who treated the four girls in a class of

eighty-four students equally well. Encouraging and relating well to them, Dr. Wheeler invited them two at a time out for Sunday brunch. After she and Phil Davis, MD, who would specialize in internal medicine, decided to marry, they sought his advice. "Go ahead and do it now," Dr. Wheeler advised, "because it's my experience that interns who've just gotten married aren't worth shooting!" They took his advice and married between their junior and senior years. He also advised them to take their residencies in the same city, but not in the same institution.

Meanwhile, a student at Baylor University College of Medicine in Dallas when the school suddenly moved to Houston, Charles F. Pelphrey, like most of the senior students, had remained in Dallas. He thus was graduated with the first class from Southwestern Medical College in March 1944, and was "fortunate" enough to serve his internship at Baylor University Hospital in Dallas. As often stated by other pathologists, he first started training for surgery, and realizing a good surgeon should know his pathology, undertook a pathology residency under Dr. Joseph M. Hill. Of course, he remained in the latter specialty.

During Dr. Pelphrey's residency, Dr. Hill was working on the Rh factor in blood, and had begun manufacturing typing serum. "Baylor Hospital," Dr. Pelphrey proudly recalled later, "was the first nongovernmental hospital to do routine testing for the Rh negative factor. He witnessed one incident, he recalls, that may have brought about routine Rh typing in Dallas. A patient had died after being hemolyzed, and Dr. Hill, declaring that shouldn't have happened, ordered mandatory typing.

Gwendolyn Crass, MD, born in Ada, Oklahoma, had been a "superb medical technologist" at Wadley Blood Bank and Research Institute (later simply the Wadley Research Institute) and Baylor University Hospital, before attending The University of Texas Medical Branch at Galveston during World War II. Graduating in 1944, she served an internship at Baltimore City Hospital, and then undertook her residency under Dr. Joseph Hill in Dallas. She served also as an assistant professor of pathology at UTMB in Galveston and as clinical professor of pathology at Southwestern in Dallas. Throughout her career, she maintained an interest in hematology

and served as director of the school of medical technology at Baylor University Hospital in Dallas for approximately twenty years.⁴³⁰

"She was a great teacher," recalls Dr. George Race, and "though she had a slight cleft palate impediment, she nevertheless communicated well with the residents who liked her extremely well."

When the Texas Society of Pathologists met in Dallas on January 30, 1944, it no longer was at Baylor University College of Medicine. Dr. Andujar notes that the Society's scientific session was "at the new Medical School of the Southwestern Medical Foundation where the pathology laboratory" was housed in "one of the temporary barrack style war hutments."

"All of the microscopes were new and excellent," he writes, and "Following the usual custom, Dr. George T. Caldwell conducted the Tumor Seminar with eight sets of slides being presented."⁴³¹

Pathology was expanding in the state, and the number of committees of the Society also were growing, and now included Scientific Program, Public Relations, Membership, Coroner's, Nominating, Scientific Awards, and Medical Technology. Dr. Andujar, chairman of the latter committee, stated that his committee had carefully investigated teaching of medical technology in the State, and found that three universities, Texas Christian University, Baylor, and the University of Houston, offered ASCP-approved combination courses leading to the Bachelor of Science degree and the certificate of the Registry through affiliation with one definite hospital—Harris Memorial Methodist Hospital (Fort Worth), Baylor University Hospital (Dallas), and Jefferson Davis Hospital (Houston). He also lamented that two tax-supported institutions, North Texas State College and Texas State College for Women, were teaching "inadequate courses, conducted by nonmedical individuals, without any clinical facilities or hospital affiliation." A resolution protesting such teaching unanimously passed.

Dr. John Goforth at this meeting pointed to the urgent need of "some Code of Ethics to protect the interests of the patient and the pathologist from exploitation by lay groups."

Work remained on standardizing laboratories in the state, and Dr. Sidney Bohls of the State Department of Health in Austin provided a detailed update in January 1944. He pointed out "the amazing record" of sensitivity and specificity demonstrated by Hinton and Eagle in the serologic studies on syphilis, noting the record for the Kahn and Kline diagnostics was "most disappointing, for al-

though 100% specific, the sensitivity was 64% and 67% respectively." It was also surprising, he said, "what a large proportion of participating laboratories presented an unsatisfactory record. Of twenty-three laboratories conducted by pathologists, thirteen were unsatisfactory on at least one test."

The Society decided to hold its second meeting in 1944 on May 3 and 4, at the close of the State Medical Association of Texas Section on Clinical Pathology.

The War ever present in their minds, the Society sent letters to all members in the armed forces. Particularly noted was the letter going to Dr. D. A. Todd in England. "If times had been normal," Dr. Todd, as president-elect, would have assumed office in 1944.

The new ethics code, stating the Society would be governed by the AMA *Principles of Medical Ethics*, was adopted unanimously. The code declared it unethical for a pathologist to act as director, pathologist, or consultant for a medical commercial laboratory. Further, a laboratory was to "be considered a medical commercial enterprise" whenever the principal ownership was by non-medical persons who participated and shared in the profits of the operation of such an institution. Also addressed was unfair competition between pathologists; operation of a laboratory under a trade name without a pathologist's name appearing on all printed matter; competition on the basis of unreasonably low fees, and dividing of fees or rebating fees for laboratory services. It was considered unethical to work for a hospital doing laboratory work on outside private patients unless the pathologist shared in the fees collected for such services, and unethical for members to publish objectionable forms of advertisements "in any form whatsoever." Finally, it was deemed unethical for any member to lend "his name for publication in any laboratory advertisement or announcement which violates the Code of Ethics. The borrowing of names of other physicians, scientists, or laymen, on the basis of an occasional service or consultation, for the purpose of advertising or to sanction the work of a laboratory is misleading and unethical."⁴³²

In cases of disagreement between pathologists and lay organizations, the Executive Committee would offer "its services in the solution of such difficulties." The Executive Committee also was to act as judge in other matters, with members having the right to appeal. The new code also declared it unprofessional for a physician to dispose of his professional attainments or services to any lay body,

organization, group, or individual, "by whatever name called, or however organized, under terms or conditions which permit a direct profit from the fees, salary or compensation received to accrue to the lay body or individual employing him. Such a procedure is beneath the dignity or professional practice, is unfair competition with the profession at large, is harmful alike to the profession of medicine and the welfare of the people, and is against sound public policy."

In obscure rooms in the United States and Britain, a code of a different kind was the target of frenzied activity. In the midst of war, the British turned on the huge machine, Colossus, with its vacuum tubes and 2,000 switches. It began silently deciphering the code of Hitler's armies, although it was only partially successful. Meanwhile in the United States, not aware of Colossus, scientists also were frantically attempting to build a machine. Eniac would have 17,438 tubes, would pass all its tests in 1945, and begin calculating bomb and missile trajectories for the Army—a job once requiring 200 desk top tabulating machines.⁴³³ Meanwhile, Danish partisans had smuggled a German Ultra machine out of Denmark, taking it to Britain. The British used the machine throughout the war, and the Germans never figured out the British were decoding messages on their own machine.⁴³⁴

The advances brought on by World War II would be profound for science, academia, and everyday living. For pathologists, they would mean the disappearance of the kind of laboratories they knew well. In the 1940s, they could hardly imagine that technologic advances, including the computer, some day would aid in the automated analysis of specimens and help eliminate the familiar stench.

The intensity of war conditions in 1944 resulted in limited arrangements for meetings.⁴³⁵ A letter had been received from the Office of Defense Transportation (ODT) asking the Texas Society of Pathologists to discontinue conventions. No groups over fifty persons were to meet unless considered essential to the war effort.⁴³⁶ The sections and the House of Delegates of the State Medical Association of Texas met in various towns. The Section on Clinical Pathology met in San Antonio on May 3 and 4, along with three other sections, and the "mid-year" session of the Texas Society of Pathologists convened on May 3, 1944, following a night session of the Section.

Despite the strains of war, innovations continued on the home-

front. An important one for Texas pathology occurred in San Antonio that spring of 1944.

"As time went on," Dr. B. F. Stout wrote later, "it became apparent that the pathologists of the state were not sufficiently versed in the diagnosis of tumors. Some had the opportunity to attend national seminars conducted by the American Society of Clinical Pathologists. The San Antonio group of pathologists had been meeting with the pathologists at Brooke Army Hospital for a special study of tumors. In 1944 this group conceived the plan of conducting a tumor seminar which could be attended by all interested pathologists. A meeting of this nature was substituted for the usual Section on Clinical Pathology program. Dr. Arthur Purdy Stout of Columbia University, international authority on neoplasms, successfully conducted this project, the proceedings of which were published in the *Texas State Journal of Medicine*."

"This first meeting was so enthusiastically received by those in attendance that the San Antonio group was stimulated to institute the tumor seminar as an annual event conducted each year by a noted pathologist." Dr. Stout returned in October 1945, and again in 1950. Other guest lecturers in the early years included Dr. Emil Novak, Baltimore, 1946; Col. J. E. Ash, Armed Forces Institute of Pathology, 1947; Dr. Shields Warren, Boston, 1948; Dr. Rupert A. Willis, Royal Cancer Hospital, London, 1949; Dr. M. J. Stewart, University of Leeds, Leeds, 1951; and Dr. Lauren Ackerman, St. Louis, 1952.

"The value of these tumor seminars has been emphasized by Dr. Arthur Stout.^{437,438}

Although seminars of this sort are not new . . . the virtue and importance of the series of seminars initiated by the San Antonio group in 1944 has been to popularize such gatherings for the study of tumors so that they have been copied all over the country. This can be appreciated from the fact that since the first seminar in San Antonio, I have participated in forty-nine similar ones in fifteen other states and in Mexico. This popularity has borne fruit. The diagnostic abilities and biologic knowledge of pathologists all over the country concerning tumors has measurably increased since 1944 as I can attest from personal experience; and in my opinion the tumor seminar has been a major factor in this progress. Since a hospital pathologist is a key figure in a professional cancer education this increase in his knowledge and the awareness of tumors

has had an incomparable and great effect upon the public welfare of the whole nation.

The initiation of annual events of this kind has spread rapidly over Texas, and they are now included in the programs of such organizations as the M. D. Anderson Foundation, The University of Texas Medical Branch in Galveston, and the North Texas Pathological Society. [Written in 1953]

In 1944, Dr. John J. Andujar reported that "no official word from Texas State College for Women or North Texas State Teachers College had been received following transmittal of the resolutions adopted at the January meeting. Dr. Truman C. Terrell reported that North Texas State Teachers College was adopting gratifying steps to remedy the situation."

Dr. C. B. Sanders was requested to report at the next meeting on "the pathologic activities of the new M. D. Anderson Cancer Hospital."

Another issue also surfaced. Dr. Terrell "advised that within a week the State Medical Association of Texas would consider proposals to offer prepaid medical care benefits and that pathologists and radiologists would be included under the plan rather than under the present prepaid hospital care plans."

Articles of profound importance were published in the *Texas State Journal of Medicine* this year by Texas pathologists. Drs. Joseph M. Hill and Sol Haberman (PhD) wrote two articles on the clinical significance of the Rh Factor and its importance in transfusion reactions. Dr. John J. Andujar addressed the practical applications of the Rh Factor to obstetrics.^{439,440,441}

A time of great anticipation and apprehension awaited the Allied Armies across the Atlantic, and on June 6, 1944, they began the strategic invasion of Europe, landing at Normandy, France. It was D-Day, the beginning of the end of the war in Europe. In the South Pacific, U.S. forces were invading Saipan Island and B-29 Superfortresses were raiding Japan. In late October, the U.S. Pacific Fleet would crush the Japanese in the Battle for Leyte Gulf.⁴⁴²

In Washington in 1944, the Army Medical Museum became the Army Institute of Pathology, first as a subordinate to the Museum, January 1, 1944, and two years later, the Museum became subordinate to the "Institute."⁴⁴³ The Institute also faced an old nemesis—

yellow fever. "Almost overnight, the diseases of the tropics became an urgent specialty . . ." Henry writes.⁴⁴⁴

As the war raged on, back home routine problems were being handled by pathologists in Texas. On January 20, 1945, Dr. Charles Phillips, Scott and White Hospital in Temple, and Dr. Sidney Bohls pointed out that the new premarital and prenatal law "which should be enacted by the legislature in the next few months," would require greater activity of the Committee on Standardization of Laboratories of the Texas Society of Pathologists. There was good news on another matter: the performance of laboratories being tested for serologic tests had shown "a marked increase in quality."

Dr. J. Harvey Black reported progress on the medical examiner issue in Texas. A model bill for coroner and medical examiner in Texas had been prepared, and further legal advice was being sought before presentation to the Legislature.

Dr. John F. Pilcher, chairman of the Committee on Scientific Awards for the Texas Society of Pathologists, while reporting there was a definite need for an award and suggesting two separate awards—one for pathologists in medical schools and one for physicians not connected with medical schools—said, "In any case, it was felt wise to make no award during the present national emergency." The Society agreed.

Dr. May Owen had been appointed chairman of a committee, including Dr. Caldwell and Dr. Wallace, to initiate a collection of loan sets to be given to the library of the State Medical Association of Texas. The sets were to include slides appropriate for general practitioners interested in basic pathology and for specialists preparing for specialty board examinations. A third group of sets was to cover interesting tumors for use by pathologists.

A request of the Texas Society of Medical Technologists for an official delegate to the Society's annual convention was referred to the Society's Committee on Public Relations.

Dr. C. B. Sanders, reporting on the status of the M. D. Anderson Hospital in Houston, said that "it was the firm intention of this group to not engage in the private practice of pathology."

It was also reported at this meeting that the North Texas State Teachers College, in response to previous communications from the Society, had established an excellent four-year approved course in coordination with Terrell's Laboratories at Fort Worth. Members also were informed that the Texas State College for Women had

ignored "both of our communications on the same subject." The College was again to be written on the subject, and this time a copy of the original resolution protesting the teaching of clinical pathology on the campus of TSCW was to be sent to each member of the school's Board of Regents.

Relationships between morticians and pathologists were extensively discussed, along with the problem of adequate legal consent for autopsy—resulting in creation of the Texas Society of Pathologists' Committee on Necropsies.

Dr. Violet H. Keiller was unanimously elected to membership of the Texas Society of Pathologists this year. Although she had joined the Society in 1930, she had been inactive for a few years. Born in 1887 in Edinburgh, Scotland, Dr. Keiller moved to the United States with her family in 1890. Her father had been the first professor of anatomy at The University of Texas Medical Department, Galveston, and for many years was dean of the school from which she was graduated in 1914. One of three women in her class, she taught histology and became a professor of surgical pathology. In 1927, she joined Hermann Hospital in Houston, less than two years after it opened, where she would serve for twenty-one years and become chief pathologist. She also would be a consultant to Hermann and to M. D. Anderson Hospital and Tumor Institute (later The University of Texas Cancer Center). To be known as the "dean" of Houston pathologists, she would be consulted frequently by other pathologists, and become highly honored by her peers in all of medicine.⁴⁴⁵

Another valued member of pathology in Texas and a founder of the Society, Dr. Martha Wood was seriously ill in Houston, and a resolution of condolence was adopted unanimously. Dr. Wood was born in Eldersshade Plantation in Tensas Parish, Louisiana, in 1877. She had graduated from The University of Texas Medical Department in 1903, served an internship there and undertook graduate study at Johns Hopkins University and the Mayo Clinic, specializing in pathology. From 1904 until 1909, she remained in Galveston, then moving to Houston to become director of the clinical laboratory for Drs. John T. Moore, J. E. Clarke, and Henry A. Peterson. She also became director of the clinical laboratory and of pathology at Methodist Hospital, serving from 1933 until 1945, and headed her own laboratory and Pasteur institute. Active in many medical orga-

nizations, she also was a leader in many groups outside medicine, and in rehabilitation and child welfare work.⁴⁴⁶

The status of the War continued to cloud future plans, and the summer meeting of pathologists was left to the discretion of the Executive Committee—in case the State Medical Association of Texas did not hold its annual convention. Whatever happened, the Society agreed unanimously, it would meet again in January 1946.

On April 12, 1945, President Franklin D. Roosevelt died, and Harry S. Truman became President of the United States. On May 7, 1945, Alton L. Blakeslee, the Associated Press War Editor, wrote:

A Germany thoroughly smashed in battle surrendered unconditionally to the Western Allies and Soviet Russia at 2:41 A.M. today, finishing history's bloodiest conflict after 2,319 days.

The surrender was signed at Gen. Eisenhower's headquarters in a little red school house at Reims, France.

At least 40,000,000 men, women and children were casualties from this global war fired by Hitler's armored plunge into Poland on Sept 1, 1939. Hitler's Reich lay shattered. Victory in Europe was won—at tremendous unassessable cost in human lives and treasure.

The State Medical Association of Texas did not meet that spring of 1945, nor did the Texas Society of Pathologists.

War continued against Japan, the Potsdam conference failed to convince the Japanese they should surrender, and on August 6 atomic bombs were released over Hiroshima; on August 9 over Nagasaki.⁴⁴⁷

Regardless, some aspects of life remained normal—if a bit trying—in mainland America. On August 3, 1945, young Robert Freeman rode a bus from Austin to Houston to attend the new Fall semester at Baylor University College of Medicine—arriving in the midst of a hurricane. Only buses and trucks could maneuver streets, but fortunately upper-class students met him at the bus station and knew how to get around the flooded streets. They took him to the fraternity house, and then the dauntless students “loaded up in cars,” and made their way to Christi's restaurant.

“It was the first time I'd ever eaten shrimp,” he sheepishly laughed. Luckily, the not-so-vicious hurricane quickly cleared up, and classes began normally that year at Baylor.

Years later, after first considering surgery as a specialty, Dr. Freeman would become a pathologist, specializing in dermatopathology, and would teach both at Baylor in Houston and Southwestern in Dallas.

On August 14, 1945, the Japanese surrendered unconditionally—headlines in Texas newspapers again blaring the news in huge black type, and on September 2, 1945, the surrender was accepted.

World War II was over.

Many soldiers, including the “doctor soldiers,”⁴⁴⁸ began their trek back home; others were assigned roles in the occupation forces, and those with deferments to finish medical school and internships would just begin their stints in “the service.”

Feliks Gwozdz was released from Dachau, the German concentration camp that had tortured him for three years. Before long, he would learn that his beloved Eugenia was alive, and would make a harrowing and surreptitious journey into Poland to rescue her, and the two returned to West Germany. Eugenia would always bear the horror of her experience—the Auschwitz tattoo.

World War II had not only killed or maimed millions of people, it had devastated some of the world’s great cities—among them the very places—including Virchow’s Würzburg—where pathology had soared into greatness in the nineteenth century.

Regardless of the circumstances—and most often because of them—science during the War had continued its forward march. In a bittersweet way, the War also was pivotal in accelerating changes in pathology and medicine. The vast need for blood had precipitated advanced uses of plasma and the typing of blood had become more precise. Soldiers had had the benefits of sulfa drugs and penicillin, which had dramatically lowered the rate of wound infection compared to World War I. Plastic surgery made significant advances in rehabilitating the injured. Much follow-up work, in addition, would be related to the tragedies attributable to war, among which would be radiation illnesses suffered in the final days. There also would be new medical benefits from “nuclear medicine,” and the gain in knowledge of computer technology would lead to a profound transformation of medical technology and management.

Another factor also would broadly impact medicine and pathology. “Out of the necessities of World War II,” Long writes, “an

appreciation evolved of the acceleration that might be effected in the progress of technical research if the minds of the best men available could be brought to bear in an ad hoc way on vital problems, and if, at the same time, adequate funds could be provided for maximum utilization of their talents. Mass effort in research in World War II included a great deal of investigation in the medical sciences as well as in the field of improved methods of destruction. The achievements of the Committee on Medical Research of the Office of Scientific Research and Development and Office of Naval Research, successor to the Navy's Office of Research and Inventions, showed the power of substantial funds and pooled effort. At the same time it became readily apparent that directed research could not be expected to replace the long-established freedom of inquiry, out of which the progress of the past had emanated. And so, inevitably, the concept of large scale federal and foundational support for promising projects that had developed in the minds of investigators throughout the country, became paramount.⁴⁴⁹

"This was the concept," he added, "of what came to be known as sponsored or contractual research. It was, to be sure, by no means a product simply of war-time necessity and post-war appreciation of opportunity. The practice it represented was already well under way. Events after 1940 simply accelerated a trend that had been in course for some time." He was referring to the efforts of the National Research Council, an arm of the National Academy of Sciences, in forming liaisons between investigators and government to foster research with large funds. He also cites efforts of other groups, including the National Institutes of Health, American Cancer Society and the Armed Forces Institute of Pathology.⁴⁵⁰

Finally, there was another phenomenon fostered by the urgency of war—the accelerated training and the increase in numbers of pathologists. Soon, many of those trained in the course of war would be looking for new homes—and some would set their sites on Texas cities not yet having "community" pathologists.

Chapter 8

Pathology Sweeps Across Texas

(1945–1960)

Of necessity an historical account must be largely biographical. Men and their books have built pathology. Yet without a point of view which takes account of the major social movements of general history, no real conception of the historical development of any subject is possible.

Esmond R. Long in 1928, in *A History of Pathology*.⁴⁵¹

WARTIME FOR MEDICAL students meant accelerated time-tables to complete their degrees and short, nine-month internships. Or it might have meant participation in the Navy V-12 or Army ASTP (Army Special Training Program) with military obligations to come after graduation.^{452,453}

With the war now over, scores of returning physicians sought residency training to compensate for their compressed education.⁴⁵⁴ With more physicians entering graduate training, there also would be a growing number of formally-trained pathologists. Many would seek homes in Texas communities that had few or no pathologists.

Since the teens of the century, the “community pathologist”⁴⁵⁵ had been advocated but had not become a widespread reality. Instead, a small, but valiant corps of Texas pathologists, mostly in urban areas, had provided extraordinary “circuit-riding” or “mail-in” services to physicians in Texas and bordering states. Often, these early pathologists marked the territories they served with unwritten

agreements—and though such customary arrangements would continue—more Texas communities soon would have their own “live-in” pathologists. Of course, the long pipeline required for medical education and training—plus the interruptions to meet deferred military obligations—would stretch the migration from 1945 into the 1960s.

Pathologists spread their wings across Texas

AMONG PHYSICIANS returning home immediately was **Maynard Hart, MD**, of El Paso. A graduate of Northwestern University School of Medicine, Dr. Hart had first entered the private practice of pathology in El Paso in 1940. Then came the war, and in 1942, he joined the Army, serving with the Fifth Army Laboratory in Australia, the Philippine Islands, Japan, and the South Pacific. He was discharged in 1946 as a lieutenant colonel,⁴⁵⁶ and became the director of the clinical laboratory at Hotel Dieu Hospital, El Paso. He also would head Turner’s Clinical and X-Ray Laboratories at Medical Center of El Paso (later Radiology and Pathology Consultants) and become a consultant to Thomason General Hospital and William Beaumont Army Medical Center.

Each pathologist moving into a Texas town had a unique story to tell, but one account became especially poignant to Texas pathologists.

When the Allies conquered Nazi Germany, **Feliks Gwozdz** had been liberated from the horrors of Dachau, the German concentration camp. As a teenager before the war, he had studied both music and the basic sciences,⁴⁵⁷ and after the Allied victory in Europe, he returned to school. In 1950, he earned his medical degree from the University of Munich in Germany. With the sponsorship of Dr. Truman C. Terrell, he obtained a special agricultural visa in 1951 to move to Fort Worth with his wife and first child. The trio arrived in the United States as farm workers on the Terrell ranch at Ranger, Texas, west of Fort Worth.⁴⁵⁸

The new setting in America would nurture “an exuberant spirit and a love of life.”⁴⁵⁹

Dr. Terrell, who had become the first medical examiner in Fort Worth, soon learned that Gwozdz had a medical degree, and took him into his laboratory in Fort Worth. Initially, the young immi-

grant served as an autopsy diener—but before long learned to cut gross surgical pathology specimens and then learned microscopic pathology.

“After three or four attempts,” Dr. George Race recalls, he passed the American Board of Pathology examination, earning his certification in anatomic pathology. “He is one of the few people certified by examination who never had a day of residency,” adds Dr. Race.⁴⁶⁰

In the late 1960s, Dr. Gwozdz would become the Tarrant County medical examiner, essentially starting an office from scratch, and serving in the position more than ten years.

His musical talent also would become a thrill for Texas pathologists and others who would be treated to his “Polish Victor Borge” act and his masterful ability at the piano.

Norman Jacob, MD, who grew up in Yorktown, Texas, had planned on being a physician since he was twelve years old, and fulfilled that dream during World War II. He wanted a surgical residency, but the choice programs had been taken because of the great demand. As an alternative, he chose pathology—preparatory to taking a surgical residency. However, while serving his required military residency under the Army ASTP program at the Veterans Administration Hospital in Wadsworth, Kansas, he became inspired by Ferdinand Helwig, MD, to remain in pathology. Dr. Helwig traveled once or twice a week from St. Luke’s Hospital in Kansas City to Wadsworth, and made pathology so interesting, Dr. Jacob thought it ridiculous to do anything else. He also reasoned that if everyone else wanted surgery, *why should he?*

World War II ended during his internship, voiding the requirement that he enter active military duty, and Dr. Helwig, who knew pathologists across the country, set out to help him find a residency program. Dr. Jacob selected the University of Minnesota. After completing his residency, he moved to San Antonio to join the staff of Santa Rosa Hospital where he would remain until retirement in 1987. In San Antonio, he discovered it had been traditional since the days of Dr. B. F. Stout for hospital pathologists to also have private laboratories. For instance, Dr. John M. Moore, the first clinical pathologist at Santa Rosa Hospital, had a private laboratory with Dr. Sidney Bohls. In addition to appreciating Dr. Moore as his mentor, Dr. Jacob would enjoy the exciting camaraderie between San Anto-

nio physicians and military physicians from throughout the world who came to Brooke Army Medical Center. Among the events bringing them together was the annual tumor seminar, guided by "the professor," Dr. A. O. Severance.

In Galveston, **Kenneth M. Earle, MD**, classified as a V-12 student with the United States Naval Reserve Medical Corps, completed his undergraduate medical education at UTMB at the end of the war in 1945. A Lieutenant (j.g.), he was placed on inactive duty immediately upon graduation and remained at John Sealy Hospital in a rotating internship for a year until receiving orders to assist in decommissioning Camp Wallace, Texas. He would help with the final physical examinations of 10,000 soldiers being mustered out of the service, after which he would be sent to Houston to commission the new U.S. Naval Hospital, which eventually became the Veterans Administration hospital.

Married and with no money, he signed up for the regular Navy and asked to be trained in neurosurgery. He was assigned to a general surgery residency in San Diego, thereafter serving as the medical officer aboard the cruiser USS *Springfield*, serving off Japan and mainland China. Resuming his education at the Montreal Neurological Institute, he studied neuropathology under Dr. Wilder Penfield, and learned for the first time that the field he had long dreamt of could be a specialty. (The neuropathology boards did not begin until 1949.) He also took a general pathology residency "next door" with Dr. G. Lyman Duff, and soon was offered an instructorship in the newly developing medical school at the University of California at Los Angeles (UCLA). With a salary of \$5,000 a year, he also had the opportunity to complete his residency training.

Two weeks after his arrival at UCLA, Titus Harris, MD, professor of psychiatry at UTMB in Galveston, called, and in his typically-direct tone, demanded, "Hey, Ken, you gotta come back to Galveston. We need somebody to teach neuropathology."

Dr. Earle advised Dr. Harris he'd already signed a contract, to which the psychiatrist responded. "What's it going to take to bring you back down here?"

Dr. Earle shot back: "\$10,000 a year as an associate professor with tenure."

Unruffled, Dr. Harris retorted, "When can you come?"

At the end of the term, in 1953, Dr. Earle returned to UTMB,

and would remain to become full professor of pathology and dean of medicine—with other unimaginable adventures yet to come in his career.

George Van Zandt Miller, MD, who graduated from UTMB in the midst of war and served a war-time internship at the U.S. Naval Hospital in Corpus Christi, became the first physician to complete residency training under UTMB's approved pathology program. After finishing his studies with Dr. Paul Brindley in 1950,⁴⁶¹ he would practice pathology in Springfield, Missouri, and at M.D. Anderson Hospital and Park Plaza Hospital before joining Wilson Brown to ultimately form Brown and Associates in Houston. He also would serve as a clinical assistant professor of pathology at UT Postgraduate School of Medicine and Baylor University College of Medicine, Houston.

After several years of research at the National Institutes of Health in Washington, DC, **Lloyd Hershberger, MD**, decided the time was right for him to choose a private practice in Texas.

Born in 1911, his elementary education began in a one-room schoolhouse in Iowa. After graduating from the University of Iowa Medical School in 1938,⁴⁶² and several pathology internships and residencies plus other pathology work, he joined the National Institutes of Health in Bethesda, Maryland. From 1943 to 1946, he worked with R. D. Lillie, MD, the father of modern advanced staining techniques in tissue pathology. Dr. Hershberger's own work included considerable experimental study in malaria and other infectious diseases. Desiring more direct involvement with primary care, however, he moved to San Angelo in late 1947, joining the staff of Shannon Memorial Hospital as the only pathologist in a 200-mile circumference—"between Fort Worth and El Paso, Amarillo and San Antonio."

Illness interrupted the military duty scheduled for **Jack P. Abbott, MD**. A native of Lubbock, Dr. Abbott had finished his internship at Hermann Hospital in Houston, and was two weeks away from entering the Army following World War II when he learned he had tuberculosis. Since that was before antibiotics were available, he was sent to bed for a year. Between 1949 and 1952 he was able to participate in a pathology residency program at Baylor University

College of Medicine in Houston—with the understanding support of Dr. Stuart Wallace, chairman of the department, who knew he was part-time because of his illness. Dr. Abbott went to Methodist Hospital as a resident, and would remain as pathologist for twenty-three years. His colleagues would call him “outstanding,” and laud him for the leadership role he played in sustaining the Houston Society of Clinical Pathologists.⁴⁶³

Charles S. Petty, MD, born in 1920 in Lewistown, Montana, grew up in the Pacific Northwest and had studied pharmacy at the University of Washington in Seattle. He also was in the Naval ROTC and in June 1941, “received a triple whammy—his baccalaureate degree; his commission as Ensign, USNR; and his orders to active duty aboard a cruiser in the Pacific Fleet.”⁴⁶⁴ His ultimate goal, medical school, was postponed while he went to war. When he left active duty as a Lieutenant Commander, he felt temporarily out of step with the beginning fall term of medical school, and attended graduate school, earning a Master of Science degree in physiology.

“A Chinese professor of cytology enthused him with the desire to attend Harvard Medical School where, he said, ‘Half of the class were former members of the armed services. We had an unusual esprit de corps and posed a number of problems for the faculty as we were older and already had been shot at!’ While considering a surgical specialty, he took a mixed surgical residency at Mary Imogene Bassett Hospital in Cooperstown, New York, and at Columbia Presbyterian in New York City where one-fourth of his time was in the laboratory. He became very interested in pathology, and took three years’ training in Boston, serving as chief resident in pathology at Peter Bent Brigham, and as chief resident at Children’s Medical Center.

He also had performed his first medicolegal autopsy at the old Northern Mortuary in Boston, and after moving south to do general and surgical pathology at Louisiana State University, he was invited by the senior pathologist, Stanley Durlacher, MD, at Orleans Parish Coroner’s Office to cover for him when he left town.

“One week and thirty-nine autopsies later,” Dr. Durlacher returned, and by that time Dr. Petty was “hooked” on forensic pathology. He later also would serve as assistant medical examiner for the State of Maryland, under Russell S. Fisher, MD, who “opened my eyes to the ultimate role of forensic pathology—community medi-

cine in the broadest sense." His circuitous path would lead to Indiana and ultimately to Texas.

The new pathologists moving into Texas communities after World War II did not wait long to impart their recently-acquired knowledge. **Charles F. Pelphrey, MD**, completed his military service with the Navy and returned to Austin to join Dr. Sidney Bohls at his private laboratory. Earlier, Dr. Bohls had left his position at the State Department of Health, and had extended an invitation to Dr. Pelphrey to join him.

Having studied with Dr. Joseph Hill in Dallas, Dr. Pelphrey was well aware of the most current information on Rh testing, and found it was not being done in Austin in 1948. He quickly ordered typing serum and was the first to do the testing in Austin.

Pathology was "very primitive" in Austin then, he said, and it took several days to get pathology reports. Wanting tissues to be processed overnight and reported the next day, he bought tubing at a plumbing shop and copper screening at a hardware store. He then soldered "little carriers" for the tissue, and after doing his gross tissue work, put a string through everything, dropped the tissue into a solution, and at night took it home with him. Setting the alarm clock through the night, he would periodically move the specimens from one solution to another, and, finally, in the early morning, place them in the hot paraffin. (He also had taken an oven home, and placed it in his tool house.) When he left to go to work, he pulled out the specimens, wrapped them in paper towels, and would take them to the technicians so they could start cutting tissues. Later he was able to obtain an Auto-Technicon to do the work automatically through the night.

When he became head of the laboratory at Seton Hospital, Dr. Pelphrey found "the proverbial laboratory in the attic." The single room was lit by one electric light bulb hanging from a cord in the middle of the room, which was on the same floor the sisters used to get to their quarters in the other wing. The laboratory had one refrigerator, two day technicians and one night technician. Few tests were performed.

Later, the hospital built him a laboratory, which "began to branch out." For awhile, however, he took all the tissues to his private laboratory to process.

"When the fellows began returning from war," he said, "they

wanted better and more." His laboratory was happy to oblige. Everyone, he recalls, worked "hand in glove."

J. R. Rainey, MD, joined Dr. Pelphrey in 1952, after completing his residency with the Veterans Administration near Dallas. A staunch advocate of private laboratories, he contributed significantly to the organization of the laboratory, helping to recruit many excellent pathologists. He would become known as an outstanding leader, an effective organizer, and an "idea" person known for his ability to address difficult problems. He would make numerous contributions to the medical profession, serving in many capacities in local, state and national medical organizations, including as a CAP governor and as a member of the Texas delegation to the AMA. He particularly would devote attention to legislative matters. In his honor, the Texas Society of Pathologists' Residents/Fellows' symposium and the first place prize for the manuscript competition would be named for him.

In 1956, Drs. Pelphrey and Rainey purchased the laboratory from Dr. Bohls.

Dr. Pelphrey recalled the pathologists in Austin during the post-war era. **J. Warren Jackson, MD**, had had a laboratory in the Norwood Building when he arrived in Austin, as did a **Harold Jos. Gondolph, MD**, listed in the 1938 AMA directory as having been at the University of Mississippi, and in 1940 and 1942 in Austin.

Neither Dr. Bohls nor Dr. Jackson were formally trained in pathology, Dr. Pelphrey recalls. Dr. Jackson also provided dermatology and radiology services, and served as a part-time pathologist at Seton Hospital.

Dr. Jackson, recalled Dr. Pelphrey, was the pathologist for Brackenridge Hospital before the appointment of Dr. Bohls, and also served Seton Hospital. Frequently, he also later filled in for Dr. Bohls. When Dr. Jackson was "suddenly separated" from Seton in 1948, Dr. Pelphrey recalls, it "caused quite a flap in the Texas Society of Pathologists. I was then given a hard time by the CAP because I was offered the job, finally getting an O.K. and taking the job." He remained the pathologist at Seton Medical Center for more than thirty-three years.

Dr. Pelphrey recalled several other pathologists during the early years who contributed to the growth of the specialty in Central Texas. Although not a physician, **J. V. Irons, ScD**, the assistant

director of the Texas Department of Health Laboratories under Dr. Bohls and successor to him, was known for his research and later honored by the Texas Society of Pathologists.

Philip Flynn, MD, who completed his training under Arthur Purdy Stout, MD, in New York in the fall of 1949, arrived in Austin in November, permitting Dr. Pelphrey to go to New York for extra training. Dr. Flynn remained in Austin until July 1, 1953, moving then to Redding, California.

Thomas Gordon Price, MD, joined the Clinical Pathology Laboratory in 1956 after completing a residency in Fort Worth. In 1968 at age forty-two, he died unexpectedly of a coronary attack.

Bennett Sewell, MD, also would join Drs. Pelphrey and Rainey and would serve the Clinical Pathology Laboratories for many years until his retirement in the 1990s.

Before moving to Memorial Baptist Hospital in Houston in 1946, **R. H. Chappell, MD**, had graduated from Vanderbilt University in 1940, had completed a two-year rotating internship at Hillman Hospital in Birmingham in 1943, and served as an instructor at the University of Alabama at Tuscaloosa and as pathologist at Greenville General Hospital in Greenville, South Carolina.

His new office was in an un-air-conditioned room on the seventh-floor of Memorial Baptist Hospital. His wife Billie, a 1946 graduate of Rice Institute in Houston, helped him as medical technologist. The laboratory was hot and sparsely furnished with scarcely enough equipment to function, and the stench of mercury and other smells was strong. The Chappells used gallon salad dressing jars for specimens and autopsy gilets.

Such were the vagaries of laboratory practice in the immediate post World-War II days.

One of the organizers of the Houston Society of Clinical Pathologists, Dr. Chappell served as the group's first secretary. In December 1949, he moved to Texarkana with a contract for a diagnostic laboratory at Wadley Hospital, and would provide laboratory services for the southwestern Arkansas and northeastern Texas area—as far as ninety miles north of Texarkana and south to Center, Texas. He would be the only pathologist in Texarkana for ten years.

In 1959, he took a leave of absence with his family to serve as a medical missionary to India. **Laurence (Lee) Duncan, MD**, then arrived to serve Texarkana in his absence. Dr. Chappell and his family

returned in 1962, but he had contracted pulmonary cryptococcosis, and had a lesion on the upper lobe of his left lung, requiring a thoracotomy. It took some time to get back on his feet, and soon after, the group he had formed with Dr. Duncan dissolved. Dr. Duncan then assumed the responsibilities for Wadley Hospital, and Dr. Chappell retained the outpatient clinic. Dr. Duncan would have several partners.

Others arrived in Texarkana, including **Eugene Wicker, MD**, who would become the pathologist at St. Michael Hospital in Texarkana in 1962. Still later, **Gene Joyce, MD**, of Arkansas arrived to serve St. Michael, and, although there was no formal arrangement, Drs. Chappell and Joyce supported one another professionally.

Jack Line Smith, MD, a native of Brownsville, had been a Navy V-12 medical student during the war. The Navy had sent him through boot camp, then back to The University of Texas in Austin, and on to medical school at UTMB in Galveston. In 1948, he took a Navy internship in San Diego, leaving in May 1950 to return to Galveston. He had considered a residency in internal medicine, but had missed the deadline and the department had filled its slots. He was referred to the pathology department, which had an opening, on the premise that he could count a year of pathology for his internal medicine track. The pathology department agreed, and he signed up. Dr. Smith enjoyed the combination of intellectual and clinical work in pathology so much he remained in the field.

Spending two years of residency in Galveston, he then moved to Kern General Hospital in Bakersfield, California. Other assignments would await him in the future, and eventually he would return to Texas and Beaumont, where he would join Baptist Hospital in 1956.

As a young soldier, **Oscar Griffin, MD**, learned to be a laboratory technician in 1946 while serving in the Army at Frankfurt, Germany.⁴⁶⁵ In the fall of 1948, he entered Louisiana State University in New Orleans, and then undertook a rotating residency at the United States Public Health Service. After being intrigued by two other fields of medicine, he finally accepted the invitation of Russell L. Holman, MD, pathology chair at LSU Medical School, to study pathology with him for two years. After two more years with Ralph M. Hartwell, MD, at Hotel Dieu Hospital, he completed his graduate training in June 1957.

After conferring with **S. M. Wallace, MD**, of Port Arthur, on July 15, 1957, Dr. Griffin would begin practicing at Orange Memorial Hospital, Orange, Texas, becoming the first pathologist in the city. He would happily remain at the hospital until retirement in January 1993, part of that time also operating a small clinic that he would sell in 1995. His services would comprise both clinical and forensic pathology, including coroner's autopsies for the county.

The migration continues across Texas

JOSEPH PASTERNAK, MD, began practice in 1948 in Wichita Falls. At the time, he covered all three small hospitals in the city—the Wichita Falls Clinic Hospital, Bethania Hospital, and Wichita General Hospital, and practiced in the area from 1948 to 1954. He was noted for quoting articles published in obscure foreign journals.

"Some physicians were reportedly quite impressed by Dr. Pasternack's knowledge. However, eventually they began to 'check out' the information and found that the journals and articles did not exist. As a result, Dr. Pasternack reportedly was 'fired' by Wichita General Hospital. Because of this action, Wichita General Hospital was 'blackballed' by the College of American Pathologists and, as a result, had much difficulty attracting a pathologist to its staff." Dr. Pasternack moved to Corpus Christi.

During the interim, the city was without pathology coverage, and anatomic pathology was performed by an internist. The Wichita Falls Clinic Hospital then closed, and in July 1950, **Donald Fletcher, MD**, began practicing pathology at Wichita General Hospital. Dr. C. T. Ashworth, then of Terrell's Laboratories in Fort Worth, covered frozen sections at Bethania Hospital until **John L. Wallace, MD**, and **Eleanor Irvine, MD**, joined the staff at Bethania Hospital in 1956.

Drs. Wallace and Irvine in 1957 opened a private reference laboratory, Biomedical Laboratory in Wichita Falls, renamed Professional Medical Laboratory. Dr. Irvine would become director of the laboratory at Bethania from 1960 to 1991. **John D. Ramsey, MD**, would join her in October 1964, practicing at Bethania until 1976. He was killed in an automobile accident en route to Wilbarger General Hospital in Vernon. **Henry Owens, MD**, also practiced with Dr. Fletcher at Wichita General between July 1959 and April 1966.

Dr. Irvine had received her MD from Tulane University, and also obtained a masters degree in zoology and a PhD in anatomy. Originally, she wanted to be a teacher, and became an instructor in anatomy at Tulane—which piqued her interest in medical school. She undertook an internship at Harper Hospital in Detroit, and pathology training at the University of California in San Francisco.

Dr. Irvine would become active in medical organizations, serving on the Texas Medical Association Council on Socioeconomics and contribute to the resolution of many complex issues in the Texas Society of Pathologists. She also would be an instructor at Midwestern State University at Wichita Falls, and guide the medical technology program there, earning national recognition.

While raising children and practicing medicine, Dr. Irvine learned quickly she would need fast, efficient transportation to get around to her “circuit-riding” territories. She learned to fly and piloted herself across Oklahoma and North Texas. There were many challenges—not necessarily having to do with flying. Before cryostats, she had to carry CO₂ aboard the aircraft to use for frozen sections. Occasionally, the supply ran out, and she had to rush to the local drugstore to pick up a large tank to continue her work.⁴⁶⁶

Until Marie L. Shaw, MD, arrived in Lubbock in the mid-1950s, the first pathologist in the city, most specimens from there were mailed to Terrell’s Laboratories or to Dr. Andujar in Fort Worth, reports Louis Nannini, MD.⁴⁶⁷ Dr. George Race states that Dr. Shaw, who had trained with Dr. J. L. Goforth in Dallas, was at Methodist Hospital in Lubbock, but was recruited back to a position in Dallas. A pleasant and well-liked person, he said, she was the daughter of an osteopathic physician, and excelled at being an MD in an era when osteopaths and MDS were not very friendly.

Dan M. Queen, MD, of San Antonio, was born in Spokane, Washington and had graduated from Northwestern University in 1946. He undertook specialty training in pathology at Western Reserve, (Ohio), Stanford University, M.D. Anderson Hospital, Houston, and Baylor University College of Medicine, Houston. He also had spent a short time in the Air Force.

Jack Pruitt, MD, of Lufkin had graduated from UTMB, and served an internship at Hermann Hospital in Houston. In 1952-

1953, he was the recipient of the Violet H. Keiller Award for the outstanding physician at Hermann, and moved to Lufkin in 1954 where he operated Pruitt Medical Laboratories.

K. P. Wittstruck, MD, was appointed pathologist at Providence Hospital in Waco in 1953.

In Pampa, **Joe L. Lowry, MD**, reports that before 1957, neither the Highland General Hospital nor the Worley Hospital had the routine services of a pathologist.⁴⁶⁸ Surgeons, he said, sent specimens to various places, "depending on how they felt about the specimen."

In 1957, Dr. John Andujar of Fort Worth began covering both the Highland General and Worley Hospitals.

The Arlington Memorial Hospital opened in 1958, reports **Dudley D. Jones, MD**, of Arlington, with pathology initially covered by **John Liles, MD**, who opened a private laboratory, Western Clinical Laboratories, on North Oak Street, and provided tissue pathology for the hospital and private offices.⁴⁶⁹

In the late 1940s, **John Pilcher, MD**, moved to the Corpus Christi area, becoming the first pathologist in the region. Born in 1904 in Streator, Illinois, he had received his MD from The University of Texas Medical Branch in 1931 and served as an instructor and associate professor of pathology there. He would serve Corpus Christi hospitals, including Memorial and Spohn, and others in Taft, Kingsville, Alice, and Refugio.^{470,471}

"My understanding," writes **Joe A. Lewis, MD**, of Corpus Christi⁴⁷² "is that he came here as a representative of Terrell Laboratory in Fort Worth but shortly thereafter became independent. With the completion of Driscoll Children's Hospital in 1952, the chairman of that board, McIver Furman, MD, sought an additional pathologist, **Joseph Pasternack, MD**, who came to Corpus Christi in 1954 after he was promised both Driscoll and Spohn. His acquisition of Spohn created a split in the medical community as Dr. Pilcher was well-liked and had actually served as Chief of Staff at Spohn. Nevertheless, Dr. Pilcher ended up at Memorial and Dr. Pasternack at Spohn and Driscoll. Dr. Pasternack eventually ended up also serving Taft and Alice."

Throughout Texas, there was an expansion of pathology services as physicians explored new territories. In the Lower Rio Grande Valley, **Herschel E. Whigham, MD**, of McAllen, who had served the southernmost area of Texas since 1935, was the only individual providing pathology services in the late 1940s when **Frank M. Townsend, MD**, arrived to spend a short time there, having come back to Texas to look after his ill mother. Drs. B. F. Stout and David A. Todd in San Antonio had offered him a position as their representative in the Valley, and for awhile, he was the only formally-trained pathologist providing services there.

Then, in January 1954, **David W. Flory, MD**, who was stationed at Fort Sam Houston in San Antonio, drove to Brownsville, "It was a pretty day," he said, "and people were interested." So he decided to move, first choosing Brownsville and a year later relocating to Harlingen.

When Dr. Flory arrived in the Valley, he recalls that some hospitals were routinely sending their laboratory work to San Antonio, primarily to Dr. Todd. Dr. Flory, however, would provide services to Valley Baptist Hospital in Harlingen and Mercy Hospital (which became Brownsville Medical Center) in Brownsville; Dolly Vinsant Hospital in San Benito; Knapp Methodist Hospital in Weslaco, and the Edinburg hospital.

For awhile, he, too, was the only formally-trained pathologist in the Valley. He recalls the dedication of Dr. Whigham, who provided medical services in several specialties, including "pathology, allergy, and a couple of other specialties, and was a conscientious, hard-working man." Although Dr. Whigham was not a formally-trained pathologist, he routinely participated in continuing medical education.⁴⁷³

Another pathologist, **Charles Gordon, MD**, McAllen, would also spend three years in the Valley between 1957 and 1960.

In West Texas, **Christopher Hall, MD**, of Midland, reports that **Dorothy Wyvell, MD**, a pediatrician, arrived in Midland in the late 1940s after training at Duke University.⁴⁷⁴

"Apparently," he said, "it was quite common for pediatric residents to perform autopsies at Duke, and she did perform autopsies on some of her patients in Midland."

Dr. Wyvell did not attempt to interpret the microscopic pathology. Instead, tissues on her autopsies, and biopsies on patients

in her pediatric practice were sent to Dr. Gladys Fashena at The University of Texas Southwestern Medical School in Dallas.

Martha Madsen, MD, a graduate of Rush Medical College, Chicago, arrived in Midland in 1953 as pathologist at Midland Memorial Hospital. She also quickly founded West Texas Pathology Laboratory and started the MMH School of Medical Technology. Dr. Madsen had taken pediatric and pathology residencies at Children's Hospital, Detroit, and had served as pathologist at several Detroit hospitals before moving to Midland.⁴⁷⁵ She had several short-term associates but largely functioned independently. She performed many forensic autopsies and provided rural hospital coverage.

M. David Orrahood, MD, a native of Clarksburg, Virginia, and a graduate of Harvard Medical School in 1947, had been a pathologist for a short time in Odessa following service in the Army Medical Corps during and following World War II.

Texas pathologists readily adapted to new circumstances, and were facile in developing new techniques. **Robert F. Peterson, MD**, chairman of the department of pathology at Scott and White Hospital, Temple, reports one such adaptation in his institution toward the end of the 1940s. That was when the paraffin block technique began to be used, according to Dr. Frank Townsend, who served on the staff then. Earlier, microscopic tissue slides had been made by frozen sections from fresh tissue, stained, air dried, dipped in xylene and coverslipped with mounting media or as frozen sections cut from fixed tissue, stained with hematoxylin and eosin, dipped in xylene and coverslipped with permanent mounting media.⁴⁷⁶

In 1951, **A. C. Broders, Sr., MD**, who had been chairman of the department of clinical pathology at the Mayo Clinic from 1936 to 1951, retired and joined the staff of Scott and White. He would remain in Temple until retiring a second time in 1961. Author of numerous papers, he was world renowned for his histologic grading system of malignancies. In his name, Scott and White would establish the Albert Compton Broders Memorial Lecture Fund in Pathology.

James Cotton Stinson, MD, joined the pathology department at Scott and White Clinic in 1951.^{477,478} Dr. Stinson had graduated from Texas A&M University in 1943, participating then in the UTMB accelerated training program, and receiving his MD in 1945.

He then was commissioned a Lieutenant (j.g.) in the U.S. Navy, completed an internship in the Navy and served as medical officer aboard the USS *Chicaskia*. Upon discharge, he began a residency in pathology at the Mayo Clinic, completing it in 1952. During this era, he began a long association with the renowned Dr. Broders, who inspired him to move to Temple in 1952. Dr. Stinson would become chairman of the department of pathology in 1956, a post he would fill until 1982. He would become deeply interested in electron microscopy, and about 1970 would establish the section on electron microscopy at Scott and White. Upon retirement in 1987 he would be honored by the James C. Stinson Electron Microscopy Suite.

Texas pathologists did not avoid having fun in the course of their work during the post-war years, and Drs. Peterson and Stinson cite the antics of Donald S. Morris, MD, who was on the Scott and White staff in the late 1940s. During those days, physicians would come to watch the surgeons operate. Dr. Morris apparently enjoyed returning the specimen to the operating room to demonstrate it before the group, and then proceeded to offer a few extraneous remarks such as, "Doctor, you just removed another normal uterus."

Another pathologist, Thomas R. Sunbury, MD, arrived at Scott and White as a resident in pathology in 1955, and became a staff member in 1958. He would be director of the division of anatomic pathology from 1960 to 1981, and remembered "for his untiring willingness to help his colleagues in the daily practice of pathology. He could be very outspoken, but this was easy to accept because we knew he was almost always right."

A changed landscape

FOR PHYSICIANS returning to the medical school arena after World War II, the landscape presented a Rip-Van-Winkle puzzlement. Baylor University College of Medicine had moved lock, stock, and barrel to Houston, operating first from its makeshift quarters in a Sears warehouse. Southwestern Medical College of the Southwestern Medical Foundation in Dallas was operating out of "the shacks"—the Army barracks that had been hastily prepared for its first class in 1943.

Attendance at The University of Texas Medical Branch at Galveston had grown immensely. The school, like others, had been

asked by the Association of American Medical Colleges (AAMC) to increase enrollment by 10 percent to aid the war effort,⁴⁷⁹ and the influx of veterans flocking back for residency training spurred new growth. Ten years earlier, the school had had only four approved residency positions, and by 1946, it had sixty-nine approved residency positions.⁴⁸⁰ Meanwhile, the pathology department was beginning its first approved residency training program.⁴⁸¹

Because of the spurt of growth, there was less personal contact with older staff. Students reportedly became more goal-oriented, often working from their freshmen years toward specialization and career niches. With more funding available, there also were new opportunities for laboratory investigation.^{482,483}

Elwood Baird, MD, arrived in Galveston in 1949 to teach at The University of Texas Medical Branch. Born in 1907 in Sherwood, Michigan, he received his medical degree from Northwestern University in 1935, and took a surgical residency at Passavant Memorial Hospital in Chicago. After developing tuberculosis, he switched to pathology. War also had interrupted his plans, and he had served in the U.S. Army from 1938 to 1942, leaving with the rank of captain. He became an instructor in pathology at Tufts University and an assistant professor of clinical pathology at the University of Colorado before joining UTMB in 1949. There, he became professor of clinical pathology, director of clinical laboratories, and director of the school of medical technology. He would direct the ASCP Board of Schools medical technology program, and become a leader in the Texas Society of Pathologists and other medical groups.⁴⁸⁴

Jarrett Williams, MD, of Abilene served as an associate professor of clinical pathology, associate dean and superintendent of university hospitals at The University of Texas Medical Branch in Galveston before moving to Abilene in 1950.

In Abilene, he would establish the first clinical pathology laboratory in the region and also would begin the first blood bank. In addition, he would become known for his promotion of continuing medical education, and would serve in many leadership roles in pathology organizations; in the Texas Association of Blood Banks; the American Cancer Society, his county medical society and the Texas Medical Association House of Delegates.⁴⁸⁵

Post-war changes were also under way in Dallas, where the Southwestern Medical Foundation was seeking to enhance its

young medical school. After receiving support from the Texas Medical Association, it became The University of Texas Southwestern Medical School in 1949—the second school to belong to The University of Texas System.⁴⁸⁶

James White, MD, of Fort Worth became a student at UT Southwestern during the 1950s, and his wife worked in the pathology department. There were few professors of pathology then—Drs. E. E. Muirhead, A. J. Gill, Alice Smith—and, a little later, P. O'B. Montgomery.

He performed autopsies for the hospital and medicolegal autopsies for the city and county of Dallas. Fortunately, students—who were unlicensed—usually did not have to testify in court. There were occasions, however, when they were needed. Dr. White's roommate, for instance, testified during a case that he recalls marked the first time a person was convicted on circumstantial evidence. M. H. Mason, a chemist PhD for the city-county toxicology laboratory and who taught at UT Southwestern Medical School, helped convict the man.

"This was long before the day of plastic credit cards," Dr. White recalls, "and stores like Neiman Marcus had charge plates—aluminum plates containing the store name, and a name and address. The cards usually were carried inside a plastic or leather case. The defendant in the case was convicted when the plastic case for a charge-a-plate was found under a porch." The charge plate was treated with Kodak chemicals and exposed to fluorescent light, revealing the name of the victim.

A. J. Gill, MD, had been promoted to associate professor at Southwestern in 1947 and professor in 1950.⁴⁸⁷ He also had been intimately involved in the transition of the school from the original college to its becoming a component of The University of Texas System in 1949. During that period, plans had been drafted for the new Parkland Memorial Hospital and for the Cary Basic Science Building. From 1955 to 1967, Dr. Gill would serve as dean and chief administrative officer of the school.

"Dr. Gill's reign was marked by his characteristic patience, dedication, and equanimity. The faculty grew steadily, and individuals who now have national reputations in academic medicine joined the faculty during Dr. Gill's administration," a colleague writes. "The period preceded the days of large federal grants, with most

funds coming from the State Legislature. Early in Dr. Gill's administration, the beginnings of what became the Graduate School of Biomedical Sciences was created, and PhD programs were established in the basic sciences.

"Relations with the physicians in private practice in the Dallas community remained excellent; as an example, while dean of the medical school, Dr. Gill also served on the Dallas County Medical Society board of directors. In an atmosphere created and nurtured by Dr. Gill, members of the Dallas medical community and medical school have maintained this excellent spirit of communication and cooperation through the subsequent years. Indeed, the existence of the school in the early years depended largely on the support of local physicians who donated freely of their time and talent. By the end of Dr. Gill's term, Southwestern Medical School had risen rapidly from a small struggling school to a point of national recognition and distinction."

After serving as dean, Dr. Gill returned to the pathology department to resume teaching, maintaining frequent contact with medical students in the laboratories and in the morgue. They were "most complimentary of Dr. Gill's instructional efforts in pathology and his personal brand of philosophy. He also instructed residents on the autopsy service and served as consultant to the medical examiner's office, where "his lifelong interest in firearms and ballistics found practical application."

Dr. Gill also became vice president of the Texas Medical Association and chaired the TMA Council on Scientific Advancement, the Section on Pathology, and was a member of the Council on Medical Education and Hospitals, the Special Committee on Health Planning and the TMA House of Delegates. One of his children, **Mary Gill Bankhead, MD**, would graduate from Southwestern Medical School and become a pathologist in Corsicana.

Academia in Texas had had its famous feuds, and pathology itself was not always free of dissension. Two of its stalwarts were involved in an administrative disagreement that was no secret. The dean of Southwestern Medical School, Dr. Gill, and a member of the faculty, **E. Eric Muirhead, MD**, did not see eye-to-eye on the direction of the school. Their disagreements reportedly became so vociferous students could hear them in the hallways. Dr. Muirhead chose to leave Southwestern and would recall his years there as "difficult." He moved first to Detroit and later to Memphis, Tennessee, serving

Baptist Memorial Hospital and the University of Tennessee at Memphis—from which institutions he would retire. There, he continued his studies of renal hypertension, would publish more than 250 articles, and patent several methods of treatment. His sons later recalled his passion for science and his drive to pursue his scientific career until the day of his death on November 20, 1993.

In his later years, Dr. Muirhead would become visible to the public when he led the team performing the autopsy on singer Elvis Presley—particularly when he expressed shock afterward that the county medical examiner termed the entertainer's death a heart attack. Dr. Muirhead staunchly maintained that Presley died of "polypharmacy," or drug interaction.^{488,489}

Dr. George Race also would report that Dr. Muirhead told him Dr. Gill probably was right in the requests he was making.⁴⁹⁰

Recalling both Drs. Gill and Muirhead, Dr. Jim White observes that they "complemented each other. Both were excellent teachers." Muirhead, he said, especially "made things come to life—using all portions of the body—hands—expressions . . . he was a prince of a fellow." At the time, however, he remembers that Dr. Muirhead had been one of the few people really interested in research, and that that was how he got "cross hairs" with the administration.

Missing full-time teaching, research and the academic atmosphere, C. T. Ashworth, MD, decided to leave Terrell's Laboratories in Fort Worth in 1957 and return to teaching at The University of Texas Southwestern Medical School.⁴⁹¹ A native of Kaufman, Texas, who had been a professor at Baylor University College of Medicine, Dallas, and remained to teach at Southwestern Medical College, he became known for his orientation to patients, his compassion, and his mental acumen.

"Charles Temple Ashworth," remembers his student and later partner and friend Thomas H. McConnell, MD, "was the most brilliant man I've known. He had a clearly conceived set of principles by which he lived—regardless of cost."

"On the other hand, those who worked with him in the service of others soon saw that he expected them to adhere to his high standards. He was determined always to do his best and expected others to do likewise. And woe be to those who didn't. The dichotomy in the personality of Charlie Ashworth occurred because he was driven always to do his best and expected others to do likewise. He was

mercurial and paradoxical and generous to a fault. . . . These were the same characteristics that made him such a remarkable teacher."

"He was a wonderful teacher," reminisces **Jean Wilson, MD**, professor of internal medicine at UT Southwestern Medical School and member of the National Academy of Sciences, "one who reduced everything to the most basic level of understanding . . . he could analyze an autopsy to the molecular level and present the most mundane issue in an atmosphere of intellectual excitement."

"I recall an Ashworthian lecture on pneumonia," says Dr. McConnell. "We learned that alcoholics suffered pneumonia more commonly than others. One reason was the paralytic effect of alcohol on the cilia of bronchial epithelial cells—how marvelous was their symmetrical arrangement and that they behaved like the actin and myosin filaments of skeletal muscle, contracting and relaxing in beautiful unison to produce the wavy motion that swept clean the bronchial epithelium. Most of us would have stayed willingly for the rest of the day."

"However, Ashworth was not above making his students quake in their shoes," recalls Dr. McConnell.

A student in the late 1950s, **Wm. Gordon McGee, MD**, of El Paso recalled Dr. Ashworth as a superb academician, whose great strength had been his work in private practice. "He knew what was important, an excellent researcher who stimulated students. . . . he pulled with a ring through the nose . . . and had a heck of a temper." Students, he said, tried to interpret the status of his day by how far his chin went down his neck. "If there were four wrinkles," they knew to be cautious.

Edwin Eigenbrodt, MD, a professor of pathology at the school, "found Dr. Ashworth's open-door policy for students remarkable."

"He never made you feel you were intruding on him. And he had an extraordinary ability to turn things on and off—he could be working on a paper and be in mid-sentence when you entered. He'd stop what he was doing immediately and help you. As you left, you could look back over your shoulder and he'd be back where he'd left off on the paper. . . . I was amazed at his ability to change his different hats so quickly."

Dr. Ashworth developed the electron microscopy program at the school, and **Rolland Reynolds, MD**, professor of pathology who would do much work with him, remembers that Dr. Ashworth

had a tremendous grasp of the literature. "I learned most of my surgical pathology from him and Dr. Stembbridge," he said, "and I learned my electron microscopy from Dr. Ashworth."

Dr. Ashworth conducted considerable study on cellular changes in disease, especially with studies aimed at better understanding the role of the liver in the body's utilization of small fat droplets—deposits of which cause arteriosclerosis. His work with the electron microscope also laid the groundwork for the future understanding of endocytosis as applied to lipids and other substances.

He would publish more than 150 papers, and in 1968 establish what became AM Laboratories, continuing his career in the private practice of pathology until his death.

Alice Lorraine Smith, MD, was a student throughout World War II, having graduated *summa cum laude* from The University of Texas in 1940, and earning her doctor of medicine degree from Southwestern Medical College of Southwestern Medical Foundation in June 1946. She undertook a rotating internship and a residency in pathology at Parkland Memorial Hospital in Dallas, completing the latter in June 1950, followed by a teaching fellowship at Southwestern. She would have many appointments in pathology in both Houston and Dallas. From 1957 to 1961, she was pathologist and chief of the department of cytology and electron microscopy at Wadley Research Institute and Blood Bank. She also was a pathologist at Terrell's Laboratories in Fort Worth for one year, 1961–1962. In 1962, she would join the faculty of Southwestern and become director of the Division of Diagnostic Cytology at Parkland Memorial Hospital Laboratories. In 1976, she would become professor of pathology at Southwestern.

In addition to her original board certifications, she would be certified in cytopathology in 1989, and would co-author or author numerous articles and receive many honors including the Texas Society of Pathologists' citation of merit.

She would someday be described by Dr. Vernie Stembbridge as having personally seen more cytology specimens than anyone in the state.⁴⁹²

William Wallace Coulter, Sr., MD, of Houston, served as the county pathologist and as medical director and superintendent of Jefferson Davis Hospital. Born January 11, 1885, in Texarkana,

Texas, he graduated from Tulane University School of Medicine in New Orleans in 1908. In 1928, he had served as chairman of the Texas Medical Association's Section on Pathology, and would be a founding fellow of the College of American Pathologists.⁴⁹³ Dr. Coulter provided forensic pathology services in Houston before the formal medical examiner's system was developed there. He was a clinical professor of pathology at Baylor University College of Medicine in Houston.

Elizabeth B. Powell, MD, born in McKeesport, Pennsylvania in 1914, received her medical degree from Duke University in 1938. She interned at Duke Hospital and took a rotating internship at Baltimore City Hospital, plus a rotating internship and pathology residency at Charity Hospital, New Orleans. After serving as pathologist at Baptist and Jefferson Hospitals in Birmingham, Alabama, she had arrived during World War II at Memorial Baptist Hospital in Houston, and was a pathologist there from 1942 to 1945. She became an instructor at Baylor University College of Medicine in 1945, and an assistant professor in pathology in 1948.⁴⁹⁴

Ideas on the prairie

BEFORE TEXAS MEDICAL schools and other institutions had more spacious structures for research and teaching, they had to rely on another factor to draw leaders into their fold. Dr. R. Lee Clark of M.D. Anderson Hospital and Tumor Institute, Houston, recalls the building of that institution's programs in the 1940s.

"In those early days I had to sell an *idea* rather than a modern established institution. The physical plant at the old Baker estate would have attracted no staff member of consequence, so it was the idea—the future—that I purveyed."⁴⁹⁵

One of the individuals who accepted Dr. Clark's idea was **William O. Russell, MD**, who became pathologist-in-chief and head of M.D. Anderson's department of pathology in 1949.

The program at M.D. Anderson was to be threefold: research, continuing education, and some patient care.

The permanent headquarters in the Texas Medical Center were not to be occupied until 1954. Meanwhile, Dr. Russell began his efforts to build the institution's pathology research and continuing education program. A 1937 graduate of Stanford University, he in-

terned at Cleveland City Hospital and at the Mallory Institute of Pathology, Boston City Hospital.⁴⁹⁶ In addition to his work at M.D. Anderson in Houston, he served as professor of pathology at The University of Texas Postgraduate School of Medicine in Houston. As he sought to build the program of the cancer institute, he would confront much interesting discussion and debate.

Houston had become a mecca for a number of pathologists after World War II, many of whom were either part-time or full-time faculty at Baylor University College of Medicine.

Wilson G. Brown, MD, of Houston, born in 1914 in Bosworth, Missouri, graduated from Washington University School of Medicine, St. Louis, in 1939, and served an internship in the pathology department there. He also was a pathology resident at St. Louis City Hospital; St. Louis County Hospital in Clayton, Missouri, and was a consulting pathologist to the U.S. Marine Hospital in Kirkwood, Missouri, and pathologist at the Veterans Administration Hospital, Jefferson Barracks, Missouri. From 1947 to 1951, he was director of the laboratory and pathologist at Hermann Hospital, Houston, and an associate professor of pathology at Baylor University College of Medicine, Houston. During World War II, he served in the U.S. Army and was awarded the Bronze Star.⁴⁹⁷

Dr. Brown established a premier private laboratory with a large group of highly qualified pathologists. His group often has been lauded by pathologists for the teaching support it provided Baylor University College of Medicine when it first moved to Houston.

Melvin D. Haley, MD, who had come to Baylor with its first class in 1943 and had taught at Baylor, would remain in Houston until 1964, moving to Baytown to enter private practice in a hospital laboratory—although he would remain on the Baylor clinical staff.

Born in Hungary in 1896, **Béla Halpert, MD**, received his medical degree from the German University, Prague, was a voluntary assistant pathologist and had a Rockefeller fellowship at the same university. He also served as an instructor in anatomy at Johns Hopkins Medical School, was an assistant professor of pathology at the University of Chicago, a fellow in surgery at William Harvey

Cushing Memorial Hospital, an instructor in surgery and assistant professor of pathology, Yale University, and served as pathologist at various institutions in New Orleans and Oklahoma. In 1949, he became chief of the laboratory service at the Veterans Administration Hospital, Houston, and a professor of pathology at Baylor University College of Medicine there.⁴⁹⁸

Franz Leidler, MD, of Houston, born in 1914 in Vienna, received his medical degree there in 1938, and served a fellowship in bacteriology and an internship in pathology at Washington University, St. Louis. He also was pathologist at Snodgrass Laboratory at City Hospital, was assistant pathologist at Missouri-Pacific Hospital, both in St. Louis, and chief of laboratories at the VA Hospital at Jefferson Barracks, Missouri. He served in the U.S. Army in 1944 and 1945, and moved to Houston to become director of laboratories at Memorial Hospital in 1958, and an assistant professor of pathology at Baylor University College of Medicine, Houston.⁴⁹⁹

Ethel E. Erickson, MD, born in 1914 in Chisholm, Minnesota, trained first as a medical technologist, and focused primarily on microbiology, chemistry and blood banking from 1937 until 1943. She attended the University of Minnesota School of Medicine, and obtained additional pathology training at the Illinois Research and Educational Hospital under Granville A. Bennett, MD. With her husband, Jesse W. Hofer, MD, she moved to Houston in 1951, where she would work with Dr. Béla Halpert at the VA Hospital. From 1965 until 1969 she was the pathologist for the Sharpstown General Hospital, and in 1969 would join the Harris County Medical Examiners Office. Throughout the years, she would maintain ties with Baylor University College of Medicine, first as an assistant professor, and then as a clinical associate professor.

"She enjoyed and was well liked" by medical students, residents and staff, and was author or co-author of more than thirty publications, including a wide variety of disease processes from cardiac to gastrointestinal pathology. Active in many organizations, Dr. Erickson would take a strong role in the formation of the Houston Society of Clinical Pathologists.

Ella Eager Sheehan, MD, of Houston, a native of Stillwater, Oklahoma, graduated from the University of Oklahoma School of

Medicine in Oklahoma City, interned at Jersey City, New Jersey Medical Center, returning to Stillwater in 1950. She also served residencies in pathology at the District of Columbia General Hospital, Queen's Hospital, Honolulu, and the VA and Jefferson Davis Hospitals, Houston. She would become director of laboratories at Medical Arts Hospital of Houston for seventeen years. She was married to a physician, William L. Sheehan, II, MD.

Harold Wood, MD, of Houston, a native of Tennessee and a 1933 alumnus of Tufts Medical School had taken his rotating internship in Providence, Rhode Island, and had received his pathology training under Wiley Forbus, MD, at Duke, Kenneth Lynch, MD, at Medical College of South Carolina and H. Edward McMahon, MD, at Tufts Medical School.

During World War II, he had served four years as a laboratory officer in several naval hospitals and hospital ships. He moved to Houston in 1951 where he became an associate professor of pathology at Baylor University College of Medicine. He also was owner and president of Wood Scientific and Laboratory Medical Data, Inc., before moving to California. Active in medical organizations, he served as a governor of the College of American Pathologists.

Robert Freeman, MD, a native of Kerrville, graduated from Baylor University College of Medicine, Houston, in 1949, served an internship at Stanford, and undertook surgical, pathology, and dermatology residencies at Baylor. He would become a professor of pathology and dermatology at Baylor.

Years later, Dr. Freeman would recall the many pathologists he had known in Houston during this era, and the vast changes that occurred at Baylor from the time he'd first arrived as a student in the midst of the 1945 hurricane. Among those would be the "big change" in the pathology department after the retirement and death in the early 1960s of Dr. Stuart Wallace. In 1962, Dr. Robert O'Neal arrived from St. Louis as chair, and would initiate a new focus on research. He also would eliminate all private practice among pathology faculty at Baylor—a program that had been built primarily by practitioners since the move to Houston—and transfer dermatopathology into the dermatology department. Dr. Freeman observes that Dr. O'Neal was successful in his research endeavors until a disagreement occurred with Dr. Michael DeBakey over plans for a new

blood bank at Methodist Hospital. Dr. O'Neal then ultimately would retire to Mississippi.

In 1970, Dr. Freeman would accept an invitation to join the faculty at Southwestern Medical School. There he also would become a professor of pathology and dermatology and serve as chief of the division of dermatopathology. He later would leave the full-time faculty to become a co-founder of the Freeman-Cockerell Clinic in Dallas, but would continue to teach at Southwestern.

S. Donald Greenberg, MD, a native of Beaumont, graduated in 1954 from Baylor University College of Medicine, Houston. He served a rotating internship at Northwestern and Wesley Memorial Hospital, Chicago, and an otolaryngology residency at University Hospitals, Iowa City, Iowa, before returning to Baylor in 1956 to undertake a pathology residency. He would serve on the Baylor faculty beginning in 1962, and become professor of pathology and otolaryngology, retiring as an emeritus professor.

Dr. Greenberg would conduct extensive research in cytopathology and pulmonary diseases, including occupational lung diseases associated with asbestos exposures. In addition, he would receive numerous awards, and become the author or co-author of more than 200 publications.

F. Lamont Jennings, MD, would become chairman of pathology at The University of Texas Medical Branch at Galveston in 1953. A Minnesota native, he graduated from Indiana University Medical School in 1947, and served four years as an Atomic Bomb Casualty Commission postdoctoral fellow in the University of Chicago department of pathology. After taking an internship at the University of Chicago clinic and serving on the staff, he joined the Armed Forces Institute of Pathology, where he reviewed pathologic material from Hiroshima and elsewhere for the ABCC and supervised research on tissue effects of focal radiocobalt radiation on the skin and in the lung and kidney. Further, he helped organize work of the pathology section for the 1957 atomic bomb tests in Nevada.

At UTMB, he continued his research on pathologic effects of radiation, and investigated protein metabolism and tumor growth.

William T. Hill, MD, was born on August 28, 1924, in Hampton, Arkansas,⁵⁰⁰ and received his MD in 1947 from the University

of Arkansas Medical School in Little Rock. He completed an internship at Pearce County Hospital in Tacoma, Washington; a three-year pathology residency at the University of Arkansas in Little Rock, and an additional year of residency in pathology at Washington University in St. Louis, under the supervision of Lauren Ackerman, MD.

From 1953 through 1955, he served in the military at Fort Sam Houston.

After leaving the Army, he took further pathology training at Columbia University in New York City in 1955-1956, and was deeply influenced by his association with Dr. Arthur Purdy Stout. He was a co-founder of the Arthur Purdy Stout Club in honor of his great teacher.

In 1956 Dr. Hill and his family moved to Flint, Michigan where he was Chief Pathologist at McClaren General Hospital for approximately three years. In 1959 Carl J. Lind, MD, recruited him as an associate at St. Luke's Episcopal Hospital in Houston, and later the group, Lind, Hill, Webb, and Associates, was formed.

Dr. Hill left St. Luke's in 1967, and became director of pathology at Rosewood Medical Center Hospital, Sam Houston Memorial Hospital and West Houston Medical Center. In addition, he directed Hill & Associates, a private pathology laboratory group. He also was a clinical assistant professor of pathology at Baylor College of Medicine.

He held numerous positions in medical organizations and served as president of the Harris County Medical Society, the Texas Society of Pathologists, and the Houston Society of Clinical Pathologists. He also became a founding trustee of the Gulf Coast Regional Blood Center.

Over the years, Dr. Hill would seek to emphasize the link between the basic sciences and the clinical practice of medicine. As a surgical pathologist, his primary goal always would be patient care.

In 1995, the first Dr. William T. Hill Lecture would honor him at Baylor College of Medicine's Office of Continuing Education.

Oscar J. Wollenman, Jr., MD, born in 1912 at Corder, Missouri, had graduated from Vanderbilt Medical School in 1938, served an internship at Vanderbilt and University Hospital the following year and a pathology residency from 1939 to 1943 at the Mallory Institute of Pathology, Boston City Hospital.

In the Army Medical Corps from 1942 to 1946, he left as a lieutenant colonel and moved to the VA Hospital in McKinney, where he served until 1952. He also became a clinical associate professor of pathology at The University of Texas Southwestern Medical School, a pathologist with Terrell's Laboratories and subsequently director of pathology at St. Joseph's Hospital in Fort Worth for many years.

Ralph J. Zientak, MD, of Amarillo, a native of Chicago and 1949 graduate of Johns Hopkins University, had taken special training in pathology under Drs. Granville Bennett and Cecil Krakower. He had studied academic pathology at the University of Illinois Medical School, and had moved to Amarillo in 1957 as the pathologist at Baptist Hospital.

Frederick P. Bornstein, MD, in 1952 became the first forensic pathologist in El Paso. Born in Hamburg, Germany, Dr. Bornstein earned his degree there and later trained under Richard Jaffe, MD, of Chicago, John L. Goforth, MD, of Dallas, and Otto Saphir, MD, of Chicago. Dr. Bornstein served as pathologist for the Alton Illinois State hospital and was chief of laboratory service in the U.S. Army from 1944 to 1946. Bringing scientific forensic medicine to the area, he was the only person to perform medical legal activities in far West Texas and eastern New Mexico for many years. During his forty-four years of practice, he reportedly would perform 12,000 autopsies.

Paul M. Obert, MD, of Victoria, Texas, a native of Apache, Oklahoma, had graduated from the University of Oklahoma School of Medicine in 1947. He interned at St. Anthony Hospital in Oklahoma City, was in general practice from 1948 to 1950 in Purcell, Oklahoma, and returned to the University of Oklahoma for a residency in pathology, later serving in the USPHS from 1953 to 1956 as chief of laboratory at the U.S. Public Health Service Hospital in Galveston. In 1956, he moved to Victoria as director of laboratories of Citizens Memorial Hospital when it opened, serving there and as pathologist for twenty-six other hospitals in the South Central Texas-Gulf Coast area. He also became the owner of the Regional Medical Laboratories of Victoria, Texas.

In addition to these physicians, there were many others who actively built the specialty of pathology during this era.

Leadership and hard work

TEXAS PATHOLOGISTS were prominent in sustaining, building and recasting the infrastructure of Texas medicine during the post-war years.

In San Antonio, the respected annual tumor seminar sponsored by the San Antonio Society of Pathologists had been initiated during the war, and continued to bring world-renowned leaders of pathology to Texas.

In the fall of 1947, Baylor University College of Medicine occupied its unfinished—but nevertheless grand—structure. Standing in isolation midst thick forests on the city's outskirts, the new school would become the centerpiece for a world-renowned medical center.^{501,502}

"When Baylor moved to its new quarters," recalled Dr. Peter Marcuse, who had arrived in Houston from Berne, Switzerland, just as World War II was beginning, "the pathology department was organized and ready for lectures and courses."

A group of Houston physicians captured the post-war momentum in the city and formed the Houston Society of Clinical Pathologists.

"Many young pathologists were now coming to Houston," Dr. Peter Marcuse recalls, providing the environment for the formation of the Society.⁵⁰³

Dr. Melvin Haley of Baytown, who attended the meeting, retained his original notes from the organizational session held July 22, 1949, at the Felix Cafe on Westheimer.⁵⁰⁴ Attending were Drs. J. P. Abbott, R. H. Chappell, B. E. Copeland, J. B. Fuller, D. L. Galindo, M. B. Grossman, Schubert Knittel, Peter M. Marcuse, L. P. Ortega, W. O. Russell, L. S. Smith, F. W. Sunderman, C. B. Sanders, and J. B. Moreland (a chemist). The physicians had moved that two societies be formed, one as the Section on Pathology of the Harris County Medical Society, the same group becoming the Houston Society of Clinical Pathologists. Some opposed the idea of the section because they did not wish to be restricted to county society regulations. The initial objectives were to promote closer association of members; encourage the standardization of laboratory methods and elevate the standard of work performed in laboratories of clinical pathology; protect and promote the interests of pathologists; stimulate scientific investigation, and promote the practice of

scientific medicine by a wider application of clinical laboratory methods.

At the group's second meeting, Dr. Sanders was named president; Dr. Marcuse, vice president; Dr. Chappell, secretary-treasurer, and Dr. W. W. Coulter, Sr., was to serve on the executive council. Programs were to be presented by members with a visiting pathologist invited to an annual meeting.

Years later, Dr. Marcuse would write that although the Houston Society of Pathologists had grown into a large organization, "providing ample professional information as well as social contact" to its members, "We should not forget the pioneer work, specifically the efforts of Drs. Wallace and Wheeler that took place over fifty years ago."⁵⁰⁵

Pathologists at the helm

A POWERFUL LEADER in Texas medicine at this time and a long-time stalwart of the Texas Society of Pathologists, Dr. Truman C. Terrell of Fort Worth, was chairman of the Texas Medical Association Board of Trustees. In April 1948, a resolution had been introduced into the association's House of Delegates to move its central offices from Fort Worth to Austin. Dr. Terrell, however, opposed the move. Among his arguments was that it would be expensive and "not be politically wholesome to have the home of the Association located in the shadow of the state capitol." There were lengthy debates on the advantages and disadvantages, but nevertheless, the delegates voted in favor of the move. Another pathologist, Dr. George Turner of El Paso, then introduced the resolution authorizing the association's Board of Trustees to develop plans and specifications for a new home office building and library.⁵⁰⁶

At the dedication of the new Texas Medical Association building in 1952, Drs. Terrell and Turner stood side by side as leaders of the association—Dr. Terrell as president and Dr. Turner as president-elect. Senator Lyndon B. Johnson, expressing opposition to socialized medicine, was the keynote speaker.⁵⁰⁷ The event occurred as the Texas Medical Association completed its 100th year.

Timely, of course, but perhaps fitting as well, Dr. Nixon provided Dr. Terrell the last word in his book on the association's first century. Humble in his remarks, said Nixon, Dr. Terrell recognized his dependence on all who had preceded him.⁵⁰⁸

His life also epitomized the progress of medicine and pathology in Texas.

He had attended The University of Texas Medical Branch at Galveston until 1907, and after three years, transferred to the University of Pennsylvania School of Medicine, where he received his degree in 1911. From 1911 to 1912, he interned at Kansas City General Hospital and Medical Center, Kansas City, Missouri, and at Philadelphia Hospital for Contagious Diseases. He also undertook a residency in pathology at Philadelphia General Hospital and post-graduate work at Harvard University Medical School, Boston.

In 1913 and 1914, he had practiced medicine in Ranger, moving then to Fort Worth to become the pathologist for Harris Hospital. He left to join the faculty of the Fort Worth School of Medicine, teaching clinical pathology, bacteriology, and tropical medicine. Meanwhile in August 1915, he established Terrell's Laboratories in Fort Worth, but continued to teach.

In May 1918, he resigned from the Fort Worth School of Medicine, and entered the U.S. Army as a first lieutenant. Discharged in 1919, he returned to Fort Worth to direct operations of Terrell's Laboratories.

In 1921, he was one of the founders of the Texas Society of Pathologists, and is credited by Dr. John J. Andujar of Fort Worth as being the one who often pulled the Society together when it seemed to be struggling.

In 1932, he had been named a director of Methodist Hospital (later Harris Hospital) and subsequently was asked by the board of trustees of All Saints Episcopal Hospital in the city to help keep that hospital open. He assumed managing directorship of the hospital and for fifteen years was its only benefactor.

During World War II, he became a technical advisor for the American Red Cross Blood Processing Center in Fort Worth and served as a consultant to the State Selective Service Board.

In 1942, Terrell's Laboratories School of Medical Technology was established, and he would serve as a director of the school until 1971.

Always active in professional organizations, Dr. Terrell also served as a delegate to the American Medical Association and was on the Texas State Board of Health.

In 1965, he was appointed as the first medical examiner in Tarrant County.^{509,510,511}

Dr. James White of Fort Worth recalled Dr. Terrell as his father's physician. Through that contact, as a young man, Dr. White had traveled from Brownwood to see Dr. Terrell, who offered him a job if he attended Texas Christian University. At Terrell's Laboratories, he worked closely with Dr. May Owen. Recalling Dr. Terrell's many public activities, he added another insight. "Not many people knew he was blinded in one eye," he said, "that was the reason he stopped doing so much pathology. His microscope had flamed and burned the retina of one eye."⁵¹²

Other pathologists during the post-war years also achieved high-level posts in medical organizations. In 1946, Dr. Frank Hartman became the first president of the College of American Pathologists.⁵¹³ In 1950-1951, F. William Sunderman, Sr., MD, of Houston became president of the American Society of Clinical Pathologists.

Post-war meetings and issues

MEDICAL MEETINGS in Texas quickly returned to normal after World War II, and in January 1946, the Texas Society of Pathologists held its first meeting in a year on the campus of the new Southwestern Medical College.⁵¹⁴ One reflection of normality was the Society's annual tumor seminar led by Dr. Paul Brindley, chairman of the department of pathology at Galveston. Thirteen cases were presented, and each slide was accompanied by "mimeographed clinical summaries."⁵¹⁵

As always, Society funds remained scarce—and after income and expenditures, the balance in the treasury was \$11.18. Regardless, the Society promoted several significant post-war activities. Unanimously adopted were recommendations reported by Dr. J. L. Goforth for the Committee on Standardization of Laboratories, which oversaw serology evaluation in the state's laboratories under the aegis of the state health department. One recommendation called for publishing the interpretation of laboratory data for the benefit of physicians—leading the Society to sponsor a half-page advertisement each month in the state medical journal. Twelve members volunteered to subsidize the page, a custom that continued until 1951, when the Society would assume the cost directly—even raising dues to pay for it—despite informal reports that readership was poor.^{516,517} Dr. Louis S. Smith of Houston would emphasize the diversity of

coverage and benefits: "Is Your Staff Scientifically Progressive?" (autopsy); "Texas Dragnet" (medical examiner); "It's Easier to Kill a Texan than to Steal His Horse" (medical examiner); "Medical Technologists also Have Ethics" (ethics), "What Is Your Solution to the Shortage of Pathologists?" (recruitment); "When Is a Lymphocytosis a Neutropenia?" (hematology); "The Slide Is the Pathologist's Patient" (ethics, consultation); "Code of Ethics: ASCP" (ethics); "Medical Education at its Best" (autopsy); "I Don't Trust that Lab" (medical technologists); "Is Yours a Hospital or a Nursing Home?" (autopsy); "Negative for Cancer" (cytology); and "This One Will Kill You" (blood bank).⁵¹⁸

From a historical viewpoint, the content became a fascinating and timely reflection of both scientific, ethical, philosophic, and socioeconomic concerns. At times there was debate over content. Dr. C. T. Ashworth of Dallas stood firmly against socioeconomic advertisements and squarely behind publishing scientific material.^{519,520} Not until 1961 would the Society decide to discontinue the page, although it discussed the possibility again in 1964. It would, however, decide against sponsoring the page, citing difficulties in preparing the information, the criticism created by such a page, and the ready availability of an editorial page for the purposes.^{521,522} Cost also was a factor.⁵²³

In May 1947, the Texas Society of Pathologists decided to directly sponsor the serology evaluation project they had originated. Dr. Joseph M. Hill, director of the William Buchanan Blood Plasma and Serum Center in Dallas, was asked to make available the necessary facilities for the project in his blood center, and a committee was appointed to direct it. In May 1949,⁵²⁴ Dr. Hill reported that good serological work on syphilis was being done by pathologist members.

Dr. Hill also received kudos from Dr. John A. Kolmer, guest of the state medical association's Section on Clinical Pathology in the spring of 1948. Dr. Kolmer had examined the dried serum product prepared by Dr. Hill in his laboratory and found it "highly satisfactory."⁵²⁵ Earlier that year, Dr. A. O. Severance of San Antonio, for the Scientific Awards Committee of the Texas Society of Pathologists, had presented a scroll to Drs. Hill and Sol Haberman for their "outstanding original work" in 1946 on the Rh factors.⁵²⁶

The end of World War II brought new challenges in the field of medical technology, which had seen an acute shortage of personnel during the war.

"Reconversion problems," Dr. John J. Andujar announced, "were affecting the status of medical technology by the release of some 30,000 men trained in some aspects of medical technology in the armed services."⁵²⁷

He also advised his colleagues that the problem of inadequate training in medical technology in Texas colleges was "being worked out." Protests had been sent to the Board of Regents of Texas State College for Women [later Texas Woman's University] regarding inadequate training of medical technologists. A special committee was appointed to talk with the school's Board of Regents, and Dr. Goforth later reported the college had volunteered to change the name of its course to "major in Bacteriology and introduction of Medical Technology" and had offered "to effect certain other catalogue changes to make clear the supposed preparatory nature of the course."⁵²⁸

Relationships between the Texas Society of Medical Technologists and the Texas Society of Pathologists continually demanded attention, and at the first post-war meeting, the two groups decided to exchange delegates to help assure communication.⁵²⁹

Within months after Dr. Sidney Bohls had resigned from the State Board of Health Bureau of Laboratories,⁵³⁰ in October 1946, an informal meeting of the Texas Society of Pathologists was held in San Antonio to discuss a serious matter. Dr. John L. Goforth reported that the Texas State Board of Health had passed a motion to allow the Director of Laboratories to be "a non-medical man." He further announced that the board apparently also approved a motion to dissolve the Committee for Standardization of Laboratories. In response, the Society unanimously decided to "discontinue its affiliation with the State Board of Health in the progress of Standardization of the Laboratories in the State of Texas." The secretary was instructed to write the State Health Officer, Dr. George W. Cox, notifying him of its action.⁵³¹

In 1946, Jesse Vernal Irons, ScD, a graduate of Johns Hopkins University School of Public Health and a former research fellow at the Rockefeller Institute, succeeded Dr. Sidney Bohls as director of laboratories at the State Department of Health.

He would be credited with the growth and development of the state public health laboratory system during the mid-twentieth century. Dr. Irons conducted early studies on improved selective media for cultivation of typhoid and other enteric bacteria; introduced the precipitin test for differentiation of the principal groups of hemolytic streptococci, and devised a rapid test for diagnosis of smallpox useful in differentiating the disease from chicken pox.

Under his leadership, the state public health laboratory had been licensed for biologics production in 1936 to manufacture vaccines against whooping cough, diphtheria, typhoid, and smallpox. He also directed pioneering work in the development of technology for largescale production and distribution of smallpox vaccine made from embryonated eggs, and lead the state laboratory in adapting serological methods for field and laboratory investigation of zoonotic disease—identifying the first outbreak of Q fever in the United States and the first-recorded outbreak of turkey ornithosis. In addition, he and his colleagues found rabies in colonial bats in the United States, and he was among the first to suggest the airborne transmission mechanism of rabies among these bats.

Dr. Irons would be the author of more than ninety publications, and receive many awards, in 1968 becoming the only non-MD to receive the Texas Society of Pathologists' Caldwell Award. He also would serve as adjunct professor of microbiology at UTMB, Galveston.

A moment of sadness came for Texas pathologists on January 26, 1947, with the death of Dr. George Thomas Caldwell, beloved teacher and stalwart leader of Texas pathology.⁵³² Dr. J. Harvey Black read his memorial resolution before the Texas Society of Pathologists, which still was considering the details of its annual scientific award. The Society unanimously designated it as the George T. Caldwell Award. Later in the year, it was learned also that Dr. Martha Wood of Houston, a founding member and director of one of the state's first private laboratories, had died.⁵³³

An issue frequently raised during this period pertained to "free" laboratories, and in 1948 a letter from a representative of the David Graham Bell Foundation brought the issue to the fore. Emphasizing to the medical public the desirability of free serodiagnostic tests for syphilis, the letter writer stated, the "majority" of clini-

cal pathologists had been contacted by the author of the letter and favored the free sero-diagnosis of syphilis. Some pathologists felt "this was a gross misrepresentation of their position, and decided that the legislative committee for the Texas Society of Pathologists should meet with Dr. George Cox, State Health Officer, to "look into the matter."⁵³⁴

Smear diagnosis of cancer was something new on the horizon, and at the January 1948 meeting of the Texas Society of Pathologists, Dr. Truman Terrell asked whether the Society would arrange for instruction on the technique.⁵³⁵ A telegram had just been received from Dr. George N. Papanicolaou expressing his hope that physicians "would fully evaluate the procedure before passing an opinion as to its merit and also expressing belief in its usefulness as a diagnostic procedure." Members were to meet with the Texas Division of the American Cancer Society, which was developing guidelines on the techniques involved.⁵³⁶

Also in 1948, Dr. R. Lee Clark of M.D. Anderson Hospital in Houston proposed a new idea that stirred debate. He invited the Society to co-sponsor the establishment of a tumor registry in Texas,⁵³⁷ citing a successful registry in the state of Washington. Five members were appointed to consider the program—but the discussion was to have a long way to go.

The committee, headed by Dr. May Owen, later reviewed the M.D. Anderson proposal, and reported the institution hoped to enter into an arrangement with the Society and the State Health Department.⁵³⁸ Pathologists, she said, would serve as curators or directors of the collected material, and the members of the Texas Society of Pathologists would furnish slides on all cases of malignant tumor. Clinicians would provide clinical information from patients to the collecting center, and the material was then to be subjected to study and statistical observation. The collected slides also would be available for postgraduate use.

Fear was expressed by the committee that "a major obstacle would be introduced in the preparation of these for mailing, and in seeing that clinical information would be made available." Furthermore, the committee said, "many private physicians have informed the members of this committee that they would object to the furnishing of their patients' names to be used in such a compilation of material and would object to questionnaires and other methods of follow up study which might be applied to these patients."

The committee also "considered it quite possible that a dangerous situation might develop as the result of the establishment of such a tumor registry, because of the possibility of this body becoming a quasi-official source of histological diagnosis within the state affecting the treatment of patients throughout the State of Texas." If this were to occur, the committee felt "a very deleterious effect upon medical practice might be produced because of the endangering of the positions of the practicing pathologists in the matter of rendering pathological diagnosis, and also because of the delay in treatment which might be occasioned by the subjecting of the pathologist's opinion to the proposed tumor registry."

There was concern, however, that cooperating with M.D. Anderson "might be a step in the direction of federal control of medicine." Recalled was the situation that developed when the Texas Society of Pathologists participated with the State Department of Health in the serological evaluation study, "eventuating in a cursory dismissal of the representatives of the Texas Society of Pathologists by the State Board of Health from the committee."⁵³⁹

An August 16, 1949, a letter from Dr. Russell contained a statement embodying "a fundamental policy" on tissue diagnosis that had been agreed upon by M.D. Anderson Hospital and The University of Texas Board of Regents.

"As you see," he wrote, "this policy depends upon the local pathologists being able to do free tissue diagnosis on the same basis as does the referring physician. I am certain that if this is understood, there will be no difficulty."⁵⁴⁰

The policy attached to the letter stated it was not the intent of M.D. Anderson Hospital to supply a free tissue diagnosis service in Texas, noting that it was in the best interest of cancer patients to have available assistance for local pathologists, and that in the case of indigency such cases would be referred to the pathologist practicing in the area in which the patient resided.

Because the Texas Society of Pathologists has pledged its members to render their services for tissue diagnosis on indigent patients free and on the same basis as does the referring physician, there is no need for a free tissue diagnostic service in the state. It is the opinion of the Director of the Anderson Hospital and the President of the University of Texas that the cooperation of pathologists in the state cancer program is essential to its best function, and policies that further this aim will be pursued.

The University of Texas Postgraduate School of Medicine and the M.D. Anderson Hospital will receive pathological specimens for research and educational purposes as submitted by pathologists. It is felt that such a service of registering pertinent cancer cases in a central repository for research and educational purposes is of prime importance in the cancer program and will assist pathologists in their important role in it.⁵⁴¹

Foreshadowing a frequent future concern of Texas pathologists, a court ruling in the 1940s had led to legal advice that hospitals could no longer rent space or equipment to pathologists or radiologists and remain tax exempt.⁵⁴² Further, hospitals were advised they ran the risk of losing their tax-exempt status if the pathologist or radiologist were paid on a percentage basis. There was disagreement among attorneys on the issue, but the problem was confusing and portended a change in the traditional payment methods and the relationships between pathologists and hospitals.⁵⁴³

The Texas Society of Pathologists remained vigilant in its efforts to assure sound medical legislation, but occasionally a problem slipped by members. In 1950, Dr. Truman Terrell reported the preceding Texas Legislature had passed the prenatal and premarital laws without the knowledge of the legislative committee of the Texas Society of Pathologists or the Texas Medical Association and "in fact, without much knowledge on the part of anyone."^{544,545}

There were other changes on the horizon. The College of American Pathologists at this time was developing laboratory standardization procedures, and Dr. Joseph Hill observed that the Texas Committee on Standardization of Laboratories, which had grown from ideas projected during the earliest meetings of the organization,⁵⁴⁶ had paved the way for the College program. The following year the Society voted to disband its committee.

Troubled also about reimbursement for consultation fees, the Texas Society of Pathologists in 1950 appointed a committee to meet with Blue Cross-Blue Shield of Texas "to point out the desire of our society to have them pay pathologists' fees."⁵⁴⁷ In this situation, the Society was seeking to have fees paid through Blue Shield, which covered physicians' fees, rather than through Blue Cross, which paid for hospital and other services.^{548,549}

By 1955, Blue Shield had agreed to pay the pathologists' fees "under certain circumstances in the diagnosis of malignant disease."⁵⁵⁰

In 1956, Dr. John J. Andujar of Fort Worth reported mutual cooperation between Blue Shield and the Texas Society of Pathologists, and felt the day was coming when clinical pathology would be paid through Blue Shield.⁵⁵¹ He stressed the necessity of keeping the Society's objectives before Blue Shield so pathologists would be paid as physicians. A letter came from Dr. Everett C. Fox, Dallas, chairman of the Blue Shield Medical Advisory Group, to Dr. Sanders, reporting a "very satisfactory meeting with the Committee of the Texas Society of Pathologists," and noting a better understanding of mutual problems had been developed.

There would be many future meetings with the insurance carrier as pathologists fought to assure they were paid like other physicians, rather than as services of a hospital.

The discussions in the 1950s were interesting precursors to those that would follow a decade later with the expansion of government health care programs.

War returns too soon

WHILE LIFE IN America was returning to "normal," war suddenly reappeared in the headlines. On June 25, 1950, using Soviet-built tanks, North Korea invaded South Korea, which had been held by the United States since the close of World War II.⁵⁵² The invasion launched a conflict that again would send American troops into war, this time under the United Nations' command led by General Douglas MacArthur. The "limited war" became a bitter shock to Americans who were accustomed to total victory.⁵⁵³

During the Korean conflict, television was still in its infancy and rare in American homes. Viewers who had television sets saw only black and white on their screens; only late in 1950 did the Columbia Broadcasting System receive authorization to begin color broadcasts.⁵⁵⁴ Years later, however, the medical aspects of the Korean War would be typified on screen by the unwilling military surgeon, "Hawkeye," and his physician colleagues in the television series *MASH*.

There was more than a grain of truth in Hawkeye's reluctance to be in Korea. "The need for medical personnel became acute," Pat Ireland Nixon reports, "and for the first time in its history the medical profession of Texas fell short of its obligation. This obligation rested chiefly on those young doctors who had been deferred in

World War II so as to finish their medical education and on those eligible doctors who did not serve in World War II. A special offer of an additional \$100 per month was made, without avail, to volunteer doctors. . . . Already many medical reserve officers were being called." The Texas Medical Association met to deal "with the embarrassing situation. But little came of the meeting except to establish a closer relationship with the armed forces and the Council on National Emergency Medical Service of the American Medical Association, and endorse a bill before Congress, previously endorsed by the American Medical Association, providing for the drafting of doctors, dentists and other specialists."

"The drafting of doctors in Texas and the United States was something new and not altogether palatable, but here it was. The law was passed on September 9, 1950, and October 15 was set as the date for registration of those doctors under fifty years of age who were trained at government expense, those who had served less than twenty-one months in the military forces, and those who had not served at all."⁵⁵⁵

The draft situation developed largely because of confusion, not a desire to avoid service, many ASTP and V-12 students having been advised by the government they had no further military obligation. Dr. Jack Line Smith of Beaumont, in fact, thought he already had fulfilled his obligation to the country as a participant in the Navy's V-12 program. Suddenly, however, as a reservist, he was called back into the Navy.⁵⁵⁶

"You couldn't be unhealthy enough not to get in," he laughs, "diabetes, ruptured ear drums, and so on kept you out of World War II service, but if you were a doctor, not out of Korea."

He left to serve as a pathologist on the hospital ship *USS Consolidation*, spending a year and a half at Inchon, Korea. Clearly the long tail of an earlier war had been extended into his future, and it also would delay the plans of other pathologists. After completion of his second stint in the Navy, Dr. Smith returned to take a year of residency at Hermann Hospital in Houston, became an associate in pathology at St. Luke's Hospital for about a year, and in 1956 relocated to Baptist Hospital in Beaumont where he would be the only pathologist until 1958. Then **Frank Chapman, MD**, joined him.

Specter of socialized medicine

THE PATCHWORK QUILT of American medicine was being re-sewn in many ways. At a Texas Medical Association meeting just preceding the North Korean invasion, G. V. Brindley, MD, of Temple, observing that Texas had three excellent medical schools, warned against socialization of medicine and federal domination of medical education.⁵⁵⁷

Issues between pathologists and hospitals continued to be sore points during this era, and in 1951 in Fort Worth, one disagreement interfered with the selection of a physician into membership of the Texas Society of Pathologists. Harris Memorial Hospital had barred pathologists, radiologists, and anesthesiologists from serving as officers of the medical staff or voting for such officers and from serving on the medical board.⁵⁵⁸ Dr. Andujar cited the last canon of the College of American Pathologists' Code of Ethics, and observed that pathologists must be able to serve on the medical board of their hospitals, and, on that premise, he was opposed to admission of a colleague because the hospital itself discriminated against pathologists. Further, Dr. Andujar declared, the hospital had issued a formal statement to the newspapers claiming that the three specialties were only 'hospital services' provided by 'hospital service personnel.' The statement apparently had never been retracted and "was so startling that the Board of Governors of the College of American Pathologists had printed it without comment in a special bracket on the front page of the Secretary's Bulletin." Dr. Andujar, however, reported that following the visit by the College's Secretary, the hospital had made promises of improvement. Drs. Severance, Ashworth, Wallace, and Fitzwilliam also met with the Harris Hospital board, learning that the regulations had been amended and that there was "no longer discrimination against pathologists, radiologists and anesthesiologists; they were now eligible to the Medical Board and even as trustees and had full medical staff equality and could be elected to any office." Hospital authorities also had promised there would not be any exploitation of the pathologist. Likewise, in Wichita Falls, it was reported that a previous problem with discrimination there had improved, and apparently there no longer was a sign of staff or hospital discrimination.⁵⁵⁹

Fee schedules often became items of concern. In one situation, a physician billed physicians as well as patients, and charged more

for collecting specimens than if the attending physician had collected the specimens.⁵⁶⁰ Here, Texas pathologists disagreed with the College of American Pathologists' position that fee schedules were in bad taste and subjected the patient to exploitation. A Texas committee, appointed to ascertain customary fees around the state, found that some form of printed fee schedule was not uncommon. **Herman B. Williford, MD**, of Beaumont stated the average fee was not fixed, that there was no general effort to fix fees, that fee schedules were not generally distributed but given other physicians only on request. Further, dual fee schedules stated the specific work that had been done. It was not common usage to bill the physician a fee different than that going to the patient, however, there were instances when this was needed.

The committee found that pathology was the practice of medicine subject to medical law, and in this instance, subject also "to the ethics of organized medicine." Finding no violation of ethics, however, the committee recommended that any fee schedule should be formally printed, and that a specific enumeration of specific fees was to be stated.⁵⁶¹

In 1951, **Miss Dorothy Patras** of Fort Worth and **Miss Dorothy Lee** of Dallas, respectively representing the Texas Society of Medical Technologists as president and president-elect, met with the Texas Society of Pathologists. Miss Patras spoke of the pending bill a group of technicians (AMT) was now sponsoring in the legislature seeking to license technicians in the state and in effect to approve their independent operation of clinical laboratories. She stated that the ASCP registrants who made up her membership were working actively in opposition to licensure, had contacted their individual legislators and were also working with Mr. Phil Overton.

The Society voted unanimously to "formally record our unalterable opposition to state licensure of technicians, and so inform all appropriate parties." The Executive and Legislative Committees were instructed to "mobilize all the resources of the society against the proposed law."⁵⁶²

Subsequently, Misses Lee and Patras both became physicians and pathologists.

In 1952, the Texas Society of Pathologists approved the concept of providing dentists the same privileges as doctors of medicine

in "having so-called free tumor diagnosis on indigent patients." In reality, it was noted, members of the Society had been providing this free service for many years.⁵⁶³

In 1952 also Dr. John L. Goforth, Councilor from Texas to the ASCP, chided his colleagues, observing that they worked well together in the state but paid little attention to "things outside the State." He noted that members of our Society had talent, but they were not necessarily well known elsewhere. He thought something should be done about it.⁵⁶⁴ Later, his colleagues nominated him as president of the American Society of Clinical Pathologists, a post to which he was elected.

In 1955, through the efforts of the Texas Society of Pathologists and the Texas Medical Association, working with Representative Robert Baker of Houston, the Texas Legislature passed a bill allowing county commissioners in four Texas locations—Dallas, Fort Worth, Houston, and San Antonio—to set up a medical examiner's system. In June 1955, San Antonio became the first to establish a medical examiner system in the state, with **Robert Hausman, MD**, the director. Shortly thereafter Harris County established a system with **Jerald Clarke, MD**, as medical examiner.

As in the past, from time to time, members of the Texas Society of Pathologists became concerned about delicate local situations. In 1953, a discussion occupied "almost an hour of rather energetic discussion by many members present." The governing board of the Robert B. Green Hospital in San Antonio had requested an opinion from the Society concerning the ethics of a pathologist sending a private tissue procedure to a tax-supported institution and also whether it was a common practice for pathologists in tax-supported institutions to receive work from private patients. It was noted, however, that "without privilege of supplementing their income from private work, our instructors in pathology would not be able to continue with teaching as a profession. An opposite opinion "hinged" on the fact that pathologists who were in true private practice would be forced to support pathologists in teaching institutions through taxes and would be competing for private work without having the risks and investments such as the private pathologists do.

Voices of caution followed, and options used in other hospitals were cited, including implications for medical schools, implications of interference in a local situation, and the question of Socialism. Ultimately the matter was referred back to the San Antonio Society of Pathologists. Though perhaps not as open as they would become, "town-gown" perspectives nevertheless did creep into relationships from time to time, and many years later would become acute in Houston and Galveston.

Perhaps it was timely that Dr. B. F. Stout of San Antonio, recalling the history of the young pathology specialty in Texas, pointed to the integration of pathology that had taken place during his lifetime.⁵⁶⁵ It was important, he said, "that we realize the true definition of pathology. It is not strictly morphology, because a knowledge of morphology alone would be of little gain; the true scientist wants to know the reason for these morphologic changes. Therefore, the pathologist must invoke the aid of bacteriologists, biochemists, and other correlated scientists. The rules requiring the examination of all surgical material and a minimum number of autopsies, together with clinicopathologic conferences, established by the American College of Surgeons for laboratories of recognized hospitals, has resulted in the integration of the clinical with the pathologic aspects."

He also lauded the teaching departments of the medical schools, "because these are of fundamental and paramount importance in preparing students for the practice of medicine. Splendid men have devoted themselves to teaching; others, just as capable, have worked in the field as general pathologists. Both the teachers of pathology and those who practice it in hospitals and private laboratories have closely integrated their various activities for the mutual benefit of all.

In 1953, Dr. Paul Brindley's wife, Anne, of Galveston, also summed up the history of pathology in Texas in light of the department of pathology at The University of Texas Medical Branch at Galveston. She particularly noted the amount of staff support since the days of Dr. George Dock.⁵⁶⁶

"We can safely assume, since we have no records, that Dr. Dock, the first pathologist in Texas, had no assistance of any sort, because his successor in the field, Allen J. Smith, had only one, part-time janitor whom he paid himself. When Dr. Hartman resigned in

1928, there were three doctors on the Staff—Paul Brindley, C. B. Sanders and W. L. Howell; and there were three technicians. . . .” There still was no secretary and only one attendant, she said, to help with autopsies and cleaning. “The Department had moved from its two offices and laboratory in the west end on the second floor of the Old Red Building to the then spacious quarters on the second floor of the new Laboratory Building, presently called the Keiller Building. In 1953, there were seven full-time physicians on the staff, six technicians and five secretaries. In 1947, a second professor, **R. H. Rigdon, MD**, was appointed professor of pathology and experimental pathology and the pathology department had overflowed from the second floor down into the basement, where his laboratory was located.”

Until 1939, surgical and clinical pathology had operated independently at UTMB. Dr. Jarrett Williams, later of Abilene, became the first clinical pathology director from the pathology staff, and Dr. Truman G. Blocker, a surgeon and later President of UTMB, became the last surgeon to do surgical pathology.⁵⁶⁷

In 1953, there were four residents in pathology, and the departments of surgery, internal medicine, and radiology were sending all residents to pathology for four to six months of training.

Expansion of blood services

IN THE 1930s and during World War II, pioneering research was done on blood, plasma, and blood products by Drs. Joseph Hill, Sol Haberman (PhD), and E. Eric Muirhead.⁵⁶⁸ Their work—supported by many others—provided additional breakthroughs before, during, and following World War II. The technology on determining Rh factors was reported in the *Journal of the American Medical Association* in 1945 and was universally adopted for use. Baylor University Medical Center was the first hospital in the world to have a routine blood typing service.⁵⁶⁹

Although a system had been developed to ship blood efficiently to battlefields, the need for efficient distribution for domestic emergencies became acutely evident in the springtime of 1947.

“On the morning of April 16, 1947, the *Grandcamp*, a French freighter, was docked at the Monsanto Chemical Company in Texas City, along with another ship, the *High Flyer*. They were both

loaded with ammonium nitrate, a volatile fertilizer. Early in the morning, a fire broke out on the *Grandcamp*. Without being aware of the potential seriousness of the fire, the ship's crew tried to contain it by battening down a hatch, after which they intended to turn on live steam in hopes of smothering the blaze. Suddenly, the ship exploded. About two-thirds of Texas City was destroyed, and the resulting series of explosions left 512 dead and thousands injured. There were not nearly enough beds in the diminutive Texas City Hospital nor in the clinics, themselves badly battered and without electricity. The need for blood was immense, and significant problems were encountered in rushing blood to the disaster-stricken community.⁵⁷⁰

John D. Milam, MD, of Houston, while president of the American Association of Blood Banks, recalled the story of the Texas City disaster that shocked Texans in 1947. According to founding members, the Texas City disaster stimulated the organization's establishment seven months later in Texas. Among the founders were Drs. Eric Muirhead, Joseph Hill and Sol Haberman. The AABB created a nationwide network of blood banks, with regional clearinghouses, to facilitate the use of blood and its products.⁵⁷¹

While working with more than 700 units of blood collected from victims of the Texas City disaster, Drs. Hill and Haberman in 1948 discovered the "little d" blood factor.⁵⁷²

In Dallas, in 1951, Dr. Hill sought and received support from the Wadley family to establish the J. K. and Suzie L. Wadley Blood Bank and Research Institute adjacent to Baylor Hospital, the primary goal of which was to find a cure for leukemia. During the 1960s, however, the availability of blood remained a problem in the city, and Parkland Hospital developed an aggressive blood donor recruitment program. To some degree there was a competitive situation for the inadequate supply of blood coming from donors.

The value of the all-volunteer donor program became evident with the recognition that the transmission of viral hepatitis was significantly higher in paid blood donors. Blood testing, once a simple process of typing, crossmatching and testing for syphilis, had grown more and more complex continually involving new tests. When the autoimmune deficiency syndrome (AIDS) appeared as a major threat in the 1980s, institutions would have to apply another screen to assure the safety of the blood supply. Government standards and

regulations then would be imposed on the existing voluntary approaches in blood services.

L. Ruth Guy, PhD, of Dallas writes that the Parkland Memorial Hospital Blood Bank actually had begun in 1951, "with the donation of a round Jewett Blood Bank Refrigerator by the Women's Auxiliary of the hospital."⁵⁷³

"The Auxiliary stipulated that blood would never be bought or sold and that the responsibility of blood replacement was the duty of the friends and families of the patients served. No public appeal for blood donations was permitted at this time."

The School of Medical Technology was established in 1954, and from 1968 to 1987 there was a program leading to certification in blood banking. "The staff was recognized as being one of the best in the country," she said, "and a number of awards and recognitions were received."

The hospital's blood bank was among the first to be certified by the American Association of Blood Banks, and later a number of staff served as volunteer inspectors for the AABB program. The Bureau of Biologics also used the blood bank as a training base for new inspectors.

Dr. Guy recalls that blood components and plasmapheresis were added to the blood bank services in 1968. Often the Women's Auxiliary "came to the rescue," and in 1976 it donated the first mobile blood collection unit. She retired as associate director in 1978, succeeded by Edwin A. Steane, PhD, who formalized the blood bank rotation for residents in pathology, giving them broader experience and more responsibility. When he left in 1989, **Laurie Suter, MD**, succeeded him on an interim basis followed by **Harold Kaplan, MD**, as director.

In 1981, the hospital administration took over the funding and the management of the Donor Blood Center.

During the 1990s, the Wadley program, which would have undergone some strife, would be redirected and modernized, and renamed BloodCare. The Parkland program would experience severe cost increases because of the tougher testing, documentation, record-keeping and blood processing requirements, and the two organizations would consolidate under the BloodCare rubric.

In Austin, Dr. E. Eric Muirhead helped the physician members of the Travis County Medical Society develop a blood bank in the

Central Texas area. Raleigh Ross, MD, of Austin, as president of Travis County Medical Society had overseen the initial development, and had invited Dr. Muirhead to come down and talk to the Society. Dr. Charles F. Pelphrey recalled that there were maybe 120 physicians in Austin then, and each signed a note "standing good" for \$100. Dr. Sidney Bohls then was named nominal director, although Dr. Pelphrey recalls performing the actual work. Travis County Medical Society borrowed money and began the operation "in the basement of Sam Todaro's building behind the state Capitol on Congress Avenue in the early 1950s."

In the 1950s, Dr. Oscar O. Wollenman of Fort Worth felt the need for blood was going to expand, and had sought the help of the Amon Carter Foundation in establishing the blood bank there. It was formally established in 1959. Previously, each hospital collected its own donations, and Dr. Wollenman felt much was being wasted. **Margie Peschel, MD**, would become director of the program and remain for many years until her retirement in 1995.

Across the state, others continued efforts to make an ample supply of safe blood available. Pathologists often were at the helm or on the boards of blood banks in San Antonio, the Permian Basin, the Valley, Amarillo, Wichita Falls, Waco, and other areas.

In Beaumont in 1957, Dr. Jack Line Smith founded the Community Blood Bank there, which would become the Blood Center of Southeast Texas in 1962, and later affiliate with the Louisiana Blood Center of Shreveport. There was never a need for a public money campaign, nor radio nor television appeals for emergency donations. Later General **Raymond O. Dart, MD**, retired director of the Army Medical Museum, would head up the facility.

In Houston in 1958, the Southwest Blood Bank was selling blood, and it would require fifteen years' effort to achieve a satisfactory blood bank there. Drs. William T. Hill, William O. Russell, Carl Lind, and Franz Leidler first sought to define the problem and promote change.

Founded in 1974 as the Gulf Coast Regional Blood Center, the "new and independent regional blood center," recalls Dr. John Milam, a member of the founding board, responded "to the need for an adequate supply of high quality blood and blood components that would be available for patients who needed blood transfusion"

in the rapidly growing medical community. "To enhance the safety of blood transfusion, we maintained that the blood which was to be transfused to our patients must be from individuals who were voluntarily donating their blood. The expansion of world-recognized medical center hospitals and three medical schools, combined with an explosion in high technology in science and medicine, compelled us to reevaluate our regional blood banking system. Many things have changed, but the commitment by our community to support a voluntary blood donor system, and by the dedicated health care professionals at The Blood Center has not changed." Dr. Milam also cited the strong support of the Harris County Medical Society.⁵⁷⁴ (The blood bank later would be renamed The Blood Center.) In 1995, Drs. Hill and Milam would be the last remaining members of the founding board.

"The twentieth century has been filled with medical marvels," concludes Dr. Vernie Stenbridge. "Antibiotics, magnetic resonance imaging, laser surgery, medical computerization and miniaturization, organ transplants and on and on. There is one unique item, widely and commonly used, which has a single source provider and has defied all attempts at synthesis—namely, BLOOD and blood products."⁵⁷⁵

Armed Forces Institute of Pathology and the Texans

DURING WORLD WAR II, a man who became familiar to Texas pathologists, later Major General Elbert DeCoursey, organized and directed the 18th Medical General Laboratory, which served the Army in the Pacific. After World War II, he became a member of the Joint Commission for the Investigation of the Effects of the Atomic Bomb in Japan, and on July 31, 1949, director of what had recently become the Armed Forces Institute of Pathology. Earlier in the year,⁵⁷⁶ the name change for the Army Institute of Pathology had been approved, the Institute had become a central pathology laboratory for all the Armed Forces, and was to be relocated to the Walter Reed reservation as an independent unit under the command of the Surgeon General of the Army, with a Board of Governors made up of the three Surgeons General.⁵⁷⁷

Colonel DeCoursey became a vigorous proponent for the Institute's struggle for a new building, the plans for which also in-

cluded making it bomb resistant. Ground was broken in July 1951, and General DeCoursey presided at the ceremonies.⁵⁷⁸

A graduate of the University of Kentucky, with his MD degree from the Johns Hopkins University School of Medicine, he had joined the Medical Corps of the Army in 1929, had served as pathologist at several major Army hospitals, and had been active in research in the field of atomic energy and radiobiology.

One component under his command was the A-Bomb Unit, which was processing all pathologic material and case histories collected by the Atomic Bomb Casualty Commission in Japan in a fifty-year followup study. By the end of 1954, it had received thousands of specimens from Hiroshima and Nagasaki. Already, in 1949, because of the confusion in naming neoplastic diseases, the Institute and other organizations had begun publishing the "Atlas of Tumor Pathology."⁵⁷⁹

Under his tenure, the organization and staffing of the Department of Pathology also was completed, and he left as director of the AFIP in July 1955, to become the Commandant of the Army Medical Service School at Brooke Army Medical Center, Fort Sam Houston, Texas.⁵⁸⁰

"In succession," the editors of the AFIP newsletter wrote, "he became Commandant of the Army Medical Research and Graduate School (now Walter Reed Army Institute of Research); Director of the AFIP; and Chancellor of the Army Medical Service School at Fort Sam Houston, Texas, now named the Academy of Health Sciences. MG DeCoursey is the only officer in history to direct all three of the Army's medical educational institutions."⁵⁸¹

Following retirement, he became the first director of research at Trinity University, San Antonio, and an emeritus professor of biology. He also became chairman of the "Committee of 100" to promote the establishment of what became The University of Texas Medical School at San Antonio, where he also served as clinical professor of pathology and ophthalmology.

Dr. DeCoursey was succeeded by another Texan, Colonel Carl Tessmer, MD, of Houston, director of the AFIP branch responsible to the ABCC. Dr. Tessmer would be named an honorary member of the Texas Society of Pathologists.

Dr. Frank M. Townsend became interested in pathology as a student at Tulane, New Orleans. He had spent his last year at Char-

ity Hospital, and was hired also to draw blood at Baptist Hospital in the early mornings; to help with autopsies; and, as a part of the emergency room work, ride ambulances. He took an internship in New York, and then World War II intervened. He was sent to Panama, and later Japan. After the war, he was reassigned to New York, and worked with the New York medical examiner's office, after which he undertook a pathology residency at Washington University in St. Louis and then studied under J. P. Tollman, MD, professor of pathology and bacteriology and later dean at the University of Nebraska.

When his mother became ill in 1947, he returned to Texas to care for her. Drs. B. F. Stout and David Todd in San Antonio, who had contracts for services in the Lower Rio Grande Valley, sent him there to help for a few months. In addition to Dr. Herschel Whigham, who provided some pathology services, he was the only pathologist in the Valley for that period.

At that point, he joined Scott and White Hospital in Temple at an opportune time—the institution was moving from use of frozen sections to paraffin blocks.

Dr. Paul Brindley, whose brother was a surgeon at Scott and White, then invited him to John Sealy Hospital to set up a similar system. He recalls having to take over the nurses' dressing room to set up the pathology department near the operating room.

Dr. Townsend had been in the Army Reserve, and when Korea came along in 1950, he joined the Air Force. At Lackland Air Force Base, a basic training facility where troops were being rapidly processed, he soon was assigned to open a regional hospital, taking a forty-bed facility and making it into a 1,000-bed hospital overnight. Staff had to be quickly assembled. Orange crates and whatever could be found for furnishings were used to put the facility together.

Such were the beginning days of a long career that would take Dr. Townsend to the Armed Forces Institute of Pathology in Washington as the director and lead him to the chairmanship of the department of pathology at The University of Texas Health Science Center, San Antonio.

Colonel Townsend served as AFIP director from August 1, 1959 to 1963. Since 1954 he had been "the Consultant in Pathology to the Surgeon General of the Air Force, and a Deputy Director of the Institute for four years. He especially was active in the newly developing field of aviation pathology, and the even newer field of bioastronautics."⁵⁸²

"Like everything else connected with space exploration, bioastronautics, as space medicine is beginning to be known," Henry wrote, "is growing in interest and importance. In connection with man's entry into space, the Institute has conducted studies of radiation, decompression, rapid acceleration and deceleration, and hypoxia, and the correlation of basic sciences with such specialized studies. The results are made available to Project Mercury, particularly through the membership of the Director of the Institute on the team of medical specialists that support the manned flights of the project." Colonel Townsend participated in the arrangements and conduct of the flights of astronauts Shepard, Grissom, Glenn, and Carpenter.

Many years later in the 1990s another physician **Colonel Michael J. Dickerson, MD**, who had been stationed at Wilford Hall Air Force Base in San Antonio also would be AFIP director.

Activity at UT Southwestern

ONE OF THE individuals whom Dr. Townsend called for help at the AFIP was **Vernie A. Stembridge, MD**. Dr. Stembridge had served a rotating internship at the U.S. Public Health Service Hospital in Norfolk, Virginia, and residencies in pathology at both UT Medical Branch at Galveston and the Oak Ridge Institute of Nuclear Studies, Medical Division, in Oak Ridge, Tennessee. In 1952, he joined the faculty of The University of Texas Medical Branch at Galveston, serving until 1956 as assistant and later associate professor of pathology.

In 1956, Dr. Townsend, as deputy director of the Armed Forces Institute of Pathology in Washington, D.C., invited Dr. Stembridge to join his staff, and he then entered the Air Force as a senior pathologist at the AFIP. As the first chief of the aviation pathology section, he pioneered methods for investigating aircraft accidents by autopsying crash victims, and received the Legion of Merit, the nation's second highest peacetime award, for exception-

ally meritorious service for his contribution to military aircraft safety. Discharged as a major in 1959, he joined UT Southwestern as associate professor of pathology and Parkland Memorial Hospital as director of the surgical pathology division. From 1960 to 1976 he was director of the Tumor Clinic at Parkland and in 1961 was appointed professor of pathology at the school. In 1966 he became acting chairman of pathology and in 1967 chairman of pathology and director of the clinical pathology laboratories at Parkland. He also played an active role in the development of the physical plant at UT Southwestern. After stepping down as chairman in 1988, he became acting dean of the Southwestern Allied Health Sciences School for two years. He was the first recipient of the Senator Betty and Dr. Andy Andujar Chair in Pathology at UT Southwestern, and was awarded the Ashbel Smith Professorship in 1991.

Dr. Stembridge was a trustee of the American Board of Pathology for twelve years, and served as president. He also served as president of many other organizations, including the American Society of Clinical Pathologists (ASCP) and the Association of Pathology Chairmen, and was a recipient of many leadership awards, among them the Ward Burdick Award of the ASCP and the George Caldwell Award of the Texas Society of Pathologists.

"One of Dr. Stembridge's most valuable contributions to the Dallas community," recall his colleagues, "was his work with county officials to establish a medical-examiner system. He and other physicians suggested that the medical examiner's office be located on UT Southwestern's campus and staffed by doctors who met the criteria of the medical school faculty. This became the prototype for many national and international forensic centers. In addition, he lobbied for new legislation to provide access to a medical examiner in Texas's sparsely populated areas."

At UT Southwestern, a Stembridge Scholarship Award is presented annually to an outstanding senior medical student in pathology at the school, and an endowed distinguished chair has been established in his name.⁵⁸³

Bruce D. Fallis, MD, grew up in Fort Worth near the Texas Christian University campus where his father was chairman of the Speech and Drama Department. He received his undergraduate degree from Texas Christian University *summa cum laude* in 1948, and graduated *cum laude* from Washington University School of

Medicine in St. Louis in 1952. He was an intern at UTMB under Dr. Paul Brindley, and served as instructor in biochemistry and physiology there.

In 1954, he became the first Sarah Mellon Scaife Fellow in Pathology at the University of Pittsburgh with Frank J. Dixon, MD. Serving two years in the U.S. Army at Fort Meade, Maryland, he then joined The University of Texas Southwestern Medical School in 1957 as an assistant professor of pathology. He was promoted to associate professor in 1962 and to professor in 1966.⁵⁸⁴

Dr. Fallis taught the sophomore pathology course to more than 2,600 medical students, introducing the subject material each week with imaginative narratives accompanying "his superb collection of Kodachromes." He would be remembered for his thorough, meticulous and exacting gross necropsy reviews.

In 1964, Dr. Fallis published his *Textbook of Pathology*, later adopted as the pathology text for Southwestern Medical School. With Robert D. Ashworth, MD, he was co-author of the *Textbook of Histology*, published in 1970.

"Dr. Fallis," wrote his colleagues, "has a genuine love for his students and their admiration for him has been demonstrated on many occasions. He has received the sophomore award for distinguished teaching on six occasions. One year he was named distinguished teacher by both the freshman and sophomore classes."

Dr. Fallis was awarded the Piper Professorship in 1973 for "Outstanding and Scholarly Achievement," and an endowed student scholarship has been established in his name.

John H. Childers, MD,⁵⁸⁵ born in 1923 in Bogata, Texas, received his MD from UTMB in 1946, and served a rotating internship at Santa Rosa Hospital, San Antonio. He also took postgraduate education in pathology at Santa Rosa Hospital under Drs. John M. Moore and Sidney W. Bohls, and had further training in the U.S. Army at the Army and Navy General Hospital in Hot Springs, Arkansas, after which he was assigned to duty in Berlin, Germany. He later returned to UTMB to complete his pathology training under Dr. Paul Brindley, and was appointed to the faculty. He was director of surgical pathology at UTMB and John Sealy Hospital until 1960. In addition, he was director of the Tumor Clinic. He moved to Dallas in 1960, to become director of the pathology department at St. Paul Hospital. He also served as a clinical professor of pathology at

UT Southwestern Medical School, and in 1979 returned to teaching full time, becoming professor at the school and associate director of surgical pathology at Parkland Memorial Hospital.

He would write many scientific articles, especially related to neoplastic disease, and co-author a chapter on Renal Pathology for a major pathology text. He also would receive many honors, including the first Paul Brindley Distinguished Professorship in 1982, and the UTMB Ashbel Smith Distinguished Alumnus Award. The Texas House of Representatives in 1988 would pass a special resolution honoring him.⁵⁸⁶

George J. Race, MD, was born March 2, 1926, in Everman, received a master of science in parasitology in 1953 and was graduated from Southwestern Medical College of Southwestern Medical Foundation in 1947. He received his pathology training at Duke University with Wiley Forbus, MD, and at Harvard Medical School with A. J. Hertig, MD, and G. J. Dammin, MD. He was a flight surgeon during the Korean War and following the war was a pathologist at hospitals in Boston and Florida. He became an assistant professor of pathology at UT Southwestern Medical School and assistant pathologist at Parkland Memorial Hospital. Dr. Race also worked for a time at Terrell's Laboratories in Fort Worth, later returning to The University of Texas Southwestern Medical School to teach. In 1959 he became chief of pathology and director of laboratories at Baylor University Medical Center in Dallas.

At that time, he guided the laboratory from a manual operation to an automated one, and from being a small community hospital to a very large one. He would be the author of more than 150 books, chapters, and articles, plus a four-volume textbook series, *Laboratory Medicine*, involving more than 100 authors in the United States and abroad. Dr. Race would retire as pathologist-in-chief and director of Baylor's laboratories on July 1, 1986, after which he would serve as chairman of the Baylor Research Foundation. He would serve as the dean of the A. Webb Roberts Center for Continuing Education in the Health Sciences and as associate dean for continuing education and professor of pathology at UT Southwestern. He also would earn a doctorate in anatomy and microbiology from Baylor University.

A George J. Race Endowed Chair in Pathology Research would be established at Baylor University Medical Center in his name.

Dr. Race's wife, Anne Race, MD, and their four children are all doctors of medicine.⁵⁸⁷

Dorothy Patras, MD, of Fort Worth would become the second woman to hold the presidency of the Texas Society of Pathologists. Before becoming a physician, Dr. Patras had been a medical technologist and had served as president of the Texas Society of Medical Technologists. A native of Pennsylvania, she had been working for Dr. John J. Andujar in Fort Worth when she decided to attend medical school, with his support and blessing. She then received her medical degree from The University of Texas Southwestern Medical School, took a residency with Ed Gall, MD, at Cincinnati General Hospital, and later served as chief pathology resident at Bellevue Hospital in New York. For six years she would serve as dean of the School of Medical Technology of Texas Christian University and Harris Hospital in Fort Worth. Dr. Patras also would initiate the formal newsletter of the Texas Society of Pathologists during her 1973 tenure as president.⁵⁸⁸

Dr. Patras, as had other pathologists working in their laboratories, had conducted scientific research including investigation of thalassemia and acanthamebiasis. She also published an article on amebic encephalitis in the *American Journal of Clinical Pathology* in 1966.

Active in several medical organizations, she would participate in political activities and run for political office on the Republican ticket.

First Caldwell Award by the Texas Society of Pathologists

IN 1955, THE FIRST Caldwell Award of the Texas Society of Pathologists was given posthumously to Dr. Paul Brindley, who had been chairman of the UTMB department of pathology for more than twenty-five years. Dr. Brindley had been "aware of the accolade prior to his death. Both Drs. Caldwell and Brindley were in poor health, and it is likely that the award would be known today as the Brindley Award had he predeceased Dr. Caldwell."⁵⁸⁹

In 1956, Dr. Beecher F. Stout was chosen as the second recipient of the Caldwell Award, but due to illness was unable to be present at the banquet in his honor.⁵⁹⁰ Dr. J. Harvey Black of Dallas accepted the award on his behalf.

Science and change in the mid-1950s

SCIENCE CONTINUED its forward march in the era that had often been dominated by the fear of polio as hospital rooms heaved with the sounds of iron lungs. There was, however, a sign of hope. In February 1954, Jonas Salk's formalin-killed polio vaccine was first administered to school children in Pittsburgh, Pennsylvania.^{591,592} In 1954, the Nobel Prize for Medicine and Physiology went to Drs. John Enders, Thomas Weller, and Frederick Robbins for their research in polio virus culture.

Earlier, in 1952, Dr. Selman Waksman was awarded the Nobel Prize in Medicine and Physiology for his work leading to the discovery of streptomycin.⁵⁹³ Also, in January 1955, two new drugs were announced: reserpine and thorazine, both having been used with some success in treating patients with mental disorders.⁵⁹⁴

New technology also would have an influence on the practice of pathology, and one example became evident when M.D. Anderson Hospital and Tumor Institute in Houston in 1956 added mammography—soft-tissue roentgenography of breast to its diagnostic x-ray armamentarium.⁵⁹⁵

Texas pathologists remained vigilant in assuring the application of sound scientific principles. In one example in 1956, Dr. Sidney Bohls pointed out that no one could "contract syphilis from food and therefore the food handlers of the State of Texas should not have the requisite of having a serologic examination for syphilis in order to obtain a Health Certificate." The Texas Society of Pathologists then adopted a position that serologic examination should not be required for cosmeticians, "beauty operators," barbers, or food handlers to obtain a health certificate for Texas licensure.⁵⁹⁶

A new rule regarding osteopathy

OSTEOPATHY OFTEN HAD been a matter of discussion among doctors of medicine, and in 1956, Dr. Truman C. Terrell reported the following Texas Medical Association memorandum to his colleagues in the Texas Society of Pathologists:

The Board of Councilors being cognizant of the fact that there are some members of the Texas Medical Association practicing with or for osteopaths and in view of the Principles of Medical Ethics

and as repeatedly interpreted by the Judicial Council forbidding such relations; does hereby declare:

- (1) That working with or for osteopaths either directly or indirectly by consultation, laboratory or radiological procedures is unethical; and
- (2) does hereby direct the component county medical societies to investigate such practices and where existent to take appropriate action according to the Constitution and By-Laws of the Texas Medical Association.”⁵⁹⁷

Later, in 1959 pathologists would be informed that the Texas Medical Association’s Board of Councilors had ruled that diagnosing tissue specimens for osteopaths constituted consultation with them. The Board recommended that routine tissues from osteopaths should be referred to the osteopathic pathologist, **George Miller, DO**, of Dallas.⁵⁹⁸

Medical examiner systems finally emerge in Texas

WHILE TEXAS PATHOLOGISTS worked toward achieving their statewide medical examiners’ system in the post-war years, **Joseph Jachimczyk, MD**, of Connecticut was setting out to become a “hot shot” surgeon—the “glamour boys” then, he chuckles. Like others, he knew the better surgeons took a pathology residency, and planned a summer course in pathology in anticipation of his fall surgical residency. Naturally, he became so interested he remained in the field—though his new girlfriend (who would become his wife) thought pathologists were “a little weird.” In a way, he said, that was true at the time, pathologists typically hidden away in the subbasements of their institutions.

While at Harvard obtaining his forensic pathology training, he also attended Boston Law School, where he learned how to handle himself on the witness stand. He lacked eight hours completing his law school degree when Dr. Richard Ford at Harvard called him in and presented an opportunity in Texas.

Although he thought it a bit preposterous at first, he visited Houston, saw the need, and knew he would have a contribution to make. On June 1, 1957, he became the first formally trained medical examiner in Texas. In 1960, he was named the chief medical examiner for Harris County.

By 1995, Dr. Jachimczyk's staff would investigate 250,000 deaths, about half of which would require autopsies.

Dr. Jachimczyk would not retire from his position until August 31, 1995, at the age of seventy-one, after thirty-eight years on the job, "a leading pioneer in the science of forensic medicine, developing many of the state-of-the art techniques used in the field today." He would play an "integral role in the development of a crime lab for the living, extending the traditional role of the forensic pathologist as criminologist, conducting traditional crime lab investigations in the administration of justice."⁵⁹⁹

Later he would say forensic pathology was taken out of the dark ages and the subbasements into the penthouse, and he became the first living medical examiner to have a building named after him—the new home of the medical examiner in Houston. Meanwhile science, he says, was brought into the courtroom as he set up a scientific and procedurally efficient program, and encouraged "any and all" to review cases. The program included criminalistics, including use of DNA, and the county's database.

Dr. Jachimczyk would train a number of medical examiners who would serve other cities, including Giles Sheldon Green, MD, Las Vegas, Robert Bucklin, MD, in Austin and Los Angeles for a time, and Roberto Bayardo, MD, medical examiner for Travis County.

A native of Connecticut, Dr. Jachimczyk had graduated from the University of Tennessee College of Medicine in 1949, participated in several internships and residencies, and became assistant medical examiner of Maryland, director of laboratories at the United States Public Health Hospital in Brighton, Massachusetts, and teaching fellow in the Department of Legal Medicine at Harvard University. He also earned a law doctor degree from Boston College Law School and a bachelor's of theology from the University of St. Thomas. He would hold a number of academic appointments—including Baylor College of Medicine and The University of Texas Medical School at Houston—and continue to teach after his retirement.

Attorney General rules on corporate practice of medicine

THE ATTORNEY GENERAL of Texas, Will Wilson, had rendered an opinion on the corporate practice of medicine on October 16, 1957, providing an opinion requested by M. C. Crabb, MD, Sec-

retary of the Texas State Board of Medical Examiners (then in Fort Worth) regarding the Corporate Practice of Medicine.

Dr. Crabb, in his original letter, had asked two questions: (1) Is a physician subject to having his license forfeited under Article 4505, if he accepts employment by a corporation on a salary or commission basis, and the corporation charges for the services that he performs? (2) . . . would the corporation be considered as being engaged in the unlawful practice of medicine?

In summary, the Attorney General said, **"Whenever a corporation employs a licensed physician to treat patients and itself receives the fee, the corporation is unlawfully engaged in the practice of medicine and the licensed physician so employed is violating the provisions of Subdivision 12, of Article 4505, Vernon's Civil Statutes, and is subject to having his license to practice medicine in this State canceled, revoked, or suspended by the Texas State Board of Medical Examiners."**

Goodbyes

The deaths of pioneer leader Dr. Beecher F. Stout and Dr. Frederick Charles Coleman were reported in 1956. Both were from San Antonio.⁶⁰⁰

Old topics in new forms

NEW SCIENCE OFTEN brought twists in old problems, and such was the case in the field of cytology during the mid-1950s as certain lay groups were attempting to provide cytology services. Dr. Lloyd Hershberger called for members of the Texas Society of Pathologists to "fulfill their responsibilities by providing diagnostic service in the field of cytology in their own community. . . ." He also discouraged "central stations" established for cytologic diagnosis.

Dr. Truman Terrell introduced a letter from an Austin physician about the general encroachment on private laboratory practice by the State Health Department Laboratories in Austin, pointing out they were accepting blood samples for serology without any requirements that the patient be certified as indigent or that the service requested was not available to the doctor and patient in their own home town or in a nearby laboratory at reasonable and custom-

ary rates. It was noted also that other body excreta were submitted on the same basis as blood.

The correspondent wrote: "The result of this policy is the creation of several avoidable and unnecessary evils which might be enumerated as follows: (1) creation of an entirely unnecessary tax burden to support the budget of the department, (2) the inexcusable invasion of the field of private practice with the encouragement of the idea of state medicine to supply ordinary medical needs that individuals can much better supply themselves, and (3) the pre-occupation of the limited staff and personnel in the performance of these unnecessary services . . . used to the detriment and actual limitation of services the health service SHOULD perform." The Society, it was pointed out, should take note of the future of state medicine and its gradual encroachment upon private practice and be well aware of legislative events.

The Pre-Paid Health Plan Committee, reported Dr. John L. Wallace, had seen no new developments during 1956, and direct payments to pathologists under the military dependents "medicare" program did not seem possible at this time in states where the pathologist's fee was customarily included in the total hospital bill rather than being submitted directly to the patient.

In discussing the "medicare" program later, Dr. Lloyd Hersherberger pointed out that payment was being made through Blue Shield, and Dr. John Andujar cited the advances that the Blue Shield Insurance Plan had made.⁶⁰¹

Specialization and other signs of the times

DR. JOHN L. GOFORTH of Dallas observed in 1957 that the American Society of Clinical Pathologists now recognized that the "most important thing today is a program of 'continuing education,' adding that leaders in special fields were pushing cytology, microbiology, isotopes, clinical chemistry, hematology, immunohematology and forensic pathology and that these specific workshops would be set up so the pathologist could stay abreast of modern scientific trends.⁶⁰²

The name of the Texas Medical Association Section on Clinical Pathology had been changed, upon request by the Texas Society of Pathologists, to simply the Section on Pathology.⁶⁰³

The cost of the Annual Caldwell Dinner for the Texas Society

of Pathologists in 1957 was \$7 per person; and if members chose to go dancing in the Empire Room of the Statler Hilton Hotel and to see a floor show starring Billy De Wolfe, the cover charge was \$2.50. Reminiscent of the times was a note from the secretary of the Society, Dr. Mervin Grossman, then of Dallas: "Don't forget—this meeting is planned with the wife in mind. Bring her to Dallas for the banquet, for dancing, for the Ladies Auxiliary meeting and luncheon. Mrs. J. L. Goforth is in charge of local arrangements."⁶⁰⁴

In 1958, there was an inquiry to the Texas Society of Pathologists concerning a medical school graduate who did not hold a Texas license but had completed four years of approved residency in pathology and had been accepted for examination by the American Board of Pathology. The correspondent asked whether a Texas license was needed if the individual worked in a laboratory and limited work to diagnosis only. The Texas Society of Pathologists felt that this was a question for the Texas State Board of Medical Examiners."

Dr. Crabb responded:⁶⁰⁵

If this individual comes to Texas and works in a laboratory and limits his work to diagnosis, he is practicing medicine and will have to have a license. I quote from the Medical Practice Act —

Article 4510 - Any person shall be regarded as practicing medicine within the meaning of this law

"(1) who shall publicly profess to be a physician or surgeon and shall diagnose, treat, or offer to treat, any disease or disorder, mental or physical, or any physical deformity or injury, by any system or method or to effect cures thereof;

(2) or who shall diagnose, treat or offer to treat any disease or disorder, mental or physical, or any physical deformity or injury by any system or method and to effect cures thereof and charge therefore, directly or indirectly, money or other compensation; provided, however, that the provisions of this Article shall be construed with and in view of Article 740, Penal Code of Texas, and Article 4504, Revised Civil Statutes of Texas as contained in this Act."

In answer to your second inquiry, anyone who does pathology and makes a diagnosis is practicing medicine. In other words, a person practicing laboratory medicine will have to have a license.

Summary—No one can do pathology in Texas without a license.⁶⁰⁶

Based on the response from Dr. Crabb and the previous ruling by the Attorney General, the Texas Society of Pathologists formulated a set of principles, which the "membership might strive for so that we might practice pathology without violating the laws of the State of Texas."

A mimeographed copy of "Statement of Principles governing relations of pathologists and hospitals in Texas," was distributed to members, and read by the secretary. Dr. Goforth cited four specific goals that all should work toward: (1) attempt to have the pathologist's name on all statements submitted to patients within the hospital; (2) discourage any outside laboratory work in the hospital and open a private office if such work be done (3) all pathologists actively discourage payment of professional fees by Blue Cross, and (4) all pathologists invite colleagues in their community to apply for a staff membership in the institutions in which they practice.

Timely topics on cancer and cytotechnology also were considered by the Texas Society of Pathologists in 1958, and two films were reviewed, the American Cancer Society's "Time and Two Women," and "The Human Cell and the Cyto-Technologist." Dr. E. Eric Muirhead of Dallas, chairman of the scientific program, introduced speakers, Drs. John Wallace, Heinrich W. Neidhardt, Maynard Hart, and Stewart Fish, who discussed exfoliative cytology, after which Kodachrome slides were shown and a panel answered questions.

Fee schedules

DR. WOLLENMAN, REPORTING in 1959 for the Pre-Paid Health Committee of the Texas Society of Pathologists, cited activities against the Forand bill and spoke for "bringing about its defeat." Dr. Childers noted that during the year the Society would be called upon to render its fee schedules to the Committee so "a unit fee system can be evolved to aid the Texas Medical Association in preparing to meet this problem."

Dr. Wollenman also discussed the unit fee schedule and its implications, noting that California already had developed a relative value fee schedule based on points, that Kansas had one, and that the American Medical Association had a strong interest in developing

one. Such an approach would be debated and denigrated long before it once again became popular in the late 1980s.

More goodbyes

A PIONEER TEXAS pathologist born in 1890, Dr. Charles Franklin Carter, died in 1957. Dr. Carter had attended the Fort Worth School of Medicine, and Baylor University College of Medicine, Dallas. He had briefly conducted a general practice, worked later for Terrell's Laboratories in Fort Worth, and eventually opened his own laboratory in Dallas. At the time of his death he was owner and director of Carter's Clinical Laboratory in the Medical Arts Building in Dallas. He was a charter member of the American Society of Clinical Pathologists and was a Fellow in the College of American Pathologists.

During World War I, he had served with the Medical Corps of the U.S. Navy, stationed in New Orleans, and he was the author of two textbooks: *Principles of Microbiology* and *Microbiology and Pathology*. He had just finished revising the latter for the sixth edition at the time of his death. The first edition of *Microbiology and Pathology* appeared in 1936. In the last two editions Dr. Alice Smith was co-author.⁶⁰⁷ Dr. Smith would still be publishing these popular texts in the mid-1990s.

In 1959 also word came that Dr. J. Harvey Black of Dallas, a founder of the Texas Society of Pathologists and highly regarded national leader in pathology, had died.

And the migration continues

WRAY STOREY, MD, arrived in Odessa in October 1959, and would work until retirement in 1982. He would conduct many forensic autopsies and cover multiple rural hospitals. He also would be a pathologist at Medical Center Hospital with David Dawson, MD, and Kris Challapalli, MD, who would arrive in 1975. Later he also would serve at Odessa Women's and Children's Hospital.

In Corpus Christi in 1959, Dr. John Pilcher was able to hire an associate, James Sisson, MD.⁶⁰⁸

In the summer of 1959, Carl J. Lind, Jr., MD, retired from the Army with the rank of colonel and moved to Houston as director of

laboratory service and chief of pathology at St. Luke's Episcopal Hospital. He became known as an outstanding medical staff leader, would be elected chief of staff for six consecutive years, and would be a leader in many local, state and national organizations. He would serve two terms as a governor of the College of American Pathologists.⁶⁰⁹

Dr. Lind, born in Minneapolis in 1909, had graduated from the University of Minnesota Medical School in 1933 and completed an internship at the Detroit Receiving Hospital. His graduate education included two-and-one-half years of surgery, one year of radiology, and pathology training. He entered the Army in October 1940, serving as pathologist and then as chief of laboratory service at Walter Reed Army Hospital, Washington, D. C., "regarded by many as the Mecca of medicine in the World War II era." He later served as Commanding Officer of the Medical Laboratory in Heidelberg, after which he became director of laboratory service at Fort Sam Houston, followed by service as the senior pathologist at the Walter Reed Army Hospital. He graduated from George Washington Law School in 1957 and served as a consultant in medical-legal affairs to the Surgeons General of the military forces.

"His effective leadership," writes Dr. John Milam of Houston, "is well recalled by medical colleagues who witnessed his style as a commander in the Armed Forces and who served under his command."

A powerful era ends

SINCE THE CLOSE of World War II, pathology had swept across Texas. The number of pathologists listed as members of the Texas Society of Pathologists had more than doubled from that in the midst of World War II. A map published in the *Texas State Journal of Medicine* showed there were eighty-five Texas physicians engaged in the practice of pathology in the state by 1956. Houston had the highest number at 15; Dallas, 12; Fort Worth, 11; San Antonio, 8; Galveston, 5; Temple, Austin, Beaumont, El Paso, 4 each; Fort Sam Houston, 3; and Harlingen, Brownsville, San Angelo, Midland, Abilene, Lubbock, Amarillo, Wichita Falls, Waco, Jacksonville, Texarkana, Corpus Christi, Tivoli, Bellaire, Port Arthur, 1 each.^{610,611}

The late 1940s and the 1950s often are remembered as complacent times, but what a powerful era of expansion and growth they had

been! There had been an explosion of scientific research and knowledge—from vast advances in the understanding and use of blood to the development of the artificial kidney; from the development of the computer to advancements in nuclear medicine. The space program in its infancy was on the cutting edge of new discovery.

A word of caution, however, came from Dr. John L. Goforth of Dallas in 1959. Pointing to the stimulus of the National Institutes of Health and noting that more than one billion dollars would be spent by 1970 on research, he said:

“We must make our nation realize not only money is necessary, but wisdom in spending it.”⁶¹²

Chapter 9

"Happy Days" Merge With Troubled Times (1960–1965)

As the century from the 1860s to the 1960s can be classified as the era of cellular pathology, so can the next few decades be expected to see the development of studies within the cell, or so-called molecular pathology. With its rich heritage from the past, the Institute today finds itself in the forefront of the newer developments.

Lt. General Leonard D. Heaton's Foreword
in Robert Henry's book, *The Armed Forces
Institute of Pathology; Its First Century*.⁶¹³

IN JANUARY 1960, President Dwight D. Eisenhower declared in his State-of-the-Union speech that this year would be the most prosperous in the America's history.⁶¹⁴ There were signs of hope and progress throughout most of America.

Science and technology were bringing more revelations to light both abstractly and literally. Light, in fact, was being turned into energy. For some time, Russian and American scientists had been working on the concept of the laser and this year the American Theodore Maiman demonstrated the first one.⁶¹⁵ The early 1960s also would bring relief to the dread and suffering caused by poliomyelitis as Albert Sabin's live attenuated virus vaccine became licensed for use in the United States in August 1961.⁶¹⁶

Having nurtured social and scientific revolution, however, the post-World War II years now gave way to a new era of unrest that

would divide America. For Texans, the 1960s would become a time of both exhilaration and despair—soaring to heights unknown with development of the space program in Houston and sinking to the depths of despair with the assassination of an American president in Dallas.

Except for the stirrings of advanced automation in laboratory operations, the issues in Texas pathology, however, remained the same. They could be categorized broadly as (1) assurance of quality; (2) fair reimbursement or payment for services, and (3) clear recognition of pathologists as physicians. In each area, there would be a few rocky roads ahead.

There were, however, new faces joining familiar ones in Texas pathology—new faces to help with the old challenges. Despite the underlying changes, there was continuity and a sense of normality.

Among the new faces was **Domingo H. Useda, MD**, who chose 1960 to make his home in McAllen, in the Lower Rio Grande Valley of Texas. Born in 1926 in León, Nicaragua, he had obtained his bachelor of science degree in 1948 and his medical degree in 1952 from the *Universidad Nacional de Nicaragua*, the valedictorian of his class. After an internship at Touro Infirmary in New Orleans and a pathology residency at Grady Memorial Hospital in Atlanta, he had come to Texas to complete his training with Dr. A. O. Severance at Baptist Hospital in San Antonio between 1954 and 1957. Working first at the Torbett Clinic-Hospital in Marlin and serving as a consultant to the Veterans Administration Hospital there, he had been invited to return to Nicaragua as a professor of pathology. However, after “much agonizing and considering the political climate in his native country,” he decided to work and bring up his children in the United States. In 1962, he became a naturalized U.S. citizen, a proud moment in his life.

He would become director of pathology at the HCA Rio Grande Regional Hospital, McAllen; laboratory director at Mission Hospital, Mission, and a consultant for the Edinburg General Hospital. Later, he also would become medical director of United Blood Services in the Rio Grande Valley, serve as director of medical technology at The University of Texas-Pan American Program and become an associate professor of The University of Texas Health Science Center at San Antonio. He also would become active in pathology issues by working with the Texas Society of Pathologists and other groups.⁶¹⁷

Another new practitioner in the early 1960s would be **Marcelo (Marc) Garza, MD**. From a pioneer Brownsville family, he had enlisted in the Army Air Force immediately following Pearl Harbor, serving as a flight engineer until December 1945. He then returned to school, received his medical degree in 1955 from The University of Texas Medical Branch in Galveston, completed an internship in Colorado and a pathology residency in Galveston. First practicing pathology at the Dow Hospital in Freeport, in 1961 he joined Dr. A. B. Cairns in Dallas, where the Cairns-Noteboom-Garza Clinical Laboratory was formed, serving Methodist Hospital.

Margie Barnes Peschel, MD, a native of Granger, graduated cum laude from Southwestern University in Georgetown, and received her MD from The University of Texas Southwestern Medical School. She interned at Harris Hospital in Fort Worth, and served as a resident in pathology there and at St. Joseph Hospital in Fort Worth between 1961 and 1964.⁶¹⁸

She became medical director of the Carter Blood Center in Fort Worth and would earn national recognition in blood banking. She also would provide "monumental" dedication to many professional medical organizations, leading a number of committees and becoming a member of the Texas Medical Association Board of Trustees. She would serve as president of many groups, including the South Central Association of Blood Banks; hold several academic appointments, and become known for her clever writing.

Merle W. Delmer, MD, a native of Cisco, graduated from Abilene High School, received his MD from The University of Texas Southwestern Medical School, and was initiated into pathology by Dr. A. B. Cairns at Oak Cliff Methodist Hospital in Dallas before moving to Baptist Memorial Hospital in San Antonio and serving a pathology residency under Dr. A. O. Severance. He then became a resident in pathology at Columbia Presbyterian Hospital in New York under Dr. Arthur Purdy Stout; served as an instructor on the faculty of the Department of Pathology at Columbia University School of Medicine and as assistant pathologist at Presbyterian Hospital in New York.

Upon returning to San Antonio, Dr. Delmer would become an active leader in many local, state, and national organizations. He would also serve as chair of the Board of Trustees of the Texas

Medical Association and become a trustee of the American Board of Pathology. A member of the Arthur Purdy Stout association, he would also be appointed as a member of the Texas State Board of Medical Examiners and serve as a member of the Federation of State Medical Boards.⁶¹⁹

He would be a consultant to the Veterans Administration Hospital at Kerrville, consultant to the Fifth U.S. Army Area Laboratory at Fort Sam Houston, and become clinical professor at The University of Texas Health Science Center at San Antonio. He also would serve on the latter school's Admissions Committee. In addition, he would succeed Dr. Severance as chairman of the pathology department of the Baptist Memorial Hospital System in San Antonio.

Wm. Gordon McGee, MD, of El Paso, also would become a leader in many organizations.⁶²⁰ He graduated from The University of Texas in 1954, and received his medical degree from The University of Texas Southwestern Medical School in 1958. First attracted to internal medicine, he was "lured" into a pathology program, and then in 1961, to the department of Dr. Ashworth and Dr. Stembridge.

"I enjoyed pathology, but it was hard," he remembers, "I got dizzy at the microscope and moving slides around on the stage, and I thought I would never become a pathologist." He completed his pathology residency in 1964, and when Charles Green, MD, died unexpectedly at age thirty-eight following an asthmatic attack, Dr. McGee moved to El Paso, joining Dr. Maynard Hart. The group at first included radiology and pathology, and the two areas did not split until 1975.

Dr. McGee would form PathLab, PA, in 1975, serving as senior partner for many years.

He covered many isolated West Texas towns—Van Horn, Alpine, Fort Stockton, Pecos, Iraan, Eldorado, and others in the oil patch. Most of the towns had from only one to five or six doctors.

He would sell his laboratory in 1991 to Nichols Institute. Dr. McGee would continue his work, on contract, providing tissues, Pap smears, and consultation. His new group would have national Indian Health Service contracts, requiring regular on-site visits, travels taking him into Mexico, Arizona, and even Montana.

Dr. McGee would become chairman of the board of trustees and president of the Texas Medical Association.

Harlan J. Spjut, MD, of Houston, born in Salt Lake City, Utah, received his medical degree from the University of Utah, and served as an instructor in pathology there in 1953. He moved to St. Louis as an American Cancer Society fellow in surgical pathology and instructor in surgical pathology at Washington University School of Medicine. In 1959, he advanced to associate professor of surgical pathology at Washington University School of Medicine, a position he held until 1962. At that time he moved to Baylor College of Medicine in Houston, as professor of pathology and chief of anatomic pathology at the Jefferson Davis Hospital.

"His remarkable diagnostic abilities in surgical pathology have been well recognized in Houston," said one writer, "where he is consultant in pathology at the M.D. Anderson and Veterans Hospitals. From 1969 to 1970, he was acting chairman of pathology at Baylor College of Medicine. He then became chief of anatomic pathology at St. Luke's Episcopal Hospital of Houston from 1971 to 1980. In 1980, he would return to Baylor College of Medicine, named to the Clarence and Irene Fulbright Chair of Pathology and again serve as acting chairman of pathology from 1987 to 1988.

Dr. Spjut specialized in orthopedic, gastrointestinal and cytopathology and became recognized throughout the nation as an outstanding leader in the research, practice and teaching of these areas of anatomic pathology. He would serve on several training and education committees for the National Cancer Institute, act as advisor to the American Cancer Society, and write more than 150 publications, including twenty-two chapters and books.

In 1988, the Houston Society of Clinical Pathologists would establish the Harlan J. Spjut Award, given annually to a distinguished physician or scientist "currently or formerly in the Houston community, who has demonstrated sustained and distinguished scholarly achievement in pathology or a related discipline."⁶²¹

John Daniel Milam, MD, was born in Kilgore but grew up in Louisiana. He completed his MD in 1960 at Louisiana State University Medical School in New Orleans, undertook a rotating internship in Shreveport, a pathology residency at LSU and Charity Hospital, and a fellowship at Memorial Sloan-Kettering Center in New

York. In 1966, he joined the pathology staff at St. Luke's Episcopal Hospital in Houston.

Years later, a writer would say, "His pathology career in Houston has been one of great contributions. He has been an outstanding leader in patient care. As a pathologist he proved competent in anatomic and clinical pathology, nuclear pathology, and developed an outstanding Blood Bank and Transfusion Service. He is regarded by his clinical colleagues as one of themselves, and is an active bedside consultant, particularly in problems that arise concerning transfusions, coagulation, and in the past several years in directing pheresis for treatment of selected autoimmune disorders.

Dr. Milam would serve his profession and community in many positions, including Chief of Staff of his hospital, and have faculty appointments to Baylor College of Medicine and The University of Texas Medical School at Houston.

He would serve as president of many organizations, among them the American Association of Blood Banks and the American Board of Pathology. He also would be active in the American College of Cardiology and the American Heart Association.

Deeply involved in teaching, investigation, and patient care, Dr. Milam also would publish considerable work on the rejection phenomena following heart transplantation; blood banking and transfusion, and immunology and coagulation.⁶²²

Another physician with Louisiana ties was **Peachy Ridgway (Ridg) Gilmer, Jr.**, born in Shreveport.⁶²³ He became professor and acting chairman of the department of pathology, and director of the clinical laboratories at the University Hospital, University of Texas Medical Branch in Galveston. The son of a chest surgeon and pulmonary specialist who practiced in Shreveport, he had graduated from the Tulane University School of Medicine, completed a rotating internship at Charity Hospital in New Orleans, and was a resident in general surgery at Charity Hospital on the Tulane service. He also served a fellowship in pathologic anatomy at Louisiana State University School of Medicine at New Orleans, and a residency in clinical pathology at Charity Hospital on the LSU service. He began practice in Shreveport in 1964, during which time he was consultant pathologist to Panola General Hospital in Carthage, Texas, and to hospitals in Shreveport. He would become a professor of pathology at UTMB, and would be a principal investigator or co-investigator

on many evaluations of instruments and reagents used in the clinical laboratory, particularly in hematology. He also would write numerous papers, pamphlets and books, become editor of *Summing Up*, and a member of the editorial board of *Pathologist*, the publication of the College of American Pathologists, which he also would serve as a governor. He later would join the faculty of The University of Texas Medical School at Houston.

William L. (Dub) Crofford, Jr., MD, a native of Victoria, Texas, graduated from The University of Texas Medical Branch at Galveston. He completed a rotating internship at the Robert B. Green Hospital in San Antonio, followed by a pathology residency at UTMB with Drs. John H. Childers, Kenneth M. Earle and Gwendolyn Crass. Dr. Crofford would become a pathologist at St. Paul Hospital in Dallas, leaving to fulfill a military obligation and returning to remain many years. While in the service, he was in the 4th Army Medical Laboratory (a reference laboratory) at Fort Sam Houston, and would study with Dr. A. O. Severance and many other nationally known leaders in pathology. He would become a leader in the Texas Society of Pathologists.⁶²⁴

Pathology on the move

RICHARD KEFFLER, MD, had moved to Lubbock in the late 1950s as the first fully trained, permanent pathologist in the area, reports Dr. Louis Nannini, and he was joined soon by **William Long, MD**. By then, there were pathologists in Amarillo, El Paso and Midland/Odessa.

"When I came to Lubbock to join Dr. Long in 1963, there were two other pathologists, **Andy Gwynne, MD**, associated with Dr. Long, and **John Ray, MD**, associated with Dr. Keffler." Other pathologists joining Dr. Long were **Jerry Moore, MD**, and **William Strange, MD**, and later the group added **Hugh Paik, MD**.

Continuing the migration to Texas was **Francis Elbert Council, MD**, who moved to Sherman in 1962, and became staff pathologist at the Sherman Community Hospital. Born in Windom in 1900, he had graduated from Vanderbilt University School of Medicine in 1926, and interned at Fitzsimons General Hospital in Denver, where he was serving as an Army first lieutenant. He also earned a doctor-

ate degree in public health from the School of Hygiene and Public Health at Johns Hopkins University. Before moving to Sherman, Dr. Council had had "a long and distinguished career in the Army," and had done postgraduate work at the Army Medical School in Washington, DC, at Johns Hopkins University in Baltimore, and at the Armed Forces Institute of Pathology. He had served throughout the world, including Corregidor in the Philippine Islands and as chief of laboratory service at the Gorgas Hospital in Balboa Heights of the Panama Canal Zone. He had also served as a consultant in pathology to the Office of the Surgeon General of the U.S. Army and as deputy director for the Army at the AFIP. Having received many citations and awards for outstanding work, he retired in 1957 with the rank of colonel. The author of numerous papers, he also was active in a broad variety of medical and scientific organizations.⁶²⁵

Pathologists in communities previously served by only one or two practitioners now were getting reinforcement. In Waco, **Gardner Thomas, MD**, joined Dr. R. E. Henderson and Dr. W. W. Klatt at Hillcrest Hospital in July 1962. Shortly, thereafter **Walter Krohn, MD**, joined Dr. Wittstruck at Providence Hospital. In 1965, **Robert Walker, MD**, joined Drs. Wittstruck and Krohn at Providence.

Dr. Thomas left Hillcrest and returned to his hometown, Brownwood, becoming the only pathologist there. In 1970, Dr. Klatt died following aortic aneurysm surgery. Dr. Henderson then became the only pathologist at Hillcrest until a pathologist discharged from the Army in Vietnam, **Kent Smith, MD**, arrived. He left Hillcrest after a year for Fort Smith, Arkansas. **David McTaggart, MD**, a graduate of Creighton University with a residency from General Rose Memorial Hospital in Denver, after release from the Navy in 1972 would join Dr. Henderson at Hillcrest.

In 1974, Drs. McTaggart and Henderson would associate with **S. M. Bunn, Jr., MD**, then completing his tour of Army duty at Fort Sam Houston, San Antonio. He was a graduate of UTMB. About 1981, **Edwin B. Morrison, MD**, would join the latter group at Hillcrest and in July 1987, **Gary F. Geldmeier, MD**, would join them. Both had received training at The University of Texas Southwestern Medical School, Dallas. Dr. Morrison had attended UT Southwestern and Dr. Geldmeier UT San Antonio Medical School.

"In the meantime, at a date which I do not recall," reports Dr. Henderson, "Drs. Wittstruck, Krohn and Walters successfully pur-

sued a lawsuit against the Hycel Corporation, became overnight millionaires and retired from pathology. They had shortly before associated with **Jacqueline Torrell, MD**, who took the practice, associated with **Alan Northcutt, MD**, and subsequently with **Douglas B. Michaels, MD.**" Dr. Torrell later would be employed part-time at the Veterans Administration in Temple.

In the Lower Rio Grande Valley, another pathologist arrived in 1961. He was **Pedro de la Vega, MD**, who practiced in Brownsville.

In 1962, Dr. Kenneth M. Earle faced another tough decision. He was asked by Dr. Frank M. Townsend, the director of the Armed Forces Institute of Pathology in Washington, DC, to become chief of the neuropathology branch. Dr. Townsend had arranged for him to have the highest rank possible through a little-known Roosevelt-era bill, Public Law 313, allowing scientists to work in government without having to go through the Civil Service process. He thus went to Washington ranked as a "PL 313," and would spend twenty years with the AFIP, receiving many commendations for his work.

In Temple, Dr. Robert F. Peterson, joined the Scott and White department of pathology in July 1965, in the division of anatomic pathology. In 1982, he would become chairman, a position he would hold until 1994.

In 1967, he became an officer of the Section on Pathology and Physiology of the American Medical Association and would serve as the first chairman when it became the Section Council on Pathology in 1972. He also would serve as speaker of the Texas Society of Pathologists' House of Delegates after it was formed. He would be on the delegation of the Texas Society of Pathologists to the College of American Pathologists and would serve as chairman of the Gastrointestinal Pathology Subcommittee of the Southwest Oncology Group. Dr. Peterson also had served as medical director of the Scott and White Tumor Registry.

Dr. Billy Bob Trotter chose Abilene as the place he wanted to practice pathology. As a sophomore at The University of Texas Medical Branch he had a little influence in making his decision to become a pathologist—preceding him was Vernie A. Stembidge. After he took a rotating internship at Denver General, he decided to

return to Galveston for a pathology residency. On the faculty then was Dr. John Childers and Dr. Stenbridge; Bruce Fallis was a resident, "a nucleus there." He entered the Air Force during the era of the Korean Conflict, and when he'd returned all the Galveston faculty had moved to Dallas, so he finished his residency at Parkland.

In 1960, he moved to Abilene, having worked as a *locum tenens* for a time during vacation for Dr. Jarrett Williams. He liked the people and the city, and thus joined Dr. Williams.

Like Eleanor Irvine, Dr. Trotter knew he had to have quick, efficient transportation to cover the vast West Texas area, so he learned to fly, making rounds to hospitals in Alpine, Childress, and other cities. Most of his time, however, was spent between Abilene and Big Spring, which did not have a pathologist at the time.

As a pilot, Dr. Trotter said he never had a "hairy experience"—primarily because he never took a chance.

His longest single day's work in the plane occurred when he flew to Childress on the Red River in North Texas, turned and headed to Big Spring, Fort Stockton, and Alpine, and returned, landed at McCamey, Sweetwater and then flew back to Abilene. "If it had been a straight line," he said, he'd have been in Canada.

When Dr. Trotter first arrived in Abilene, frozen sections were not done in West Texas, but rather by Terrell's Laboratories in Fort Worth. However, "doctors trained during and after the war wanted quicker services," he said, "such as frozen sections, and esoteric lab tests. The combination of rapidly advancing technology, frozen sections, blood banks, and the increase in requests for autopsies were the main drives that brought about expansion of pathology in West Texas."

The few pathologists in the area formed a West Texas Society of Pathologists, an informal group, although not every person attended each time because of the distance. Among those active were himself and Dr. Williams; Dr. Lloyd Hershberger and Dr. Billy Bob Trotter's brother, Dr. R. F. (known as Pat) Trotter, San Angelo; Dr. Martha Madden, Midland; Dr. Wray Storey, Odessa; Dr. Bill Long, Dr. Richard Keffler, and Dr. John Ray in Lubbock.

The group met usually in Big Spring, brought their slides, discussed difficult cases, and enjoyed dinner and fellowship. The organization would do well from 1960 to the mid-1970s when everyone became too busy, and the group disappeared for lack of continuity.

The Trotters have a family legacy in pathology. Dr. John Chil-

ders is their cousin. Dr. Pat Trotter's daughter, Maureen, became a pathologist like her father and uncle, and joined her uncle in practice in Abilene. All have been members of the Texas Society of Pathologists.

Dr. Thomas H. McConnell of Dallas was born in the old Parkland Memorial Hospital, where his father, a surgeon and general practitioner, and his mother, a registered nurse, had trained.⁶²⁶

After graduating from Southwestern Medical School in 1962, he undertook a rotating internship at University of Mississippi Medical Center, then a pathology residency at Parkland Memorial Hospital under Dr. Charles T. Ashworth. He then served as Captain, MC, USAR, at the Pentagon in Washington and at Fort Campbell, Kentucky, and practiced clinical pathology briefly in Abilene, Denton, El Paso, and Dallas before joining Dr. Ashworth at what became the Ashworth-McConnell Laboratory in Dallas.

He served as president of the Dallas Academy of Pathology, North Texas Society of Pathologists, and Texas Society of Pathologists; and as a governor of the College of American Pathologists and a member of the Board of Directors of the Dallas County Medical Society. He also served as a clinical professor of pathology at Southwestern Medical School and published numerous articles, several dealing with advanced computer programs in clinical pathology.

"Tom has a truly brilliant mind," a colleague writes, "presumably inherited both from his father, an honor graduate of UTMB in Galveston and a singularly dynamic individual, and from his mother, who supported Tom and his brother after his father's early death from heart disease. He writes both novels and scientific articles, some of which were to break new ground in the field of algorithm-derived, computer-generated-interpretations of clinical pathology data."

Dr. Owen becomes TMA president

IN 1960, DR. MAY OWEN of Fort Worth became the first woman chosen president of the Texas Medical Association. She had long been a leader in medicine and the Texas Society of Pathologists.

Blair Justice, PhD, reported several accolades bestowed upon Dr. Owen by her colleagues. Dr. Truman Terrell, her associate and owner of Terrell's Laboratories, observed, "She was elected the first

woman president of the Tarrant County Medical Society in 1947 with only one dissenting vote—her own. She was named one of the Southwest's nine outstanding women in 1951. In 1952 her fellow physicians awarded her the second annual Gold Headed Cane, which is traditionally presented to 'the doctor's doctor.' The Altrusa Club named her 'first lady of Fort Worth' in 1948. Alpha Kappa Kappa, a men's medical fraternity, gave her an honorary pin in 1955 for being the patron of so many young medical students and physicians."

Chairman of the Texas Medical Association's Council on Scientific Work for many years, Dr. Owen in 1936 had discovered talc granuloma—finding that the powder used by surgeons was not absorbable and the body would treat it as a foreign substance. As a result of her finding, pharmaceutical firms altered the ingredients of talcum used in surgeon's gloves. She also received an honorary master's degree from Texas Christian University for her discovery.

After serving as president of the state medical association, Dr. Owen would continue her string of honors and contributions. She would help more than 400 students complete their educations through the May Owen Irrevocable Trust to be administered by the Texas Medical Association, and in 1974 she would endow the May Owen Chair in Pathology, the first endowed chair at Texas Tech University School of Medicine, Lubbock. In 1986, she would be inducted into the Texas Women's Hall of Fame.⁶²⁷

Aided by her brother, she had attended TCU's medical department in 1917, and started work at Terrell's Laboratories. In 1921, she was graduated from Louisville Medical College, was an assistant pathologist at Mayo Clinic in Rochester, Minnesota, and studied in the department of legal medicine and toxicology at Bellevue Hospital in New York. Following her death in 1988 at age ninety-six, her authorized biography, written by Ted Stafford, would be published.⁶²⁸

Goodbyes

TWO PIONEER MEMBERS of the Texas Society of Pathologists, James E. Robinson, MD, Temple, a founding member, and L. O. Dutton, MD, of El Paso had died in 1960.

The paradoxical sixties

THE WORLD WAS looking to the future in the 1960s, and in January 1961, John F. Kennedy was inaugurated as President of the United States.⁶²⁹ In May 1961, the National Aeronautics and Space Administration put a man in space—Alan Shepard, Jr., making a suborbital flight in the Mercury capsule.⁶³⁰ Also that month, President Kennedy committed the United States to landing a man on the moon and returning safely to earth by the end of the decade.⁶³¹

In August 1962, researcher and FDA official Frances Kelsey was cited by the medical profession for her stance against the tranquilizer thalidomide, a drug found responsible for birth defects, and her opposition to its use prompted the FDA to enact stiffer drug control regulations.⁶³² Then, in the fall of 1962, the Cuban missile crisis demanded America's attention.⁶³³ Civil rights disturbances increased, and violence resulted.⁶³⁴

By 1962 two formal medical examiner systems had been established in Texas—in San Antonio and Houston. Fort Worth City Commissioners had not yet appropriated the money for a system, and Dallas was currently setting up a modified forensic pathology program.

The American Society of Clinical Pathologists had now created four boards dealing with medical technology affairs: the Board of Schools, the Board of Registry, the Board of Continuing Education, and the Board of Certifying Laboratory Assistants. (Dr. Goforth had been appointed chairman for one year of the Board of Certifying Laboratory Assistants.) The Board of Schools would provide materials, programs and seminars—including conjoint programs.

There also were growing concerns that allied health care personnel were expanding their "scope of practice," Dr. George Race noting the tendency of "para-medical groups to shift away from the basic practice of medicine." He stated that a national nursing association had pushed bills for licensure so broad that they included medical technology. A nurse licensure bill offered for the Texas Legislature at the time also was being opposed by the Texas Hospital Association.

Dr. John Andujar reported a complaint from a physician in Texarkana that the State Health Department was performing pre-

marital serological tests for syphilis on individuals who were not indigent. Dr. Andujar also presented a United Press International (UPI) news release regarding the article, which declared that "Texas Doctors Want Physician Supervised Laboratories."⁶³⁵

Tragedy in Dallas

ON NOVEMBER 22, 1963, American optimism met total shock as President John F. Kennedy was assassinated, and Governor John B. Connally was severely wounded in Dallas. Texas physicians not only cared for them at Parkland Memorial Hospital, but they would be the last to care for the alleged perpetrator of the shootings, Lee Harvey Oswald, and for the man who subsequently shot him, Jack Ruby.

The clinical pathologists at Parkland Memorial Hospital provided their usual services for President Kennedy; however, the forensic pathologist was not allowed to do his job.

Brief citations of the clinical pathology provided at Parkland Hospital in Dallas are mentioned in "Three Patients at Parkland," (*Texas State Journal of Medicine*, January 1964)⁶³⁶—the published dictation of physicians caring for Kennedy, Connally, and Oswald.

For President Kennedy, the dictation cited only the blood match requested and the fact he was immediately administered unmatched type O Rh negative blood—300 mg cortisone added to the intravenous fluids. For Governor Connally, in whom a bullet had passed through the chest and struck the arm and thigh, the report of Dr. Charles F. Gregory, an orthopedic surgeon who debrided the arm wound and reduced the fracture, was that "Small bits of metal were encountered at various levels throughout the wound. Wherever they were identified and could be picked up, they were submitted to the Pathology Department. Throughout the wound there were noted fine bits of cloth like mohair. Dr. Gregory was told that the patient was wearing a mohair suit at the time of the injury thus accounting for the deposition of such organic material within the wound."

Dr. A. H. Giesecke, Jr., an anesthesiologist, stated that blood was drawn for typing and crossmatching, and hemoglobin was reported at 15.2 gm. per 100 cc; urine was normal.

There also was a notation about the blood administered to

Oswald. According to Dr. M. T. Jenkins, anesthesiologist, it was type-correct blood (A-1, Rh negative).

The Warren Commission later concluded that a single bullet had resulted in the President's death,⁶³⁷ and this view was maintained by pathologists at the Naval Medical Center in Bethesda, Maryland, where the autopsy was performed (*JAMA*, May 27, 1992).⁶³⁸

Nevertheless, there would be much debate regarding the wounds of the President and the Governor. Conspiracy theories often would be projected.

By Texas law, the autopsy should have been performed in Dallas. *JAMA* writer Dennis Breo reports the predicament faced by the Chief Medical Examiner of Dallas, Earl Rose, MD.⁶³⁹

Jenkins recalls that Secret Service agents . . . 'grabbed the President's gurney on each side and wheeled it out of the room, all but running over Dr. Earl Rose, the Dallas medical examiner (whose office was right across the hall from the emergency room).'

Dr. Rose, who is now [1992] retired in Iowa City, also gave *JAMA* a rare interview to pick up the narrative. "I was in their way," Rose recalls. "I was face to face with Secret Service Agent Roy H. Kellerman, and I was trying to explain to him that Texas law applied in the instant case of the death of the President and that the law required an autopsy to be performed in Texas.

"Agent Kellerman had experienced tragedy on his watch and, although had no legal authority, he believed that his primary responsibility was to transport the body back to Washington, DC. He was very distressed, apparently taking the death as a personal affront, and he and I were not communicating. It was not a hostile discussion, but he and I were expressing differing views on what was appropriate."

Theron Ward, a Dallas Justice of the Peace, was at the hospital to assert applicable Texas law, but, in Rose's words, "he did nothing . . . he was frozen with fear. In effect, no one was in charge of the situation. Agent Kellerman tried three tactics to have his way—he asserted his identity as representing the Secret Service; he appealed for sympathy to Mrs Kennedy; and he used body language to attempt to bully, or, should I say, intimidate. I don't recall the exact words, but he and I exchanged firm and emotionally charged words. At no time did I feel I was in physical danger because he and the others were armed. I was not looking at Agent Kellerman's gun, I was looking at his eyes, and they were very

intense. His eyes said that he meant to get the President's body back to Washington."

In 1963, Rose was 6-feet, 2-inches tall and solidly built. He was not the kind to back down from a fight if he believed he was right. "I was raised in western South Dakota," he said, "and I carried that baggage with me. People raised in western South Dakota may lose a fight, but they don't get bullied or intimidated." The standoff, however, was soon over.

Rose says, "Finally, without saying any more, I simply stood aside. I felt that it was unwise to do anything more to accelerate or exacerbate the tension. There was nothing more I could do to keep the body in Dallas. I had no minions, no armies to enforce the will of the medical examiner."

Later that day, Rose autopsied patrolman J. D. Tippit, who was killed by Oswald; two days later, he autopsied Oswald himself, who was killed by Jack Ruby; a few years later, he autopsied Ruby.

It is 29 years later and Rose, who has a law degree as well as a medical degree, still feels strongly that the Kennedy autopsy should have been performed in Dallas. "The law was broken," Rose says, "and it is very disquieting to me to sacrifice the law as it exists for any individual, including the President. Having one set of rules for the rich and famous and another for the poor is antithetical to justice. There have been many arguments to try to justify the removal of the body, but to me they all seem like retrospective and self-serving theories. People are governed by rules and in a time of crisis it is even more important to uphold the rules, as this case amply demonstrates."

Rose believes that a Dallas autopsy, which he would have performed, "would have been free of any perceptions of outside influences to compromise the results. After all, if Oswald had lived, his trial would have been held in Texas and a Texas autopsy would have assured a tight chain of custody on all the evidence. In Dallas, we had access to the President's clothing and to the medical team who had treated him, and these are very important considerations."

Further, Rose believes that the removal of the body was the first step in creating disbelief about what had happened. "Silence and concealment are the mother's milk of conspiracy theories," he says. "If we have learned anything in the 29 years since the President was shot, it is that silence and concealment breed theories of conspiracy and the only answer is to open up the records, without self-serving rules of secrecy, and let the American people judge for themselves."

Rose, who is a board-certified forensic pathologist and who has personally examined Kennedy's autopsy materials and records, next turned his attention to the claims made by Dr. Crenshaw [Fort Worth] who is a surgeon. "I believe that Dr. Crenshaw believes what he is saying when he argues that the shots came from the front," Rose says, "but he is mistaken." Pressed on his degree of confidence in this statement, Rose finally says, "I am absolutely sure that he is in error."

Dr. Vernie A. Stembridge, then chairman of the department of pathology at The University of Texas Southwestern Medical School, had been asked by Dr. Rose to accompany him to talk with the Secret Service—to persuade the agents that the autopsy should be done in Texas. They, however, were not successful. Dr. Stembridge then urged Dr. Rose to accompany the body and the Kennedy entourage to Washington, but Dr. Rose felt strongly, "as a very principled person," that the autopsy should be done according to law in Texas, and that he should not make the trip to Washington. Dr. Stembridge and others agree that the ensuing secrecy helped foment the conspiracy theories that were to surround the autopsy.

In 1992, Dr. Stembridge also would encourage Dr. Rose to participate in the interview with Dennis Breo to provide an accurate record of the situation in Dallas following the Kennedy assassination.⁶⁴⁰

Dr. Rose was a member of the 1977 House Select Committee on Assassinations, and supported its autopsy conclusions. He agreed that the two wounds to the neck and head came from behind and above and that there was no room for doubt on the finding.^{641,642}

Several years after the situation, Dr. Rose resigned as medical examiner in Dallas.

By raising consciousness of the need for a strong, autonomous medical examiner system in Dallas, the incident, Dr. Stembridge believes, led to the development of a better system. One aspect of the system was the requirement that the medical examiner in Dallas serve on the faculty at Southwestern—and therefore adhere to criteria for faculty.

Similarly, in later years, this approach would be essentially adopted in San Antonio and other medical examiner offices.

Among other physicians present during the events at Parkland Memorial Hospital in Dallas in 1963 was Dr. Wm. Gordon McGee, a

pathology resident and future president of the Texas Society of Pathologists and the Texas Medical Association.

Later, when Jack Ruby shot Lee Harvey Oswald in the Dallas Police Station as millions of America watched events unfold on television, Dr. Thomas Hugh McConnell was a pathology resident at Parkland Memorial Hospital. Still later, when Jack Ruby died of lung cancer, Dr. McConnell observed his autopsy, and muses about the conspiracy theories of the era.

"He was quite dead, I assure you," he reports. In addition, Dr. McConnell also was involved in the autopsy of Lee Harvey Oswald's landlady, who had heart disease and thyroid problems. Likewise, there would be no evidence of conspiracy in her death.⁶⁴³

While at Parkland Memorial Hospital, before a substantive medical examiner system was in place, Dr. McConnell also saw firsthand other situations that were worthy of court cases, including an abused, murdered child—but under the former justice-of-the-peace system, coroners often ruled otherwise. In addition, often because of the primitive nature of toxicology, individuals "could get away with" things that no one knew about. With the much more sophisticated testing that came into being, together with complete data bases, perpetrators no longer would be able to escape with such deceit.

A new ruling by the Attorney General

IN A COVERING letter with the April 1964 minutes of the Texas Society of Pathologists, Dr. Vernie A. Stembbridge stated that "As a result of the Attorney General's ruling that Clinical Pathology is the practice of medicine, the TMA Council on Medical Jurisprudence heard testimony from both the lay laboratory group and the pathologists. The Council on Medical Jurisprudence recommended to the TMA Councilors that the Medical Practice Act be upheld. At the recent TMA meeting, the House of Delegates passed a Resolution to the effect that Clinical Pathology was the practice of medicine, and that TMA members should abide by the Medical Practice Act."⁶⁴⁴

As a result of the ruling by Attorney General Waggoner Carr, a special committee of the Texas Medical Association was formed to determine whether there might be problems attributable to closure of the lay laboratories.

Preparing for Medicare

DR. MERLE DELMER joined Dr. A. O. Severance as a partner in 1963. Both initially had been employees of Baptist Hospital in San Antonio, but agreed, rather than remaining as employees, to become independent. They worked out an agreement with the hospital to provide clinical and anatomic pathology—and to assume oversight for hospital employees in the laboratory. Their foresight would prove valuable in the next few years as Medicare and Medicaid—just around the corner—would change the way hospital-based physicians conducted their business. In fact, Drs. Delmer and Severance would be among the first—if not the first—to perceive the immediate impact of the government-health-care programs on hospital-based physicians. That included the need to strengthen their own position by becoming independent of the hospital—to have the ability to establish their own professional fees and to look to the insurance company and the patient to cover the fee rather than “dickering” with hospitals as other physicians would have to do.

The arrangement with the Baptist Hospital System would allow them to add qualified physicians as needed. By 1995, there would be twenty-three pathologists in their group.

Drs. Delmer and Severance also quickly learned to “float with the tide” as the city and hospital grew. Later, their group would cover several hospitals, all private, in San Antonio and surrounding areas.

Another factor would have particular influence on their practice and the practice of medicine generally in San Antonio—the development of The University of Texas Medical School at San Antonio. It would set in motion tremendous growth in the medical field in the city.

The early 1960s indeed was a time of contrast and of varying experiences, and in 1963, Dr. Thomas Hugh McConnell had direct experience with the era’s civil rights’ disturbances. He had graduated from The University of Texas Southwestern Medical School in Dallas, had started his pathology residency at Parkland, and, needing more clinical medicine, had taken a ten-month rotating internship in Mississippi.

He arrived in Oxford in 1963 at the height of the civil rights’ revolution. He was assigned to the emergency room when Medgar Evers was shot.

"We felt like almost any moment troops might occupy the city," he said, and a disaster plan was in place.

In the midst of the situation, he tended a young Black girl, bleeding vaginally, who passed a red rubber catheter following an abortion. At that time abortion was illegal, and at the trial in Vicksburg, Mississippi, he testified before the all-white, all-male jury.

He was asked only one question, put quite sarcastically:

"Doctor, do you have a license to practice in the great state of Mississippi?"

He replied he did not. (As an intern, of course, he had only an institutional permit.)

The jury gasped.

Within ten minutes, it rendered a not-guilty decision. The abortionist, after all, was performing a valuable social service in the community at the time, and no one wanted to convict the individual.

Such was the nature of the early 1960s.

But it had another side, too. Along with rapid scientific development, the tools of pathologists also were progressing at an amazing rate. Dr. Jack Abbott of Houston, in discussing the contributions of the clinical pathologist in the June 1965 *Texas State Journal of Medicine*, stated that in one large hospital in 1940 there had been thirty-two laboratory determinations and in that same hospital in 1964, there were 273 different tests, not counting radioisotope procedures.⁶⁴⁵

Retirements and goodbyes

DR. STUART A. WALLACE, Baylor University College of Medicine in Houston, retired in 1964, and a commemorative fund was begun in his name. Reported in 1964 was the death of Dr. A. C. Broders, Sr., formerly of the Mayo Clinic, Rochester, Minnesota, and Scott and White Hospital, Temple.⁶⁴⁶

Chapter 10

Specialization, Automation, and Regulation

(1965–1990)

There are no areas in Texas, with the exception of the Big Bend country, which is farther than 100 miles from the services of the board-certified pathologist.

George W. Thoma, Jr., MD, reporting in 1965 to the Texas Society of Pathologists.⁶⁴⁷

LABORATORY MEDICINE AND THE PRACTICE of pathology were on the verge of transformation in the mid-1960s. As critical paths of science and technology merged, however, so also did long-time political and socioeconomic trends. With science and technology on the verge of explosion, regulation of medicine was in its infancy and civil rights disturbances were at a boiling point.

In science, the sixties brought new visions of theoretical immunology and immunopathology.⁶⁴⁸ Already, science had fostered significant advances in technology, and now automation was encouraged regardless of laboratory size. Physicians were advised that the cost of their upgraded laboratory equipment could be recovered over a period of years even when a laboratory performed only a small number of tests.⁶⁴⁹

Norman Jacob, MD, of San Antonio, recalls his first attempt to purchase Technicon's autoanalyzer in the late 1950s. He had attended a meeting of the American Association of Pathologists and

Bacteriologists in Houston, and had seen a demonstration of equipment that could perform two tests—urea and glucose. The cost was \$5,500, but with the expenditure Dr. Jacob saw the wave of the future. Based at Santa Rosa Hospital in San Antonio, he returned to advise Sister Mary Vincent, known as a tough administrator, that it was “the way to go.” Fully expecting her to balk, he was surprised when she curtly responded, “Well, get it!”

He called the company in Tarrytown, New York, and spoke with the owner’s son, who promised to promptly send and set up the equipment. A few weeks later, however, the son called to say he had never received a written confirmation from the hospital, and needed that to proceed with delivery and installation.

Dr. Jacob again went to talk with Sister Mary Vincent, who quickly told him in no uncertain terms that she was good for her word, and to tell the company to send it—that he needed no written request. Dr. Jacob obliged, and so did the company. Soon, the equipment arrived, the son of the founder accompanying it. While installing it, he asked Dr. Jacob’s opinion about whether other tests could be put on the instrument.

“I don’t know,” answered Jacob truthfully. But shortly thereafter, Technicon released a total of fifteen tests that could be run on the autoanalyzer.

“Technicon had always been a leader in tissue processing,” Dr. Jacob notes, “but now it became a dominant force in automating.” Later, of course, many other companies joined the trend, which would rapidly permeate the field of pathology.

Dr. George Race recalls that when he first arrived in 1959 as director of laboratories at Baylor University Medical Center in Dallas, the hospital was performing about fifteen tests, mostly by hand, and surgical pathology slides took three to five days. He quickly changed to next-day reporting, and by the 1970s, with automation, the Baylor laboratory would be performing more than two million tests per year.⁶⁵⁰

Other underlying forces also were occurring in the field of pathology, and Dr. Vernie Stembridge of Dallas alerted practitioners that the supply of pathologists was likely to diminish because only 62 percent of the country’s pathology residencies were filled.

“We need 500 new physicians entering pathology residencies every year,” he said, “and we must actively encourage more young physicians to enter the field.”

But perhaps the biggest worry for physicians was the uncertainty related to pending legislation in Washington—Medicare and the voluntary health insurance program under the Social Security Act. The concept of Medicare, originally proposed by President John F. Kennedy in 1960, was the provision of limited health insurance coverage to the elderly and disabled under the Social Security Act. In addition, the program was to offer an optional membership health insurance plan.⁶⁵¹

Dr. John Childers of Dallas had attended the April meeting of the College of American Pathologists in Dallas.⁶⁵²

"The feeling at this meeting was strong that Medicare would pass in this session of Congress," he said, urging support for an amendment that would remove pathologists from a designation as "hospital services," a tenet currently in the bill.

Dr. Childers' prediction was right. On July 30, 1965, President Lyndon B. Johnson signed the Medicare bill into law, and it would have a profound effect on the practice of medicine for years to come.

Suddenly, everything was both more complex and more perplexing. Pathologists in private practice and in hospital laboratories faced confusing reimbursement policies, and saw their role as physicians being threatened by definition. Already, Blue Cross-Blue Shield of Texas, the Texas insurance intermediary for Medicare, had announced that different fees would be paid for tests in each institution. To combat this, Tarrant County pathologists had set a group fee scale rather than individually negotiating separate fees. Fee-setting, in itself, had the potential for creating problems with the Federal Trade Commission. Members of the Texas Society of Pathologists, however, predicted the federal government under Medicare and future medical legislation would set "some sort of relative value scale very similar to the Blue Cross-Blue Shield scale."

Practitioners also were worried about having to decrease fees for clinical laboratory procedures due to automation and the necessity of increasing tissue consultation fees because of their relatively low value compared to other laboratory procedures.

When the Social Security Administration released preliminary principles pertaining to hospital-based physicians, many physician groups stood up to oppose them. A sample working agreement between pathologists and institutions, developed by the College of American Pathologists in 1966, sought to enable all pathology fees

to be collected from the Medicare carrier under "Part B," the section under which physicians normally were reimbursed—rather than under "Part A" for hospital charges, which was proposed. Nationally, pathologists launched discussions with the Department of Health, Education, and Welfare, pointing out there was an identifiable "professional component" in each test and procedure that a pathologist performed or supervised.

"Pathology under Medicare," a program presented at the CAP meeting in April 1966 summarized "the up-to-the-minute available information on Medicare and its effect on Pathology practice." In Texas, pathologists were advised to talk with tax law firms.⁶⁵³ Anxiety was high, and they felt new procedures instituted by Blue Cross-Blue Shield of Texas for billing and compensation for services were "rigorous." They also were troubled about denials for reimbursement based on the carrier's new seven-digit computer codes.

So began the era of "separate billing," in which pathologists associated with hospitals for the first time billed for their own services directly rather than through the hospital administrative operations. The concept of separate billing was strongly endorsed by the Texas Society of Pathologists and the Texas Medical Association. Both organizations adopted resolutions to assist hospital-based physicians in their efforts to separate professional fees from hospital charges, and declared that a physician should not engage in practices which "dispose of his professional attainments or services to any hospital, corporation, or lay body by whatever name called under conditions which permit the sale of the services of that physician by such agencies for a fee." The Texas Medical Association House of Delegates disapproved any arrangement under which a TMA member merged "his or her professional fee with the hospital cost into a single charge to the patient."⁶⁵⁴

In 1967, Dr. John Andujar commented in the *Texas State Journal of Medicine* that the "continuing existence of the lay laboratory has received much attention from the membership of the Texas Society of Pathologists throughout the years and continues to be a distressing problem with no easy solution. The pathologist is perhaps the most vulnerable of all physicians, because of his relatively indirect relationship to the patient. The advent of Medicare has brought this into critical focus. Obviously, if an institution or government agency can employ a pathologist to diagnose the cancer of the cervix, and a radiologist to treat it, they can also employ a sur-

geon to obtain the biopsy. Problems will undoubtedly multiply with the increase of government intervention in the practice of medicine. A clear sign of the vulnerability of pathologists is the fact that a federal antitrust suit was launched against pathologists [College of American Pathologists] just as Medicare became effective in our land. The strange notion that pathology (or surgery, or medicine, or obstetrics) should be done by physicians clearly brands physicians as 'monopolists.'" A consent decree was signed with the Justice Department in 1969 ending the suit, allowing CAP to continue setting performance standards, to inspect and accredit laboratories, and to police its own ranks.⁶⁵⁵

With developing technology pathologists could simplify and speed technical operations and reports, yet the new regulations sometimes caused administrative chaos. As reimbursement issues mounted, the term "third-party payors" became routine and negotiations with insurance carriers became commonplace.^{656,657}

The Texas State Department of Health also had responsibilities for implementing Medicare provisions, and Dr. Stembridge, as president of the Texas Society of Pathologists, offered his organization's help in setting up inspections of outpatient laboratories. He was advised that Dr. J. R. Rainey of Austin would become the pathology consultant to the state health department. Though the program had a new twist and involved the federal government, the exercise was reminiscent of the Society's earlier voluntary efforts with the state to assure quality of laboratory determinations.

While Medicare seemed to be a ubiquitous problem, there were many other issues during the second half of the 1960s. For the next several years, the Texas Society of Pathologists would continue to seek passage of a statewide medical examiners bill, but gain success only in increments. Lay-owned laboratories generally would continue to worry Texas pathologists, and nationally the issue had mutated. The ASCP Board of Registry had been sued by a technologist who was refused re-registration for operating a lay laboratory. That suit was settled favorably.

In Texas, licensure attempts for laboratories and for medical technologists persisted, and already, one group, the Texas Society of Bio-Analysts, had asked the Texas Medical Association's Council on Medical Jurisprudence for legislative support. The Council, however, had opposed the request. About this time, lay laboratories ap-

parently began concentrating their focus toward federal rather than state governments.

Meanwhile, reports indicated that the American Society of Medical Technologists, on recommendation of its Planning and Scope Committee in October 1965, desired more independence from the ASCP. Some, although reportedly not most, members of the Texas Society of Medical Technologists were supporting this trend "away from any ties to the Pathologists."

"... The Texas Society of Medical Technologists has generally enjoyed close support and cooperation of the Texas Society of Pathologists," Andujar observes, "In the educational field alone, the pathologists have pioneered in establishing schools of medical technology; the fourth school in the nation granting the master of science degree was established in Fort Worth in 1939."⁶⁵⁸

In April 1966, the Texas Medical Association's legislative committee recommended that the Texas Society of Pathologists prepare a bill for licensing laboratories and laboratory directors, basing it on guidelines of a similar law passed in Illinois.⁶⁵⁹ Then, in late 1966, it was learned that the Department of Health, Education, and Welfare (DHEW) wanted to amend the Medicare law by adding a "Part C" that would affect pathologists and radiologists, and it announced standards for laboratories in the *Federal Register*. A resolution was sent to the College of American Pathologists urging that it not support the "Part C" amendment, which Texas members felt would separate pathologists from the rest of medicine.

Dr. William O. Russell of Houston became president of the American Society of Clinical Pathologists (ASCP) in 1964, the fourth pathologist with immediate Texas ties to gain national office.⁶⁶⁰ Also, Dr. Norman Jacob succeeded Dr. O. J. Wollenman as Texas' fourth assemblyman to the College of American Pathologists; Dr. Lloyd Hershberger became vice chairman of the ASCP Council, and Dr. Vernie Stenbridge succeeded him as Texas Councilor to ASCP.⁶⁶¹

Specialization and education

IN THE MIDST of changing socioeconomic conditions, Texas pathologists also continued to adhere to their basic love—science. After all, the role of the pathologist was to provide the bridge between pure science and clinical medicine. One such example was evident

when the Texas Society of Pathologists decided against co-sponsoring only a hospitality function and instead supported the scientific program of the American Society of Clinical Pathologists, prepared by Dr. C. T. Ashworth for the ASCP upcoming meeting in Dallas. Commending Dr. Ashworth for the program, Dr. Russell emphasized its importance "in view of the concern by some of the members of ASCP about the possibility of discontinuing scientific papers at the meetings."⁶⁶² Within a few years the American Medical Association would actually drop its scientific meetings, ascribing the reasons to growing specialization.⁶⁶³ Continuing education was becoming an increasingly more visible issue in medicine, and the ASCP in 1965 announced a new effort in this regard—a one million dollar educational laboratory to be built for members in Chicago, and to be used primarily for workshops.⁶⁶⁴

Another implication for the future

AFTER SEVERAL organizations in 1966 began blanketing Texas with "do-it-yourself-cytology kits," the Texas Medical Association Committee on Cancer passed a resolution "against the advisability of this program."⁶⁶⁵ Even as pathologists sought to become better qualified in the field through American Cancer Society guidelines and a subspecialty certification, such kits also would grow in popularity.⁶⁶⁶

Medical examiners' systems; a tragedy occurs

ON ANOTHER TIME-HONORED subject—medical examiners' systems in the state—there was some optimism. Travis County was considering the establishment of a system, "occasioned by a Grand Jury recommendation to the Commissioners Court."⁶⁶⁷ Texas pathologists supported the effort in Travis County, and offered their help in setting up a system.

Tragedy, however, struck again before anything could be implemented. On August 1, 1966, a young man in Austin, Charles J. Whitman, after killing his wife and his mother, climbed the famed tower of The University of Texas and began shooting wildly across the campus. By the time he was subdued with a gunshot wound to the head, he had killed sixteen and wounded thirty-one people. Following the catastrophe, Texas Governor John B. Connally, who had himself suffered severe gunshot wounds in a public attack in Dallas

only three years earlier, appointed a special "Blue Ribbon" committee to study the incident. Among the committee of thirty-two were pathologists **Kenneth M. Earle, MD**, then chief of the Neuropathology Branch of the Armed Forces Institute of Pathology, a Texan and former dean of The University of Texas Medical Branch at Galveston; **Joseph A. Jachimczyk, MD**, senior consultant in forensic pathology, Houston; **Tate M. Minkler, MD**, assistant pathologist and medical systems analyst and **William O. Russell, MD**, head of the Department of Pathology and chief of the Section of Anatomical Pathology, both of The University of Texas M.D. Anderson Hospital and Tumor Institute, Houston; **Coloman de Chenar, MD**, of Austin.

R. Lee Clark, MD, director, and Robert D. Moreton, MD, assistant to the director and professor of radiology, of The University of Texas M.D. Anderson Hospital and Tumor Institute, were among other members of the committee. In addition to a number of recommendations pertaining to mental health, counseling, violence, and campus safety, the committee echoed a position promoted for a number of years by the Texas Society of Pathologists—that a statewide medical examiners' office should be developed.

Selected autopsy materials on Whitman were provided the committee, but its study was limited because the autopsy was not performed until approximately twenty-four hours after death; the body had received arterial and trocar embalming before the initial examination; many parts of the brain were damaged by the penetrating fragments of bone created by the gunshot wounds; all pieces of the brain were not recovered, and the brain had been sectioned at the time of the autopsy. The committee presented its findings in the auditorium of the Texas Medical Association in Austin, and offered its final pathologic diagnosis on Whitman. These included the findings resulting from the multiple gunshot wounds to the head and face—contusions and lacerations of the brain, subarachnoid hemorrhage and cerebral edema. Two pieces of tumor reportedly removed from the right temporo-occipital white matter by Dr. Coloman de Chenar on August 2, 1966, demonstrated glioblastoma multiforme.

The committee's report stated that the tumor removed by Dr. de Chenar of Austin, who provided autopsy services under the Travis County coroner's system, microscopically exhibited the features of "a glioblastoma multiforme with a remarkable vascular compo-

nent of the nature of a small congenital vascular malformation, and contained widespread areas of necrosis with palisading of cells characteristic of the tumor."

The task force concluded that "the relationship between the brain tumor and Charles J. Whitman's actions on the last day of his life cannot be established with clarity. However, the highly malignant brain tumor conceivably could have contributed to his inability to control his emotions and actions. Without a recent psychiatric evaluation of Charles J. Whitman, the task force finds it impossible to make a formal psychiatric diagnosis."⁶⁶⁸

Later, some members of the task force indicated certain doubts that the tumor, if it existed, was the cause of the violent outburst, and have leaned toward a psychiatric diagnosis.

Just as the assassination of President Kennedy ultimately led to development of a medical examiner system in Dallas County, so did the Whitman massacre at The University of Texas at Austin spur into action the development of the system in Travis County. Nevertheless, the development of the system was not immediate, and there would be many delays.⁶⁶⁹

An escalation of war

WHILE CHARLES WHITMAN'S private war took place on The University of Texas campus, the crisis in Vietnam was growing more desperate, and physicians were being drawn into the escalating conflict. Texas physicians there in 1966 on a voluntary basis discovered filth and poverty breeding disease.⁶⁷⁰

There were many things about this war that were different from earlier wars, but Major General Spurgeon Neel of the U.S. Army writes that despite the complexity of the medical challenges in the hot, humid environment, all blood in Vietnam came from military donors—and did not disrupt the civilian supply. There were no contracts with the American Red Cross nor the American Association of Blood Banks.⁶⁷¹

Laboratory quality was a challenge in Vietnam. Laboratory service, Neel reports, finally reached a high level of quality in 1970 as "a result of co-ordination between the medical laboratory system and preventive medicine"—bringing it to the level of effectiveness comparable to that in World War II. Neel points out that in World War II, both activities were an integral part of the laboratory system.⁶⁷²

Neel also reports that the wounded soldier in Vietnam "received better care more quickly than in any previous conflict."⁶⁷³ The experiences in Vietnam thus would translate to civilian life in the management of trauma, emergency response systems, increased use of ancillary personnel and the team concept in medical care. There also would be benefits from research on the pathophysiology of stress and the study of disabling cutaneous diseases.⁶⁷⁴

Kenneth R. Dirks, MD, professor emeritus of the department of pathology and laboratory medicine, Texas A&M University College of Medicine in College Station, attests to the review of the Vietnam experience cited by Major General Neel. He had served in the United States Army in three wars—World War II, Korea, and Vietnam. In Vietnam, between 1967 and 1968, he was commanding officer of the 406th Mobile Medical Laboratory, and later moved to the third field hospital, the "Walter Reed of Saigon," as commanding officer.

With severely wounded patients, it was not unusual to give more than 100 units of blood. Brought to the laboratory by helicopter, patients often had wounds of a severity not seen in previous wars. The survival rate was remarkable, Dr. Dirks said, and, as a result of the way blood was screened, there was little concern regarding hepatitis. It was very unusual to see a post-transfusion case.

He saw firsthand the development of knowledge that would later be translated to civilian services: the tremendous work of the hemodialysis unit in acute renal failure; dramatic improvement in vascular surgery, and progress in knowledge of transplants when livers were destroyed by high velocity missiles and had to be replaced. Further, a great deal of work was done during the Vietnam war to enhance the antimalarial armamentarium.

Dr. Dirks had been laboratory chief at a number of Army installations in the United States and in Germany, would serve as director of research at the U.S. Army Medical Research and Development Command, Washington, DC, and become superintendent of the Academy of Health Sciences, Fort Sam Houston, Texas, the center for education and training programs of medical enlisted personnel and officers.

Dr. Dirks retired with the permanent rank of Major General (Medical Corps).⁶⁷⁵

In 1980, after retirement from the military, he would join the faculty of Texas A&M University College of Medicine.

Although the Vietnam war continued, in late 1966 President Johnson had announced the end of US bombing in North Vietnam in an attempt to break the stalemate in the peace talks.⁶⁷⁶ The following year President Nixon began withdrawal of American troops from the area.⁶⁷⁷

Medical education and manpower

BY 1967, AS MEDICAL manpower shortages grew, shortages in the laboratory became particularly acute. There was continuing concern that many approved residencies in pathology were not being filled throughout the country, and that one-third of the pathology residents were graduates of foreign medical schools. Recommendations were made to enhance the training opportunities for various supporting laboratory personnel, including greater use of junior colleges.⁶⁷⁸

Texas began focusing on adding new medical schools to assure an adequate supply of physicians for the state. Funding had been provided for The University of Texas Health Science Center at San Antonio in 1959, but various delays kept the school from opening until 1966, when the first class of students entered. When it opened, it had a tremendous positive impact on the medical community in San Antonio, recall Drs. Delmer, Jacob, Townsend, and others.

Texas would continue the efforts during the 1970s to expand the number of educational facilities for physicians, and in 1971, The University of Texas Health Science Center at Houston would be established. One component, the UT Medical School at Houston, would become the second medical school in the city.

Leadership and more change

EVIDENCE OF CHANGING attitudes regarding the field of osteopathy was evident in 1967 when the Texas Medical Association adopted the simple position that "Doctors of Osteopathy who practice scientific medicine on an ethical basis are not cultists."⁶⁷⁹ James D. Murphy, MD, president of the association, announced that the resolution "allowed the Osteopathic physician to utilize the consultation and educational facilities available to other physicians in Texas. This monition did not make them MDs nor open to them membership in county medical societies or on hospital staffs."

Pathologists remained eager for camaraderie and for intellectual stimulation in the 1960s. Such was the case when a group of physicians formed the Dallas Academy of Pathology on March 7, 1967, to stimulate and improve the science of pathology and to create mutual understanding among the professional practicing pathologists. It was open to doctors of medicine who limited their practice to pathology, and included physicians practicing in Dallas County, nonresidents and honorary members. Only Dallas County members could vote or hold office, but otherwise there was no distinction made on responsibilities or privileges. A candidate for membership could not qualify until four years after internship and had to be recognized as a qualified specialist in pathology, certified by the American Board of Pathology and acceptable to the membership committee. An annual assessment of \$25 was charged.

Members signing as charter members were George J. Race, MD; R. R. Rember, MD; Gerard Noteboom, MD; Marc Garza, MD; J. H. Childers, MD; E. H. Valentine, MD; Norman G. P. Helgeson, MD; William Crofford, MD; Gwendolyn Crass, MD; Wm. Hickey, MD; M. Weatherby, MD; Donald D. Van Fossan, MD; D. S. Johnson, MD; and John L. Goforth, MD.

An informal group, the North Texas Society of Pathologists, had preceded the Dallas Academy of Pathology, often gathering to review slides at the Turnpike Restaurant between Dallas and Fort Worth but there had been no formal organization.

In Fort Worth, a group of osteopathic physicians formed the Texas College of Osteopathic Medicine in 1969. In future years, the spouse of a Texas pathologist, Senator Betty Andujar, Fort Worth, would be instrumental in bringing the school under the umbrella of North Texas University.

Space exploration, crises, and success

AS THE DECADE catapulted forward America in 1967 experienced the first deaths tied to its space testing program when Apollo 1 burned on the ground at Cape Kennedy, Florida.⁶⁸⁰ Despite the setback, the space effort remained in full swing, purposefully aiming to achieve the goal set by President John F. Kennedy that America would put a man on the moon by the end of the decade.

That technological changes, some to arise from the space pro-

gram, were affecting pathology became clearly evident in January 1968 when the Texas Society of Pathologists held a symposium on automation in the clinical laboratory, moderated by George Z. Williams, MD, director of clinical laboratories, National Institutes of Health. Speakers included Jack P. Abbott, MD, of Methodist Hospital, Houston, on private laboratory automation; B. B. Trotter, MD, of Abilene on small hospital automation, and Donald D. Van Fossan, MD, Baylor Hospital, Dallas, on hospital automation in larger hospitals. Another symposium, in the afternoon, was held on diagnosis, management and experience with pediatric tumors, moderated by H. S. Rosenberg, MD, Texas Children's Hospital, Houston.

Another horrifying incident shocked the American people on June 5, 1968.⁶⁸¹ Senator Robert F. Kennedy, brother of slain President John F. Kennedy, was himself campaigning for the country's Presidency at the Ambassador Hotel in Los Angeles. Suddenly, Kennedy was struck by gunfire, and he died early the next morning, wounded fatally by a Jordanian immigrant, Sirhan Sirhan.

Kenneth M. Earle, MD, who had left the deanship at The University of Texas Medical Branch at Galveston in 1962 and was chief of the Neuropathology Branch of the Armed Forces Institute of Pathology in Washington, D.C., with two other AFIP consultants, was flown to Los Angeles. There, they assisted Thomas T. Noguchi, MD, medical examiner for Los Angeles, in performing the autopsy on Senator Kennedy.⁶⁸² Because of the furor that had surrounded President Kennedy's death, Dr. Noguchi immediately sought the help of the AFIP. By the time Dr. Earle and his colleagues arrived five hours later, the autopsy was nearly complete, the brain removed and the skull open. Under a gag order, the team was sequestered for four days, and heard no news of outside events. During that time it conducted a meticulous autopsy, and had everything photographed in detail. To the team's surprise, *Time Magazine* nevertheless acquired information, describing where the bullet was located.

So confusing were the regulatory impositions and the social disturbances of the 1960s that the march of science occurred behind the scenes. But in July 1969 it came vividly to the fore as Americans once again glued themselves to their television screens and watched

Astronauts Neil Armstrong and Buzz Aldrin step onto the lunar surface from Apollo II—the first men to walk on the moon.

A medical examiner system in Dallas

DR. VERNIE STEMBRIDGE guided a cooperative effort to link a new medical examiner system in Dallas between the county commissioners, the city police department, and The University of Texas Southwestern Medical School. It was designed to assure autonomy, quality, and efficiency in the forensic process. As chairman of the school's department of pathology, Dr. Stembridge then invited **Charles S. Petty, MD**, to move to Dallas from Indianapolis to head the Southwestern Institute of Forensic Services, which combined under the medical examiner's office medicolegal autopsies, toxicology, and criminalistics. All professional appointees would be required to have a faculty appointment. The location of the unit was considered important politically as well as scientifically. As was the case in Travis County, there would not always be smooth sailing.

When Dr. Petty arrived in Dallas in June 1969, he had in hand a letter signed by the county judge stating what the county would do in the new situation. One never knew, however, he said later, where the county judge stood on any given issue, and often, the judge would caution, "we don't want to move too fast." Later, however, he would agree to Dr. Petty's requests.⁶⁸³

On an interim basis for two and one-half years the medical examiner operation was housed at Parkland Memorial Hospital, but, as Dr. Petty observes, hospital pathology runs "countercurrent" to forensic pathology because the needs are different.

"A hospital must handle a large volume, and be prompt. Surgical specimens are the priority," he said. Therefore the hospital sometimes was clogged with bodies awaiting autopsy.

Meanwhile, plans were being drawn for a separate building for the medical examiner. Even so, when he inquired about the surveyor's plat, he was told to oversee the survey himself—which he did. In addition, the land required deeding from three different political units—The University of Texas Southwestern Medical School, the county hospital district, and Dallas County.

Controversy frequently boils around a medical examiner system, with the examiner trapped in a no-win situation. Dr. Petty recalls one difficult situation in Dallas around 1970. Newspaper ar-

ticles "were terrible," he said, and he was ready to leave Dallas. But Dr. A. J. Gill, former dean of the medical school, hooking his cane over his left arm, said, "I think there's something that can be done. I'll see to it."

Dr. Gill formed a committee of three physicians, three hospital administrators, and three morticians. Though Dr. Petty recalls the meetings as difficult, the problem was worked out after several discussions.

The key to forensic pathology, Dr. Petty states, is investigation, and often, "things really aren't what they seem to be."

By team effort, he reports, a good criminal investigation system was established in Dallas, and, among other activities, the Rape Crisis Center was later added to his responsibilities. The Rape Protocol established by Dr. Petty and The University of Texas Southwestern Medical School obstetrics department would become the basis for most rape protocols in the United States.

Dr. Petty also served on the Senate Select Committee that studied the assassination of President John F. Kennedy.

Medical examiners' systems, however, evolved slowly in locations around the state. Corpus Christi pathologists in 1971 submitted to the Texas Legislature a bill amending Article 49.25 of the Code of Criminal Procedure, 1965. When enacted the bill permitted two or more counties to create a medical examiner's district and to jointly maintain a medical examiner's office. The Texas Society of Pathologists hoped the legislation would bring the state one step closer to "the desired goal" of a uniform statewide Medical Examiners' System.⁶⁸⁴

Texas Society of Pathologists; a sign of growth

DR. JACK LINE SMITH of Beaumont served as the secretary-treasurer of the Texas Society of Pathologists from 1965 to 1970. The Society had grown considerably since 1921, and periodically there had been a post of "assistant secretary-treasurer," so onerous were the duties.

When the secretary-treasurer completed his or her tenure—often a job that lasted several years—loads of files and records were transferred to the successor. In February 1970, however, the Society made arrangements with the Texas Medical Association to provide

administrative services, and Iris Wenzel of Austin, a member of the TMA staff, then assumed the duties. She would maintain sole responsibility for the administrative work for many years. Later assisted by other staff, she would retain oversight of administrative services for specialty societies until her retirement on December 31, 1993.

Dr. Smith recalls happily turning over files to Mrs. Wenzel—and transferring minutes, invoices, and other materials. Perhaps he was a little envious, too, of his successor in the office—Dr. Jim Stinson of Temple—for having Mrs. Wenzel's assistance.

Legislative and regulatory shock in the 1970s

TEXAS PATHOLOGISTS used numerous approaches to address legislative and regulatory matters, but a few examples follow.

At the request of the Texas Medical Association in 1970, the Texas Society of Pathologists had considered writing legislation to improve clinical laboratory services in Texas. Interestingly, however, members felt that the federal statute and regulations dealing with inspection and certification of clinical laboratories was “generally providing adequate direction,” and that a Texas bill was redundant. They, however, supported a state bill requiring disclosure to patients of actual laboratory charges for a test.⁶⁸⁵

The Texas Medical Association's Board of Councilors unanimously reaffirmed its position on lay-owned laboratories, stating it was unethical for a physician to utilize, enter the employ, or otherwise participate in the function of such an institution. In 1971 the Board of Councilors urged the Texas State Board of Medical Examiners to act against any physician who entered an agreement with a corporate body, noting the agreement could be in violation of the state's Medical Practice Act.⁶⁸⁶ That same year, the Joint Commission on Accreditation of Hospitals (later the Joint Commission on Accreditation of Healthcare Organizations) published its position that a physician must supervise the clinical pathology laboratories, but that a non-MD might be acceptable as a technical director. The physician director was not required to be full time and not required to be a pathologist.⁶⁸⁷ Various suits were filed in this era against the College of American Pathologists pertaining to its position on lay-owned laboratories and on the voluntary quality control programs it conducted.

In January 1971, the real socioeconomic shocker startled many

pathologists in private practice as the Social Security Administration issued "sharp guidelines" for billing professional clinical pathology services covered by Medicare. The guidelines declared that payment of fees by hospital-based physicians for Medicare patients should be billed as "Part A" (or hospital services) unless there was a specific service performed by a doctor of medicine. The Texas Medical Association declared that pathologists should bill separately for their services.⁶⁸⁸

The issues became more complex. Dr. Carl Lind of Houston in January 1972 reported to his colleagues in the Texas Society of Pathologists that the Social Security Administration had advised several organizations to make plans for quality control and inspection of their own laboratories, including physicians in the specialties of internal medicine and family practice, and that their laboratories must meet accreditation requirements. He discussed the economic impact from the regulations, predicted a profound effect on pathologists and declared that the relationships of hospitals and pathologists would be affected.⁶⁸⁹

Meanwhile in San Antonio, Drs. A. O. Severance and Merle W. Delmer became the first pathologists in the state to establish the principle of separate billing, and quickly worked out an equitable arrangement with Baptist Hospital there.

It was a different story, however, for Dr. Thomas H. McConnell, III, of Dallas. He vividly recalls those days in the early 1970s, when the new regulations sent many pathologists scrambling to work out suitable hospital agreements.⁶⁹⁰

When he joined Dr. Charles Ashworth as a pathologist at Dallas Presbyterian Hospital in 1970, the two were members of a group of pathologists paid a salary from a hospital fund.

"The fund accumulated money from billings sent in the names of pathologists," he recalls, "but the pathologists had no control of any kind over the fund. When Dr. Ashworth left to go into practice at his private lab, I became chairman of the department and challenged the legality of this arrangement in 1975 after failing to get the hospital to negotiate a change. My tactic was to send a copy of the contract to the State Board of Medical Examiners. They in turn consulted with the Attorney General's office."

"In an incredible stroke of good luck," he says, "as it turned out, while the TSBME and the AG were considering this topic, the U.S. Supreme Court, in *Garcia v. State of Texas*, handed down its

verdict in favor of the State of Texas and its medical practice act. The key issue was the 'corporate practice of medicine.'" The Garcia decision supported the right of states to have a law prohibiting the corporate practice of medicine, stating in effect that no one in the state could hire a doctor on a salary, or bill in the doctor's name, or keep physician-generated income after expenses.

Dr. McConnell adds that the hospital subsequently fired him for raising this thorny issue, and the matter became a "nasty, newsworthy dispute which made the front page of both Dallas newspapers several times." Dr. McConnell, however, later realized the distasteful situation was "the best thing that ever happened" to him because he then went into business for himself where he "succeeded beyond my wildest expectations."

Eventually the hospital and Dr. McConnell's successor, who was not found for more than a year, negotiated a separate billing contract along the lines he originally was seeking.

Richard Hausner, MD, had graduated in 1971 from the State University of New York Upstate Medical Center. A younger-than-average student needing experience, he first took a clinical internship in pediatrics at the University of Michigan, and because there still was a military draft and he had a one-year doctor's draft deferment, he entered the Navy doing considerable pediatric medicine. He then returned to the University of Florida College of Medicine for a residency in pathology, moving to Texas in 1978 to join the faculty of Baylor College of Medicine, Houston, as an assistant professor of pathology.

He recalls his academic period as a time of "excellent experience," in pathology, whether or not one pursued an academic career. Although he enjoyed his work, with family responsibilities during the era of financial hyperinflation, he decided to enter private practice in 1981. Joining a new group with **J. B. Askew, Jr., MD**, and **Ena Mocega, MD**, as equal partners, he practiced pathology at Houston Northwest Medical Center.

At the time separate billing was considered a given at the hospital, and the administration advised the group, "You do your thing; and we do ours." On the cusp of changes in Medicare, he began under the Reasonable Compensation Equivalent (RCE) form of reimbursement for government health care programs, which was replaced when diagnosis-related groups (DRGs) were instituted. The

latter required the pathology group to negotiate with the hospital for its component of the Medicare "Part A" services.

In 1983, Dr. Hausner moved to Cypress Fairbanks Medical Center but continued also to serve Houston Northwest Medical Center until 1985. Subsequently his group split, the others remaining at Houston Northwest Hospital and he at Cypress Fairbanks.

Having a slightly different view than some regarding the merits of separate billing, he observes that in Texas it was especially difficult to estimate payment for particular services. In many cases, pathologists did not have great bargaining leverage with administrations after the separate billing episode, and it became difficult under the new DRG system to obtain reimbursement for "Part A" of Medicare.

Also, by the time he had entered practice, automated technology was in full swing. Although automation facilitated delivery of results, he points out that a test itself is "not truly automated." "Without the human element," he observes, "the instrument would stop."

James M. Goforth, MD, of Amarillo, whose uncle was pioneer pathologist Dr. John L. Goforth of Dallas, decided when he was very young that he wanted to be a pathologist. Later, while he was attending The University of Texas at Austin in the 1960s, a cousin talked him into taking the Medical College Admission Test (MCAT). He did well on the test without having studied, and decided to apply to medical school. Accepted at every place he had applied, he chose to attend Washington University in St. Louis. There he studied with Drs. Paul Lacey and Lauren Ackerman. The latter discouraged him from returning to Texas for a residency, and he then decided to take his postgraduate education at Johns Hopkins in Baltimore. Caught, however, in the civil rights disturbances of the 1960s, which were particularly acute on the east coast, he decided to return to Texas, and completed his residency at The University of Texas Southwestern Medical School in Dallas, under Drs. Vernie Stembridge, Frank Vellios, Bruce Fallis, Tony D'Agostino, Ben Dowdey, and others.

While earning extra money as a *locum tenens* in Amarillo, he first became interested in the locale. Since it was near the end of the Vietnam era, he, however, had to complete deferred military service but found that his two years as a pathologist at Fort Leonard Wood, Missouri, were excellent preparation for practice, including daily decisionmaking in a variety of areas. In 1974, he and Rod M.

Nugent, Jr., MD, who had been a resident with him at Parkland Memorial Hospital and UT Southwestern in Dallas, joined forces to open a private laboratory in Amarillo.

When they arrived in the city, **Drs. Ralph Zientek, Bob Brierty, and John Denko** already were serving the community.

Drs. Goforth and Nugent sought a contract at St. Anthony Hospital, and succeeded in getting it. Later they also obtained a contract from Northwest Hospital.

Drs. Goforth and Nugent had been joined in 1983 by **James "Hap" Hamous, MD**, and in the late 1980s, by **Robert Todd, MD**.

Their practice grew well and rapidly, and over the years, they also covered a number of small surrounding community hospitals, including **Guymon Memorial** in Guymon, Oklahoma; and hospitals in **Dalhart, Spearman, Canadian, Hereford, and Dumas**.

In 1974, it was still standard in Amarillo to have a percentage contract, but in 1976, the group turned to separate billing. **Dr. Goforth** recalls taking "some flack," for his group's approach—for they essentially reversed the normal approach to charges, assigning more weight to microscopic and tissue work than to clinical laboratory tests, reasoning that their time really was spent on those areas. Apparently, there was disgruntlement expressed at a meeting of the Texas Medical Association about their approach, and even **Dr. Vernie Stembridge** called with concern about statements made at the meeting.

"But," **Dr. Goforth** responded, "we spent most of our day at the microscope and with tissues and we needed our income to come from what we actually did rather than from the clinical laboratory functions, such as blood glucose, and so on."

Their efforts in separate billing did break ground for other pathologists in Amarillo.

The city had seen an expansion of clinical and anatomic pathology, but never had been successful at obtaining a medical examiners' system with a qualified forensic pathologist, thus justices-of-the-peace continued to control the system. There had been a number of difficulties. **Jose A. F. Diaz-Esquivel, MD**, for awhile had provided the forensic autopsy service. Another practitioner, **Ralph Erdmann, MD**, who had once been in Lubbock and Amarillo, then practiced in Childress, returned to provide coroner's services for the county. He, however, encountered personal difficulties. Reportedly performing too many autopsies in an effort to support the district

attorney and law enforcement officers, he also had to conduct them in inadequate facilities. The situation led to falsification of records. He was charged with falsifying official documents through the justice-of-the-peace system, and was imprisoned.

Dr. John Denko, a pathologist who had been in Amarillo since 1950, had retired.

The Coffey Memorial Blood Center in Amarillo provided blood services to the region, and the director of the center in 1995 would be **Mary Townsend, MD**.

Migration and evolution in the Permian Basin

CHRISTOPHER L. HALL, MD, of Midland, the original medical director of the Permian Basin Regional Blood Center, reports on the continuing development of pathology in other parts of West Texas.⁶⁹¹

Midland.—Dr. Martha Madsen was joined in 1977 by **Richard Schmickrath, MD**, and in 1978 by **David Shneidman, MD**. Dr. Schneidman built a busy dermatopathology and forensic pathology practice, but would leave for Washington state in 1989. **Elisa Hall, MD**, specializing in neuropathology, became part of the practice from 1984 until 1991. **Leena Shroff, MD**, at the Big Spring Veterans Administration Medical Center (VAMC) until about 1987, also would begin working in Midland.

Big Spring.—**Robert Rember, MD**, spent the late 1970s until late 1980s at the Scenic Mountain Medical Center; and later would go to Big Spring VAMC.

Odessa.—**Robert Bright, MD**, would work at Odessa Women's and Children's Hospital from 1980 to 1989, bringing board certification in forensic pathology to the area for the first time. **James Howell, MD**, arrived in Snyder in 1981, and moved to Odessa Women's and Children's Hospital in 1988. In 1990, he would be joined by **Stuart Myster, MD**.

About 1983, Baylor University Medical Center in Dallas began providing pathologists to Medical Center Hospital by contract. Full-time pathologists since that time have included **Sparks Veasey, MD**, **James Bagnell, MD**, (deceased), **Morgan Dyer, MD**, and **John Lewis, MD**. Dr. Veasey completed additional training in forensic pathology and would return to West Texas in 1992 as Ector County Medical Examiner, later moving to Lubbock.

Also in the West Texas area in 1992, the Regional Blood Center would be formed as a joint venture between Odessa Medical Center Hospital and Midland Memorial Hospital, Dr. Hall becoming the first director.

Pampa —**Joe Lowry, MD**, of Pampa reports changes in recent decades in this area.⁶⁹²

Except for 1966 when a pathologist lived in Pampa briefly, Dr. John Andujar of Fort Worth provided services until 1969 at which time **Victor Trammell, MD**, arrived. Dr. Trammell had a good friend, **L. M. Kimbell, MD**, who started practice in Borger at the same time, and the two shared calls.

In 1976, Dr. Trammell left Pampa and was succeeded by **James F. Tilden, MD**. Dr. Tilden, originally from Michigan, had been a general practitioner for several years before taking a pathology residency at the University of Colorado. In 1979, Dr. Kimbell was killed in a car wreck, and **Andrew J. Kalivoda, MD**, who was trained in New Mexico, became the pathologist in Borger. Drs. Kalivoda and Tilden also shared calls. HCA had bought Highland General Hospital in 1982. A few years earlier, Worley Hospital had closed. HCA also built Coronado Community Hospital in 1983.

When, Dr. Tilden retired in 1984, Dr. Lowry became the pathologist at Coronado Community Hospital. Dr. Kalivoda, who continued as pathologist in Borger, shared calls with him. The hospital in Borger, however, was closed in 1989, and Dr. Kalivoda returned to New Mexico. He died in 1992 and Dr. Tilden died in 1994.

Lubbock.—In 1972, Texas Tech University School of Medicine opened on schedule, the Association of American Medical Colleges having reported that it had set a new national record for the establishment of a new school. The school had been authorized by the Texas Legislature in May 1969, a dean appointed in 1970, and classes had begun in the fall of 1972. The AAMC may have forgotten about the World War II instant development of Southwestern Medical College in Dallas, but nevertheless for start-up time at this period of history, the record was impressive. Sixty-one students were enrolled, and there were 120 faculty and staff members.⁶⁹³

“Pathology was drastically changed in 1972/73 when the School of Medicine opened in Lubbock,” comments **Louis Nannini, MD**, of Lubbock.⁶⁹⁴ **Harry Sproat, MD**, was appointed as acting chairman and became the first pathology chairman. Dr. Sproat re-

cruited Donald MacNair, MD, and Carter Alexander, MD. Dr. Sproat would resign in 1984, his position filled by Dale Rector, MD, as acting chair until 1985 when Thomas M. Sodeman, MD, would be appointed chairman. Meanwhile, several other pathologists joined the staff, among whom was Dale Dunn, MD, who would become chairman.

Finally, the number of pathologists arriving in the Lower Rio Grande Valley began to increase. In 1970, Marco Benavides, MD, arrived in Brownsville; and in 1970 Charles Folsom, MD, came to Harlingen, leaving in 1978; in 1974, Richard L. Ballard, MD, and David F. Eanes, MD, moved to McAllen. Between 1978-1983, Jim Maher, MD, (deceased) was in Harlingen; arriving in 1979 was R. R. Garza, MD, Weslaco; in 1980, Ma. De Jesus Ortiz, MD, Brownsville, Weslaco; also in 1980, Lawrence Dahm, MD, Harlingen; in 1981, Ruben Santos, MD, Mission, and Jose Valencia, MD, McAllen; in 1984, Fulgencio Salinas, MD, Edinburg, and Marguerite DeWitt, MD, Harlingen. Arriving in 1988 would be Leonel M. Acevedo, MD, Weslaco; and in 1992, Margie Cornwell, MD, Harlingen, Alberto Gonzalez, MD, McAllen, and in Brownsville between 1992 and 1994, Luis Garcia, MD.⁶⁹⁵

The issues continue

AS SPECIALIZATION of American medicine continued, there sometimes were disagreements about categories and requirements of new specialties. In 1972, the American Board of Nuclear Medicine was scheduled to conduct examinations in its field, and Texas pathologists expressed concern that the Board's requirements would eliminate qualified pathologists from involvement in nuclear medicine.⁶⁹⁶ In 1972, the Texas Society of Pathologists, however, voiced support for limited certification by the American Boards of Pathology and Radiology in the areas of radioisotopic pathology and nuclear radiology.⁶⁹⁷

The Texas Society of Pathologists had been concerned about quality of laboratories since its inception in 1921, and had conducted its own reviews, sometimes in conjunction with the State Department of Health; however, in the 1970s, "quality control" became a highly visible topic, often related to government health care programs. The Society encouraged research and development in the

area of quality assessment, and planned to develop its own program of laboratory assessment. A special committee on quality control recommended moving forward with a chemistry quality control program—using a computer service of the College of American Pathologists.⁶⁹⁸

Perhaps it was timely that the “year of pathology” was observed by Texas pathologists in 1972—for during the previous year the Texas Society of Pathologists had celebrated its fiftieth anniversary, with Dr. Vernie Stembbridge of Dallas serving as chairman of the event,⁶⁹⁹ and this year the wife of a pathologist, Betty Andujar (Mrs. John J.) of Fort Worth, became the newly elected state senator from Tarrant County.⁷⁰⁰

A stream of federal laws showered physicians over the next few years, among them Public Law 92-603, passed in 1972, which included a section establishing Professional Standards Review Organizations, providing for a review mechanism for Medicare programs. The law also contained a section pertaining to billing for laboratory services by pathologists. In 1974, there would be PL 93-641 (the National Health Planning and Resources Development Act of 1974) which terminated the Hill-Burton Act and other health planning legislation and initiated a new “comprehensive health planning” approach.⁷⁰¹ Also being discussed was the “Forward Plan for Health” developed by the Department of Health, Education, and Welfare.

The Texas Medical Association attempted to have the state placed under one PSRO through an organization it formed with osteopathic physicians, known as the Texas Institute for Medical Assessment.⁷⁰²

Then, in January 1973, the Texas Medical Association House of Delegates implemented the Texas Medical Foundation, which began working with specialties to set up physician profiles related to reimbursement for Medicare patients. The challenge, though the foundation was attempting to help physicians, posed difficulties for pathologists because government profiles were set up by number of patients seen, diagnosis, and other factors not directly pertinent to pathologists. However, Dr. J. R. Rainey of Austin reported he was working with Blue Cross-Blue Shield of Texas to set up nomenclature for pathologists.⁷⁰³

Cost containment was to become a larger and larger issue throughout the decade and beyond.

A foreshadowing of change in the practice milieu for medicine also was evident with the development of Health Maintenance Organizations, and in 1973, there was early opposition to an HMO bill in the Texas Legislature that would authorize any corporation to deliver health care services. The bill was reported favorably out of committee, but did not gain enough support to suspend rules for a vote.^{704,705}

Pathologists also saw incursions into realms of scientific medicine, and protested a bill before the Texas Legislature on premarital serologic testing for rubella for all women under fifty, an issue that the Texas Society of Pathologists felt lacked the clear direction of scientific knowledge. The Society declared that "the pathologists of Texas have watched with dismay the increasing legal incursions into the practice of medicine and of pathology, including such misadventures as compulsory PKU [phenylketonuria] testing and the like, without consulting with bodies best qualified to advise." The Society vigorously opposed the "unwarranted and unfortunate legislation."⁷⁰⁶

Computer coding systems would continue to be developed in conjunction with reimbursement for Medicare, and in the fall of 1974, Blue Shield of Texas announced that it would adopt the Current Procedural Terminology (CPT-3) system.⁷⁰⁷

In January 1975, Sidney W. Kowierschke, MD, president of the Texas Society of Pathologists, returning from a CAP-ASCP meeting, referred to high points of the "bureaucrats" messages, reporting their belief that since Hill-Burton legislation had provided the country with facilities, now the nation's manpower must be developed. Further, he reported, they felt that health care was too costly and must be controlled by increasing productivity through using more nonphysician personnel; that health care must be made more competitive, and the number and geographic distribution of specialists should be controlled; that medical students' education should be subsidized in exchange for postgraduate placement into needy areas and there should be use of more foreign graduates. Citing the euphemism "provider of services," he noted the time was getting closer when the term would be implemented. A provider could be a physician or a hospital, and if a patient sought service at a

hospital, the physician would have to seek reimbursement from that institution.⁷⁰⁸

The quality control programs developed in pioneer days by the Texas Society of Pathologists had been needed when first formed, but now professional (ASCP and CAP) and commercial outlets had been developed, negating the need. In the face of legal liability and other risks, a survey was mailed to help ascertain the value of continuing the Texas program.⁷⁰⁹

Even a time-honored medium—the microscopic slide—used by pathologists in diagnosis of tissues faced difficulties in the new reimbursement climate. Pathologists explained that slide referral was consultation between pathologists and not a routine clerical procedure or institutional function. A committee chaired by Dr. Dorothy Patras of Fort Worth developed guidelines for slide referrals, which were adopted by the Texas Society of Pathologists in 1975.⁷¹⁰

As regulations for quality control became more public, so did demands for proof of physician competence. And, although no studies have ever conclusively tied continuing medical education (CME) to competence, CME became a highly visible issue during the 1970s. National specialty boards also began talking about recertification of their diplomates. Noting that about 50 percent of physicians currently were board certified in the mid-1970s, Dr. Vernie Stembridge predicted that recertification would be in effect in five to twenty years. In the 1990s, the opportunity for recertification in pathology would be offered.⁷¹¹

Chronic problems regarding low reimbursement for government programs were becoming acute in May 1977 when it was reported that a large number of physicians were not accepting Medicaid reimbursement.⁷¹²

A new medical school opens

TEXAS A&M College of Medicine opened classes in September 1977 with thirty-two students. The college had been initiated in 1971, when the Texas Legislature authorized the Coordinating Board for Higher Education to apply for Veterans Administration funding to establish a new school. The VA program was directed at relieving the nation's manpower shortage and maldistribution, mak-

ing use of VA hospitals and state institutions of higher learning. Dr. Joyce Stripling Davis, associate professor of pathology at Baylor College of Medicine, Houston, became head of the new pathology program at Texas A&M.⁷¹³

A time of ferment and opportunity

A SCIENTIFIC DEVELOPMENT in the 1970s, spurred by experience during the Vietnam war, called for new legislative approaches. Transplantation of organs was becoming a growing aspect of care in medical institutions. In Texas, in March 1977, the Legislature responded, giving authority to justices of the peace and medical examiners to permit the taking of corneal tissue for transplants, providing immunity in certain civil suits. A leader in passage of the bill, Senator Betty Andujar (Republican-Fort Worth) was commended in a resolution by the Texas Society of Pathologists for her overall service. Her colleagues in the Texas Senate unanimously had named her president pro-tem of the Senate in January 1977, and on May 7, 1977, she was inaugurated and became Governor-for-a-Day. Senator Andujar served ten years in the Texas Legislature, stopping only when faced with triple bypass heart surgery in 1985.

Regulation droned on in the 1970s. The Medicaid and Medicare fraud and abuse bills were enacted, cost containment bills were in progress, and in 1977, the Clinical Laboratory Improvement Act was passed. In Texas, as a result of long-time efforts to improve the medical liability situation, which continued to see a rise in cost and number of suits filed, the Texas Legislature passed the Texas Medical Disclosure Act.

Gradually, medical examiner systems were spreading across the state. In mid-1977, **Robert Bucklin, MD**, became the first medical examiner in Travis County, bringing to nine the number of counties in the state with a chief medical examiner. **Roberto Bayardo, MD**, succeeded him in 1978.

Dr. Bayardo had entered the field of forensic pathology "by accident." He had been in a rotating internship, had taken two years of general surgery, and then an elective in pathology. Liking it better, he applied for a pathology residency. His mentor became **Berne Newton, MD**, on the faculty of Baylor College of Medicine and the staff at Methodist Hospital, Houston. Soon, Dr. Bayardo also met

Dr. Joseph Jachimczyk, the forensic examiner in Harris County, who in 1976 asked him to help out on weekends and holidays.

After two years of conducting hospital autopsies, Dr. Bayardo then left Methodist Hospital and joined Dr. Jachimczyk full time. Soon, he also was helping Travis County Medical Examiner Dr. Robert Bucklin. When Dr. Bucklin left Austin, Dr. Bayardo "was in the right place at the right time," and in 1978 he moved to Austin. The city at first did not have the proper physical facilities, but during the 1980s voters would approve an upgraded system. However, that vote would not be implemented until 1995 when new facilities would be built.

For fifteen years, working every day, Dr. Bayardo was the only medical examiner in Travis County until **Suzanne E. Dana, MD**, who had been in San Antonio, joined him in 1993. Dr. Bayardo initially had responsibility for twelve central Texas counties and by 1995 he would provide services to thirty-five counties.

Government intervention was causing physicians to become more and more involved in negotiation processes in the 1970s, and Texas pathologists even participated in AMA negotiations courses to help them deal with confrontations.

Voluntary continuing medical education remained a hot topic, and the Texas Society of Pathologists and the Texas Medical Association adopted positions during the 1970s and 1980s strongly favoring voluntary continuing medical education (CME). They also were opposed to government involvement, and making CME mandatory for licensure.

The joint Texas Society of Pathologists-College of American Pathologists' geographic quality control program grew considerably during this era, with a number of laboratories participating. The program, however, would not preclude a number of government agencies from becoming involved in "quality assurance" programs.

In 1979, the Texas Society of Pathologists and seventeen other specialty societies became members of the Texas Medical Association Specialty Society Committee, and each was seated as a nonvoting member of the Texas Medical Association House of Delegates. Dr. John Webb became the representative and Dr. Rainey the alter-

nate representative. In 1989, specialty society delegates would be given voting privileges in the TMA House of Delegates.^{714,715}

Goodbyes during the 1970s

DURING THE 1970s, Texas pathologists lost several prominent colleagues to death. A Northwest Texas pioneer in pathology, Dr. Thomas P. Churchill of Amarillo, died in 1970.⁷¹⁶ In 1971, Dr. Truman Conner Terrell, a past president of the Texas Medical Association and five times president of the Texas Society of Pathologists, died at the age of eighty-one, having served medicine in many capacities for more than fifty years.⁷¹⁷ Another pioneer and founder of the Texas Society of Pathologists, Dr. Marvin DeWitt Bell of Dallas, also died in 1971,^{718,719} as did Dr. Francis Elbert Council of Sherman.⁷²⁰ Dr. Herbert J. Schattenberg of San Antonio died in 1972,⁷²¹ Dr. Charles Thomas Brierty of San Antonio in 1973; Dr. Maynard Sterling Hart of El Paso in 1975,⁷²² and Dr. Ellen D. Furey of Beaumont in 1976. A long-time pathologist and a past president of the Texas Medical Association, Dr. George Turner, died in 1976. Dr. A. B. Cairns, formerly of Dallas and an early director of laboratories at Parkland Memorial Hospital and later for many years at Methodist Hospital in Dallas, died in 1979.^{723,724}

Dr. A. J. Gill, former dean of medicine at The University of Texas Southwestern Medical School in Dallas, also died in 1979, following a tractor accident on his farm.

In 1979 also, at age fifty-eight Dr. Feliks Gwozdz died two weeks after returning from his native Poland, where he had been presented an award by the Nicholas Copernicus Medical Academy (at 600 years the oldest medical school in Poland). The award commended his outstanding achievements in forensic medicine. He was honored posthumously also with the Texas Society of Pathologists' Caldwell Award and by the National Association of Medical Examiners, which presented a plaque to his family citing his zest for life emphasized "by his warm smile, friendly voice, and the way he communicated happiness—through Music."

Role of pathology threatened

THE NEED FOR pathology services continued to increase, but during the 1980s, some felt its importance was not reflected in the

curriculum of medical education. Dr. Vernie Stembridge in 1981 considered the status of pathology in the light of Darwinian principles, and pointed out that as the basic science subjects were correlated with the clinical sciences of physical diagnosis, internal medicine, and surgery, pathology began to lose its genuine "bridging" features, and often was reduced to a recitation limited to anatomic pathology. "Consequently," he said, "students and faculty had less appreciation for the true significance of the role of pathology."

In addition, in some schools, the amount of time for pathology had been reduced significantly," he said, "and many students no longer were exposed to pathology as a vital basic science. They thus often had no appreciation for the subject as a specialty branch of medicine.

He further pointed out the importance of the autopsy, and its waning emphasis.⁷²⁵

A grim but necessary procedure, the autopsy also produced a moment of humor for Dr. Billy Bob Trotter of Abilene in the early 1980s. For lack of facilities in the hospital, he conducted odoriferous medical legal autopsies in what was called "the alligator pit" at the Abilene Zoo. For his unusual plight, *Texas Monthly* magazine gave him one of its annual "Bum Steer Awards." Perhaps the magazine writers should have heard Dr. George T. Caldwell's admonition that "you could practice in a barn if you had the brains."

Around 1985, Dr. Trotter stopped doing medicolegal autopsies, the services thereafter provided by the Tarrant County Medical Examiners' System.

Hassles, in effect, were becoming typical for the world of medicine and of pathology. During the 1980s, a number of organizations were involved directly or indirectly in surveying private laboratories including the Centers for Disease Control in Atlanta, the Health Care Financing Administration (HCFA), Food and Drug Administration (FDA) and other governmental units and voluntary agencies. There was considerable opposition to the multiple surveys. In addition, none of the governmental/regulatory agencies had the quality of programs in the private sector.

To compound problems, in July 1981, HCFA stipulated that hospital-based pathologists and radiologists must accept assignments for reimbursement under Medicare "Part B" on all hospital-

ized patients in order to receive 100 percent allowable reimbursement.

In addition, there was a continuing shortage of qualified allied health care personnel, including medical technologists and cyto-technologists. To help alleviate the shortage and encourage qualified individuals into the field of medicine, Dr. Margie Peschel of Fort Worth, chairman of the Texas Medical Association's Committee on Health Careers, led a comprehensive program, encouraging projects such as science bowls in communities to raise awareness regarding career choices in the field.

In the early 1980s Dr. George Race was appointed by Governor William P. Clements to the Governor's Task Force on Higher Education and Dr. Wm. Gordon McGee to the Radiation Advisory Board. Dr. Dorothy Patras was elected to the TMA Council on Legislation (formerly the Council on Medical Jurisprudence).

In May 1982, the Texas Society of Pathologists, following an earlier recommendation, adopted the concept of a House of Delegates policymaking structure, and would become the first state society of pathologists to adopt such a process. With Dr. Andujar as chairman, the other interim directors were Drs. John D. Milam of Houston, Wm. Gordon McGee of El Paso, and Dub Crofford of Dallas. They were to establish the delegate system and nominate the thirty delegates and thirty alternate delegates. The system was approved by members, with a plan to review the process in three years, and in May 1984, the new system was implemented.

Reminiscent of concerns posed by pathologists years earlier when M.D. Anderson Hospital in Houston attempted to start a tumor registry were those expressed in the early 1980s when the State Department of Health planned expansion of its statewide tumor registry. Furthermore, the department planned to make the program compulsory.⁷²⁶ Although some of the anxiety related to proposed punitive measures for noncompliance, as in earlier years, there was apprehension regarding bureaucracy. In addition, there was concern about the confidentiality of patient-physician records.

Texas celebrated its 150th year of existence in 1986, marking its independence from Mexico and its first year as the Republic of

Texas. To observe the event, Texas pathologists coordinated a program with peers in Australia, which also was celebrating 150 years as a country.

Yet another acronym came to haunt Texas pathologists in the 1980s—TEFRA. It stood for the Tax Equity and Fiscal Responsibility Act, which brought hospital ancillary units, including laboratories, under reimbursement limits and once again changed the basis for reimbursements to pathologists, challenging the tenets of separate billing and the professional component of laboratory work.⁷²⁷ Regulations were to invoke “prospective payment,” where appropriate, in the Medicaid program. Pathologists prepared to develop new contracts with hospitals as government programs under Medicare changed to diagnosis-related-groups (DRGs) and to adapt to an updated computer code for reimbursement (CPT-4).⁷²⁸ Under DRGs, there was confusion about how to determine the professional component of charges in both anatomic and clinical pathology.

“Town-Gown” issues also escalated in Galveston (UTMB) and Houston (Baylor) during the 1980s as medical schools and hospitals developed new approaches in the delivery of medical care. There was growing concern among private practitioners that certain institutions were providing professional services in nonacademic settings. Some communities, such as Dallas, experienced no friction, attributable largely to the fact that a member of the full-time faculty at Southwestern served on the Dallas County Medical Society board.

Organ transplantation

MUCH WORK WAS undertaken during this decade to facilitate and assure proper procedures for organ transplantation. Dr. William T. Hill of Houston, chairman of the Texas Medical Association’s Council on Scientific Affairs, particularly sought help in procuring organs for transplant and establishing guidelines. He guided the four-year project between the Texas Medical Association, the Texas Osteopathic Medical Association, the Texas Hospital Association, and the Texas Nurses Association. He also asked each pathologist in Texas to organize his or her hospital with the help of anesthesiologists, emergency room physicians and others “as the basic group to handle procurement of organs.”⁷²⁹

Proposed organ transplantation legislation was controversial.

One bill would amend the justice-of-the-peace or medical examiner system so that, if there was no known objection, at the request of a Texas nonprofit medical facility performing organ transplants, various organs could be removed for transplantation. That would include the taking of eyes, heart, skin, bone, liver, kidney or pancreas and other tissues as they proved clinically useable for transplants. Dr. John Andujar urged all concerned to increase the procurement of organs for transplantation and hormones, with the procedure to be without compensation, and the removal of such tissue performed without disfigurement of the body. At the same time, he urged obtaining prior consent from next of kin or a representative party in charge of the funeral before recovery of tissue.⁷³⁰ The TMA House of Delegates also adopted a position stating that the individual's right to choose the disposition of a loved one's body was paramount, but that, after reasonable attempts to contact next of kin had failed, the coroner had the right to authorize the removal of suitable organs for transplantation purposes.⁷³¹

By 1986, Dr. Hill reported that the TMA Council on Scientific Affairs had surveyed hospitals with more than 100 beds to determine which were affiliated with a transplant center, had criteria for determining brain death, and had bylaws that permitted transplant teams to enter and work in the hospital. With a 40 percent return, he noted that 55 percent were linked with an organ transplant and 45 percent had established brain death bylaws to allow organ retrieval teams to come into hospitals.⁷³²

Honors

DR. JOYCE DAVIS, chairman of the department of pathology and laboratory medicine at Texas A&M College of Medicine, College Station, was named the 1984 distinguished alumnus at Baylor University, Waco. Harris County Commissioners voted to name their new medical examiner building after Dr. Joseph Jachimczyk. In 1986, Dr. May Owen of Fort Worth was inducted into the Texas Women's Hall of Fame.

In medical education, among the endowed chairs announced during the 1980s were those by Dr. John and Senator Betty Andujar for the chairmanship in pathology, and by Patsy Goforth, the widow of Dr. John L. Goforth, for a professorship at The University of Texas Southwestern Medical School at Dallas. Dr. Frank M. Town-

send's faculty at The University of Texas Medical School at San Antonio also honored him when he stepped down as chairman of the department of pathology there with the establishment of the Dr. Frank M. Townsend Professorship.⁷³³ Dr. Vernie A. Stembridge, former chairman of the department of pathology at The University of Texas Southwestern Medical School in Dallas, in 1981 received the Ward Burdick Award of the American Society of Clinical Pathologists, in 1982, the Ashbel Smith Distinguished Alumnus Award from The University of Texas Medical Branch at Galveston, and in 1987, the Joint ASCP-CAP Distinguished Service Award.

Dr. John J. Andujar was honored for many contributions to pathology, and Dr. Townsend was made an honorary past president of the Texas Society of Pathologists.⁷³⁴

Era of "medically necessary" and increasing medical liability issues

IN 1986, A MEDICARE Newsletter informed all Texas physicians that pathologists were being monitored on "quantitative comparison" to other pathologists and audited for compliance to regulations. For a pathologist to bill for services, all consultation for clinical pathology had to be "medically necessary," physician-generated, and require physician judgment.⁷³⁵

As the medical care environment moved rapidly toward managed care, and Health Maintenance Organizations (HMOs) and Preferred Provider Organizations (PPOs) developed, pathologists were encouraged to become involved.

Medical liability issues became some of the most serious concerns during the 1980s, and the Texas Society of Pathologists joined the Texas Civil Justice League with other organizations in 1986 to promote tort reforms as one solution to the problem.

There also were continuing efforts to expand the medical examiner system in Texas. Supporting data from a Texas Medical Association study showed that justices of the peace had pronounced 14,000 people dead in Texas in 1985, and requested 2,465 autopsies, and that medical examiners pronounced 13,000 deaths and requested 6,000 autopsies. It was suggested that a regional system should be developed as an alternative to the existing county-by-

county basis. Because of economic conditions, however, it was felt that a law would not be passed and funded. Since only the Lubbock area of the state was thought to be not well covered, a bill therefore focused on that area.

AIDS poses threats to blood banking

BLOOD SAFETY became a concern in the 1980s in regard to transfusion-transmitted diseases—particularly AIDS. A “look-back” program to trace recipients of blood from donors who were HTLV-III-antibody positive was approved by the American Association of Blood Banks, the American Red Cross, and the Council on Community Blood Centers. There was concern that some individuals currently having a confirmed positive test could have been infectious in the period before testing was initiated. Likewise, the Texas Medical Association’s Committee on Blood Banking and Blood Transfusion, chaired by Dr. Margie Peschel of Fort Worth, encouraged implementation of the program in Texas, urging blood banks and hospitals to participate. Legally facilitating the look-back procedure, the Texas Legislature in 1987 passed a bill allowing blood banks to share information on donors having positive blood tests for infectious disease while protecting their confidentiality. Dr. Peschel reported to the TMA House of Delegates in May 1987 that, through the cooperative efforts of hospitals, pathologists and other physicians, the look-back program had been implemented over the state.

Science and globalization

THE METRIC SYSTEM for laboratories was promoted by the American Medical Association in 1986, which reported that it responded to hundreds of thousands of publications to “one medical world” and that the Metric *Système* International Units would be beneficial, if adopted. Although there was concern with making such a change in every laboratory, the AMA promised to help educate everyone on the new system.

Town-Gown problems erupt

AS TOWN-GOWN problems mounted, the Texas Medical Association House of Delegates in November 1986 adopted a resolution

regarding solicitation of private patients by The University of Texas Medical Branch at Galveston, and its plans to establish satellite clinics. The TMA delegates demanded that "UTMB and all state-supported medical schools or group practices made up of their staff discontinue pursuing the policy of attempting to purchase medical practices and inducing physicians to change their referral practices based on monetary or other than purely good medical indications." In January 1987, medical school representatives met in Austin to discuss the issue, and following the meeting, UTMB stated "it had not purchased and did not plan to purchase private practices, nor establish satellite clinics solely for economic purposes." The school also reported that it was inviting its volunteer faculty in Galveston to participate in UT-MED [the private practice plan developed by the school].⁷³⁶

In Houston, there also were concerns regarding Baylor College of Medicine's "intrusion" in the private practice of medicine, and the principal parties there reported a misunderstanding and plans to work out an arrangement that was satisfactory to both academic and private physicians.

Science and socioeconomic clash

THE PARADE OF scientific revelations grew ever more futuristic in the 1980s, which brought the first artificial intelligence program for medical diagnostic usage, MYCIN, introduced by Ted Shortliffe, and designed to assist with managing drug interactions in antibiotics;⁷³⁷ various tumor markers for specific cancers; the discovery of oncogenes by R. Weinberg and M. Barbacid, and observation of the Rb gene with retinoblastoma, the first oncogene to be localized, by R. S. Sparks, et al. The Jarvik-7 artificial heart had been inserted in Barney Clark, and a natural hormone, tissue plasminogen activator (TPA), had been made available for treatment of heart disease and stroke. Also being developed were genetically-engineered drugs.

A newer body scanner, especially for soft tissues, Magnetic Resonance Imaging (MRI), became available as did Magnetic Resonance Spectroscopy (MRS) for analysis of body chemistry. Similarly, MRI cine-imaging was under development to show the motion of the heart, and at Loma Linda Medical Center in California, an "automated doctor" was being designed.

Science was moving too rapidly to be readily codified in regulations or by insurers, and occasionally that meant denial of Medicare reimbursement for procedures. Such was the case for cardiac enzymes at Baylor Medical Center in Dallas. In 1987, the Texas Society of Pathologists adopted a resolution affirming the medical necessity of physician observation and clinical evaluation of these studies, and stating that the process constituted a valid medically necessary consultation by a clinical pathologist or a physician with appropriate background and training. It further stated that cardiac enzymes were a vital and essential part of the evaluation of a patient suspected of having a myocardial infarct.⁷³⁸

The Clinical Laboratory Improvement Act of 1988 (CLIA 88) had raised new concerns regarding certification and regulation of clinical laboratories. Practitioners reported Medicare inspection problems, and opposed a Health Care Financing Administration (HCFA) position that readings of microscopic slides were a laboratory test. Problems also continued with CPT coding for Medicare reimbursements, and on the horizon a new reimbursement scheme was being worked out on a national scale—the Resource Based Relative Value Scale. Developed by a Harvard professor, it assigned points to physicians' cognitive and technical services. An old idea had come full circle and then some.

A few more acronyms appeared during the 1980s, among them the MAAC (Maximum Allowable Actual Charges). Applied now to pathologists, it limited anatomic pathology charges and specified significant penalties for failure to comply.

Texas Medical Association studies in 1988 and 1989 had shown that professional liability and the cost of malpractice insurance was the number one problem facing Texas physicians. In a litigious society, "risk management" had become a familiar term, and Dr. William T. Hill of Houston, chairman of the Texas Medical Association's Council on Scientific Affairs, saw a way for pathologic analysis to help. He therefore guided studies in 1989 in the high risk area of obstetrics where lawsuits often amounted to more than a million dollars. He felt it would cost less than half that amount if placental examinations were done to help elucidate the pathologic etiology.

The Joint Commission on Accreditation of Healthcare Organizations became more stringent in requiring evidence of continuing competence for purposes of credentialing medical staff privi-

leges in hospitals, and there was increasing pressure for pathologist board recertification.

Migration and adaptation continue

AS TEXAS GREW rapidly, the movement of pathologists became more routine across the state.

Many traditionally small towns in Texas would grow relatively large. Dr. Dudley Jones observes that even a small town like Arlington has a very complex and intertwined history with regards to the practice of pathology. By the 1990s, Arlington would no longer be a small bedroom community, but would have a population of 250,000.⁷³⁹

In 1967, **Henry Owens, MD**, had joined **John Liles, MD**, to help in the private laboratory and with coverage for the Arlington Memorial Hospital. After Medicare, Dr. Liles, apparently made some demands at the hospital that were not agreeable to the administration, and his contract was terminated in late 1968 or early 1969. Then **C. D. Fitzwilliam, MD**, Fort Worth, provided temporary coverage to the hospital until **George Peacock, MD**, took over the practice of pathology in the summer of 1969, upon completion of his residency training at Parkland Memorial Hospital, and Southwestern Medical School at Dallas.

In 1970 **William Tom Sparrow, MD**, joined Dr. Peacock at the hospital, and left in 1971 to join the faculty of The University of Texas Southwestern Medical School at Dallas. He subsequently moved to Tyler.

In July 1972, Dr. Jones joined Dr. Peacock at Arlington Memorial Hospital. Although there was an initial partnership, it was formulated into a corporate structure January 1, 1973, and became the Arlington Pathology Association. This association held a contract with Arlington Memorial Hospital and also created an independent laboratory for Pap smear and tissues biopsy specimens. Sadly, in October 1974, Dr. Peacock diagnosed his own case of acute granulocytic leukemia and died in early February 1975.

In June 1975, **Clifton R. Daniel, MD**, joined Dr. Jones at Arlington Memorial Hospital. In 1976, **Robert Karper, MD**, and in 1977, **Jim Helgeson, MD**, joined the group at Arlington Memorial Hospital—bringing the total number of pathologists to four. Dr. Karper left in 1980 to take charge of the laboratory at HEB Method-

ist Hospital in Euless. In 1978, **Joel Barton, MD**, joined the Arlington group but left after two years for private practice in Gaithersburg, Maryland. In late summer 1989, **J. M. Gilbert, MD**, joined the group at Arlington Memorial Hospital and subsequently became partner in the Arlington Pathology Association.

In the early 1970s, Drs. Liles and Owens sold Western Clinical Laboratory to Bio-Medical Laboratories of New York, but continued to operate under the original name. Dr. Liles moved to Waco in 1973 to practice at the Veterans Administration Hospital, and Dr. Owens opened his own laboratory in Arlington, primarily for anatomic pathology since the clinical laboratory was then owned by Bio-Medical Laboratories. He operated his private laboratory and supplied some pathology services to Arlington Memorial Hospital (since there was an open staff) until his untimely death in 1987 of carcinoma of the liver.

In the initial years of Arlington Community Hospital, **Ken Ford, MD**, and **Reggie McDaniel, MD**, provided coverage for pathology. **Vic Trammell, MD**, contracted with Arlington Community Hospital, and was later joined by **Steve Aldred, MD**. They formed Trammell-Aldred Pathology Associates, but Dr. Trammell became ill and in 1990 left the group. Dr. Aldred then formed a corporate entity, Arlington-Mansfield Pathology Associates—covering also a small hospital in Mansfield. Dr. Aldred joined **Barbara Shinn, MD**, and **John McDonald, MD**.

In Wichita Falls, **Donald Fletcher, MD**, had retired in 1978, and **Nello Brown, MD**, who had joined him in 1968, retired from Wichita General Hospital in January 1988, and became the full-time medical director of the Wichita Falls Chapter of the American Red Cross. He also was made an honorary lifetime member of the board of directors for his outstanding work on behalf of the American Red Cross in the community.⁷⁴⁰

John Byron Parker, MD, had practiced occasionally, usually part-time, at Wichita General Hospital from 1972 to 1981. **John Webb, MD**, joined Dr. Eleanor Irvine at Bethania Hospital in 1978, and would retire from pathology in 1987.

Carlos Mattioli, MD, would practice with Dr. Irvine at Bethania from 1990 to 1992.

At times, although rarely, a pathologist leaves the practice of pathology. Such was the case of **Dan Moser, MD**, who had left Wadley Hospital in Texarkana in 1984 as director of the laboratory,

served as pathologist in several other locations, including Wichita Falls, and began working as a *locum tenens*. A graduate of The University of Texas Southwestern Medical School at Dallas, he later decided he wanted to undertake a family practice residency and, in 1994, would be accepted into a residency at the University of Arkansas program in Texarkana, Arkansas.

In Temple, Alan R. Jay, MD, in 1968 succeeded Dr. W. N. Powell as director of the division of clinical pathology at Scott and White. He had been director of laboratories at Swedish Hospital, Minneapolis.

Colonel Albert Leibovitz came to Scott and White in 1970, and would spend most of his time on tissue culture and cell biology. He would be the first to establish a cell line in colon cancer.

Donald A. Jutzy, MD, arrived at Scott and White in 1972 as director of the Division of Clinical Pathology. Upon retirement in 1990, the Donald A. Jutzy, MD, Laboratory Information Suite would be named for him. He later would go to China to become the country's first clinical pathologist, and would die during his sojourn there.

Robert Thompson, MD, arrived in Temple in 1972. He had done cancer research in France, spent half of his time in the department of pathology as director of the blood bank and the other half in clinical oncology. He left in 1975.

John F. Greene, Jr., MD, joined the department of pathology at Scott and White in Temple in 1973, as a surgical pathologist and administrator. After 1982 he would be director of the division of anatomic pathology. He also would become involved in research and would be instrumental in reestablishing the reference laboratory service.

Jaime A. Diaz, MD, joined Scott and White in 1978, as a surgical pathologist and teacher at the medical student, resident and staff levels. He has a subspecialty in dermatopathology.

Daniel J. Ladd, MD, joined Scott and White in 1978, and in 1982 would become director of the division of clinical pathology.

Howard W. Huntington, MD, would be the first neuropathologist at Scott and White, joining the Clinic and Hospital in 1982, from UT Medical School in San Antonio.

Edward S. Rappaport, MD, would join the pathology department in 1982 as hematopathologist and chief of the section of hematopathology in the division of clinical pathology.

Raymond A. Trompler, MD, would join the pathology staff in 1984. **Sheila Dobin, MD**, also would join in 1984 as the first cytogeneticist, after training in cytogenetics in the department of pathology at The University of Texas Southwestern Medical School, Dallas. Also a medical geneticist, she would have a half-time appointment in the department of pediatrics, and would be involved in many activities, including the TEX-GENE program. She would be highly respected as a cytogeneticist.

Ludvik R. Donner, MD, PhD, would join the Scott and White staff in 1986. He grew up in Czechoslovakia and attended Charles University, Prague, the oldest university in Central Europe. Before coming to the United States, he conducted genetics research, continuing it after his arrival in 1976, and became involved in immunopathology and molecular biology research at the National Cancer Institute.

Steven C. Bauserman, MD, in 1986, succeeded Dr. Huntington as neuropathologist after having served as chairman of the department of pathology at Blodgett Memorial Hospital in Grand Rapids, Michigan.

V. O. Speights, DO, began his residency at Cleveland Clinic, and finished at Scott and White before joining the staff in 1987. He would teach and conduct research, especially in urologic pathology.

Jorge E. Bilbao, MD, was a resident at Scott and White, and completed a surgical pathology and immunopathology fellowship at the Mayo Clinic. He would join the staff in 1988. He grew up in Chihuahua, Mexico. In 1990, he would join a group of pathologists in El Paso.

R. Steven Beissner, MD, PhD, completed a residency at Scott and White and would join the staff in 1988 as associate director of clinical pathology and director of the Reference Laboratory and later the division of anatomic pathology, assuming directorship of the pathology residency program and replacing Dr. Jutzy as medical director of the Laboratory Information System.

Goodbyes during the 1980s

DR. EDWARD S. REYNOLDS (1928-1983), chairman of the department of pathology at The University of Texas Medical Branch at Galveston, died unexpectedly in 1983. That same year, Dr. Charles J. Thus, Jr., of San Antonio died in a private plane crash with his son and two passengers, and Dr. Diane Kay Beach of Lubbock died at age thirty-six in an accident attributed to smoke inhalation after a fire in her home.

There were several deaths in 1985. Among them were long-time leaders of Texas pathology, Drs. Charles T. Ashworth, professor of pathology at The University of Texas Southwestern Medical School, Dallas, and Dr. John L. Goforth, a pioneer Texas pathologist. Also, Dr. Robert L. Casao, a native of Mexico and resident of El Paso; Dr. Coloman de Chenar, a native of Hungary and resident of Austin who had assisted in the investigation of deaths following the 1966 shootings on The University of Texas campus; and Dr. Sidney Wayne Kowierschke, who had practiced in Bryan, El Paso and Huntsville.

Dr. Howard W. Huntingon, who had served as chief of the Audie Murphy Veterans Administration Hospital in San Antonio and at Scott and White in Temple, died in 1986.

A pioneer San Antonio pathologist, Dr. John M. Moore, born in 1890, died in 1987 at age ninety-seven. He had had a long career in pathology at Santa Rosa Hospital in San Antonio. "The first lady of Texas pathology," Dr. May Owen of Fort Worth, past president of the Texas Medical Association, died at age ninety-six in 1988. Dr. Stuart A. Chamblin, Jr., of San Antonio died in 1989.

Transformation, recession, and more acronyms

THE MID-1960s through the 1980s had been eras of explosive scientific growth, and had seen application of that growth to daily life. Environmental issues became paramount—antitobacco campaigns mushroomed, as did efforts to eliminate asbestos from buildings. As a result of more than 10,000 claims against their company by those attributing their medical problems to asbestos exposure, the Manville Corporation—the nation's biggest producer of asbestos—filed for bankruptcy in August 1982.⁷⁴¹

In 1984, the National Heart, Lung and Blood Institute an-

nounced a relationship between heart attacks and cholesterol; the first baby was born from a donated embryo and another from a frozen embryo; researchers reported identification of the viruses that caused AIDS, and the heart of a baboon was planted in baby girl;⁷⁴² in 1985, a teacher taking fertility drugs gave birth to sextuplets.⁷⁴³

Texas physicians at Baylor College of Medicine in Houston—DeBakey, Cooley, Milam, and others—continued their work in the realm of heart transplants and artificial hearts.

Drs. Michael Brown and Joseph Goldstein of The University of Texas Southwestern Medical School at Dallas shared the 1985 Nobel prize in medicine and physiology for their work on LDL-receptor defects in atherosclerosis. In March 1986, the *New England Journal of Medicine* published a sixteen-year study showing the role of exercise in longevity.⁷⁴⁴ As the number of deaths from AIDS continued to rise, with predictions of much higher numbers, Surgeon General Everett Koop urged Americans to educate their children more explicitly on sexual matters to slow its spread.⁷⁴⁵ In January 1987, the first mass market television to accept advertisements for condoms appeared.⁷⁴⁶ In 1988, Masters and Johnson found AIDS increasing in the heterosexual community.⁷⁴⁷

Also in the 1980s, biologists claimed a woman living 200,000 years ago was the biological ancestor of every living person, and inventors patented new forms of animal life obtained from genetic engineering and gene splicing.⁷⁴⁸

The Human Genome Project continued its pursuit of knowledge on the human gene pool, and in 1989 U.S. researchers first injected genetically engineered cells into human patients.⁷⁴⁹

In 1989, Surgeon General Koop issued a report that cigarettes and other drugs were addictive,⁷⁵⁰ and that cigarettes reportedly caused nearly 400,000 deaths.⁷⁵¹

Tragedies also struck during the 1980s requiring the resources and abilities of Texas pathologists in forensic areas. A major catastrophe occurred on August 2, 1985, when a Delta Airlines aircraft crashed at Dallas-Fort Worth Airport.⁷⁵² The Dallas County Medical Examiner's office conducted examination of the bodies, receiving many compliments for its work.

A different kind of terrorism arose around research laboratories and medical schools in the 1980s, as several groups opposed the use of animals in experiments. A laboratory at Texas Tech Univer-

sity Health Sciences Center was sabotaged in 1989 by alleged animal rights activists.⁷⁵³

The 1980s also saw a period of economic boom in Texas as people flocked to the nation's Sun Belt, but in the aftermath of a flush real estate market and the continuing decline of the oil industry, the boom was followed by a severe recession. During the discouraging era, it was said that the vast Texas Medical Center in Houston had become that city's sustaining industry—quite amazing since only four decades earlier, the land on which the Center stood was a thick forest.

Advertising became a greater issue in medicine. In 1965, Walter Walthall, MD, chairman of the Texas Medical Association's Board of Councilors, had solemnly written, "A physician's self-aggrandizement or his aggrandizement by friends, family, or associates ultimately destroys his usefulness. History has borne this out."⁷⁵⁴

In the late 1970s, however, outside forces challenged this long-held position. "Despite their financial fragility and the operational realities of their lives as businessmen, graduates of respectable medical schools did not advertise their services to the public," writes Robert L. Martensen.⁷⁵⁵ "In fact, the AMA code of ethics prohibited advertising by physicians, retreating from the position in the 1970s under pressure from decisions by the U.S. Supreme Court (eg, *Goldfarb v Virginia State Bar*, 1975) regarding advertising and the professions in general."

As institutions in Texas began to advertise their medical services—to put it mildly—Dr. Edward F. Cooke and the other founders of the Texas Society of Pathologists might have turned over in their graves. Long had they discoursed on the ethics of advertising during their first meetings in the 1920s!

In 1983, the last episode of *MASH* was shown—with the largest-ever television audience for a single show—ending after 250 episodes.⁷⁵⁶ By that time, the setting for the show, South Korea, was a vibrant, prospering area. In 1989, the Berlin wall came down, uniting Germany and breaking the long Cold War between East and West.

During the 1980s, the American Medical Association had reviewed the future of pathology, and observed that, "with renewed emphasis on quality of care in the health professions, the pathology specialty has the potential to make substantial contributions to the

quality and art of medical practice, and is likely to remain at the center of efforts to refine methods of quality assessment and implementation.”⁷⁵⁷

By the end of the 1980s, access to health care for certain groups and the cost of health insurance became more prominent issues, stirring debates on reforming the health care system. Social conflicts developed around treatment of people with AIDS, challenging the once accepted role of conquering communicable diseases through a public health approach. The “environmental” movement continued but not without conflict. “No smoking” and “smoke-free” buildings, however, were becoming the norm. Better nutrition and less fat in the diet and more exercise were identified as highly important health factors. Lifestyle and personal responsibility were defined as significant causes of poor health. Organ transplants became more common.

Terms like mammography and MRIs and lasers became part of the lexicon as advancing technology made equipment ever simpler to use. More physicians were overcoming their fears of desktop computers, only to be confronted with threats from computer “viruses” if they had online connections.

Over its two-and-one-half decades, Medicare had ushered in an era of intense regulation—along with an amazing array of acronyms, among which were PSRO (Professional Standards Review Organization), TIMA (Texas Institute for Medical Assessment), PPS (prospective payment system), RCEs (reasonable compensation equivalents), DRGs (diagnosis-related groups), TEFRA (Tax Equity and Fiscal Responsibility Act), HCFA (Health Care Financing Administration), HSAs (Health Service Agencies), PPRB (Provider Reimbursement Review Board), OIG (Office of the Inspector General), OBRA (The Omnibus Budget Reconciliation Act), PRO (Peer Review Organizations), OSHA (Occupational Health and Safety Administration), MMPPPA (Medicare and Medicaid Patient Program Protection Act), CLIA (Clinical Laboratory Improvement Act), ICD-9 (International Classification of Diseases diagnosis codes), OMB (Office of Management and Budget), and a title change from DHEW (Department of Health, Education, and Welfare) to DHHS (Department of Health and Human Services).

Not only had the world of medicine been transformed, the entire world had changed right before everyone’s eyes. People began talking about the upcoming millennium.

Chapter 11

A New Milieu for Medicine

(1990–1995)

Beware of determining and declaring your Opinion suddenly on any Object; for Imagination often gets the Start of Judgement, and makes People believe they see Things, which better Observations will convince them could not possibly be seen: Therefore assert nothing till after repeated. Experiments and Examinations in all Lights, and in all Positions.

When you employ the Microscope, shake off all Prejudice, nor harbour any favourite Opinions, for, if you do, it is not unlikely Fancy will betray you into Error, and make you think you see what you would wish to see.

Remember, that Truth alone is the Matter you are in Search after, and if you have been mistaken, let no Vanity seduce you to persist in your Mistake.

Pass no Judgement upon Things over-extended by Force, or contracted by Dryness, or in any Manner out of their natural State, without making suitable Allowances.

Henry Baker, in “Of Microscopes and the Discoveries Made Thereby,” Read before the Royal Society, October 28, 1742.⁷⁵⁸

NEAR THE CRADLE of human cultural history—the Persian Gulf—America sent troops to war again in the early 1990s. The rest of the country’s population became transfixed to images on television sets, beamed in perfect clarity by satellite. On the screen, as-

tounding new weapons burst into flashes of light, criss-crossing the night sky over Baghdad, the capital of Iraq. Ending quickly, the 1991 "Gulf War" demonstrated symbolically the startling technology that had pervaded almost every aspect of life in the final decade of the twentieth century.

Then there was trouble in Somalia, Haiti, and civil war in the Balkans—the very region where World War I had been ignited.

America could not always prevent problems from erupting in widely disparate parts of the globe, but occasionally she could control immediate problems with superior military forces. And, often she was called upon to do so.

The world of medicine was not so terribly different from the world of international relations. Transformed by new technologies, it likewise could not control its environment. Politically there were constant brushfires and medically there was emergence of new and mutating diseases.

At the beginning of the century, syphilis had been a prevailing concern; in the 1990s, AIDS proliferated. Old diseases presented new faces. Tuberculosis had become resistant to antibiotics, and a forgotten streptococcal infection known as "the flesh-eating" bacteria made headlines. Pollution from an industrializing Mexico, pesticides on Texas farms, and automobile exhaust in Texas cities were suspected causes of environmental illnesses. Along the Mexican border, contamination associated with unclean water and lack of sanitation promoted cholera and allowed mosquitoes to breed and once again spread dengue fever. Rare viruses were reported.⁷⁵⁹

Yet, the final decade of the twentieth century hovered on the brink of immense new promise, especially in immunology and molecular biology. In 1990, doctors at the National Institutes of Health began the first gene therapy on a human patient, injecting cells into a four-year-old.⁷⁶⁰ In 1991, the National Cancer Institute initiated clinical trials of retinoic acid (vitamin A), and preliminary studies showed it caused cancer cells to mature and die.⁷⁶¹ The prostate-specific antigen immunoperoxidase (PSA) blood test for early diagnosis of prostate cancer became available, and the faulty gene in cystic fibrosis was identified. DNA applications were becoming ever more common and essential in clinical and forensic laboratories.

One such usage became important in Texas in early 1993, when the Branch Davidian mass disaster occurred outside Waco. De-

scribed as "the most complex crime scene of this century" by the Federal Bureau of Investigation, the tragedy ultimately became the grisly duty of the Tarrant County Medical Examiner's Office in Fort Worth, which had a contract to provide services for McLennan County where Waco is located. **Nizam Peerwani, MD**, chief medical examiner, directed and processed the forensic evaluation. He reports that eighty-five bodies were examined, including ten who were killed in the initial shootings when agents of the federal Alcohol, Tobacco, and Firearms Agency (ATF) attempted to enter the compound. Included were four ATF agents and six members of the Branch Davidian cult who had been buried on the grounds. When fire broke out on April 19, destroying the compound and its inhabitants, Dr. Peerwani and his staff received seventy-five more bodies to examine.⁷⁶²

Forty-five of the bodies in the disaster were identified by the following means: 33, dental records; 4, fingerprinting; 2, both dental records and fingerprinting; 2, comparing radiographs. The four ATF agents were identified visually. This group of forty-five, which included one child, was identified and autopsied within a month following the fire. Another ten months was required to complete identification of the remaining forty bodies, for which DNA techniques were employed.

DNA technology had provided a tremendous boost in the ability to make identifications. The district medical examiner's office in Fort Worth, which serves Tarrant, Parker, and Denton counties directly, initiated its DNA system in 1989, completed testing and quality assurance in 1990, and was on line in early 1991.

Generally, in medicolegal cases, Dr. Peerwani reports that defense lawyers and the courts have accepted DNA technology, and that the only problems result sometimes from procurement of samples by police. Nevertheless, he has not encountered difficulties having the courts accept the technology.

Other technological advances continued to amaze the world of medicine in the 1990s. Ultrasound scanners could produce two-dimensional slice information at high speed, tracking moving structures in the body. On top of that, they had been miniaturized to one millimeter for use with endoscopes and surgical instruments; Doppler scanning provided information on rates of blood flow; magnetic resonance imaging (MRIs) was expected to grow ever more discriminate, less expensive and find new uses. Artificial intelligence

also was making significant advances.⁷⁶³ The laser had become an ever more useful tool. Pharmacology had exploded, and some new drugs were found deep within rain forests. Fine needle aspiration was used routinely for biopsies, and, in oncology, selective targeting was applied in a number of ways, including using monoclonal antibodies to enlist the aid of viruses and bacteria in delivering cytotoxic drugs.⁷⁶⁴

Medical advances sometimes backfired, of course, and such was the case in 1992 when the public became alarmed about the side-effects of silicone-gel breast implants. The Food and Drug Administration placed a moratorium on their use, with special guidelines. Meanwhile scores of liability suits were filed against manufacturers and physicians who had been involved in the procedure.

Regardless of setbacks, new technologies continued propelling society ever deeper into the information age. Parallel computers sorted, compiled and reported thousands of items at once. Marriages between telephone, computer, and television brought “virtual reality” ever closer. Smaller satellite dishes and other equipment made “telemedicine” more feasible at remote sites. Continuing enhancements of the Internet, with sophisticated “web” browsers, provided ever simpler access to medical information throughout the world.

Texas pathologists had embraced automation and computerization since the 1960s, and their eagerness to remain at the forefront of the information age was evident when a 1995 resolution from the Texas Society of Pathologists called for inclusion of E-mail addresses in the next membership directory of the College of American Pathologists. The idea was adopted by the national organization.⁷⁶⁵

Pathologists also were more comfortable with changing technology than they were about new directions in the health care system itself. Although the problems—economics, ethics, and quality—were the same as those that confronted the specialty seventy-five years earlier, they had a chameleon-like nature and were far more complex and pervasive.

A few decades earlier, the clinical laboratory had been located in an un-air-conditioned, dimly-lit room, typically in the basement. The room might be furnished with a microscope, a Bunsen burner, a few tubes and flasks, perhaps gallon pickle or mayonnaise jars, a sink, and little else. The stench was sometimes overwhelming. Now

it had become an almost pristine chamber lined with computerized equipment. The academic museums of elegant cherrywood cases long ago had fallen way to 35-millimeter slides, which easily could be electronically scanned and transmitted vividly via the Internet.

The 1980s also saw the rise of large commercial laboratories. Organizations such as Corning and SmithKline rapidly began purchasing private laboratories in Texas and elsewhere.

In some locales, as large corporations continued their rapid purchase of private laboratories, the often-repeated laments about lay-owned laboratories took on a new cast. Managed care was no longer something that was coming. It had arrived. Coping with change would become necessary for survival, and meanwhile for pathologists, there were long workdays filled with administrative and professional demands.

As knowledge exploded, pathology continued to subdivide, and by June 1995, under the primary certifications of anatomic and clinical pathology, the American Board of Pathology recognized ten subspecialties: blood banking/transfusion medicine, chemical pathology, cytopathology, dermatopathology, forensic pathology, hematology, immunopathology, medical microbiology, neuropathology, and pediatric pathology.⁷⁶ Also by June 1995, the Texas State Board of Medical Examiners had licensed more than 1,400 pathologists, and nearly 600 Texas pathologists were members of the Texas Society of Pathologists.

Though unseen by most patients, pathologists served Texas patients in many capacities—as medical school faculty and basic science researchers, as hospital-based clinical and surgical pathologists, as forensic pathologists, as partners in small group practices, and as medical directors for large commercial laboratories. They were integral members of medical teams.

Regardless of the new dimensions of pathology in the 1990s, not everything had changed. “Circuit riding,” for example, had not disappeared. For Dr. Wm Gordon McGee of El Paso that meant traveling regularly to New Mexico, Northern Arizona, and as far as Montana to provide contract services for the Indian Health Service and others.

In a way, Medicare had helped extend his services over the years because it required visits by pathologists, but he predicted that the specialty of pathology “was in for rough times.” There would be restraints and production quotas with few pathologists in the labora-

tories, most contracted to Health Maintenance Organizations and other groups. Early in the computer revolution, he and his partners had understood their importance and, unable to find the right systems for themselves, they developed their own software in the late 1970s, and eventually began to sell it nationally. As Advanced Laboratory Systems, the group had installed 40 or 50 systems when bought out in part by 3M Corporation. In April 1995, the group sold the software company to an Atlanta firm.⁷⁶⁷

In 1990-1991, Dr. McGee would serve as president of the Texas Medical Association. It was the year that the association successfully won a recoupment of \$13.5 million in Medicare payments for physicians.

Not every city had experienced the presence of large commercial laboratories, but nevertheless transformation in the medical environment was insidiously at work. Susan Strate, MD, who had received her medical degree from the University of Nebraska and completed her residency training at UT Southwestern, had been in practice in Wichita Falls since 1985. When she arrived, the city had two main pathology groups and, in addition, there were pathologists at nearby Sheppard Air Force Base. During that time she had seen few changes in the two main groups. Each had served one of the main hospitals and also outlying smaller hospitals. Changes, however, did occur in other physician practices. After having been together many years, some groups began to split and that shifted the traditional relationships to laboratories. Intensifying government regulation and subsequent twists in reimbursement methods had affected the way hospitals conducted business; still, the major changes were attributable to managed care and the mergers of physician practices. From 1993 to 1995, that meant an increasing number of contracts to evaluate and sign, and the intensity of change became much more noticeable than during her first eight years in practice. Her laboratory nevertheless remained a fee-for-service group, and had no capitation contracts. Only one major chain, Columbia HCA, had set foot in Wichita Falls, as owner of the Surgicenter, whereas the city's two acute care hospitals continued under their previous ownership—Bethania run by the Sisters of Charity and Wichita General Hospital managed by a private board of Wichita General Service Corporation as a not-for-profit institution.⁷⁶⁸ Along with changes related to managed care, Dr. Strate noted that pathologists'

knowledge and skills in management, contracting, utilization, and quality improvement were in high demand—suggesting that indeed there were many opportunities for pathologists in leadership roles for which other physicians had less expertise.

Dr. Strate served as 1995 president of the Texas Society of Pathologists.

Dr. Richard Hausner of Houston, who had left the faculty of Baylor College of Medicine for private practice in the early 1980s, observes that pathology was having to respond to changes bigger than itself, changes that were very difficult to control. Consolidation of hospitals, mergers, and “megachains” in turn had caused adaptations in both private and academic practice of pathology.

“It is very difficult to control,” he declares, “you must respond to the environment and yet remain true to your own professional principles.” When it comes to assuring quality, he believes medical and pathology organizations must be the keepers of the flame and remain true to creed and profession. A challenge, he says, that also might call for a reinterpretation of role and mission.

In part, however, he believes that the direction of medicine depends on that taken by technology, with the pendulum possibly swinging back, and pathology emerging as even more important. Perhaps, he adds, pathology might evolve, adapt and be rediscovered in a different form while keeping its same principles of professional conduct.

He also finds that consultations between pathologists had become more frequent and necessary in terms of quality assurance and for medicolegal purposes. Such consultations were attributable to the need for practicing defensive medicine and, as technology and science continued to refine the possibilities for more sensitive and sophisticated determinations, greater technical skill was required. Such was the case with carcinoma of the prostate with suspicious levels of specific antigen (the PSA test), in which small amounts of tissue had to be interpreted extremely carefully, sometimes requiring extra scrutiny. Further, radiology was revealing deeply-situated breast lesions that also were more difficult to interpret. In addition, there was fine needle aspiration, a “a cytology explosion,” immuno-cytochemistry, histopathology, and flow cytometry.

Under the circumstances, smaller practices might have only a limited ability to perform some of the sophisticated testing, and had to send work to larger centers with the necessary technologies.

Another change Dr. Hausner had observed was that outpatient laboratories owned by pathologists were much less common—they were either economically difficult to sustain or being sold to larger laboratories.

For medicine generally, mass reform of the health care system and “national health insurance” had seemed imminent early in the 1990s, but by 1995 the chances of such sweeping change had diminished. Nevertheless, piecemeal changes continued to impact pathology. **Ibrahim Ramzy, MD**, of Houston, 1994 president of the Texas Society of Pathologists, felt the environment that year had “pitted private practitioners against academicians, large national laboratories against small private laboratories, and private pathologists against each other.”⁷⁶⁹ Like it or not, the old days had virtually disappeared.

During 1994 alone, the number of Medicaid beneficiaries joining managed care plans increased by about 64 percent, from 4.8 million to 7.8 million. That meant that, of the nearly 34 million people enrolled in the Medicaid program, 23 percent overall were served by managed care programs in 1995.⁷⁷⁰

In 1995 also the long-delayed implementation of the Clinical Laboratory Improvement Act of 1988 was expected though not yet reality, and was to include proficiency testing in cytology. A Cytology Consortium, including the American Society of Clinical Pathologists and others, was to meet with the Centers for Disease Control in Atlanta to screen slides for use in testing. In addition, the College of American Pathologists had received what was called “deemed status” under the law, permitting its long-standing inspection program to be considered “equal” by CLIA standards.

Imposed upon the long list of acronyms encompassing the practice of medicine in the 1990s was a new set of laws known as Stark I and II. **Hugh M. Barton, JD**, an assistant general counsel for the Texas Medical Association, writes that Stark I became effective on January 1, 1992, banning physicians from referring patients to clinical laboratories in which referring physicians had ownership. Stark II became effective on January 1, 1995, expanding the ban to Medicaid patients and to ten “designated health services.” In practical terms, however, the initial rules issued by the Health Care Financing Administration in August 1995 applied only to Stark I, covering Medicare patients. Although physicians could own laboratories within the confines of this statute, they could not refer

Medicare patients to a laboratory in which they or members of their immediate family had financial interests.⁷⁷¹

Another interesting legal battle caused apprehension in the 1990s regarding "professional component" charges for clinical pathology services for Medicare patients. In November 1991, the Central States Health and Welfare Fund halted Medicare "Part B" payments to Pathology Laboratories of Arkansas, which had a contract to provide clinical pathology services for Baptist Memorial Systems Hospitals of Little Rock. Previously the fund had paid for both the claims filed by the hospital and the claims filed separately by the pathologists for their professional component. In 1992, however, the Central States Fund, a multi-employer program governed by the Employee Retirement and Income Security Act (ERISA) filed suit seeking restitution from the pathologists for payments made between 1986 and 1991. In addition, Central States sought an injunction to bar Pathology Laboratories from billing patients directly for professional component charges. The laboratory group filed a counterclaim seeking a declaration that the Plan Document permitted a professional component fee; however, the district judge granted summary judgment to the Fund on the counterclaim, and the laboratory accepted the decision. In 1994, the case was transferred to another district judge, who held a bench trial. In this case the judge concluded that the Fund had been aware of the nature of professional component "long before November 1991," and on December 1, 1995, the United States Court of Appeals Seventh Circuit affirmed the judge's opinion that restitution was not due the Fund for several reasons. In addition to certain legal points, it found that the Fund before 1991 was aware of the separate charges by the hospital and the laboratory; that the laboratory had not been misleading in billing for its professional component, and that fees charged by the laboratory had not been "excess payments" but rather were fair market charges.

"The Fund's staff," said the Court, "was and is knowledgeable about compensation for medical care. It cannot have believed that bills of \$2 or \$5 per test represented the full charge for hands-on examination or interpretation. Nowhere in America have medical specialists' personal services been that cheap—not for a long, long time."

The Court also stated that either the Fund or its participants should pay Pathology Laboratories' bill. "Why should we leave physicians holding the bag?" the Court asked.

In setting out its opinion, it also had distinctly defined the professional component as one of "setting up test protocols, calibrating the equipment and supervising the testing, and, if necessary, interpreting the results and consulting with treating physicians." It further recognized that pathologists were present or on call twenty-four hours per day and that they did not submit a separate bill when they intervened to ensure that a test was done right, to recheck a surprising result, or to interpret ambiguous data. It also characterized the professional component billing system as one that spread costs across all patients without having to keep records about specific tests required for specific services.

The ruling was a court victory for Pathology Laboratories of Arkansas, and provided some sense of relief to other pathologist groups across the country regarding separate billing for the professional component of their work. But it did not provide assurance that a plan like Central States would have to offer separate billing options for the professional component. Although pathologists could directly bill beneficiaries under the Central States Fund, an interim agreement meant that they could not force beneficiaries under the previous plan to pay.

Only time would tell the real implications of the ruling for pathology and the precepts established a quarter century ago regarding separate billing for professional services provided through an institution. Vigilance remained the watchword.

The Texas Society of Pathologists, which had been involved in legislative and judicial matters from its earliest years, had enjoyed an important success during the session of the Texas Legislature meeting in 1995. The interstate or telemedicine act was passed. It required that a person physically located in another jurisdiction but performing an act constituting the practice of medicine "on a non-episodic and routine basis" have a license to practice medicine in Texas. In such a case, the individual would be subject to regulation by the Texas State Board of Medical Examiners.⁷⁷² The act, in effect, extended existing law to meet the needs of a more global and technological world, assuring that medical acts pertaining to Texas inhabitants were performed and directed by physicians regulated by the state of Texas.

There were other subtle changes in the profession in 1995 that were not necessarily discussed. However, the once-adversarial posi-

tions between doctors of medicine and osteopathic medicine had lessened. Of course both had long been licensed by the State Board of Medical Examiners and both were members of the Texas Medical Association. Now professors also were reporting no differences in the quality of students in approved pathology residencies. What once was perceived as a cult by mainstream medicine had, in essence, become a part of the mainstream.

An issue debated for more than twenty years became codified in Texas law beginning January 1, 1995, as the Texas Legislature required Texas physicians to obtain 24 hours of continuing medical education for the annual renewal of licenses.^{773,774} The law was passed in 1993 as part of the Medical Practice Act, and called for the reporting of hours, with a random audit system to assure compliance.

Medical school demographics in the 1990s continued to reflect other trends since the late 1960s. The number of women students continued to increase, and had reached an almost 50-50 ratio. Recalling that there were seven women in his class of seventy-five men at McGill University in Montreal, Dr. Berne Newton, who graduated in 1940, commented,⁷⁷⁵ "Ignoring the politics, World War II left the Russians decimated in manpower, and they needed engineers to build the country. If anything good came of Uncle's Joe's [USSR dictator Joseph Stalin] policy, it was that he sent men to be engineers and women into medicine. The movement spread from Europe to Brazil to the British Isles to Canada and then the United States—that is why we have more women in medicine," he concluded.

He also described the physicians he was training in pathology at Baylor College of Medicine in Houston in 1995 as the "United Nations"—representing every country in the world. Commenting about their qualities, he declared that students of the 1990s felt freer to express themselves, and that they were better educated. Among the best educated, he added, were those of oriental heritage. "They are at the top of the class today," he declares.

Thus, in a circuitous way, the lineage of pathology had not only extended from Virchow's Würzburg to the once remote prairies of Texas, it had superseded those who had scoffed at the quality of what could come out of Texas. Now, in the final decade of the twentieth century, Texas was exporting knowledge full circle around the world.

Migration and status of long-sought goals

ALREADY, TEXAS PATHOLOGISTS had migrated from the Red River to the Rio Grande and from the Gulf of Mexico to the 100-mile vistas across western Texas.

As an example, by 1995, Texas Tech Health Sciences Center in Lubbock would have six pathologists on staff, with Dr. Dale Dunn as chairman. Methodist and St. Mary's Hospitals in Lubbock would have four pathologists each. A small proprietary hospital, South Park, would have two pathologists, and also provide forensic pathology. Lubbock apparently had just been approved for a Medical Examiner system, and Dr. Sparks Veasey was appointed to fill the position.

Although the Texas Society of Pathologists had never been successful in its bid to the Legislature for a statewide medical examiners' system, forensic expertise was spreading across the state. Thirteen counties now had medical examiners' offices, Lubbock the newest one, and Bexar, Harris, Travis, Dallas, Collin, Ector, El Paso, Galveston, Johnson, Nueces, Tarrant-Parker-Denton, and Wichita counties. Not all counties actually had autopsy facilities, however. Some of the larger counties provided those services on a contractual basis.

For a variety of reasons, fewer hospital autopsies were being performed, a fact overwhelmingly lamented by pathologists, who, despite the capabilities of scanning equipment, felt that the "final diagnosis" was still essential. What once had been a learning opportunity had become clouded by threats of litigation and an unwillingness to pay the costs.

Pathologists, depending on the situations in their own communities, had varying perspectives on the status of pathology in the mid-1990s. Some were optimistic, some were not—but all agreed that pathology was a vitally important specialty and the backbone of scientific medicine.

The problem, observed Jerome Wilkenfeld, MD, director of the laboratory and pathology at Spring Branch Hospital, where he had been since 1970, was that the only image the public had of pathology was that of the television show "Quincy," and other pathologists had never conveyed to the public what they actually did. The public therefore never had gained an understanding of how much or what was involved in laboratory work. In the 1990s, for

instance, his typical day ran from eight A.M. to eight P.M. Since surgery began at 7:30 A.M., there was much work to be done early, including frozen sections. Also in the morning, he focused on hematology and coagulation, and other procedures. A pathologist also was required to review every Pap smear. His work required constant learning because there was always something new, and routinely he studied a number of journals the day preceding a difficult case. Between ten A.M. and five P.M. every day, he read and interpreted slides—and there always were conferences to attend.⁷⁷⁶

Though he feared that pathologists were an endangered species, it was clear that hospitals considered their consultation valuable. Because of their involvement in every medical discipline, a pathologist served on every committee of his hospital. Nevertheless, he remained concerned about the present-day focus on dollars and its possible negative impact on quality. He was worried that the benefits or value to the patient were no longer being considered.

In practice, however, he was the proverbial “doctor’s doctor.” Daily he consulted with physicians behind the scenes about patient care, often making the most critical decisions.

“But patients don’t know it,” he said.

Without pathologists, he further stated, all physicians would be dependent on those selling them equipment for the value of test results, quality control, and determining whether results are accurate and significant. In addition, echoing what others had said earlier, he cited the ever-more-specific diagnoses that had come out of progress in cancer research. Such progress actually meant that the pathologist was making the determining diagnosis regarding whether the cancer was benign or malignant, and determining such major factors as whether or not a breast should be removed. In the 1970s, he recalled, “malignant meant malignant,” but in the 1990s, great variations of malignancy could be detected. In short, the pioneer work of men like A. C. Broders in grading pathology in the early days of the century had grown to levels of great sophistication.

Further, the pathologist was ever more deeply involved in patient treatment—a major contributor on how patients were treated. If Dr. Wilkenfeld could have done one thing differently as a pathologist, he would have chosen much more “hands-on” treatment. He would have been much more visible to the patient.

Perhaps the perspective of one with more than five decades of watching and being involved in pathology demonstrates, however,

the strong feeling most pathologists had about their specialty in the 1990s. Dr. R. H. Chappell, formerly of Texarkana and a resident of Tulsa, Oklahoma, turned eighty-one in the fall of 1995. "I can't imagine anything being more fun," he says, "and, if I could, I'd go back and practice now. But not too many people want an eighty-one-year-old pathologist."

From her view as 1995 president of the Texas Society of Pathologists, Dr. Susan Strate sees the pathologist of the future as a multi-faceted individual—a primary care consultant who must be computer-literate, have strong management skills, know his or her legislator, and collaborate with "the house of medicine." In addition, the pathologist must be an advocate for cost-effective medical care. She particularly sees an opportunity for leadership in this regard as more multi-specialty groups develop.

Honors

TEXAS PATHOLOGISTS in this decade achieved success and recognition in many areas. **Eleanor Irvine, MD**, of Wichita Falls was honored by her Wichita County Medical Society with its Distinguished Service Award for 1994. That same year, **Joyce Schwartz, MD**, of San Antonio was appointed to a test committee of the American Board of Pathology and **Susan M. Strate, MD**, of Wichita Falls, 1995 president of the Texas Society of Pathologists, had been appointed Deputy State Commissioner of the College of American Pathologists' Laboratory Accreditation program. Dr. Strate also received the 1994 Pinnacle of Success Award from the American Association of Medical Society Executives for the outstanding quality of *Focal Point*, the newsletter of the Texas Society of Pathologists. Adding to that, in the fall of 1995 she received the Lansky Award of the College of American Pathologists' Foundation. The award is presented annually to a board-certified pathologist under the age of 40 who has demonstrated leadership consistent with the goals of the CAP Foundation and has made significant contributions to the field of pathology.⁷⁷⁷

In 1994, **John J. Andujar, MD**, of Fort Worth was named the first honorary president of the World Association of Pathologists.⁷⁷⁸

Richard Hausner, MD, of Houston, a previous recipient of the

CAP Foundation Lansky Award, was chosen president-elect of Harris County Medical Society in 1994 and elected to the College of American Pathologists' Foundation Board of Trustees in July 1995; **David N. Henkes, MD**, of San Antonio was appointed to the Texas Radiation Advisory Board; **Merle Delmer, MD**, of San Antonio was recognized by resolution for his more than twelve years of service on the American Board of Pathology.⁷⁷⁹ In September 1995, **Robert McKenna, MD**, professor of pathology at The University of Texas Southwestern Medical School at Dallas, became president-elect of the American Society of Clinical Pathologists.

Pathologists also honored others outside the specialty of pathology for their contributions to medicine and pathology. In 1995, the Texas Society of Pathologists presented Nancy W. Dickey, MD, of Richmond, Texas, with its Citation of Merit Award for Outstanding Medical Leadership for her work on their behalf. Dr. Dickey was the first woman ever to serve on the American Medical Association Board of Trustees when she was elected in 1989, and became chairman of the board in December 1995.

Science in the 1990s

THE AMERICAN MEDICAL Association's Council on Scientific Affairs reported in 1994 on the challenges and opportunities for science and biomedical research under expected health systems reform. The council observed that it was "widely accepted that the United States has assembled the largest biomedical science enterprise the world has ever seen." It also pointed to the vast public sector led by the National Institutes of Health, the National Science Foundation, and privately endowed efforts that were promoting research in academic health centers, training scientists, and spawning Nobel laureates. In addition, the council cited the efforts of major pharmaceutical companies and the biotechnology industry. Together, these groups were investing more than \$30 billion per year in research and development, contributing not only to medicine but to economic growth in the United States.⁷⁸⁰

"While truly remarkable progress has been made over the last forty to fifty years," the AMA council said, "the current pace of progress and potential range of accomplishments in science will dwarf all previous major advances in the history of medicine. At no

other time in the past century have so many advances been made in biomedical research that have revolutionized patient care: measles, Parkinson's disease, cystic fibrosis, adenosine deaminase deficiency, melanoma, Gaucher's disease, spinal cord injury, angina, colon cancer, muscular dystrophy and burn injuries are only a few of the many areas of medicine in which new curative, preventive, palliative or therapeutic approaches have been developed in the last two years alone. Mapping of the human genome, with its 100,000 genes, the isolation of the expected 50,000 gene products by which genes carry out their functions, and the elucidation of how these genes and products might be used for therapy are but a few goals of the Human Genome Project. To date, at least two chromosomes have been completely mapped, and no less than twenty-five protocols for gene therapy have been implemented and/or approved."

The AMA also reported that more than seventy biotechnology companies were working on AIDS treatments, about twenty-five companies on Alzheimer's diseases, and another fifty on other diseases of aging such as Parkinson's diseases, arthritis, and stroke. In addition sixty biotechnology companies were working on treatments for medical conditions primarily affecting women, such as breast and ovarian cancer, osteoporosis, depression and multiple sclerosis. Further, the biotechnology industry by 1994 had invested at least \$10 billion to develop advanced molecular biological techniques.

A note of gloom was projected regarding scientific endeavors, however. There were significant threats in the newer economic and political climate, including reduced federal funding for science and research and ideological battles in many areas, such as fetal tissue transplantation research, xenografting, and the drug RU-486.

In 1995, the Human Genome Project issued a report that it had completed its first map of human DNA more than a year ahead of schedule at a cost less than budgeted, and had identified at least fifty disease-causing genes. The project also had begun efforts toward its "most ambitious" goal of identifying the precise sequence of each of the three billion bases in human DNA, and by the fall of 1995 had sequenced about 1 percent of the total number.⁷⁸¹ Among the discoveries was a genetically-coded protein, apolipoprotein-E4, known as APO-E4, and familiarly called the Alzheimer's gene. The discovery also had fostered basic research in other brain diseases and head injuries.⁷⁸²

Perennial issues remain

AT THE CLOSE OF 1995, the timeless issues lingered. In many ways they were simply cloaked by different terms—but they seemed infinitely more complex. The issue of lay laboratories had undergone metamorphosis with the advent of large commercial laboratories. As in the case of retail businesses, small, private laboratories remained concerned about encroachment of the corporate laboratories. At the same time, Texas had strengthened its basic tenet that the practice of clinical pathology was the practice of medicine, requiring organizations involved in medical practice to have medical directors.

During the 1950s, pathologists had been deeply concerned about cytology kits being used by others than pathologists; in the 1990s, point-of-care testing was becoming widespread. Automation that had exploded in the 1960s continued to accelerate. In 1995, for example, the FDA had just approved an automated Pap smear screening device.

Practice patterns were evolving. A survey of pathologists showed that 69 percent of those responding were in a “pathology only” group and that two-thirds practiced in groups of four or more pathologists. Their workloads per week averaged 49.1 hours, and 67 percent of pathologists were involved with managed care organizations.⁷⁸³

From its inception, the Texas Society of Pathologists had been involved in legislative matters, often handled in a very personal way by a small corps of leaders. A key contact system had been set up many years ago but was revitalized in 1995, and a manual developed to assist all pathologists in influencing the legislative process as the number of issues continued to increase. Organizationally, the Society had developed new efficiencies and expanded services to meet future challenges.⁷⁸⁴

Complicated regulations and confusing reimbursement policies remained an anathema. Managed-care approaches threatened to divide physicians according to primary care and specialty care, and according to methods of reimbursement. Further, support for medical education was being curtailed. Professional liability issues continued to hover over pathologists’ heads. The uncertain future of pathology was portrayed in the diminished number of job offers per

resident, and one database suggested that the job market for pathologists had contracted by 40 percent since 1994.⁷⁸⁵

The problems in the practice of pathology at the close of 1995 were macroscopic not microscopic. Buffeted by forces beyond them, pathologists were concerned about the future of their specialty, but more convinced than ever that it was critically important to the quality of patient care.

It is good perhaps to reflect on a few concrete changes in the practice of pathology since the time that Dr. Beecher F. Stout first established his laboratory in San Antonio in 1904 and to appreciate the progress that had been made since 1921 when the Texas Society of Pathologists was formed.

For this, Dr. Vernie Stembbridge has kindly developed the following comparisons of laboratory menus.

Year	Common Analytes	Uncommon Analytes	Stat Analytes
1905	8	15	
1921	@20	@30	
1995	@500	@600	100

Common analytes found in all three time periods, he notes, are urinalysis, blood sugar, cultures, ova and parasites.

Midst the complexity of the final decade of the millenium, there emerges a refreshing simplicity.

Goodbyes

Texas pathologists lost a cadre of leaders in 1991: Dr. John. R. Rainey of Austin, long active in the realm of legislative affairs; Dr. Elwood E. Baird of Galveston, who had been instrumental in the ASCP certification program for medical technologists; Dr. Alvin O. Severance of San Antonio, considered the Texas dean of surgical pathology, and Dr. David P. Williams of Fort Worth. In 1994, Texas pathologists said goodbye to one of their most colorful and most distinguished colleagues, Major General Elbert DeCoursey. He died in San Antonio at age ninety-two.⁷⁸⁶ They also lost long-time leaders Marcelo (Marc) Garza, MD, a native of Brownsville and resident of Dallas, and Jarrett Williams, MD, of Abilene, who had established

the first clinical pathology laboratory in the region in 1950. He died at age eighty-seven. John Leslie Smith, MD, of Houston also died in 1994. In 1995, Texas pathologists lost yet another close friend and respected leader, Carl J. Lind, Jr., MD, of Houston.

End of an era

A DISTINGUISHED CADRE of Texas pathologists retired in the 1990s. Among them were two inimitable leaders in forensic pathology who had established a new day for medical examiners' systems in Texas, helping to bring Texas beyond the ancient and unscientific justice-of-the-peace system. In Dallas, Dr. Charles S. Petty, chief medical examiner, retired in 1991. On August 31, 1995, Dr. Joseph A. Jachimczyk of Houston retired at age seventy-one as chief medical examiner of Harris County, having been the first formally-trained forensic medical examiner in the state.

It was time to turn the page on the history of pathology in Texas, and peer into the future.

Chapter 12

The Doctor's Doctor

Looking backwards, I can now perceive how my love for science gradually preponderated over every other taste. During the first two years my old passion for shooting survived in nearly full force, and I shot, myself, all the birds and animals for my collection; but gradually I gave up my guns more and more, and finally altogether, to my servant, as shooting interfered with my work, more especially with making out the geological structure of a country. I discovered, though unconsciously and insensibly, that the pleasure of observing and reasoning was a much higher one than that of skill and sport . . .”

Charles Darwin, in his autobiography.⁷⁸⁷

LOOKING BACK, it is clear that the specialty of pathology in Texas has never progressed without obstacle. Yet, the cumulative results are impressive, particularly given the short tenure of the specialty on Lone Star soil.

Though Spanish and Mexican physicians performed autopsies in the late eighteenth and early nineteenth centuries, the earliest recorded communications regarding elementary anatomic pathology came in the 1830s—in Mexico City advisories on smallpox and in Ashbel Smith's writings on yellow fever. While Virchow lectured on cellular pathology, frontier physicians, having no microscopes, augmented their diagnoses with taste, smell, and gross observations. That is, when they weren't going off to war.

The nineteenth century was nearly over in 1889 when Dr. George Dock (1860–1951), who had studied with Osler at the University of Pennsylvania, joined the faculty of the Texas Medical College in Galveston. Immediately, he had set out, with microscope, to educate Texas physicians on many topics, including malarial parasites, the making of blood film, and examination of fresh and stained specimens. A century later in Galveston, the work of David H. Walker, MD, and others in the UTMB department of pathology exemplifies the remarkable expansion of pathology research in Texas institutions. Dr. Walker became professor and chairman of the UTMB department of pathology in 1987, and in 1995 was named to the Carmage and Martha Walls Distinguished Chair in Tropical Diseases. He has developed a PhD program in experimental pathology to educate a cadre of well-qualified students, of whom most are Texans.

He also received a designation to establish the World Health Organization Collaborating Center for Tropical Diseases, an effort that extends beyond the pathology department to others at UTMB. The Center is recognized for its role in the field of emerging new infectious diseases. Dr. Walker states it has done so “by characterizing at UTMB a novel rickettsia from Japan, *Rickettsia japonica*, as the etiology of a newly recognized disease, and the discovery of the etiology of the new infectious disease, human granulocytic ehrlichiosis.” In addition, it has achieved the reputation by contributions to the “characterization of another new infectious agent, *Ehrlichia chaffeensis* and of the pathology and pathobiology of the disease, human monocytic ehrlichiosis.” Contributions also have been made to the elucidation of the etiologic agents of Israeli spotted fever, Astrakhan spotted fever, a new Australian spotted fever, and cat flea typhus.

Particularly noteworthy, he feels, is the recruitment to the Center of a cadre of successful arboviral and rodent-virus microbe hunters including Drs. Robert Tesh and Robert Shope from Yale University (featured on the front page of a Sunday *New York Times* and in *Science*.)

“Old Red,” the original building where Dr. Allen J. Smith taught his first pathology class at UTMB in 1891 and conducted modest but important research, had seen remarkable scientific advancements.

The same could be said of the state’s other great institutions—

most of which had sprung from modest beginnings to attain world-renowned reputations. Although none had started in barns, they had fostered research in “shacks,” a Sears warehouse, and a variety of other humble dwellings.

As Dr. John Andujar of Fort Worth once wrote, the ancient history of pathology in Texas indeed is not very ancient—yet the progress during that short era is astounding. When Dr. Andujar arrived in Texas in 1938, he could actually shake hands with those who pioneered the specialty in the state, and in that sense, the history of pathology in Texas *is ancient*, for Texas pathologists do link their history to the world's premier teachers of pathology in Berlin, Würzburg, Vienna, Paris, London, Edinburgh; in Boston, Maryland, Philadelphia, and Chicago. To trace the life of a Texas pathologist is to brush shoulders with Virchow, Osler, Welch, Delafield, Ewing, Hektoen, Cannon, MacCallum, Whipple, Karsner, Mallory, Wells, Arthur Purdy Stout, Wiley Forbus, George Caldwell, Paul Brindley, and other great pathologists of the past. It is to grasp the essence of disease and injury, to understand the true causes of death, to feel the excitement and thrill of understanding what all great scientists must feel in pursuing the unknown, to marvel at the miracles of the human body, to have an investigative, probing mind, and the dedication to seek the truth. From the mentoring of the great teachers of the past came many new great teachers—both in academia and in practice. Thus, the *doctor's doctor* arrived in Texas and eventually fanned out across the plains and forests, mountains and valleys of the state. There was an inherent drive to learn and to teach, and the pathologist soon was called upon by other physicians for personal medical advice, and began aiding or guiding the treating physician in making clinical decisions. Through consultation and timely reports, the pathologist soon began making significant contributions to the quality of daily patient care, often providing more exact diagnoses than those made clinically.

Pathology had become not only the keystone but the catalyst of the scientific practice of medicine and surgery in Texas,⁷⁸⁸ immeasurably upgrading medicine and bringing an understanding, as Dr. David Walker of UTMB, says of “what *are* diseases and how they occur” and becoming the foundation for patient care management.

Nonetheless, as in the case of knowledge imparted by a teacher to a student, that contribution—that “seep” into medicine—while great, often remains transparent and difficult to measure. However

taken for granted the contribution may be, the tangible results become more obvious when one looks at the big picture over time, and when one considers closely the pathologist's daily tasks.

Since the late 1930s, Texas pathologists have played significant roles in establishing blood banks and have had major impact on their safety. Since the late 1940s, through daily reading of Pap smears, they have facilitated the significant decrease in cervical cancer. Through the careful differentiation of tumors and variations of malignancies, supported by greater patient awareness and mammography in early detection, they have helped reduce greatly the need for radical surgery. Texas pathologists also have taken the lead in introducing and fostering the use of fine needle aspiration (FNA) for biopsy. Now through the essential prudent reading of the PSA blood test, prostate cancer is being detected at a much earlier stage.

Pathologists in many ways are at the forefront of medicine; by seeing the patterns and trends in disease, they can, in a sense, know the future. When they recall the past, they know how far they've come and what they have contributed to medicine.

Dr. Charles Pelphrey of Austin recalls his training in Dallas during World War II.

"Back when I was a resident, we biopsied big tumors and lots of lymph nodes in the breast." As a resident, he first learned about Pap smears, which demonstrated that pathologists could diagnose cancer from cells. Later, when he moved to Austin to practice, he recalled Dr. John Thomas, an Austin surgeon and president of the Texas Division, American Cancer Society, calling a few pathologists to discuss how to take Pap smears. Travis County Medical Society then "fanned out" to the PTA, schools, downtown service clubs, and other groups to make the public aware of the Pap smear. Dr. Pelphrey spoke about the new process to "every county medical society within reach." As a result, by the mid-1980s, cancer of the cervix was being wiped out.

Dr. Oscar Griffin of Orange is convinced that clinicians make better decisions aided by the correct diagnosis provided by pathologists.

Clinical laboratory interpretation sometimes yields very unusual reports, he says, recalling a case in which a patient came in for hernia repair, but he defined a congenital hematologic condition. Then there is cancer.

"There is no diagnosis made of cancer except under the micro-

scope," he adds. "I've seen too many cases thought to be cancer—which were not." Pathologic diagnosis is "very very important."

Progress also can be seen in the reverse. Dr. Billy Bob Trotter of Abilene recalls a young doctor in recent years sending him a skin biopsy to evaluate. Dr. Trotter identified a measles macule. The disease rarely had been seen since vaccines were introduced. The young doctor had thought he was seeing a strange rash.

Hospital laboratory development in Texas also has seen remarkable advancement, and Dr. George J. Race was involved first-hand in the development of a modern hospital laboratory. The work of pathologists in hospitals, he believes, has had the effect of upgrading everything in the hospital—sterility, organization, laboratory, cleanliness.

His words had a ring of familiarity about them. At the second meeting of the Texas Society of Pathologists in 1921, Dr. Frank Hartman, then of Temple and the first president of the College of American Pathologists, led a discussion on how the laboratory service might aid in the standardization of hospitals. In a series of nine questions at that October 1921 meeting in Galveston, the founders of the Society were prescient about many issues. The clinical pathologist, they conjectured, was a consultant, and, furthermore, better understanding was needed between clinician, surgeon, and clinical pathologist regarding their interdependence.

The contribution of Texas pathologists to science

"THE SEPARATION OF ART from science goes back at least to Aristotle, and is implicit in Plato, writes Lester King. "Aristotle made clear the distinction between knowing what to do—practical skill, which represents art; and knowing why you do it—the knowledge that represents science. Practice—that which is actually done—finds its explanation and justification in science."⁷⁸⁹

A 1995 survey revealed an impressive sampling of scientific contributions by Texas pathologists. One survey respondent commented that Texas pathology and Texas medicine in general perhaps "has been more characterized by illustrious practitioners, administrators, and teachers rather than scientists."

Indeed, there has been great contribution to teaching and leadership in pathology by Texas pathologists, and lauded by those responding to the survey were Dr. George T. Caldwell, who had been

chairman of both the department of pathology at Baylor University College of Medicine when it was located in Dallas and then later Southwestern Medical School in Dallas; Dr. Paul Brindley, chairman of the department of pathology and professor at the University of Texas Medical Branch at Galveston; Dr. Vernie Stembbridge, Ashbel Smith emeritus professor and former chairman of the department of pathology at The University of Texas Southwestern Medical School at Dallas (and for his leadership in the American Society of Clinical Pathologists, the College of American Pathologists and the American Board of Pathology); Dr. John Childers, professor of pathology at UTMB, Southwestern, and St. Paul Hospital, Dallas; Dr. Frank Townsend as director of Armed Forces Institute of Pathology and chairman of the department of pathology at The University of Texas Medical School at San Antonio; Dr. Malcolm McGavran, head of anatomic pathology at Baylor College of Medicine, Houston; Dr. Joyce Davis, former associate professor at Baylor College of Medicine, Houston, and chair of the department of pathology at Texas A&M College of Medicine, College Station; Dr. Robert Fechner, anatomic pathologist formerly at Baylor College of Medicine, Houston; Dr. Harlan J. Spjut, anatomic pathologist at Baylor College of Medicine, Houston; Dr. Béla Halpert, chief pathologist at Veterans Administration Medical Center, Houston; Major General Elbert DeCoursey of San Antonio; Dr. Carl Lind and Dr. William T. Hill, Baylor College of Medicine, Houston; Dr. A. O. Severance of San Antonio who directed a free-standing pathology residency for many years; Dr. Jack L. Titus of Methodist Hospital, Houston, and Director, of the Baylor Jesse E. Edwards Registry of Cardiovascular Disease; and Dr. William O. Russell of M. D. Anderson Hospital, Houston.

There is a special tie that binds student and teacher in Texas. With the exception of a few rifts—some exacerbating in the mid-1990s in Houston and Galveston—the “town-gown” syndrome has not been highly visible between pathologists. Perhaps that is partly because teachers often have also been practitioners, and practitioners have remained teachers and consultants to other physicians in their communities. In addition, it is said that the Texas Society of Pathologists has been fortunate because it has been built by both academic and nonacademic pathologists.

One Texas pathologist and a member of the Texas Society of Pathologists, Dr. Caldwell, has served as chairman of two pathology

departments in Texas: Southwestern Medical College of the Southwestern Medical Foundation, Dallas, and Baylor University College of Medicine, Dallas. He is remembered vividly for his insistence on perfection, his acerbic lessons, and his profound ability to present information lucidly and logically.

Dr. Paul Brindley, chairman of the department of pathology at The University of Texas Medical Branch from 1929 to 1954, is remembered by his students as "a most stimulating and fair teacher." Many of them followed in his footsteps and became pathologists and professors of pathology in medical schools.

Local organizations and private laboratories also were applauded for their contributions to medical education: San Antonio Society of Pathologists for its tumor seminars; the Houston Society of Clinical Pathologists for its pathology seminar; Brown & Associates, Franz Leidler and Associates, and Peter Marcuse & Associates, Houston, for their contributions to teaching and pathology in Houston.

Dr. John Andujar of Fort Worth was paid tribute as the prime builder of the Texas Society of Pathologists. Praised were trustees of the American Board of Pathology from Texas: Drs. Andujar; Vernie A. Stembridge, Dallas; Merle W. Delmer, San Antonio, and John D. Milam, Houston, president of the Board in 1995. The role of Texas pathologists in other national societies also was praised. Ten presidents of the American Society of Clinical Pathologists have at one time or another been members of the Texas Society of Pathologists: Drs. Frank W. Hartman, James H. Black, Kenneth M. Lynch, John L. Goforth, John J. Andujar, William O. Russell, Vernie A. Stembridge, Frank Vellios, Thomas F. Dutcher, and Joseph H. Keffer. Dr. Michael W. Lieberman, Houston, has been president of the American Society for Investigative Pathology, and Dr. Kenneth M. Earle, Clear Lake, president of the International Academy of Pathology.

A number of Texans also have been honored for their contributions with the Ward Burdick Award of the American Society of Clinical Pathologists. Historian Esmond R. Long once stated that the list of recipients of the Award was a "roll call of leading clinical pathologists in America."⁷⁹⁰ Winners with Texas links include Drs. Frank Hartmann, 1944; F. William Sunderman, Sr., 1975; William O. Russell, 1978; Vernie A. Stembridge, 1981; Frank M. Townsend, 1983; Frank Vellios, 1985; E. Eric Muirhead, 1986; Thomas F. Dutcher, 1989; William W. Sheehan, 1995.

Texas pathologists also have been leaders in military medicine, several having distinguished national military careers, including Drs. Frank M. Townsend and Elbert DeCoursey of San Antonio; Carl Lind of Houston and Kenneth R. Dirks of Texas A&M College of Medicine, College Station.

Spurred only a little more than a century ago by the arrival of that student of William Osler—Dr. George Dock—Texas leaders established the proper milieu and made way for remarkable scientific progress in Texas. The first stages of growth became visible through case reports and articles presented at meetings and published by Texas pathologists nationally and after 1905 in the *Texas State Journal of Medicine*. A number of clinical pathology articles were published during these earlier years, including those by Dr. John T. Moore, 1910 TMA president and a visiting pathologist at St. Mary's Hospital, Galveston, before he became a surgeon. After formation of the Texas Society of Pathologists in 1921, case reports and then tumor seminars were presented regularly at meetings, and in the 1940s, the San Antonio Society of Pathologists initiated its annual tumor seminar, drawing nationally known leaders as moderators.

Covering the span of several decades, Texas medical scientists have contributed remarkably in a variety of areas: Meyer Bodansky, MD, professor of pathological chemistry at The University of Texas Medical Branch, Galveston, developed a laboratory test that significantly impacted the field of biochemistry; Arthur Weinberg, MD, Dallas, hepatocarcinoma in tyrosinemia, 1976; Weinberg and Milton Finegold, MD, Houston, finding that fetal hepatoblastoma had a favorable prognosis and did not require extensive chemotherapy, 1986; Harlan Spjut, MD, Baylor College of Medicine, Houston, many contributions to the understanding of bone tumors and gastrointestinal diseases, 1960-1970s; John D. Milam, MD, The University of Texas Health Science Center at Houston, development of devices to facilitate pheresis, 1980s, development and refinement of blood banking and transfusion approaches for open heart surgery, 1960s, immunohematology; Milam, assisting Denton Cooley, MD, and others, first human implantation of cardiac prosthesis for staged replacement of heart, 1969; E. Eric Muirhead, MD, formerly of The University of Texas Southwestern Medical School at Dallas, hypertension, blood banking, hematology; Joseph M. Hill, MD, The University of Texas Southwestern Medical School and Wadley Blood Bank and Research Center, Dallas, with others

such as **Sol Haberman, PhD**, hematology, cancer, infectious disease; **C. T. Ashworth, MD**, The University of Texas Southwestern Medical School, Dallas, broad areas of interests, work with electron-microscopy, and work that was a prelude to Brown and Goldstein's research in cholesterol; **P. O'B. Montgomery, MD**, The University of Texas Southwestern Medical School in Dallas, contributed considerably to aerospace medicine, cancer, ultraviolet light-induced radiation, NASA studies; **Harvey Rosenberg, MD**, Texas Children's Hospital, Houston, descriptions of the benign behavior of infantile soft tissue tumors, helping to avoid mutilating surgery, 1960s-1970s, pathology of patent ductus arteriosus and other congenital lesions, 1960s; pediatric pathology, 1950-present; **S. Donald Greenberg, MD**, Baylor College of Medicine, Houston, characterization of pneumoconioses, 1960s-1970s; pulmonary diseases and asbestos, 1960s-present; **R. M. O'Neal, MD**, Baylor College of Medicine, Houston, atherosclerosis, 1961-1969.

Also, **L. Maximilian Buja, MD**, and **Jack Titus, MD**, Baylor College of Medicine, Houston, cardiovascular pathology, 1972-present. **Titus**, characterization of cardiac conduction system in congenital heart disease 1970s, cardiac pathology 1960s-1990s; **Buja**, pathological basis for detection and sizing of myocardial infarction with the ^{99m}Tc -PYP radionucleotide imaging technique, insights into the basic mechanisms of myocardial infarction, 1975-1985; **Jim Butler, MD**, Houston, classification of Hodgkin's disease, 1950s; **John Batsakis, MD**, Houston, classification of head and neck and salivary gland tumors; **Michael Lieberman, MD**, tumor oncogenes, 1980-present, molecular pathology; **William O. Russell, MD**, and **M. Ibanez, MD**, and others in department, M.D. Anderson Hospital and Tumor Institute, Houston, neoplasms; detailed study of carcinoma of the thyroid; **Charles T. Ashworth, MD**, and **R. C. Reynolds, MD**, University of Texas Southwestern Medical School, Dallas, contribution to discovery of organism responsible for Whipple's disease, 1950s; **R. C. Reynolds**, broad interests, nucleolar caps; **Vernie A. Stembridge, MD**, UT Southwestern Medical School at Dallas, work resulting from Oak Ridge, Tennessee experience, 1953; completed work that Paul Brindley had started earlier, 1956; seminal work pertaining to aircraft accident investigation and aerospace, 1957, 1958, 1959, 1962, work with carbon black, showing inertness of carbon, 1958, 1960, 1962, work with **C. T. Ashworth** concerning lipid absorption, 1960; and work with **Morris**

Ziff, MD, and Pedro Stastny, MD, having great significance in graft-versus-host disease (the findings of which have withstood the test of time) 1963, 1964, 1965; toxic effect of a popular anesthetic shown, 1966, early description of unique ovarian tumor during pregnancy, 1966; **Richard Scheuremann**, UT Southwestern Medical School, Dallas, contributions to molecular cancer biology; **Mark Siegelman**, UT Southwestern Medical School, Dallas, contributions to molecular pathology; **Louis Picker**, UT Southwestern Medical School, Dallas, contributions to modern flow cytometry; **Edward S. "Ted" Reynolds, Jr., MD**, chairman of pathology at UTMB, Galveston, greatly enhanced basic research in experimental pathology at UTMB, established group of experimental toxicologists, work on molecular mechanisms involved in the cause-and-effect chain of events that lead to cell injury, used simple halocarbon toxins such as CCl_4 to initiate the process of cell injury, national recognition as authority on the ultrastructural and molecular aspects of injury to liver cell membranes, the relationships between the metabolism and hepatotoxicity of haloalkanes, and the role of free radicals in cell injury, inventor of the electron microscopy lead stain; **Alberto Ayala, MD, M.D. Anderson**, Houston, urinary tract pathology, 1970s-1990s; **Jerome H. Smith, MD**, UTMB Galveston, discovered that leprosy organism could be grown in footpad of nine-banded Texas armadillo, pathology of urinary schistosomiasis, 1969-1973, ultrastructure of schistosoma mansoni tegument, 1965, pathobiology of Sarcocystis falcatala in multiple orders of birds; **Alice Smith, MD**, UT Southwestern Medical School, Dallas, role of diagnostic cytology in cancer detection, living cancer research, cytology, early work with bone marrow and leukemias; **Paul Brindley, MD**, UTMB Galveston chairman of pathology, broad range of pathology topics; **R. H. Rigdon, MD**, UTMB Galveston professor of pathology, broad interests using the White Peking as experimental animal, smoking; **Howard C. Hopps, MD**, UTMB Galveston chairman of pathology, environmental, geographic pathology, author of a textbook; **F. Lamont Jennings, MD**, UTMB Galveston chairman of pathology, electron microscopy, broad interests; **Julian Chen, MD**, UTMB Galveston, cytology; **Franz Leidler, MD**, Houston, and other hospital pathologists, general pathology-case reports; **B. F. Stout, MD**, San Antonio, broad range, usually case reports; **A. O. Severance, MD**, San Antonio, surgical pathology, broad range, usually case reports, slides; **David S. Papermaster, MD**, UT

Medical School at San Antonio, molecular pathology using eye as a model; **Frank Townsend, MD**, chairman of pathology at UT San Antonio, broad interests including aerospace, military, others; **Henry C. McGill, MD**, chairman of pathology at UT San Antonio, atherosclerosis research, 1980s-1990s.

C. B. Phillips, MD, Temple, general pathology, usually tumors and case reports; **Robert F. Peterson, MD**, Temple, and others in his department at Scott and White, general pathology.

Also, **George T. Caldwell, MD**, Dallas, a variety of research, usually cancer related; **George J. Race, MD**, UT Southwestern Medical School at Dallas and Baylor University Medical Center, Dallas, endocrinology and broad interests, whale heart; **Bruce D. Fallis, MD**, UT Southwestern Medical School at Dallas, textbook, teaching; **Joel B. Kirkpatrick, MD**, UT Southwestern Medical School at Dallas and later Baylor College of Medicine, Houston, neuropathology; **John Shadduck**, veterinary pathology, UT Southwestern at Dallas and later dean of Veterinary Medicine at Texas A&M University; **Mary Lipscomb, MD**, UT Southwestern at Dallas, immunology; **Michael Bennett, MD**, immunopathology, with **Vinay Kumar, MD**, UT Southwestern at Dallas, immunopathology, natural killer cells; **Fred G. Silva, MD**, UT Southwestern, broad surgical pathology interests, kidney disease; **Edwin Eigenbrodt, MD**, UT Southwestern at Dallas, liver disease; **Nancy R. Schneider, MD, PhD**, cytogenetics; **Errol Friedberg, MD**, chair, and others in the pathology department at UT Southwestern at Dallas, DNA repair; **Dennis K. Burns, MD**, UT Southwestern, neuropathology, AIDS; **Charles White, MD**, UT Southwestern neuropathology, Alzheimer's; **Jorge Albores-Saavedra, MD**, UT Southwestern, surgical pathology.

Truman C. Terrell, MD, Terrell's Laboratories, Fort Worth, broad interests; **May Owen, MD**, Terrell's Laboratories, Fort Worth, broad interests, talc granuloma discovery; **John J. Andujar, MD**, Fort Worth, public health, originator of plasmacrit test for syphilis; **Dorothy Patras, MD**, Fort Worth, amebic encephalitis, and **George Turner, MD**, El Paso, broad interests, usually cancer such as cervix.

Serendipity also continues to play an important part in science, but rarely does a pathological observation translate into a sudden and dramatic change in another specialty. Such, however, was the

case when **Tony D'Agostino, MD**, Southwestern Medical School, pursued a frequent microscopic finding in myocardial infarction, namely, at the periphery of the necrotic zone, there was a bluish stippling. He found the change caused by minerals deposited in the mitochondria and that the minerals were calcium hydroxyapatite.

When the departments of cell biology and pathology were vying for additional funding for a newly introduced electron microscope in the early 1970s, they took their appeal to Fred Bonte, MD, dean. As the D'Agostino finding was discussed, Dr. Bonte feverishly began taking notes.

On the matter of funding, reports Dr. Vernie Stembridge, "A Solomonesque decision was made. He would award his funds to the department first to provide matching funds."

But Dr. Bonte's prowess in nuclear medicine also was at work. He and his associates quickly devised basic animal experiments utilizing homing of isotopes to the area of the calcium hydroxyapatite deposition and were able to accurately quantify infarct size radiographically.

"With great success," Stembridge adds, "these experiments led to the current common and practical use of isotopes in cardiology, truly a paradigm shift in radiology and patient care."

Many individuals outside the field of pathology have contributed to the advancement of the field including **Joseph Goldstein, MD**, and **Michael Brown, MD**, LDL-receptor defects in atherosclerosis; **Sol Haberman, PhD**, and **L. Ruth Guy, PhD**, in blood banking; **Ellen Vitetta, PhD**, in studies of cellular immunology; **Gregory Buffone**, introduction of PCR into clinical diagnostic setting for viral infections; **Charles A. "Mickey" LeMaistre, MD**, original Surgeon General's report on smoking, and leadership of M. D. Anderson Cancer Center, Houston; **Robert M. Moore, MD**, UTMB Galveston, principles underlying surgery of visceral nerves; **Hardy A. Kemp, MD**, Baylor University College of Medicine, Dallas, relapsing fever; **John R. "Dick" Graybill, MD**, and **Michael Rinaldi, PhD**, The University of Texas Health Science Center in San Antonio, animal model work, reference laboratory, antifungal susceptibility testing program; **Jesse Vernal Irons, ScD**, early studies on improved selective media for cultivation of typhoid and other enteric bacteria, precipitin test for differentiation of principal groups of hemolytic streptococci, rapid test for diagnosis of small-

pox and differentiating it from chicken pox, pioneering work in large-scale production and distribution of smallpox vaccine made from embryonated eggs, identification of first outbreak of Q fever in U.S. and the first-recorded outbreak of turkey ornithosis, found rabies in colonial bats and was among first to suggest airborne transmission mechanism among them.

Numerous national and international textbooks, fascicles, and groundbreaking articles have come from the work of Texas pathologists—the list growing exponentially in the 1990s.

Texas pathologists also have contributed significant articles to international, national, state and local medical journals. From the day of its inception, they contributed consistently to the *Texas State Journal of Medicine* (later *Texas Medicine*) reporting clinical studies and case reports. The annual tumor seminars of the San Antonio Society of Pathologists were published regularly in the journal, and various institutions regularly published clinicopathologic conferences for many years. Among the distinguished editors for a series beginning in the 1960s were Drs. C. T. Ashworth, Bruce Fallis, A. O. Severance, Harlan Spjut, and F. Lamont Jennings.

In more recent years, however, CPCs have not been maintained—perhaps having gone the way of the autopsy and for similar reasons.

Stembridge writes, “We must renew our efforts to educate physicians in the science of disease and guard against limiting their training to technology. There are several levels of opportunity to preserve the science of disease: Pathology. During this last century, medical education has been beset by tremendous change. We as leaders in medicine (‘the doctor’s doctor’) must be actively concerned about the future of medical schools and their graduates in all parameters, particularly at the legislative level. Furthermore, our concerns must be about what the medical student is being taught of medicine in general and of pathology in particular. Unfortunately, today some schools with revised curricula have produced an unfavorable environment for pathology. We must exert our influence to restore pathology to its premier consistent position.”⁷⁹¹

One can only hope that decisionmakers will take the long view.

Perhaps there is guidance within the comments of Horace Freeland Judson, author and professor of science and writing at

Johns Hopkins University, who considers the shape of science to come and discusses the paradoxes of prediction. "The unification of the new beyond—quantum mechanics with the grandest questions of cosmology, the unification of molecular biology with evolutionary theory, and the unification of developmental biology with neurobiology and those with perceptual and cognitive psychology—these three unifications span from the mature science of physics through the younger but explosively progressing science of biology to the infantile science of psychology. In all of these, we may predict with modest confidence that von Neumann's warning about complex systems will hold: the nature of possible explanations will change, which is to say, as well, that *the questions we most want to answer have not yet been posed* . . . Today, no scientist dares be complacent. For one thing, the pace is too fast and is still accelerating. And as new science begets new technology, that in turn makes possible new instruments, new tools for research. For another, the shock of the new proves addictive in science, as in the arts. . . ."792

On the brink of the twenty-first century, the future of pathology is clouded by a miasma of socioeconomic forces. What will happen to research, to the freedom to make decisions based on an understanding of science? How will medicine assure quality and value to the patient? What will happen because of lost knowledge historically gained by autopsy—the final diagnosis? What role will Texas pathology play in the lives of patients, in the progress of medicine?

But there also is optimism, most pathologists declaring despite the many challenges they would choose their field all over again.

Their faith is justified. As the state matures, outstanding leadership in broad fields of research is coming from people like Drs. David H. Walker, Galveston, chair of pathology at UTMB; Michael W. Lieberman, Houston, chair of pathology at Baylor; Errol C. Friedberg, Dallas, chair of pathology at Southwestern, and L. Maximilian Buja, Houston, chair of pathology at UT Medical School, Houston. As the field of pathology melds into the twenty-first century, no doubt their leadership and that of others will yield extraordinary answers to "questions not yet posed."

In 1808, Dr. Jayme Gurza, performing an autopsy on a soldier in Spanish Texas, made the obvious diagnosis on cause of death in a crudely-furnished room in the Alamo. Not long after, Dr. Gurza

was caught up in an early, short-lived Mexican rebellion against the Spanish monarchy, and imprisoned.

Rudolf Virchow himself had experienced his own political perils in Germany for being vocal on social issues, but he went on to greatness.

George Thomas Caldwell felt only dismay when he arrived in Dallas and discovered the barren facilities where he was to teach, yet when a young student later complained about conditions, Dr. Caldwell admonished:

"You could study medicine in a barn if you had the brain for it."

"Knowledge of the real future is denied to us," Wagar writes, "But we must never lose sight of the one thing we can know about the future: that it will happen, piece by piece, hour by hour, in a relentless procession of causes and effects. No act is without consequences, and no consequences are without further consequences, unscrolling in the forward flow of time."⁷⁹³

Dr. Thomas H. McConnell of Dallas, in saying goodbye to his friend and mentor, Dr. Charles T. Ashworth, quoted the Welsh poet Dylan Thomas. His words seem appropriate advice to Texas pathologists as they move from an illustrious history into an unpredictable—yet no doubt even more exhilarating future:⁷⁹⁴

Do not go gentle into that good night . . .
Rage, rage against the dying of the light . . .⁷⁹⁵

Appendix One

CHRONOLOGY OF TEXAS PATHOLOGY⁷⁹⁶

- 1756 First recorded autopsy. Frenchman Joseph Blancpain captured at Trinity River mouth and taken to Mexico City. Dies in prison. The autopsy is conducted in Mexico City, and the report states he had been "sick of malignant fever," had clots in the blood and "pleuro-pneumonia."
- 1808 Don Jayme Gurza, Royal surgeon at the Alamo hospital at San Antonio de Bexar, performs autopsy on murdered soldier, finding a hunting knife had wounded the lung, lacerated the diaphragm, and severed large nearby vessels.
- 1830- When smallpox epidemic occurs in Texas, Coahuila government sends advice in a brochure by Citizen Miguel Muñoz of Mexico City outlining treatment and describing autopsy findings.
- 1831
- 1836 Texas wins independence from Mexico, establishes Republic of Texas.
Newspapers are main source of medical information; crude laboratory techniques might be used by physicians (tasting of urine to detect diabetes, etc.) but most attention is paid to physical diagnosis (palpation, pulse).
- 1838 First "medical text" in Texas. A pamphlet published by Dr. Theodore Leger, *Essay on the Particular Influence of Prejudices in Medicine, Over the Treatment of the Disease Most Common in Texas, Intermittent Fever*. Dr. Leger condemned his fellow medical practitioners and then retired to run the *Texas Planter*, a weekly 2,000-circulation newspaper at Brazoria.
Houston doctors form the Medical and Surgical Society of Houston. Dr. Alexander Ewing is first president.
- 1839 First book of "great medical merit" published, Dr. Ashbel Smith's *An Account of the Yellow Fever Which Appeared in the City of Galveston, Republic of Texas, In the Autumn of 1839, With Cases and Dissections*. Dr. Smith, a Yale medical graduate, had arrived in Texas in 1837 to serve as surgeon-general of the Texas Army.
- 1840 Scarlet fever epidemic in Texas.
- 1845 Texas annexed into the United States. Dr. Anson Jones, last president of the Republic of Texas, declares, "The Republic of Texas is no more."
Dispute over Southern Boundary leads to Mexican-American War.

- 1847 American Medical Association is established.
More medical texts begin to appear in Texas. Dr. Absalom C. Denson of Cherokee County publishes *The Southern and Western Waybill to Health*.
- 1848 Ashbel Smith leads group of Galveston physicians in seeking a state charter for the Galveston Medical and Surgical Society—which almost becomes a statewide society—but the entire effort bogs down in the state legislature and fails.
- 1850 Measles epidemic in Texas.
- 1852 Typhoid fever and dengue epidemics in Texas.
- 1853 Thirty-five Texas doctors form the Texas Medical Association in Austin. It would then form several county societies; however, the state society would lapse after two years. Among the members are Dr. Ashbel Smith, who would become president of The University of Texas, and Dr. J. W. Throckmorton, who would become governor of Texas.
- 1854 Dr. J. C. Massie publishes his *Treatise on Eclectic Southern Practice of Medicine*.
Dr. Ferdinand Ludwig von Herff, who had moved to San Antonio from Germany, uses chloroform for anesthesia. Herff would also identify hookworm as a cause of disease, predict the advent of antibiotics, and would use a fine ocular piece to detect foreign matter in water before performing surgery
- 1855 In Germany, Rudolf Virchow produces work on Cellular Pathology
- 1856 Methodist Episcopal Church establishes Soule University at Chappell Hill, and has plans for a medical school, but struggles for financial stability.
- 1857 Houston Medical Association is formed.
- 1858 State of Texas passes legislation to establish a university to include “instruction in surgery and medicine,” but there will be a long delay before implementation.
- 1860 Diphtheria epidemic strikes Texas.
- 1861 American Civil War breaks out. Physicians, others go to war. Soule University at Chappell Hill dissolves.
Out of the war would come the works of the Army Medical Museum, including a history and a collection of specimens of morbid anatomy.
- 1865 The American Civil War is over.
President Abraham Lincoln is assassinated, and pathologists at the Army Medical Museum perform the autopsy on April 15, 1865.
On June 19, General Gordon Granger arrives in Galveston, announcing that all slaves are free. Begins “Juneteenth” celebration.
Soule University opens medical department, the Galveston Medical College, in Galveston. Among faculty listed in the announcement for the first

session are Robert Fluellen, MD, professor of anatomy; W. H. Gantt, MD, professor of physiology and pathology, and N. H. Boring, MD, demonstrator of anatomy.

- 1866 Dr. Greenville Dowell joins Galveston Medical College during its second year as professor of anatomy and surgery, and would become dean. The school would operate seven years and be housed in Dr. Dowell's home at the corner of Avenue L and 22nd. He also leased the Island City Hospital, which had been built in 1845 on the same site as the future John Sealy Hospital, for clinical training.

Dr. Dowell begins publication of the first medical journal in Texas—*The Galveston Medical Journal* (1866-1871) and publishes two books, one on yellow fever (theorizing five years before Finlay of Cuba that yellow fever was spread by the mosquito) and one on hernia.

- 1867 Dr. J. W. Throckmorton is dismissed as governor of Texas by General Phil Sheridan. Reconstruction era begins.
- 1868 Isaac Lycurgus Van Zandt of Fort Worth reportedly brings the first microscope to Texas. (It is known that he moved from Marshall to Fort Worth in May 1868, bringing the microscope from Bellville.)

At the Texas State Medical Association meeting in Dallas, Dr. B. E. Hadra of San Antonio—who also would teach at Galveston Medical College and the Texas Medical College—reports “six cases of trichiniasis in which a microscope was used to identify the ‘threadlike, spiral and rounded worms’ in the uncooked pork which the patients had eaten.”

- 1869 Texas Medical Association reorganizes in Houston. Dr. Ashbel Smith is the only member who was in attendance at the original meeting in 1853.
- 1873 Dr. William Penny is head of the Department of Physiology and Pathology at the Texas Medical College, organized in 1873 in Galveston, and is considered the first professor of pathology in Texas.
- 1877 Texas physicians debate, and doubt, the existence of “germs” in infectious disease.

- 1881 President James A. Garfield is assassinated, and Army Medical Museum physicians conduct the autopsy.

Texas voters select Austin as the site of their Main University and Galveston for their Medical Department.

Carlos Finlay of Cuba announces his theory that mosquitoes are vectors in transmission of yellow fever, but is disregarded.⁷⁹⁷

- 1883 Main University—The University of Texas—opens in Austin, but funding for its Medical Department languishes.
- 1887 Autopsy of a child is reviewed at the annual meeting of the Texas Medical Association. (Nixon reports that “typhlitis” and “perityphlitis” were names given to inflammatory processes in the right lower abdomen at the time. After such an inflammation, the child had died, and an autopsy had been conducted.)⁷⁹⁸

- 1889 George Dock, MD, who had studied with William Osler at the University of Pennsylvania, arrives in Galveston to serve as chair of pathology at the reorganized Texas Medical College. His arrival marks the true beginning of the specialty of pathology in Texas.

Dr. Dock, with microscope in hand, demonstrates the various phases of the malarial parasite to physicians attending the Texas Medical Association annual meeting. He also demonstrates the making of blood films and the examination of fresh and stained specimens.

Ferdinand Herff, MD, praises the current advances in Texas medicine but laments the fact there is no laboratory in the state.

- 1890 John Sealy Hospital opens in Galveston.

- 1891 The University of Texas Medical Department (later The University of Texas Medical Branch at Galveston) opens its doors for classes in its new building (later to be called "Old Red").

Allen J. Smith, MD, arrives from the University of Pennsylvania to be chair of Pathology, Microscopy and Bacteriology at the school.

Dr. George Dock leaves for the University of Michigan as the Texas Medical College and Hospital closes its doors to make way for the new University of Texas Medical Department.

At the Texas Medical Association meeting in Waco, Dr. J. H. Wysong of Galveston reviews clinical examination of the urine, including naked-eye appearance, a description of the Fehling test for sugar and the heat and nitric acid test for albumen. He also demonstrates a comprehensive chart of "many laboratory methods of urinalysis."⁷⁹⁹

- 1892 The University of Texas Medical Department, Galveston, holds first graduation ceremonies with three students graduating.

First recorded autopsy at UTMB initiates current accession of autopsies—to present.

- 1893 Dr. Allen J. Smith "authoritatively" reviews cancer of the stomach at the Texas Medical Association annual meeting.

Microscopic examination apparently was being done in Austin. Doctors had posted a detailed fee schedule. Microscopic examination of urine cost from \$5 to \$10 and examination of pathological specimens was \$10 to \$25. In addition, examination of urine for albumen and sugar cost from \$2.50 to \$5. The fee for "venereal practice" was payable in advance and cost from \$5 to \$50. Consultation and written opinions ranged from \$5 to \$25.⁸⁰⁰

The Texas Medical Association forms the Section on Microscopy and Pathology. Dr. Allen J. Smith is chairman. Before, there had been no special section for pathology in conjunction with association meetings, but papers had been included in the Section on Practice of Medicine, *Materia Medica and Therapeutics*, "a depository for pathology." Under various names, the new section would meet uninterruptedly until 1918.

- 1893 Dr. Allen J. Smith in 1893 finds ova of hookworm in the general medical closet (or toilet), but is unable to identify the carrier.
- 1894 Dr. Ferdinand Herff at autopsy of patient finds hookworm parasite.
Fort Worth Medical School opens in Fort Worth as a department of a non-existent university. William Howard, MD, is the professor of pathology. (Various opening dates have been cited. Stout reports obtaining the date 1891 from Dr. T. C. Terrell in a personal communication, and notes a graduating class of five in 1895; W. H. Moursund in *A History of Baylor University College of Medicine 1900-1953* cites 1894. The Fort Worth school became a part of Texas Christian University in 1911, and in 1918 merged with Baylor University College of Medicine in Dallas.)
- 1895 Fort Worth Medical School graduates its first class.
- 1896 Wilhelm Roentgen announces discovery of x-ray; A. H. Becquerel, radio-activity.
Scientific experimentation brings charges of animal cruelty to Army Medical Museum.⁸⁰¹
- 1898 Yellow fever and dengue fever rage in Texas. Marine Hospital Service sends John Guit  ras, MD, professor of pathology at the University of Pennsylvania, to Texas to help.
Spanish-American War brings epidemic of typhoid among American troops. Walter Reed of the Army Medical Museum heads a commission to study the problem, and reveals flies as carriers, dust and uncleanness as mechanisms facilitating the spread of the disease.
- 1899 Theobald Smith and others establish the tick as the vector in the transmission of Texas cattle fever.
- 1900 In September, 6,000 to 8,000 inhabitants of Galveston die in powerful hurricane (remaining in 1995 the nation's worst natural disaster). Along with nearly every building in town, "Old Red" and John Sealy Hospital are damaged, however The University of Texas Board of Regents insists on Medical Department classes starting this fall.
The University of Dallas Medical Department opens its doors in Dallas and would affiliate in 1903 with Baylor University at Waco to become Baylor University College of Medicine. Dallas Medical College also opens and would merge in 1904 with Baylor. For the next few years, a number of medical schools would open, many of them diploma mills.
- 1901 Spindletop, the great oil gusher, erupts in Beaumont, starting the development of major oil fields in Texas.
A second commission headed initially by Walter Reed of the Army Medical Museum announces the mosquito as the vector in transmission of yellow fever, confirming Carlos Finlay's (and Greenville Dowell's) earlier theories.
Speaking to the Texas Medical Association Section on Pathology, Dr. Allen J. Smith delivers beautiful, 4,000-word speech on the status of pathology.

Marie Charlotte Schaefer, MD, first UTMB woman faculty member and first woman listed as a speaker on a Texas Medical Association program, presents "Anchyllostoma Duodenale in Texas," which arose from her work as an *interne* in Dr. Allen Smith's laboratory—where she had become interested in intestinal parasites and hookworm.

- 1902 Southwestern University Medical College, nominally tied to Southwestern University in Georgetown, opens in Dallas.

A dermatologist and professor at the original Southwestern University Medical College, J. B. Shelmire, MD, intrigued by the fields of mycology and histopathology, brings the first microscope to Dallas in 1902, and provides some clinical pathology services to colleagues.

- 1903 Dr. Allen J. Smith leaves The University of Texas Medical Department for the University of Pennsylvania. He is succeeded by A. E. Thayer, MD, of Meridian, Mississippi, as chairman of pathology. Dr. Thayer would leave in 1907, because of his wife's ill health, and in 1908, become a professor of pathology at Baylor University College of Medicine in Dallas, serving until 1912.

First recorded surgical pathology report initiates accessions—to present—at UTMB

- 1904 American Medical Association creates Council on Medical Education. A pathologist, William T. Councilman, MD, begins study of pathology education in the United States.

Beecher F. Stout, MD, establishes the state's first private laboratory for clinical pathology in San Antonio. In order to survive, he also provides anesthesiology services.

Others soon follow him, however, in opening private laboratories: In 1907, W. F. Thomson, MD, in Beaumont and J. H. Black, MD, in Dallas; in 1909, E. F. Cooke, MD, and in 1911, Martha A. Wood, MD, both in Houston; in 1912, J. E. Robinson, MD, in Temple; in 1913, Willis Waite, MD, in El Paso; in 1915, Truman C. Terrell, MD, in Fort Worth; and in 1917, W. W. Coulter, MD, at Southwestern State Hospital in San Antonio.

- 1905 Texas Medical Association launches the *Texas State Journal of Medicine*. Pathology-related papers are published in the first issue.

- 1906 After eradicating mosquitoes from Cuba, William Crawford Gorgas, MD, also eradicates them from the Panama Canal Zone, permitting American Army engineers to complete construction of the Panama Canal.

Claudia Potter, MD, the sixth woman to graduate from UTMB, Galveston, becomes the pathologist at Temple Sanitarium (later Scott and White Hospital) in Temple, also performing multiple other tasks.

John T. Moore, MD, part-time pathologist, of Galveston, the Texas representative to the American Medical Association Council on Medical Education, pleads for better medical education in Texas.

In June 1906, Dr. Moore publishes an article, "The Laboratory of Clinical Pathology and Its Relation to the Practice of Medicine and Surgery," in

the *Texas State Journal of Medicine*. Other clinical pathology articles also are carried in this issue, a pattern that would continue routinely over the years.

After being ridiculed by the Texas Legislature, the Texas anatomical law, designed to obtain cadavers for education of first-year medical students in anatomy, is passed.⁸⁰²

- 1907 Texas passes its one-board medical practice act, and the resulting board would launch stringent efforts to improve the previously uncontrolled medical schools in the state.
- 1908 American Medical Association obtains services of Abraham Flexner and the Carnegie Foundation to study medical schools in the nation. Flexner would also focus heavily on pathology education, and his study would have a profound effect on medical education and the teaching of pathology.
- 1909 Flexner studies four Texas schools. Only one, The University of Texas Medical Department (later UTMB) meets Flexner's standards. Diploma schools would disappear; other schools would struggle financially and have difficulty with meeting the requirements.
Typhoid vaccination is made compulsory for soldiers in Texas camps because of difficulties along the Mexican border (the Mexican revolt against Porfirio Diaz is under way). Only one death occurs from typhoid—that of a civilian who had not been vaccinated.
- 1910 John T. Moore, MD, Houston, sometime pathologist, is elected President, Texas Medical Association
- 1911 B. F. Stout, MD, performs the first complement-fixation in Texas. Others soon also take up the test.
Walter H. Moursund, MD, joins Baylor University College of Medicine, Dallas, as an assistant professor of pathology.
- 1912 J. Harvey Black, MD, of Dallas becomes prominent in context of pathology education at Southern Methodist University Medical Department, Dallas (an extension of the earlier Southwestern University Medical Department).
- 1914 On March 11, 1914, a group of Houston pathologists form the Houston Pathological Society.
- 1915 Southern Methodist University trustees opt to close the Medical Department, and devote funds instead to liberal arts.
- 1900-1920 Glorious decades of the "Big Four" (Osler, Welch, Halsted, Kelly). Clinical pathology practiced only in medical schools and large hospitals, however, and formal training is available only in Europe. Those taking such training are in demand as teachers and in hospitals.
- Early 1900s Post-mortem work, according to Dr. B. F. Stout, is fraught with danger, "cold-eyed" gentlemen with rifles often present. Often, too, animal parts are sent in for autopsy.

- 1917 Texas Medical Association, after interesting discussion, votes to abolish its Section on Pathology beginning in 1918. Prominent Houston pathologist, E. F. Cooke, MD, is involved in the discussion and apparently supportive of the decision.
In April 1917, the United States enters World War I.
- 1918 Fort Worth School of Medicine affiliates with Baylor University College of Medicine, Dallas.
World War I ends, and would be followed by an economic boom in the United States.
The American College of Surgeons begins inspections of hospitals and requires that they have an adequately staffed and equipped laboratory.
- 1919 George T. Caldwell, MD, arrives in Texas as professor and chairman of pathology at Baylor University College of Medicine, Dallas. He is the first scientifically-trained and full-time pathologist to teach at the school. His wife, Janet Caldwell, MD, also a pathologist, assists him in the laboratory and would become director of the laboratory at Baylor University Hospital.
- 1920 W. H. Moursund, MD, is appointed acting dean of Baylor University College of Medicine and would become dean.
E. F. Cooke, MD, and the editor of the *Texas State Journal of Medicine*, Holman Taylor, MD, engage in a series of debates over advertising of clinical pathology services.
- 1921 Texas pathologists form the State Pathological Society of Texas (later the Texas Society of Pathologists) on May 9, 1921, during the meeting of the Texas Medical Association in Dallas.
- 1922 Texas physicians participate in the organization of the American Society of Clinical Pathologists (ASCP) in St. Louis.
- 1928 The Texas Medical Association Section on Clinical Pathology is reestablished, following a request from members of the Texas Society of Pathologists. The society would meet only as the section until 1934.
Paul Brindley, MD, becomes acting head of the department of pathology at The University of Texas Medical Branch in Galveston, and would become chairman in 1929.
- 1928- Frank W. Hartman, MD, formerly of Temple, Texas, is president of the
1929 American Society of Clinical Pathologists.
- 1929- J. Harvey Black, MD, of Dallas is president of the American Society of
1930 Clinical Pathologists.
- 1930- Kenneth M. Lynch, MD, formerly of Texas, is president of the American
1931 Society of Clinical Pathologists.
- 1934 Texas Society of Pathologists resumes separate meetings.
- 1936 The American Board of Pathology is formed and begins its certification program. During the first year of examination, three Texas pathologists are certified. They are Douglas Randolph Venable, MD, then of Wichita

Falls; Elbert DeCoursey, MD, of San Antonio, and Charles B. Sanders, MD, then of Dallas.

Between 1936 and 1938, no separate meetings of the Texas Society of Pathologists are held, presumably because of the country's great economic depression. The Texas Medical Association Section on Clinical Pathology continues to meet.

- 1938 Following a called meeting in Fort Worth, the Texas Society of Pathologists is reorganized.
- 1939 In Dallas, experimental work by Joseph M. Hill, MD, and engineer David Pfeiffer in blood transfusion methods results in the design of a system (ADTEVAC) to preserve blood plasma by drying it from the frozen state. The Wadley Center in Dallas will become internationally recognized for work on Rh factor problems.
- 1940 Name of State Pathological Society of Texas is changed officially in the Constitution and Bylaws on January 28, 1940, to Texas Society of Pathologists.
- 1941 On December 7, Japan bombs Pearl Harbor, Honolulu, Hawaii, and on December 8, 1941, the United States declares war against Japan, and on December 11, against Germany and Italy. Medical schools will soon begin accelerated programs of education, shorter-term residency training, and most medical students will become involved in special military programs deferring their service until completion of undergraduate medical education.
G. N. Papanicolaou and H. F. Trout demonstrate diagnostic usefulness of vaginal smears in cancer.
Texas Legislature passes bill in May and Governor W. Lee O'Daniel in June signs legislation authorizing funding to establish a state cancer hospital, M.D. Anderson Hospital and Tumor Institute (later The University of Texas M.D. Anderson Cancer Center) in Houston. M.D. Anderson Foundation, a gift of Monroe Dunaway Anderson, a member of the family who started the leading cotton merchandising company Anderson Clayton & Company, matches the state funds, providing temporary housing and a site for the permanent quarters.⁸⁰³
- 1942 The University of Texas Medical Branch at Galveston lends five faculty members to M.D. Anderson Hospital and Tumor Institute. They are the only staff members.⁸⁰⁴
- 1943 Infantile paralysis epidemic occurs in the United States.
Penicillin is first used in therapy.
Baylor University College of Medicine moves to Houston; opens school in Sears warehouse.
Southwestern Medical College of Southwestern Medical Foundation opens school in Dallas in Army barracks.
- 1945 President Franklin D. Roosevelt dies April 12, 1945, in Warm Springs, Georgia.

On August 6 atomic bomb is released over Hiroshima, Japan, and on August 9 over Nagasaki, Japan.⁸⁰⁵

World War II ends officially on September 2, 1945

Dr. Joseph M Hill and colleagues report technology on determining Rh factors of blood before transfusions. Baylor University Medical Center becomes the first hospital in-the world to have a routine blood typing service.⁸⁰⁶

- 1946 Many physicians returning from military duties seek residency training to supplement their accelerated education and training programs during World War II.

The number of approved residency positions at The University of Texas Medical Branch at Galveston increases to sixty-nine, whereas ten years earlier there were only four.⁸⁰⁷

College of American Pathologists is formed.

Following the war, many more formally-trained pathologists begin to fan out across Texas, moving into communities that formerly relied on "circuit-riding" pathologists. As had their predecessors in other cities, many pathologists established schools of medical technology and became involved in establishing blood banks.

The Texas Society of Pathologists initiates an advertising page in the *Texas State Journal of Medicine* to present views of pathologists on a wide variety of ethical, socioeconomic, and scientific issues. Individual members volunteer to pay for the page, a custom that would continue until 1951 when the expenditure was included in the Society budget. The page came to be known as "page 5" although it was published on other pages of the journal. It would be discontinued in 1961.

R. Lee Clark, MD, of M D. Anderson Hospital and Tumor Institute in Houston invites Texas Society of Pathologists to co-sponsor the establishment of a tumor registry in Texas. Much debate ensues. William O Russell, MD, the first pathologist at M D. Anderson, begins work to establish the program in Texas

Following World War II, federal funding of research programs accelerates

- 1947 On April 16, a French ship, the *Grandcamp*, in the harbor at Texas City, explodes, killing and injuring hundreds. Out of this disaster the American Association of Blood Banks is formed. Among the founders are Texans, Drs. E. E. Muirhead, Joseph M Hill, and Sol Haberman (PhD).

Texas Society of Pathologists names its award for scientific distinction the George T. Caldwell Award, following the death of Dr Caldwell.

- 1948 Texas doctors begin learning about smear diagnosis, and Dr. George N. Papanicolaou sends telegram to members of the Texas Society of Pathologists expressing his hope that physicians "would fully evaluate the procedure before passing an opinion as to its merit and also expressing belief in its usefulness as a diagnostic procedure "

John L. Goforth, MD, of Dallas begins term (1948-1950) as governor of the College of American Pathologists.

- 1949 Houston physicians form the Houston Society of Clinical Pathologists on July 22, 1949.

Texas Legislature passes the "Basic Science" bill setting certain minimum standards for all medical practitioners in various medical disciplines, including pathology.

Southwestern Medical College, Dallas, becomes the second medical school in The University of Texas System.

- 1950 North Korea crosses into South Korea, provoking the Korean War. A physician draft becomes necessary.

- 1950s Texas pathologists implore Blue Cross-Blue Shield of Texas to recognize their fees under Blue Shield, which reimburses physicians, rather than under Blue Cross, which pays for hospital services.

- 1950-1951 F. William Sunderman, Sr., MD, of Houston serves as president of the American Society of Clinical Pathologists.

- 1952 Dr Truman C. Terrell of Fort Worth serves as president of the Texas Medical Association.

- 1953 Dr. George Turner of El Paso serves as president of the Texas Medical Association.

Dr. B. F. Stout of San Antonio publishes brief history of pathology in the *Texas State Journal of Medicine*, and cites the integration of pathology during his lifetime.

- 1955 Texas Legislature passes bill (sponsored by Robert Baker, Houston) allowing county commissioners in four Texas locations—Dallas, Fort Worth, Houston, and San Antonio—to set up a medical examiner's system. The bill requires systems in those without a medical school. In June 1955, San Antonio becomes the first city to initiate a medical examiner's system in Texas.

The first George T. Caldwell Award of the Texas Society of Pathologists is given posthumously to Dr Paul Brindley, long-time chairman of the department of pathology at UTMB, Galveston.

- 1956-1957 Dr. John L. Goforth of Dallas is president of the American Society of Clinical Pathologists.

- 1957 Texas Attorney General Will Wilson renders opinion declaring that whenever a corporation employs a licensed physician to treat patients and receives the fee, the corporation is unlawfully engaged in the practice of medicine and the licensed physician so employed is violating the provisions of Texas law and is subject to having his license to practice revoked.

- 1957 "Clinical" dropped from title of Texas Medical Association Section on Pathology.

- 1958 An inquiry regarding a trained but unlicensed physician working in a Texas

laboratory brings the opinion from the secretary of the Texas State Board of Medical Examiners that (1) if this individual comes to Texas and works in a laboratory and limits his work to diagnosis, he is practicing medicine and will have to have a license; (2) anyone who does pathology and makes a diagnosis is practicing medicine, and (3) no one can do pathology in Texas without a license.⁸⁰⁸

Louis S. Smith, MD, of Houston begins term as CAP governor (1958-1960).

- 1959 Nobel Prize for Medicine and Physiology given to Americans S. Ochoa and A. Kornberg for synthesis of RNA and DNA.

Frank M. Townsend, MD, of San Antonio is named director of the Armed Forces Institute of Pathology in Washington, DC.

- Late 1950s NASA begins space development programs, leading to many technologic advances, including those in the laboratory.

- 1960 Dr. May Owen of Fort Worth is first woman to serve as president of the Texas Medical Association.

Automation of laboratory functions accelerate.

American Theodore Maiman demonstrates first laser.⁸⁰⁹

Molecular biology begins period of rapid development.

- Early 1960s There is acceleration of the conflicts in Vietnam that had begun during the Truman era.

- 1960-1961 Dr. John J. Andujar, Fort Worth, serves as president of the American Society of Clinical Pathologists.

- 1963 On November 22, 1963, President John F. Kennedy is shot and killed in Dallas, and Texas Governor John B. Connally severely wounded. Physicians at Parkland Memorial Hospital provide care for them and later for the alleged assassin Lee Harvey Oswald of Dallas. Controversy ensues over the autopsies after Texas law is preempted and President Kennedy's body is flown to Bethesda, Maryland, where Navy pathologists conduct the autopsy.

- 1964 Texas Attorney General rules that pathology is the practice of medicine. In subsequent months, a mailing will be sent to members of the Texas Medical Association by the TMA Board of Councilors listing qualified Texas pathologists and the categories of laboratory tests offered.

- 1964-1965 Dr. William O. Russell of Houston serves as president of the American Society of Clinical Pathologists.

- 1965 In July, President Lyndon B. Johnson signs the Medicare law, an amendment to the Social Security Act, providing limited health insurance to elderly and disabled Americans.

College of American Pathologists supports concept of billing for the "professional component" of services.

American Society of Clinical Pathologists and others encourage automation of laboratories, regardless of size.

- 1965 Numerous requirements would be imposed on pathologists, and over the years include a variety of formulas and approaches for reimbursement for Medicare patients.
- 1966 Medicare/Medicaid go into effect.
- Charles J. Whitman shoots randomly from atop The University of Texas tower in Austin, killing sixteen and injuring thirty-one people on campus. A special blue ribbon committee, appointed by Governor John B. Connally to study the incident, includes Texas pathologists.
- First students are admitted to The University of Texas Medical School at San Antonio.
- 1967 Amendments to Medicare law provide 100% reimbursement for inpatients to hospital-based physicians and hospital outpatient diagnostic services are transferred to "Part B" of Medicare.
- CLIA '67, or the Clinical Laboratory Improvement Act, establishes minimum quality requirements to participate in Medicare for clinical laboratories engaged in interstate commerce.
- Texas Medical Association adopts position that "Doctors of Osteopathy who practice scientific medicine on an ethical basis are not cultists."⁸¹⁰
- Dr. John J. Andujar, Fort Worth, is president of the American Board of Pathology.
- 1968 Senator Robert Kennedy is assassinated in Los Angeles, and a Texas physician, Kenneth M. Earle, MD, heading the neuropathology department at the Armed Forces Institute of Pathology, is among those conducting the autopsy.
- "Third generation" of computers based on integrated circuitry are introduced.
- 1969 NASA places man on moon
- Texas College of Osteopathic Medicine is formed in Fort Worth.
- Late More large commercial laboratories are founded, and will continue expansion over the next three decades.
- 1960s
- 1971 The University of Texas Medical School at Houston opens, becoming the second medical school in Houston.
- Carl J. Lind, Jr., MD, Houston, begins service (1971-1977) as CAP governor.
- 1972 More than 100 amendments to Medicare are adopted, including establishment of fee schedules for routine laboratory work on the basis of the lowest charge paid within a region; reimbursement for teaching physicians is transferred to "Part A" of Medicare Professional Standards Review Organizations (PSROs) given responsibility for review of Medicare services.
- Texas Tech University School of Medicine opens in Lubbock
- 1973 Dean Corll-Elmer Wayne Henley mass murders of twenty-seven males are found in Houston. Harris County Medical Examiner is in charge of identifying victims.

Mid- Number of malpractice suits increases to a point of crisis.
1970s

1975 F. Lamont Jennings, MD, of Galveston begins service (1975-1981) as CAP governor.

1977 Medicare-Medicaid Fraud and Abuse Amendments adopted. One section calls for disclosure of ownership of 5 percent or more in facility, such as an independent laboratory, in order to participate in Medicare and Medicaid. Texas A&M College of Medicine opens classes with thirty-two students.

1977- Vernie A. Stembridge, MD, of Dallas serves as president of the American
1978 Society of Clinical Pathologists.

1978 Rules for 1972 Medicare amendments are implemented, and include imposing "lowest charge" reimbursement for twelve laboratory tests.

1979 An "automated fee schedule" for Medicare is established for laboratory tests in some laboratories

John R. Rainey, Jr., MD, begins service (1979-1985) as CAP governor.

1980 Dr. Vernie A. Stembridge, Dallas, is president of the American Board of Pathology.

1980s Mergers of large commercial laboratories accelerate.

1982 Tax Equity and Fiscal Responsibility Act (TEFRA) brings hospital ancillary units, including laboratories, under reimbursement limits. Health Care Financing Administration (HCFA) has authority to limit reimbursement to pathologists under reasonable compensation equivalent (RCE)

1982- Frank Vellios, MD, formerly of Dallas, is president of the American Soci-
1983 ety of Clinical Pathologists.

1983 RCEs are replaced with prospective payment system (PPS) based on diagnosis-related groups (DRGs).

1984 Deficit Reduction Act of 1984 replaces reasonable charge basis for outpatient laboratory testing with carrier-wide fee schedules.

Thomas H. Dutcher, MD, formerly of Dallas, is president of the American Society of Clinical Pathologists.

1985 The Gramm-Rudman-Hollings deficit-reduction legislation leads to Court decision that in effect sets stage for cost-shifting of indirect laboratory charges for nonpatients in an amount equal to that applied for the hospital's own patients.

In England, DNA "fingerprinting" results first presented as evidence in a criminal prosecution.

When a Delta Airlines aircraft crashes on August 2 at Dallas-Fort Worth Airport, the Dallas County Medical Examiner is in charge of autopsies.⁸¹¹

Thomas H. McConnell, MD, Dallas, and P. Ridgway Gilmer, Jr., MD, Galveston, begin terms as CAP governors, Dr. McConnell to serve until 1988, Dr. Gilmer until 1991.

- 1987 Under OBRA '87, Secretary of Health and Human Services is authorized to impose sanctions on physicians who decline assignment of Medicare benefits on fee schedule testing. Also eliminated are previous allowances for return on equity of capital for hospital outpatient departments, including laboratories. Medicare laboratory reimbursements are reduced.
Federal Bureau of Investigation (FBI) establishes DNA "fingerprinting" laboratories
- 1988 CLIA '88 is passed, in principle would extend direct federal jurisdiction for the regulation of clinical laboratory quality to all US clinical laboratories. Also provides for Medicare coverage of preventive laboratory service, including payment for screening of Pap smears every three years.
- 1988- Joseph H. Keffer, MD, later of Dallas, serves as president of the American
1989 Society of Clinical Pathologists
- 1989 OBRA '89 reduces laboratory fee schedules again and bars "self-referral" to laboratories owned by physicians; creates "shell lab" concept regarding laboratory-to-laboratory referrals.
Specialty society delegates given vote in TMA House of Delegates.
- 1990 William Gordon McGee, MD, of El Paso becomes president of the Texas Medical Association.
OBRA '90 again reduces laboratory fee schedules. Changes definition of shell laboratory to one that does not perform on site 70% of tests for which it has received requisitions.
- 1991 America sends troops to the "Gulf War" in the Persian Gulf region to protect Kuwait against encroachment by Iraq.
- 1992 First regulations for CLIA '88 take effect. Final regulations on the Medicare and Medicaid Patient Program Protection Act, passed in 1987, are implemented as is the Stark self-referral ban
- 1993 Branch Davidian mass disaster occurs near Waco; Fort Worth physicians conduct autopsies and identify victims
Michael W. Lieberman, MD, chairman of the department of pathology, Baylor College of Medicine, Houston, is president of the American Society for Investigative Pathology (includes progenitors, the American Association of Pathologists and Bacteriologists and the American Society for Experimental Pathology.)
- 1994 Merle W. Delmer, MD, San Antonio, is president of the American Board of Pathology.
- 1995 John D. Milam, MD, of Houston, serves as president of the American Board of Pathology.
Human Genome Project reports completion of first map of human DNA; has identified at least fifty disease-causing genes. Efforts begin toward identifying the precise sequence of each of the three billion bases in human DNA. By fall of 1995 had sequenced about 1 percent of the total number.⁸¹²

Regulations related to Medicare continue to impose confusing and onerous regulations on laboratory medicine.

Court ruling in suit against Pathology Laboratories of Arkansas appears to have been favorable and supportive of that group's separate billing for the professional component of its work to an insurance fund, however the Court ruling did not assure that an insurance company in the future would have to allow separate billing for the professional component.⁸¹³

Robert W. McKenna, MD, of Dallas is 1995-1996 president-elect of ASCP

Appendix Two

RECIPIENTS OF TEXAS SOCIETY OF PATHOLOGISTS' AWARDS (All MDs unless otherwise noted.)

Recipients of Certificate of Merit

1935 Hardy A. Kemp, Dallas
Robert M. Moore, Galveston

Recipients of Scientific Award

1948 Joseph M. Hill, Dallas
Sol Haberman, (PhD), Dallas

Recipients of Citation of Merit

1993 Henry C. McGill, Jr., San Antonio
1994 Joseph A. Jachimczyk, Houston
Alice L. Smith, Dallas
1995 Nancy W. Dickey, Richmond

**RECIPIENTS OF THE GEORGE
T CALDWELL AWARD**

1955 Paul Brindley, Galveston
1956 Beecher F. Stout, San Antonio
1957 John L. Goforth, Dallas
1958 May Owen, Fort Worth
1959 Stuart A. Wallace, Houston
1960 Elbert DeCoursey, San Antonio
1961 A. O. Severance, San Antonio
1962 T. C. Terrell, Fort Worth
C. B. Phillips, Temple and Houston
1963 C. T. Ashworth, Dallas
1964 A. J. Gill, Dallas
1965 John J. Andujar, Fort Worth
1966 William O. Russell, Houston
1967 V. A. Stenbridge, Dallas
1968 J. V. Irons, (ScD), Austin

1969 Elwood E. Baird, Galveston
1970 Carl J. Lind, Houston
1971 Frank M. Townsend, San Antonio
1972 John H. Childers, Dallas
1973 George J. Race, Dallas
1974 O. J. Wollenman, Fort Worth
1975 R. H. Rigdon, Galveston
1975 Maynard S. Hart, El Paso
1976 Lamont Jennings, Galveston
1977 John R. Rainey, Jr., Austin
1978 Bruce D. Fallis, Dallas
1979 Dorothy Patras, Fort Worth
1980 Feliks Gwozdz, Fort Worth
1981 John D. Milam, Houston
1982 Merle W. Delmer, San Antonio
1983 James C. Stinson, Temple
1984 Wm. Gordon McGee, El Paso
1985 P. R. Gilmer, Galveston
1986 Lloyd R. Hershberger, San Angelo
1987 Margie B. Peschel, Fort Worth
1988 Thomas H. McConnell, Dallas
1989 William T. Hill, Houston
1990 Jack Line Smith, Beaumont
1991 Charles S. Petty, Dallas
1992 Harlan J. Spjut, Houston
1993 Domingo H. Useda, McAllen
1994 Eleanor S. Irvine, Wichita Falls
1995 W. L. Dub Crofford, Dallas
1996 Jerome S. Wilkenfeld, Houston

Appendix Three

PRESIDENTS OF THE TEXAS SOCIETY OF PATHOLOGISTS

(All MDs unless otherwise noted)

1921	Moise D. Levy, Galveston	1959	J. E. Williams, Abilene
1922	J Harvey Black, Dallas	1960	O. J. Wollenman, Fort Worth
1923	W F Thomson, Beaumont	1961	Raymond H. Rigdon, Galveston
1924-	B. F. Stout, San Antonio	1962	William N Powell, Temple
1925		1963	Carl J. Lind, Jr., Houston
1926-	Edward F.Cooke, Houston	1964	Mervin Grossman, Dallas
1927		1965	John R Rainey, Jr, Austin
1928	W. W. Coulter, Houston	1966	Vernie A Stembbridge, Dallas
1929	James E Robinson, Temple	1967	Norman H Jacob, Jr., San Antonio
1930	Violet Keiller, Houston	1968	William T. Hill, Houston
1931	John L. Goforth, Dallas	1969	George J. Race, Dallas
1932	Truman C. Terrell, Fort Worth	1970	Jack P Abbott, Conroe
1933	B F. Stout, San Antonio	1971	Jack L. Smith, Beaumont
1934	Marvin D Bell, Dallas	1972	Elwood E. Baird, Galveston
1935	Henry Hartman, San Antonio	1973	Dorothy Patras, Fort Worth
1936	Truman C Terrell, Fort Worth	1974	Sidney Kowierschke, El Paso
1937	John F. Pilcher, Galveston	1975	Lamont Jennings, Galveston
1938	Truman C Terrell, Fort Worth	1976	James C. Stinson, Temple
1939-	George T. Caldwell, Dallas	1977	Marc Garza, Dallas
1940		1978	John D. Milam, Houston
1941-	Truman C. Terrell, Fort Worth	1979	John Alfred Webb, Wichita Falls
1942		1980	Wm. Gordon McGee, El Paso
1943	John L. Goforth, Dallas	1981	W. L. Dub Crofford, Dallas
1944	Albert H. Braden, Houston	1982	Eleanor S. Irvine, Wichita Falls
1945	Paul Brindley, Galveston	1983	Van Q. Telford, Richardson
1946	May Owen, Fort Worth	1984	Domingo H. Useda, McAllen
1947	David A. Todd, San Antonio	1985	Thomas H McConnell, Dallas
1948	W. W. Coulter, Houston	1987	Jerome S. Wilkenfeld, Houston
1949	John F. Pilcher, Corpus Christi	1988	R. Irvin Morgan, Greenville
1950	Charles Phillips, Temple	1989	Joyce S. Davis, College Station
1951	Stuart Wallace, Houston	1990	Margie B. Peschel, Fort Worth
1952	C T Ashworth, Dallas	1991	Ladon W. Homer, Fort Worth
1953	A.O. Severance, San Antonio	1993	Richard J. Hausner, Houston
1954	John J. Andujar, Fort Worth	1994	Ibrahim Ramzy, Houston
1955	Sidney Bohls, Austin	1995	Susan M. Strate, Wichita Falls
1956	C.B. Sanders, Houston	1996	David N. Henkes, San Antonio
1957	Lloyd Hershberger, San Angelo		
1958	John H. Childers, Dallas		

Notes

1. Long, Esmond R · *A History of American Pathology*, Charles C Thomas Publisher, Springfield, IL, 1962, pp 4-5

2. Nixon, Pat Ireland· *The Medical Story of Early Texas, 1528-1853*, Mollie Bennett Lupe Memorial Fund, 1946, Lancaster Press, Inc , Lancaster, PA, pp 99-101

3 Also known as Don Jaime de la Gurza.

4 Nixon, Pat Ireland, *The Medical Story of Early Texas*, op cit, pp. 50-51. Nixon reports that when Blancpain became sick in prison, doctors were ordered by the viceroy to report on his condition. They stated "that Joseph Blancpain has periodic arthritis pains which he has suffered for ten years and which are hereditary as he claims. Because of these reasons, it is impossible for him to talk, work, etc , due to the stiffness of his limbs. The treatment required is a long and tedious one which can not be followed in the prison where he finds himself, due to improper surroundings and lack of medicines and adequate diet. Blancpain grew rapidly worse . . ."

5 "One, frequently cited, was performed by Juan de Morales, surgeon on the flagship of Magellan, in or about 1519 during the journey around the world. In 1533 on the Island of Hispaniola, the local authorities ordered an autopsy on the bodies of a pair of Siamese twins to determine if they constituted one individual or two, and indeed to learn if each member of the pair had a soul, a problem difficult to solve but apparently not considered beyond the powers of the examining surgeon. The profession of medicine was advanced rapidly in the later sixteenth and seventeenth centuries in Latin America. Large universities were established in Mexico and Peru, and hospital facilities were widely available." Long Esmond R., *A History of American Pathology*, op cit., p 7.

6 Nixon, Pat Ireland, *The Medical Story of Early Texas*, op. cit , pp 50-51. Nixon also cites John Tate Lanning, *Academic Culture in the Spanish Colonies*, p 105. Eugene F Cordell, *The Medical Annals of Maryland*, p. 640. Moll, Nixon notes, gives much earlier dates in *Aesculapius in Latin America*, pp. 159-162.

7 Nixon, Pat Ireland, *The Medical Story of Early Texas*, op cit , pp 50-51.

8 Long, Esmond R , *A History of American Pathology*, op. cit., pp. 80-81

9 Nixon, Pat Ireland, *The Medical Story of Early Texas*, op cit , p. 15.

10 Nixon, Pat Ireland, *The Medical Story of Early Texas*, op. cit , pp. 68-78.

11 Nixon, Pat Ireland, *The Medical Story of Early Texas*, op. cit., pp 42-52.

12 In the debate over the origin of syphilis in America, Nixon writes, "Dr Herbert U. Williams, Professor of Pathology at the University of Buffalo School

of Medicine, interpreted a collection of pre-Columbian bones held by a University of Texas professor "as showing definite evidences of syphilis, the principal recorded changes being symmetrical, irregular thickening of long bones, especially the tibias." Dr. Williams also concluded from this and other studies that "aboriginal America was singularly free from the great epidemic diseases that are known to have prevailed in the eastern hemisphere." Nixon, Pat Ireland, *The Medical Story of Early Texas*, op. cit., p. 13.

13 Nixon, Pat Ireland, *The Medical Story of Early Texas*, op. cit., pp. 127-129.

14 *Ibid*

15 Long, Esmond R., *A History of Pathology*, op. cit., pp. 126-127.

16 Long, Esmond R., *A History of Pathology*, op. cit., p. 167.

17 Long, Esmond R., *A History of Pathology*, op. cit., p. 211.

18. Nixon, Pat Ireland, *The Medical Story of Early Texas*, op. cit., pp. 450-451.

19. Nixon, Pat Ireland, *The Medical Story of Early Texas*, op. cit., pp. 452-455.

20. Nixon, Pat Ireland, *The Medical Story of Early Texas*, op. cit., pp. 457-458.

21. Nixon, Pat Ireland, *A History of the Texas Medical Association, 1853-1953*, Austin, University of Texas Press, 1953, p. 4.

22. Nixon, Pat Ireland, *The Medical Story of Early Texas*, op. cit. pp. 135-136. Title of the Muñoz pamphlet was "A Simple, Clear and Easy Method of Attending Children in the Actual Epidemic of Natural Small-Pox, arranged according to the newest and best medical doctrines of today."

23 North, John Paul: "Doctors in Early Texas," *Texas State Journal of Medicine*, Vol. 61 (September) 1965, pp. 675-678.

24. Nixon, Pat Ireland, *The Medical Story of Early Texas*, op. cit., p. 313.

25 Nixon, Pat Ireland, *The Medical Story of Early Texas*, op. cit., pp. 394-397.

26 Nixon, Pat Ireland, *The Medical Story of Early Texas*, op. cit., pp. 295-296; 301-302.

27. Nixon, Pat Ireland, *The Medical Story of Early Texas*, op. cit., pp. 462-463.

28. Nixon, Pat Ireland, *The Medical Story of Early Texas*, op. cit., pp. 326-339

29. Long, Esmond R., *A History of American Pathology*, op. cit., pp. 82-85.

30. Long, Esmond R., *A History of American Pathology*, op. cit., p. 78.

31. Long, Esmond R., *A History of American Pathology*, op. cit., p. 96.

32. Long, Esmond R., *A History of American Pathology*, op. cit., p. 79.

33. Long, Esmond R., *A History of American Pathology*, op. cit., p. 4.

34. Fehrenbach, T. R., *Lone Star, A History of Texas and the Texans*, Collier Books, A Division of Macmillan Publishing Co., Inc., New York, 1968, p. 276.

35. Nixon, Pat Ireland, *The Medical Story of Early Texas*, op. cit., pp. 394-397.

36. Long, Esmond R., *A History of Pathology*, op. cit., pp. 191-194.

37. Andujar, John J.: "Pathology," *Texas Medicine*, Vol. 63 (March) 1967, pp. 90-92

38. Long, Esmond R., *A History of Pathology*, op. cit., pp. 191-194.

39 Long, Esmond R., *A History of Pathology*, pp. 198-200.

40 Long, Esmond R., *A History of Pathology*, p. 204.

41. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op cit, p. 57. (One of the earliest uses of a microscope in Texas was by B. E. Hadra in 1874.)

42. Nixon, Pat Ireland, *The Medical Story of Early Texas*, op. cit., p. 284.

43 Red, Georgia Plunkett, Chapter on "Gossip," in *The Medicine Man in*

Texas, Standard Printing & Lithographing Co., Houston, 1930, pp. 84-96 (Red cites the following advice on diphtheria, reprinted from the *Texas Republican*, April 13, 1866: "A French physician in a paper presented to the French Academy of Medicines, asserts that lemon juice is one of the most efficacious medicines which can be applied in diphtheria, and he relates that when he was a dresser in the hospital his own life was saved by its timely application. He got three dozen lemons and gargled his throat with the juice, swallowing a little, at the same time, in order to act on the more deep-seated parts.")

44. Fehrenbach, T. R. op. cit. p. 599.

45. Nixon, Pat Ireland, *A Century of Medicine in San Antonio, The Story of Medicine in Bexar County, Texas*, San Antonio. Privately published by the Author, 1936, pp. 141-144

46. Stembridge, Vernie A.. File notes

47. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., p. 15.

48. Nixon, Pat Ireland, *A Century of Medicine in San Antonio*, op. cit., p. 168

49. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., p. 12; p. 14; pp. 31-35

50. Henry, Robert S.: *The Armed Forces Institute of Pathology, Its First Century, 1862-1962*, Office of the Surgeon General, Department of the Army, Washington, DC, 1964, p. 8

51. Vernon, Walter N.; Sledge, Robert W.; Monk, Robert C., and Spellman, Norman W.: *The Methodist Excitement in Texas, A History, The Texas United Methodist Historical Society*, c/o Bridwell Library, SMU, Dallas, 1984, p. 101; p. 116.

52. Vernon, et al., op. cit., p. 101.

53. *The University of Texas Medical Branch at Galveston, A Seventy-Five Year History by the Faculty and Staff*, University of Texas Press, Austin & London, 1967, pp. 382-402.

54. Fehrenbach, T. R., op. cit., p. 355; pp. 375-376

55. Hood, R. Maurice. "Medicine in the Civil War," *Texas Medicine*, Vol. 63 (March) 1967, pp. 53-55.

56. Henry, Robert S., op. cit., p. 8.

57. Andujar, John J., op. cit., p. 91.

58. Heaton, Leonard D., Lieutenant General, The Surgeon General, writing the Foreword, in Henry, Robert S.: *The Armed Forces Institute of Pathology, Its First Century, 1862-1962*, Office of the Surgeon General, Department of the Army, Washington, DC, 1964, pp. v-vi.

59. Henry, Robert S., op. cit., p. 36.

60. Fehrenbach, T. R., op. cit., pp. 361-362.

61. Fehrenbach, T. R., op. cit., p. 363.

62. Fehrenbach, T. R., op. cit., pp. 363-364.

63. Fehrenbach, T. R., op. cit., p. 382

64. Fehrenbach, T. R., op. cit., p. 393.

65. Henry, Robert S., op. cit., pp. 41-49.

66. Fehrenbach, T. R., op. cit., p. 393.

67. Fehrenbach, T. R., op. cit., p. 408.

68 *The University of Texas Medical Branch at Galveston, A Seventy-Five Year History by the Faculty and Staff*, op. cit., p. 7.

69 Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., pp. 32-33.

70 *The University of Texas Medical Branch at Galveston, A Seventy-Five Year History by the Faculty and Staff*, op. cit., pp. 8-9

71. Brindley, Anne A. (Mrs. Paul): "Department of Pathology, University of Texas Medical Branch," 1953, Manuscript in the Blocker History of Medicine Collections, Moody Medical Library, The University of Texas Medical Branch, Galveston

72 Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., pp. 245-246.

73 Long, Esmond R., *A History of Pathology*, op. cit., p. 211.

74 King, Lester S.: "Medicine in the USA: Historical Vignette, XII: Clinical Laboratories Become Important, 1870-1890," *Journal of the American Medical Association*, Vol. 249, No. 22 (June 10) 1983, pp. 3025-3029

75 Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., p. 43.

76 Fehrenbach, T. R., op. cit., p. 599.

77. Henry, Robert S., op. cit., pp. 66-67.

78. *Ibid*

79. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., pp. 53-55.

80 Stout, B. F., MD, "One Hundred Years of Progress in Pathology in Texas," *Texas State Journal of Medicine*, Vol. 49 (May) 1953, pp. 312-315.

81. Andujar, John J., op. cit.

82. Brindley, Anne, op. cit.

83 Burns, Chester R., "Medicine in Texas: the historical literature," *Texas Medicine*, Vol. 82 (January) 1986, pp. 60-63.

84. Stout, B. F., op. cit., 1953 article in *Texas State Journal of Medicine*, p. 314.

85 Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., p. 363.

86. Stembridge, Vernie A.: File Notes

87. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., p. 57.

88 *Ibid*, pp. 62-63.

89 Nixon, Pat Ireland. *A History of the Texas Medical Association, 1853-1953*, op. cit., p. 75.

90 *Ibid*, p. 79.

91. Henry, Robert S., op. cit., pp. 68-69.

92. Long, Esmond R., *A History of American Pathology*, op. cit., pp. 147-148.

93 Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., p. 96.

94 *Ibid*, pp. 108-109.

95 *Ibid*, p. 93.

96 Long, Esmond R., *A History of American Pathology*, op. cit., p. 160.

97. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., pp. 138-139.

- 98 *Ibid* , pp. 149-151.
- 99 *Ibid* , p 147.
- 100 *Ibid* , p. 155
101. Stout, B F., op. cit , 1953 article in *Texas State Journal of Medicine*.
- 102 Long, Esmond R., *A History of American Pathology*, op. cit., p 4.
- 103 "Biographical—Prof. Allen J Smith, MD," in *Daniel's Texas Medical Journal*, Vol 8, 1892, pp. 136-138
104. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op cit., pp. 157-160.
- 105 *Ibid*
- 106 *Ibid* , p. 157.
107. Fehrenbach, T. R. , op cit , p 419
108. Brindley, op cit.
- 109 *Texas Medical Journal*. (Reprint from *N O Med and Surg Journal*) "Dr. George Dock," XXIV, No. 5 (November) 1908, pp 187-189
- 110 Brindley, Anne, op. cit.
111. *The University of Texas Medical Branch at Galveston, A Seventy-Five Year History by the Faculty and Staff*, op cit., pp 382-402.
112. Brindley, Anne, op. cit.
- 113 *Daniel's Texas Medical Journal*, op cit , Vol. 8, 1892.
- 114 Various opening dates have been cited for the Fort Worth School of Medicine. Stout cites 1891 information obtained from Dr. T. C. Terrell in a personal communication, and notes a graduating class of five in 1895, Moursund cites 1894 in Moursund, W. H , Sr · *A History of Baylor University College of Medicine 1900-1953*, Gulf Printing Company, Houston, 1956, p. 3. The Fort Worth school became a part of Texas Christian University in 1911, and in 1918 merged with Baylor University College of Medicine in Dallas.
115. Stenbridge, Vernie A : File Notes
- 116 Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op cit., p. 167.
- 117 *Ibid* , p. 176.
- 118 *Ibid* , pp. 177-178
- 119 Stout, Beecher F , op. cit , 1953 article in *Texas State Journal of Medicine*, p. 313.
120. Andujar, John J , op. cit., p. 90.
- 121 Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit , p 183
- 122 *Ibid* , p. 184
123. Henry, Robert S , op. cit., p. 93.
- 124 Long, Esmond R., *A History of Pathology*, op. cit., pp 232-234.
- 125 Henry, Robert S., op cit , pp. 103-105.
- 126 Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., pp. 203-204.
- 127 Henry, Robert S , op cit., pp 105-106
- 128 Long, Esmond R., *A History of American Pathology*, op cit , pp 164-165.
- 129 Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., p. 212.
- 130 Smith, Allen J.: Section on Pathology, Chairman's Address, Galveston,

Texas, *Transactions of the State Medical Association of Texas*, Thirty-Third Annual Session held at Galveston, Texas, April 23-26, 1901, pp. 376-386.

131 *Texas Almanac*, *The Dallas Morning News*, Dallas, 1994-1995, p. 122.

132 Brindley, Anne, op. cit.

133 *The University of Texas Medical Branch at Galveston, A Seventy-Five Year History by the Faculty and Staff*, op. cit., pp. 56-63

134 Some sources attribute the telegram to others, but agree on its contents and its message that the Board of Regents intended for the school to open. (*The University of Texas Medical Branch at Galveston, A Seventy-Five Year History by Faculty and Staff*, op. cit., p. 62.)

135 *Texas Almanac*, op. cit., p. 122.

136 *Texas Almanac*, op. cit., p. 608

137 Coffey, Sister Nora Marie, CCVI. *Remember Rejoice Renew 1887-1987 A Centennial Celebration of St Joseph Hospital*, Houston, Chas P. Young, 1987, p. 37.

138 Grun, Bernard. *The Timetables of History, A Horizontal Linkage of People and Events*, A Touchstone Book, 1982, New York, pp. 453, 455.

139 Henry, Robert S., op. cit., pp. 107-130.

140 Long, Esmond R., *A History of Pathology*, op. cit., pp. 253-254.

141. Henry, Robert S., op. cit., pp. 134-141.

142 Henry, Robert S., op. cit., p. 137.

143 *World Book Encyclopedia*

144. Martin, Donald S: Chapter on "William Crawford Gorgas 1854-1920," in *Yellow Fever in Galveston*, University of Texas Press, Austin, 1951, pp. 117-121.

145 Stout, B. F.: "Early Experiences in Clinical Pathology in Texas," *Texas State Journal of Medicine*, Vol. LIV, No. 7 (November) 1948, pp. 500-503. [Read before the Section on Clinical Pathology, State Medical Association of Texas, Annual Session, Houston, April 27, 1948]

146 Long, Esmond R., *A History of American Pathology*, op. cit., p. 181. The section was united in 1901 with the Section on Physiology and Dietetics, becoming the Section on Pathology and Physiology. Many years later specialization would explode to such esoteric heights that the American Medical Association in the late 1970s would drop its scientific sections, but provide specialty societies a voice in the House of Delegates. (Campion, Frank D.: *The AMA and U S Health Policy Since 1940*, Chicago Review Press, Chicago, 1984, pp. 82-88, p. 478.)

147 Although the Constitution and Bylaws of the state medical association used the term "Section on Microscopy and Pathology" for many years, the name was used loosely in the *Transactions of the Texas State Medical Association*, often omitting the term "microscopy." See *Transactions of the Texas State Medical Association*, Thirty-First Annual Session, San Antonio, April 25-28, 1899, Von Boeckmann, Schutze & Company, Printers, p. 6, and p. 321; *Transactions of the Thirty-Second Annual Session*, Waco, April 24-27, 1900, p. viii and p. 6.; *Transactions of the Thirty-Third Annual Session*, Galveston, April 23-26, 1901 (cited as Section on Pathology on pp. 376-386, but on p. vi, officers were listed under "Section on Microscopy and Pathology." Likewise the Bylaws referred to Microscopy and Pathology.)

148. Stenbridge, Vernie A, Personal communication.

149 Chapman, John S.: *The University of Texas Southwestern Medical School*,

Medical Education in Dallas, 1900-1975, Southern Methodist University Press, Dallas, 1976, pp. 4-5.

150 Stout, B. F., op. cit., 1953 article in *Texas State Journal of Medicine*, pp. 312-315.

151 Pat Ireland Nixon states "the annual oration" would pass with the 1907 meeting of the state medical association in Mineral Wells. "For a generation, the doctors of Texas had gloried in the spoken word. They had been willing to sit and listen as orators . . . recalled the medical glories of the past, emphasized the triumphs of the present, and envisaged the accomplishments of the future. Time had moved slowly then. Now the hours had grown wings. The world was moving faster. The bicycle and motorcycle had arrived, and the automobile was in sight." (Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., p. 261.)

152 Smith, Allen J.: Section on Pathology, Chairman's Address, Galveston, Texas, in *Transactions of the State Medical Association of Texas*, Thirty-Third Annual Session held at Galveston, Texas, April 23-26, 1901, pp. 376-386.

153 In 1901, the Texas State Medical Association changed its name to the State Medical Association of Texas, and in 1951, reverted to its original name, the Texas Medical Association (Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., p. 12.)

154 *The University of Texas Medical Branch, A Seventy-Five Year History by the Faculty and Staff*, op. cit., p. 87.

155 Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., pp. 225-226.

156 Nixon, Pat Ireland, *A Century of Medicine in San Antonio, The Story of Medicine in Bexar County*, op. cit., p. 206; also, Stout, B. F., op. cit., 1948 article in *Texas State Journal of Medicine*

157 Moursund, W. H., op. cit., p. 4.

158 *American Medical Directory, A Register of Physicians of the United States et al.*, 1958: "History of Medical Schools," Twentieth Edition, 1958, American Medical Association, Chicago, p. 44.

159 Chapman, John S., op. cit., pp. 3-11.

160 Moursund, W. H., op. cit., pp. 3-4; pp. 7-31, pp. 45-46; p. 66.

161 Moursund, W. H., op. cit., p. 12, pp. 197-198.

162 Moursund, W. H., op. cit., p. 198.

163 Moursund, W. H., op. cit., pp. 32-34.

164 White, Elizabeth Borst. "Patterns of development in Texas hospitals, 1836-1935: preliminary survey," *Texas Medicine*, Vol. 82 (December) 1986, pp. 55-60.

165 *BHCS*, a quarterly magazine for the Baylor family, Winter, 1993, Baylor Health Care System, Dallas, p. 11.

166 Moursund, W. H., op. cit., p. 19; p. 38.

167 Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., pp. 223-224.

168 *Ibid.*, p. 236.

169 *Ibid.*, p. 237.

170 Brindley, Anne, op. cit.

171 Weiskotten, Herman G., et. al.: *Medical Education in the United States 1934-1939*, American Medical Association, Chicago, 1940, p. 3.

172. Long, Esmond R., *A History of American Pathology*, op. cit., p. 182.
173. Stout, B. F., op. cit., 1948 article in *Texas State Journal of Medicine*.
174. *Ibid.*
175. *Daily Times Herald*, Dallas, April 29, 1951.
176. Parish, Charles Lawrence: "Biographica Dermatologica," *Cutis*, Vol. 4, No. 4 (April) 1968, p. 478.
177. Dr. Shelmire also later taught at Southern Methodist University and Baylor University College of Medicine, Dallas.
178. Pelphrey, Charles F.: Personal conversation with Dr. James Kreisle of Austin, an internist and son of Dr. Matthew Ferdinand Kreisle, Sr.
179. Peterson, Robert F.: Manuscript, History of Pathology at Scott and White, Temple, unpublished notes, 1995.
180. Kelley, Dayton: *With Scalpel and Scope; A History of Scott and White, Scott and White Memorial Hospital and Scott, Sherwood and Brindley Foundation*, Waco, 1970, pp. 33-34.
181. With the help of Adolphus Busch of St. Louis, the Oriental Hotel in Dallas had been completed after the 1894 economic panic. (Acheson, Sam: *35,000 Days in Texas, A History of the Dallas News and its Forbears*, New York, The Macmillan Company, 1938, p. 176; p. 219.)
182. Brown, W. L.: "The Value of Leucocyte Count in Appendicitis," *Texas State Journal of Medicine*, Vol. I, No. 1 (July) 1905, pp. 14-17.
183. Moore, John T.: "The Differential Diagnosis of the Type of Malarial Parasites by the Microscope," *Texas State Journal of Medicine*, Vol. 1, No. 2 (August) 1905, p. 59.
184. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., pp. 248-249; p. 253.
185. Sutcliffe, Jenny, and Duin, Nancy, op. cit., p. 100.
186. Stout, op. cit., article in 1948 *Texas State Journal of Medicine*.
187. Garrison, Fielding H.: *An Introduction to the History of Medicine*, W. B. Saunders Company, Philadelphia, 1929, pp. 708-712.
188. Stout, B. F., op. cit., 1953 article in *Texas State Journal of Medicine*.
189. Stembridge, Vernie A.: Personal communication.
190. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., pp. 259-260.
191. Transactions, State Medical Association of Texas, Thirty-Eighth Annual Session, Fort Worth, April 24-26, 1906, pp. 23-24.
192. Moore, John T.: "The Laboratory of Clinical Pathology and Its Relation to the Practice of Medicine and Surgery," *Texas State Journal of Medicine*, Vol II, No. 2 (June) 1906, pp. 61-62.
193. Howard, Wm. R.: *Texas State Journal of Medicine*, Vol II, No. 2 (June) 1906, pp. 62-64.
194. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., pp. 257-258.
195. *Ibid.*, p. 261, and *Texas State Journal of Medicine*, Vol. II, No. 12 (April) 1907, p. 48.
196. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., pp. 235-236 and p. 253.

- 197 *The University of Texas Medical Branch at Galveston, A Seventy-Five Year History by the Faculty and Staff*, op. cit , p 78.
- 198 Brindley, Anne, op cit.
- 199 *Ibid*
200. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., p. 316.
- 201 Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op cit , p. 264.
- 202 Weiskotten, et. al , op cit , p 3
- 203 Flexner, Abraham *Medical Education in the United States and Canada, A Report to The Carnegie Foundation for the Advancement of Teaching*, The Carnegie Foundation for the Advancement of Teaching, Bulletin Number Four, New York City, D.B Updike, The Merrymount Press, Boston, 1910
- 204 Flexner, op cit., p 310.
- 205 *Ibid* , p 28.
- 206 *Ibid* , p. 41
- 207 *Ibid* , p. 82
- 208 *Ibid* , p. 148
- 209 *Ibid* , pp 65-68.
- 210 Long, Esmond R., *A History of American Pathology*, op cit., pp. 182-183.
- 211 *Ibid* , p 247
- 212 *Ibid* , pp. 248-249
- 213 Articles published by pathologists are sprinkled throughout the *Texas State Journal of Medicine* in the early years A few are cited here. Drs. G S. McReynolds and J E. Robinson of Temple wrote "Pathological Findings of the Tonsil," Vol XI, No 1 (May) 1915, p 45 It had been read first before the Section on Ophthalmology, Otolaryngology, Rhinology, and Laryngology on May 14, 1914, in Houston. Dr. Martha A Wood of Houston wrote, "Some Pathological Conditions of the Breasts," Vol XI, No. 6 (October) 1915, p. 338 Read before the Section on Pathology on May 6, 1915, in Fort Worth Also, Dr B. F. Smith, Jr., of Galveston wrote, "How To Fit up a Practical Clinical Laboratory," Vol XI, No 1 (May) 1915, p 56. In the early years, beginning in 1905, the *Texas State Journal of Medicine* also had published the pathology questions for the licensure examination of the State Board of Medical Examiners.
- 214 Taylor, Holman: "The Community Pathologist," in *Texas State Journal of Medicine*, Vol. XII, No 8 (December) 1916, p 311.
- 215 *Mexico, Nagel's Encyclopedia Guide*, Nagel Publishers, Geneva, Paris, Munich, 1978, pp 72-73.
- 216 Henry, Robert S., op. cit , pp 143-144
- 217 *Ibid*
- 218 *Ibid*
- 219 Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., pp. 276-277.
- 220 Stout, B. F , op. cit , 1953 article in *Texas State Journal of Medicine*.
- 221 Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., pp 276-277.
- 222 *Ibid*
- 223 Peterson, Robert F., op cit

224. Brindley, Anne, op. cit.
225. Race, George J.: "Viewpoint: A History of the Development of Pathology at BUMC," *BUMC Proceedings*, Vol. 6, No. 2 (June) 1993, pp. 27-37.
226. Moursund, W. H., op. cit., pp. 60-61.
227. Correspondence in SMU Archives, Dallas.
228. SMU brochure, Medicine and Pharmacy, 1912-1913, SMU Archives.
229. Southern Methodist University: "Medical College Suspends Temporarily," article, SMU Archives.
230. Unsigned report about the Houston Pathological Society, files, Texas Society of Pathologists.
231. Drs. Claudia Potter and Fred K. Stroop believe he may have arrived earlier, and that Dr. von Toble preceded Dr. James Terrill who had arrived in 1913.
232. Peterson, Robert F., op. cit.
233. Herbut, Peter: *Pathology*, in Chapter on "Tumors," 2nd Ed., Lea Febiger, 1959, p. 255.
234. *The Texas State Journal of Medicine* uses the spelling "Mae" but other sources use "May." Dr. McAdams was born in 1885 and graduated from The University of Texas Medical Department, Galveston, in 1913 as its top student. (*American Medical Directory*, Fifth Edition, American Medical Association, Chicago, p. 1477.) (*The University of Texas Medical Branch at Galveston, A Seventy-Five Year History by the Faculty and Staff*, op. cit. p. 282.)
235. *Texas State Journal of Medicine*: "Women Physicians in Texas," Vol. XII, No. 1 (May) 1916, p. 40.
236. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., pp. 297-298.
237. *Texas State Journal of Medicine*: "The Community Pathologist," (Editorial), Vol. XII, No. 8 (December) 1916, p. 311.
238. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., pp. 296-297.
239. *Ibid.*, p. 301.
240. Moursund, W. H.: op. cit, p. 64.
241. Race, George J., op. cit., pp. 27-37.
242. *Texas State Journal of Medicine*: "The Work of the House of Delegates" (Editorial), Vol. XIII (June 1917) No. 2, pp. 37-38.
243. *Texas State Journal of Medicine*: "Transactions, Fifty-First Annual Session of the State Medical Association of Texas," May 8-10, 1917, Dallas, Vol. XIII, No. 2 (June) 1917, p. 70; pp. 82-83.
244. *Texas State Journal of Medicine*: "The Galveston Session," Vol. XII, No. 2 (June) 1916, p. 57.
245. Henry, Robert S., op. cit., p. 159.
246. *Ibid.*, pp. 160-161.
247. *Ibid.*, pp. 159-161.
248. *Ibid.*, pp. 170-179.
249. *Ibid.*
250. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., p. 301.
251. *Texas State Journal of Medicine*: "The Work of the House of Delegates" (Editorial), Vol. XIII (June 1917) No. 2, pp. 37-38.

252 *Texas State Journal of Medicine*: "Transactions, Fifty-First Annual Session of the State Medical Association of Texas," May 8-10, 1917, Dallas, Vol. XIII, No. 2 (June) 1917, p. 70; pp. 82-83

253 For instance, Dr. M. D. Bell of Dallas spoke to the Section on Medicine and Diseases of Children on "Complement Fixation in TB," *Texas State Journal of Medicine*, Vol. XIII, No. 12 (April), 1918, p. 425 ; Dr. J. E. Robinson spoke on "The Value of Leucocyte Count in Differential Diagnosis," *Ibid.*, p. 425; and Dr. J. S. McCelvey of Temple spoke to the Section on Surgery and Obstetrics on "The Cervix from a Pathological Standpoint," *Ibid.*

254 Moursund, W. H., op. cit., p. 66.

255 *Texas State Journal of Medicine*: "Women's Vote and Public Health," Vol. 13, No. 12 (April) 1918, p. 407.

256 Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., pp. 306-307.

257. Nixon, Pat Ireland. *A Century of Medicine in San Antonio, The Story of Medicine in Bexar County, Texas*, 1936, Lancaster Press, Inc., Lancaster, Pa., p. 282.

258 Henry, Robert S., op. cit., pp. 189-205.

259. Coffey, Sister Nora Marie, op. cit., p. 43.

260. Race, George J., op. cit., p. 27-37.

261. Dr. A. O. Severance credits much of this background information on Dr. George T. Caldwell to his wife, Dr. Janet Caldwell; his daughter, Dr. Marian Ellis, and his son-in-law, Dr. John T. Ellis, then chairman of the Department of Pathology at Cornell University in New York City. Dr. Severance presented his tribute to Dr. George T. Caldwell at a meeting of the Texas Society of Pathologists in January 1977.

262. Brochure, Texas Society of Pathologists.

263. Moursund, W. H., op. cit., p. 68.

264 Moursund, W. H., op. cit., p. 69

265. *The University of Texas Medical Branch at Galveston, A Seventy-Five Year History by the Faculty and Staff*, op. cit., p. 112.

266. Acheson, Sam: op. cit., p. 11; p. 270.

267. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., pp. 314-315

268. Nixon, Pat Ireland, *A Century of Medicine in San Antonio; The Story of Medicine in Bexar County, Texas*, op. cit., pp. 294-295.

269 "Clinics," usually regional, were a popular means of postgraduate education.

270. Nixon, Pat Ireland, *A Century of Medicine in San Antonio, The Story of Medicine in Bexar County, Texas*, op. cit., pp. 295-296.

271 *Texas State Journal of Medicine*, Vol. XVI, No. 5 (September) 1920, pp. 187-193.

272 *Texas State Journal of Medicine*. Vol. 16, No. 6 (October) 1920, pp. 229-231

273 *Ibid*

274 *Texas State Journal of Medicine*: Vol. XVI, No. 5 (September) 1920, p. 194.

275 Levy, Moise D., and McMicken, Dru, PhD: "Bubonic Plague," in *Texas*

State Journal of Medicine, Vol XVI, No. 5 (September), 1920, p. 195; Levy, Moise D.: "Treatment of Bubonic Plague; An Analysis of the Beaumont and Galveston Cases," *TSJM*, Vol. XVI, No. 6 (October) 1920, p. 257.

276 Andujar, op. cit., p. 90

277. Wilbur, R. L.: "Altering the medical curriculum," *Journal of the American Medical Association*, 1927, Vol. 88, pp 723-752.

278 Stenbridge, Vernie A · "Preservation of the Species—Pathologist," *American Journal of Clinical Pathology*, Vol 78, No 6 (December) 1982, pp 797-805.

279 Grun, Bernard, op. cit , p. 479.

280 Acheson, Sam, op cit., p 273.

281. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., p. 311.

282 Fehrenbach, T. R., op. cit., pp. 645-650.

283. Minutes, State Pathological Society of Texas, May 9, 1921, Dallas, signed by W. F. Thomson, pp 1-15 of the Original Minutes Notebook, Texas Society of Pathologists.

284. The hotel across the street from the Adolphus, and with the same ownership, was torn down in 1924 following a fire. It was replaced by the Baker Hotel. (Source: Dallas Public Library.)

285 Stout, B F., op. cit., 1953 article in *Texas State Journal of Medicine*.

286 Andujar, John J., op. cit.

287. Minutes: American Society of Clinical Pathologists, May 1922, signed by Dr Ward Burdick, secretary treasurer

288 Dr. J. J. Moore was cited here and on the scientific program of the Texas Society of Pathologists meeting in Dallas in 1942, but no other information has been located about him

289 Minutes, State Pathological Society of Texas, Second Semi-Annual Meeting, Galveston, October 12, 1921, Files, Texas Society of Pathologists.

290. *Texas State Journal of Medicine*: "The Laboratories of the State Board of Health," (News), Vol. XVII, No. 4 (August) 1921, p. 224.

291 Minutes, State Pathological Society of Texas, October 12, 1921, Galveston, Texas Society of Pathologists' Original Minutes Notebook.

292 *Texas State Journal of Medicine*: Vol XVII, No 2 (June 1921) pp. 54-55.

293. Minutes, State Pathological Society of Texas, May 8, 1922, El Paso, Original Minutes Notebook, p 26; Program, Texas Society of Pathologists' files

294 Secretary's Report, State Pathological Society of Texas, for year ending May 9, 1922, signed by W. F. Thomson

295. Minutes, State Pathological Society of Texas, October 17, 1922, Waco, Texas Society of Pathologists' Original Minutes Notebook, pp. 27-33.

296 Texas Medical Association membership record of George T. Caldwell, MD, Texas Medical Association Library.

297 *American Journal of Clinical Pathology* "In Memoriam: Frank Wilbur Hartman, MD, 1890-1979," December 1979, pp. 1043-1044; USAF Medical Service Digest, "Biography of the Month," Vol. IX, No. II, March-April, 1958, p. 25, and typescript of obituary in archives of the College of American Pathologists, Northfield, Ill.

298 Coffey, Sister Nora Marie, op. cit., p. 43.

299. H. L. Hilgartner. "A Criticism of Group Medicine," *Texas State Journal of Medicine*, Vol. XVIII, No. 5 (September) 1922, pp. 263-264.

300 Taylor, Holman: "Medical Clinics and Group Medicine," *Texas State Journal of Medicine*, Vol. XVII, No. 5 (September), 1922, pp. 233-234.

301 Minutes, State Pathological Society of Texas, May 7, 1923, Fort Worth, pp. 34-36 of original minutes notebook, Texas Society of Pathologists.

302. See also TSP Scientific Program, May 7, 1923 Certain titles on this program varied from those cited in the minutes

303 Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit , p. 335.

304 *Ibid*, p. 329.

305 *Ibid*, p. 335.

306 *Ibid*, p. 336.

307. Jacob, Norman. Brochure and personal conversation.

308 Henderson, R. E , Jr , MD Notes prepared for celebration of Texas Society of Pathologists' 75th anniversary; January 17, 1994.

309. Information provided by Charles F. Pelphrey, MD, Austin.

310. Quote provided by Vernie A. Stembbridge, MD.

311. Johnson, Kay: "Recognizing a lifetime of medical contributions: John Lawrence and Patsy Louise Goforth Professorship in Pathology honors pioneering pathologist," *Center Times*, UT Southwestern Medical Center, February 1993.

312. Minutes, State Pathological Society of Texas, April 25, 1927, El Paso, pp. 39-40 of the original minutes notebook, Texas Society of Pathologists.

313. *Texas State Journal of Medicine* XXIII, No. 12 (April) 1928, p. 822.

314 Brindley, Anne, op. cit.

315 *The University of Texas Medical Branch at Galveston, A Seventy-Five Year History by the Faculty and Staff*, op cit , pp 137-139.

316 Brindley, Anne, op cit.

317 Minutes, Texas Society of Pathologists, May 9, 1971.

318. Charles F. Pelphrey, MD, reports he was led to this information by Dr. James Kreisle, Sr., whose father practiced many years in Austin. Dr. Kreisle remembers Dr. Graham as "Manny" Graham.

319. Schuhardt, Vernon T.: *Pathogenic Microbiology*, J B Lippincott Company, Philadelphia, New York, San Jose, and Toronto, 1978, p. 317-318.

320. Pelphrey, Charles F.: Notes and citations provided in response to request from Dr Vernie Stembbridge, letters dated February 1994, and April 5, 1994. Copies of articles, Seton Medical Center Historical Survey, Seton Archives.

321 Weller, Burford, Graham, G M . "Relapsing Fever in Texas" in column, "Clinical Notes, Suggestions and New Instruments," *JAMA*, Vol. 95, No. 24 (December 13) 1930, pp. 1834-1835.

322 *American Medical Directory*, Eleventh Ed , 1929, A Register of Legally Qualified Physicians of the United States, American Medical Association Press, Chicago, pp. 49-50.

323 *American Medical Directory*, Eleventh Ed., 1929, A Register of Legally Qualified Physicians of the United States, American Medical Association Press, Chicago, pp. 1194B and 1436B.

324 *American Medical Directory*, Ninth Edition, 1925, American Medical Association, Chicago, p. 158.

- 325 *Texas State Journal of Medicine*: Vol. XXV, No. 2 (June) 1929, p. 76.
- 326 Andujar, John J., op. cit.
- 327 *Texas State Journal of Medicine*: XXIV, No. 12 (April) 1929, p. 872. (State Medical Association met in Brownsville, May 21-23.)
- 328 *Texas State Journal of Medicine*: XXV, No. 2 (June) 1929, p. 110.
- 329 Fehrenbach, T. R., op. cit., p. 650.
- 330 Sparkman, Robert, et al.: *The Texas Surgical Society, The First Fifty Years, 1915-1965*, Dallas, 1965, p. 48.
- 331 Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., pp. 348-349.
- 332 Obituary, E. F. Cooke, *Texas State Journal of Medicine*, XXVII, No. 1 (May) 1931, pp. 53-54.
- 333 Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., pp. 336-337.
- 334 *Ibid*, cit., pp. 351-352.
- 335 *Ibid*, p. 354.
- 336 State Pathological Society of Texas, p. 41, Original Minutes Notebook, Texas Society of Pathologists, in conjunction with May 16, 1934 meeting.
- 337 Minutes, State Pathological Society of Texas, May 16, 1934, San Antonio, pp. 41-46, Original Minutes Notebook, Texas Society of Pathologists.
- 338 Constitution adopted May 16, 1934, in San Antonio.
- 339 Report of State Pathological Society of Texas Meeting, November 14, 1934, San Antonio, pp. 46-50, original minutes notebook, Texas Society of Pathologists.
- 340 Report following minutes, State Pathological Society of Texas, November 14, 1934, pp. 51-52, Minutes Notebook, Texas Society of Pathologists.
- 341 Minutes, State Pathological Society of Texas, Dallas, May 14, 1935, p. 53, original minutes notebook, Texas Society of Pathologists.
- 342 Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., pp. 362-363.
- 343 Interim Notes in original minutes notebook, pp. 54-57, Texas Society of Pathologists.
- 344 Andujar, op. cit.
- 345 Obituary, E. F. Cooke, *Texas State Journal of Medicine*, op. cit.
- 346 Nixon, Pat Ireland, *A Century of Medicine in San Antonio; The Story of Medicine in Bexar County, Texas*, op. cit., pp. 295-296.
- 347 Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., p. 362.
- 348 *Ibid*, pp. 362-363.
- 349 *Ibid*, p. 363.
- 350 Titus, Paul, Directing Editor: *Directory of Medical Specialists Certified by American Boards, 1939*, Advisory Board for Medical Specialties, Columbia University Press, New York, 1940, pp. 737-738 and pp. 794-796.
- 351 Black, J. H.: "Serum Sensitivity," *Texas State Journal of Medicine*, XXXIII, No. 4 (August) 1937, p. 316.
- 352 Bohls, S. W.: "Laboratory Technic and Research Work As It Pertains to Malaria," *Texas State Journal of Medicine*, XXXIII, No. 1 (May) 1937, p. 15.
- 353 Andujar, John J.: Personal conversation.

354. *Ibid*

355. State Pathological Society of Texas, notes, pp. 54-57, Original Minutes Notebook, Texas Society of Pathologists.

356. *Texas State Journal of Medicine*: Vol. XXXI, No. 11 (April) 1936, pp. 780-781; Vol. XXXII, No. 12 (April) 1937, pp. 843-845; Vol. XXXIII, No. 12 (April) 1938, pp. 848-849; Vol. XXXIV, No. 12, (April) 1939, p. 872.

357 Andujar, op cit., article in 1967 *Texas Medicine*

358. From Interim Notes, Texas Society of Pathologists, Original Minutes Notebook, pp. 54-57. Signed by M. D. Bell, Secretary.

359. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., p. 365; pp. 425-426.

360 Minutes, State Pathological Society of Texas, January 8, 1939, Fort Worth, signed by Dr. M. D. Bell as Secretary-Treasurer, Original Minutes Notebook, Texas Society of Pathologists.

361. Minutes, State Pathological Society of Texas, San Antonio, May 10, 1939, in files of Texas Society of Pathologists.

362. Andujar, John J.: Personal conversation.

363. Minutes, State Pathological Society of Texas, May 10, 1939, San Antonio, signed by Dr. M. D. Bell, Secretary.

364. Irvine, Eleanor, and Strate, Susan: Notes and personal conversations.

365. Titus, Paul, Directing Editor: *Directory of Medical Specialists Certified by American Boards*, 1939, op. cit.

366. Earle, Kenneth M.: Personal conversation

367 Severance, A. O., op. cit., George T Caldwell speech, Texas Society of Pathologists, January 29, 1977

368. Race, George J.: Recollections and notes from the files of the North Texas Society of Pathologists and Dallas Academy of Pathology.

369. *Ibid*

370. Comments from Vernie A. Stembridge, and survey of Texas pathologists in 1995.

371. Brochure, Charles T. Ashworth Professorship, The University of Texas Southwestern Medical School at Dallas.

372 Minutes, State Pathological Society of Texas, January 28, 1940, Dallas [during which meeting the title of the Society was changed officially to the Texas Society of Pathologists].

373. Nixon, Pat Ireland, *A History of the Texas Medical Association, 1853-1953*, op. cit , p. 375.

374 Original Minutes Notebook, Texas Society of Pathologists, p. 63.

375 *Texas State Journal of Medicine*: Section on Clinical Pathology, XXXV, No 12 (April) 1940, Dallas, pp. 878-880.

376 Minutes, Texas Society of Pathologists, January 26, 1941, Dallas, signed by M. D. Bell, Secretary.

377. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., pp 378-379.

378 Minutes, Texas Society of Pathologists, May 14, 1941, Fort Worth, Signed by M. D. Bell, Secretary.

379. Race, George J.: File Notes, Texas Society of Pathologists.

380 Smith, Alice: Personal conversation.

381. Race, George J., op. cit., File Notes, Texas Society of Pathologists.
382. Race, George J., op. cit., File Notes, Texas Society of Pathologists.
383. Patras, Dorothy. "His Music Lingers On ...," *Newsletter*, Texas Society of Pathologists, Inc., Summer 1979, p. 3.
384. Multiple sources.
385. Garrison, F. H., Army Medical Museum: August 9, 1928, in his foreword to Long, Esmond R.: *A History of Pathology*, op. cit., (see Heaton), pp. viii-x.
386. Coole, Walter A., welcoming members of the State Medical Association of Texas to Houston for the May 1942 meeting; *Texas State Journal of Medicine*, XXXVI, No. 11 (March) 1942, pp. 792-795.
387. Marcuse, Peter M.: Handwritten notes in files of Texas Society of Pathologists.
388. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., p. 381.
389. Patras, Dorothy, op. cit.
390. American Red Cross, Report, Washington, DC, July 1946.
391. *Texas State Journal of Medicine*, various articles in 1940s.
392. Chapman, John S., op. cit., pp. 24-25.
393. Nixon, Pat Ireland, *A History of the Texas Medical Association, 1853-1953*, op. cit., pp. 382-383.
394. *The University of Texas Medical Branch at Galveston, A Seventy-Five Year History by the Faculty and Staff*, op. cit., pp. 161-169.
395. Nixon, Pat Ireland, *A History of the Texas Medical Association, 1853-1953*, op. cit., p. 388.
396. *Ibid*, p. 381.
397. Andujar, John J.: Personal conversation.
398. Minutes, Texas Society of Pathologists, and personal conversation with Dr. John J. Andujar
399. *Ibid*.
400. Minutes, Texas Society of Pathologists, January 25, 1942, Dallas, signed by John J. Andujar, MD, Secretary-Treasurer, Original Minutes Notebook, pp. 67-69.
401. Minutes, Texas Society of Pathologists, May 13, 1942, Houston, signed by John J. Andujar.
402. Final approval for an executive committee and the new position of president-elect was made in May 1942 at the Houston meeting, Texas Society of Pathologists' Original Minutes Notebook, p. 70.
403. Report, January 25, 1942, Texas Society of Pathologists' Scientific Program In Original Minutes Notebook.
404. Minutes, Texas Society of Pathologists, May 13, 1942, Houston, signed by John J. Andujar, Original Minutes Notebook, p. 71.
405. Moursund, W. H., op. cit., p. 90.
406. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., p. 383.
407. *Ibid*, pp. 368-369.
408. Jagoda, Sam, Jr.: "Dawn of the Transplant Era, Dr. Brinkley and the Goat Glands," *Tarrant County Physician*, March 1979, pp. 12-13.
409. *World Book Encyclopedia*

- 410 Sutcliffe, Jenny, and Duin, Nancy, op cit., pp. 136-137.
411. Minutes, Texas Society of Pathologists, January 31, 1943, Dallas, signed by John J. Andujar, Original Minutes Notebook, pp. 72-74.
412. Andujar, John J : Personal conversation.
413. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., p 384
- 414 Chapman, John S., op. cit , pp 24-41.
- 415 Moursund, W. H., op. cit , pp. 102-127.
416. Brochure, Charles T. Ashworth Professorship, The University of Texas Southwestern Medical School, Dallas
417. Brochure, A. J. Gill Professorship of Pathology, The University of Texas Southwestern Medical School, Dallas.
418. Race, George J., Notes in files of Texas Society of Pathologists.
- 419 Andujar, John J : Personal communication.
420. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op cit., p 385, p 387.
- 421 *Ibid* , p 384.
- 422 *Ibid* , pp. 385-386
- 423 Minutes, Texas Society of Pathologists, June 27, 1943, signed by John J. Andujar, MD, Original Minutes Notebook, pp. 75-76.
424. Secretary-Treasurer's Report, Texas Society of Pathologists, Fiscal Year ending December 31, 1943, signed by John J. Andujar, MD.
425. Report of scientific program, Texas Society of Pathologists, June 27, 1943.
426. Race, George, J : File Notes, op. cit.
- 427 *Ibid*
- 428 *The University of Texas Medical Branch at Galveston A Seventy-Five Year History*, op cit., p. 176; and Vernie A. Stembridge, MD, who was a student during the era.
- 429 *The University of Texas Medical Branch at Galveston, A Seventy-Five Year History by the Faculty and Staff*, op. cit., p 177.
- 430 Information provided by George J Race, MD.
- 431 Minutes, Texas Society of Pathologists, Semiannual Session, Dallas, January 30, 1944, signed by John J Andujar, Original Minutes Notebook, pp. 77-81.
- 432 At the May 3, 1944, meeting of the Texas Society of Pathologists, the three following new sections to the Code of Ethics were proposed and unanimously adopted after extensive discussion "All laboratory reports and statements for clinical pathologic services shall bear the name of the pathologist responsible for such services." "A pathologist shall not assume partial responsibility for services of a medical laboratory in his own locality unless competent supervision has been provided for such part of pathologic services which he does not render in the said laboratory " "Pathologists, in the performance of autopsies and emergency consultations, are performing valuable professional services which merit full compensation on a plane with other medical services." (Texas Society of Pathologists, Minutes, May 3, 1944.)
- 433 McCorduck, Pamela: "The Conquering Machine," *Science* 84, Fifth Anniversary Issue, November 1984, pp. 131-138.
- 434 Race, George J : Personal communication.

435 Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., pp. 388-389.

436 *Ibid*, p. 391.

437. Stout, B. F., op. cit., 1953 article in *Texas State Journal of Medicine*.

438. Severance, A. O.: op. cit., George T. Caldwell speech, Texas Society of Pathologists, January 29, 1977.

439 Hill, Joseph M., and Haberman, Sol: "The Clinical Significance of the Rh Factor; Its Importance in Transfusion Reactions," *Texas State Journal of Medicine*, Vol. XL, No. 3 (July) 1944, p. 177.

440 Haberman, Sol, and Hill, J. M.: "The Clinical Significance of the Rh Factor, II, Its Importance in Erythroblastosis Fetalis," *Texas State Journal of Medicine*, Vol. XL, No. 3 (July) 1944, p. 182.

441 Andujar, John J.: "Practical Applications of the Rh Factor to Obstetrics," *Texas State Journal of Medicine*, Vol. XL, No. 3 (July) 1944, p. 188.

442. *World Book Encyclopedia*

443 Henry, Robert S., op. cit., pp. 250-254.

444. *Ibid*

445. Brochure published in concert with dedication of the Surgical Pathology Laboratory at Hermann Hospital, Houston, dedicated to her memory, February 16, 1982; obituary, *Texas State Journal of Medicine*, Vol. 54, No. 11 (November) 1958, and other materials on file in the Texas Medical Association Library, Austin.

446 Obituary, *Texas State Journal of Medicine*, XLIII, No. 2 (June) 1947, p. 141.

447 *World Book Encyclopedia*.

448 Terminology frequently used by Pat Ireland Nixon in his histories of Texas Medicine.

449. Long, Esmond R., op. cit., p. 371.

450 Long, Esmond R., op. cit., pp. 371-392.

451. Long, Esmond R., *A History of Pathology*, op. cit., p. xv.

452. Smith, Jack Line, MD. Personal conversation.

453 Earle, Kenneth M.: Personal conversation.

454 Chapman, John S., op. cit., p. 46.

455. Taylor, Holman, op. cit., in 1916 *Texas State Journal of Medicine*

456. *El Paso Times* September 5, 1975, "Dr. Maynard Hart Services Today," with notations from the Texas Society of Pathologists' memorial to him, in Caldwell files, Texas Society of Pathologists.

457. Texas Society of Pathologists Annual George T Caldwell Distinguished Service Award, honoring Felix Gwozdz, 1980. TSP Archives, Caldwell Notebook.

458. Race, George J.: Personal conversation.

459. 1980 Caldwell Brochure, Texas Society of Pathologists.

460. Race, George J.: Personal Conversation; Written Notes.

461. Brindley, Anne, op. cit.

462. 1986 Caldwell Brochure, Texas Society of Pathologists.

463 Abbott, Jack P.: Personal conversation.

464. 1991 Caldwell Brochure, Texas Society of Pathologists.

465. Griffin, Oscar: Personal conversation.

466. Irvine, Eleanor: Personal conversation.

467. Nannini, Louis: Notes to Vernie A. Stembridge.

- 468 Lowry, Joe L.: Letter dated September 1, 1994, to Vernie Stemberidge.
469. Jones, Dudley D.: Letters dated March 7, 1994, and March 11, 1994, to Vernie Stemberidge.
470. *Directory of Medical Specialists*, 1957, Vol. VIII, published for the Advisory Board for Medical Specialties by Marquis Who's Who, Chicago, 1957, p. 1266.
471. Lewis, Joe A: Correspondence to Vernie A. Stemberidge.
472. *Ibid*
473. Flory, David W., and Jacob, Norman: Personal conversations. Dr Jacob frequently encountered Dr. Whigham at the annual tumor seminars held by the San Antonio Society of Pathologists.
- 474 Hall, Christopher L.: Correspondence to Vernie A. Stemberidge.
475. *Directory of Medical Specialists*: op. cit., 1957, p. 1269.
476. Peterson, Robert F., op. cit.
477. Texas Society of Pathologists' Caldwell Award Brochure, 1983.
478. Peterson, Robert F., op. cit.
479. *The University of Texas Medical Branch at Galveston, A Seventy-Five Year History by the Faculty and Staff*, op cit , p 174; p. 176.
480. *The University of Texas Medical Branch at Galveston, A Seventy-Five Year History by the Faculty and Staff*, op. cit., p. 310.
481. Brindley, Anne, op. cit.
482. *The University of Texas Medical Branch at Galveston, A Seventy-Five Year History by the Faculty and Staff*, op. cit , p 178, p. 293.
483. Thomas, Lewis, *The Youngest Science*, The Viking Press, New York, 1983, pp. 167-168.
484. *Directory of Medical Specialists*, 1957, op. cit , p. 1268.
485. *Focal Point*, Texas Society of Pathologists: "In Memoriam, Jarrett E. Williams, MD," Fall 1994, p. 5.
- 486 Chapman, John S , op. cit., 49-53.
487. A. J. Gill Professorship of Pathology, brochure, The University of Texas Southwestern Medical School, Dallas.
488. Belfuse, John: "Dr. Muirhead dies; led Presley autopsy," *The Commercial Appeal*, Memphis, November 21, 1993.
489. Race, George J., Notes.
490. *Ibid*
491. Charles T. Ashworth Professorship brochure, The University of Texas Health Science Center at Dallas.
492. Personal communication.
493. Obituary, *Texas Medicine*, Vol 64, No. 9 (September) 1968, p. 128.
494. *Directory of Medical Specialists*, 1957, op. cit., p 1269.
495. Clark, R. Lee: M.D. Anderson Legacy to Texas, *Texas Medicine*, Vol. 64, No. 10, (October) pp. 80-92.
496. *Ibid* , p. 1269.
497. *Ibid* , p. 1268.
498. *Ibid* , p. 1268.
499. *Ibid*.
500. 1989 Caldwell Brochure, Texas Society of Pathologists.

501. Moursund, W. H , op. cit., p. 142.
502. *Ibid* , pp. 149-150
503. Correspondence from Garry R. Rust, MD, November 4, 1993; interviews with Drs. Wm. T. Hill, John Milam, and Melvin Haley.
504. Haley, Melvin: Notes taken at organizational meeting of the Houston Society of Clinical Pathologists, July 22, 1949.
505. Marcuse, Peter M.: Letter dated February 26, 1994, Vernie Stembridge.
506. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., pp. 404-405.
507. *Ibid* , pp 435-436.
508. *Ibid* , p 437.
509. Obituary, *Texas State Journal of Medicine*, Vol. 67, No. 9 (September 1971, pp. 149-150.
510. Andujar, John J , Personal Communication.
511. Various minutes, Texas Society of Pathologists.
512. White, James: Personal conversation.
513. Stout, B. F., op cit., 1953 article in *Texas State Journal of Medicine*.
514. Minutes, Texas Society of Pathologists, January 27, 1946, Dallas, signed by C. T. Ashworth, MD, Secretary-Treasurer.
515. *Ibid*
516. Minutes, Texas Society of Pathologists, January 29, 1951, Galveston, signed by A. O. Severance, MD, Secretary-Treasurer
517. Financial statement and Secretary's Report, Texas Society of Pathologists, 1953.
518. Minutes, Texas Society of Pathologists, January 29, 1956, Fort Worth, signed by Mervin H. Grossman, MD, Secretary-Treasurer.
519. Minutes, Texas Society of Pathologists, January 29, 1956, Fort Worth, signed by Mervin H. Grossman, MD, Secretary-Treasurer
520. Minutes, Texas Society of Pathologists, Business Meeting, January 25, 1964, Dallas, signed by Vernie A. Stembridge, MD
521. Minutes, Texas Society of Pathologists, April 26, 1964, Houston. Signed by Secretary-Treasurer Vernie A. Stembridge, MD.
522. Found in 1961 issues of the *Texas State Journal of Medicine* were advertisements entitled, "Reactions Erroneously Attributed to Blood Transfusion," (Vol. 47, No. 1, January 1961, p. 38) and "Larceny in the Labs," (Vol. 47, No. 2, February 1961, p. 68). No advertisement was found beginning with the March 1961 issue of the journal.
523. Andujar, John J , op. cit.
524. Minutes, Texas Society of Pathologists, May 3, 1949, signed by A. O. Severance, MD.
525. Minutes, Texas Society of Pathologists, April 28, 1948, Houston, signed by C. T. Ashworth, MD, Secretary-Treasurer.
526. Minutes, Texas Society of Pathologists, January 25, 1948, Galveston, signed by C. T. Ashworth, MD, Secretary-Treasurer.
527. Minutes, Texas Society of Pathologists, May 8, 1946, Galveston, signed by C. T. Ashworth, MD, Secretary-Treasurer.
528. Minutes, Texas Society of Pathologists, January 26, 1947, Houston, signed by C. T. Ashworth, MD.

529. Minutes, Texas Society of Pathologists, January 27, 1946, Dallas, signed by C. T. Ashworth, MD.

530. Minutes, Texas Society of Pathologists, January 27, 1946, Dallas, signed by C. T. Ashworth

531. Minutes, Texas Society of Pathologists, October 19, 1946, San Antonio, signed by C. T. Ashworth, MD

532. Minutes, Texas Society of Pathologists, January 26, 1947, Houston, signed by C. T. Ashworth, MD

533. Minutes, Texas Society of Pathologists, May 6, 1947, Dallas, signed by C. T. Ashworth, MD.

534. *Ibid*

535. Minutes, Texas Society of Pathologists, January 25, 1948, Galveston, signed by C. T. Ashworth, MD.

536. *Ibid*

537. *Ibid*

538. Minutes, Texas Society of Pathologists, April 28, 1948, Houston, signed by C. T. Ashworth, MD

539. Minutes, Texas Society of Pathologists, January 30, 1949, signed by A. O. Severance, MD

540. Letter dated August 13, 1949, from William O. Russell, MD, The University of Texas M. D. Anderson Hospital, to John F. Pilcher, MD, Corpus Christi, President, Texas Society of Pathologists, Original Minutes Notebook, p. 129

541. Memorandum dated June 13, 1949, to Dr. William O. Russell: Policy of the M.D. Anderson Hospital for Cancer Research on the Diagnosis of Pathological Tissues Signed by R. Lee Clark, Jr., MD, Director and Surgeon-in-Chief, M.D. Anderson Hospital for Cancer Research, Original Minutes Notebook, Texas Society of Pathologists, p. 128.

542. Minutes, Texas Society of Pathologists, May 8, 1946, Galveston, signed by C. T. Ashworth, MD.

543. Minutes, Texas Society of Pathologists, January 26, 1947, Houston, signed by C. T. Ashworth, MD

544. Minutes, Texas Society of Pathologists, January 29, 1950, Houston, signed by A. O. Severance, MD.

545. Minutes, Texas Society of Pathologists, October 29, 1949, San Antonio, signed by A. O. Severance, MD.

546. Minutes, October 17, 1922, Waco, original minutes book, Texas Society of Pathologists, pp. 27-33.

547. Minutes, Texas Society of Pathologists, May 3, 1950, Fort Worth, signed by A. O. Severance, MD.

548. Minutes, Texas Society of Pathologists, May 1, 1951, Galveston, signed by A. O. Severance, MD.

549. Minutes, Texas Society of Pathologists, January 25, 1953, Houston, signed by L. R. Hershberger, MD.

550. Minutes, Texas Society of Pathologists, January 30, 1955.

551. Minutes, Texas Society of Pathologists, January 29, 1956, signed by Mervin H. Grossman, MD.

552. Schlesinger, Arthur M., Jr.: "The Korean War," *The Almanac of American History*, Barnes & Noble Books, New York, 1993, p. 522.
553. Schlesinger, Arthur M., Jr., op. cit., p. 523.
554. Schlesinger, Arthur M., Jr., op. cit., p. 526.
555. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., pp. 418-419.
556. Smith, Jack Line: Personal conversation.
557. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., p. 419.
558. Minutes, Texas Society of Pathologists, January 29, 1951, Galveston, signed by A. O. Severance, MD.
559. Minutes, Texas Society of Pathologists, May 1, 1951, Galveston, signed by A. O. Severance, MD.
560. Minutes, Texas Society of Pathologists, January 29, 1951, Galveston, signed by A. O. Severance, MD.
561. Minutes, Texas Society of Pathologists, January 27, 1952, Dallas, signed by A. O. Severance, MD.
562. Minutes, Texas Society of Pathologists, January 29, 1951, Galveston, signed by A. O. Severance, MD.
563. Minutes, Texas Society of Pathologists, January 27, 1952, Dallas, signed by A. O. Severance, MD.
564. Minutes, Texas Society of Pathologists, January 27, 1952, Dallas, signed by A. O. Severance, MD.
565. Stout, B. F., op. cit., 1953 article in *Texas State Journal of Medicine*.
566. Brindley, Anne, op. cit.
567. Brindley, Anne, op. cit.
568. Chronology of Blood Services in Dallas. Unpublished notes.
569. Race, George J.: Viewpoint: A History of the Development of Pathology at BUMC, *BUMC Proceedings*, Vol. 6, No. 2, pp. 27-27, 1993.
570. Milam, John D.: Presidential speech before the American Association of Blood Banks, San Antonio, October 23, 1984.
571. Interestingly, in 1952, the Texas Society of Pathologists permitted the Texas Association of Blood Banks to share usage of its advertising page five of the *Texas State Journal of Medicine*, and to assume joint financial responsibility. (Minutes, Texas Society of Pathologists, May 6, 1952, Dallas, signed by L. R. Hershberger, MD, Secretary-Treasurer.
572. Race, George J.: Viewpoint: A History of the Development of Pathology at BUMC, *BUMC Proceedings*, Vol. 6, No. 2, pp. 27-27, 1993.
573. Guy, L. Ruth: "Parkland Memorial Hospital Blood Bank," unpublished manuscript.
574. Milam, John D.: Correspondence with John L. Drury, Director, Corporate Communications, Gulf Coast Regional Blood Center, Houston, letter dated May 22, 1995.
575. Stembridge, V. A., File notes.
576. Henry, Robert S., op. cit., pp. 284-339.
577. *Ibid.*, pp. 284-285.
578. *Ibid.*, pp. 293-297.

579. Henry, Robert S., op. cit., pp. 284-339.
580. Henry, Robert S., op. cit., pp. 337-339.
581. *AFIP Letter*, "Former AFIP Director Elbert DeCoursey, MG, MC, USA (Ret) 1902-1994," Vol 153, No. 1, February 1995.
582. Henry, Robert S., pp. 342-372.
583. Personal conversations and brochure, The University of Texas Southwestern Medical School at Dallas.
584. 1978 Caldwell brochure, Texas Society of Pathologists, and Fallis Student Scholarship brochure of The University of Texas Southwestern Medical School, Dallas.
585. The John H. Childers Professorship brochure, The University of Texas Southwestern Medical School, Dallas.
586. Brochure, The University of Texas Southwestern Medical School at Dallas.
587. Brochure, Baylor University Medical Center, Dallas.
588. 1979 Caldwell Brochure, Texas Society of Pathologists.
589. A new program design for the award would be created by Drs. Rainey and Stembridge in 1977. Dr. Patras and the TSP office assembled a chronology of Caldwell awardees.
590. Minutes, Texas Society of Pathologists, January 29, 1956, Fort Worth, signed by Mervin H. Grossman, MD, Secretary-Treasurer.
591. Schlesinger, Arthur M., Jr., op. cit., p. 537.
592. Sutcliffe, Jenny, and Duin, Nancy, op. cit., pp. 202-203.
593. Schlesinger, Arthur M., Jr., op. cit., p. 532.
594. Schlesinger, Arthur M., Jr., op. cit., p. 541.
595. *The First Twenty Years of The University of Texas M D Anderson Hospital and Tumor Institute*, UT M D. Anderson Hospital and Tumor Institute, Houston, 1964, p. 238.
596. Minutes, Texas Society of Pathologists, January 29, 1956, Fort Worth, signed by Mervin H. Grossman, MD, Secretary-Treasurer.
597. *Ibid*
598. Minutes, Texas Society of Pathologists, San Antonio, April 20, 1959.
599. Ellig, Eileen: "Dr. Joseph A. Jachimczyk To Retire after 35 Years of Service," *Texas Medical Center News*, September 1, 1995, pp. 1 and 26.
600. Minutes, Texas Society of Pathologists, January 27, 1957, Galveston, signed by Mervin H. Grossman.
601. Minutes, Texas Society of Pathologists, April 30, 1957, Dallas, signed by Mervin H. Grossman, MD.
602. Minutes, Texas Society of Pathologists, January 27, 1957, Galveston, signed by Mervin H. Grossman.
603. Minutes, Texas Society of Pathologists, April 30, 1957, Dallas, signed by Mervin H. Grossman, MD.
604. Grossman, Mervin H., MD. Newsletter, Texas Society of Pathologists, December 1957.
605. Crabb, M. H., MD: Correspondence dated January 24, 1958, to Mervin H. Grossman, MD, Secretary, Texas Society of Pathologists, Inc. [Inc., being used at the time].

606. Minutes, Texas Society of Pathologists, January 26, 1958, Dallas.
607. *Ibid.*
608. Lewis, Joe A., op. cit.
609. Milam, John D.: "In Memoriam, Carl J. Lind, Jr., MD," *Focal Point*, Texas Society of Pathologists, Spring, 1995, p. 5
610. "Texas Physicians Who Are Engaged in the Practice of Pathology," *Texas State Journal of Medicine*, Vol. 52 No. 5 (May) 1956.
611. Texas Society of Pathologists' Secretary-Treasurer's Report, December 31, 1943, signed by John J. Andujar, MD.
612. Minutes, Texas Society of Pathologists, January 25, 1959, Houston, signed by Mervin H. Grossman, MD.
613. Heaton, Leonard D., Lieutenant General, The Surgeon General, writing the Foreword, in Henry, Robert S., op. cit., p. ix.
614. Schlesinger, Arthur M., Jr., op. cit., p. 356.
615. Schlesinger, Arthur M., Jr., op. cit., pp. 557-558.
616. Sutcliffe, Jenny, and Duin, Nancy, op. cit., pp. 202-203.
617. 1993 Caldwell Brochure, Texas Society of Pathologists.
618. 1987 Caldwell Brochure, Texas Society of Pathologists.
619. 1982 Caldwell Brochure, Texas Society of Pathologists.
620. 1985 Caldwell Brochure, Texas Society of Pathologists.
621. 1992 Caldwell Brochure, Texas Society of Pathologists.
622. 1981 Caldwell Brochure, Texas Society of Pathologists.
623. 1985 Caldwell Brochure, Texas Society of Pathologists.
624. 1995 Caldwell Brochure, Texas Society of Pathologists.
625. Minutes, Texas Society of Pathologists, January 30, 1972.
626. 1988 Caldwell Brochure, Texas Society of Pathologists.
627. Jones, Donna B.: "May Owen's Hand in the Future," *Texas Medicine*, Vol. 84 (June) 1988, pp. 26-28.
628. Stafford, Ted: *May Owen, MD, An Authorized Biography*, Eakin Press, Austin, Texas, 1990.
629. Schlesinger, Arthur M., op. cit., p. 558.
630. *Ibid.*, p. 559.
631. *Ibid.*, pp. 559-560.
632. *Ibid.*, p. 562.
633. *Ibid.*
634. *Ibid.*, p. 564, p. 567.
635. Minutes, Texas Society of Pathologists, January 26, 1963, Austin, signed by Vernie A. Stembridge, MD.
636. *Texas State Journal of Medicine*: "Three Patients at Parkland," Vol. 60, No. 1 (January) 1964, pp. 60-74.
637. Report of the President's Commission on the Assassination of President John F. Kennedy: *The Warren Report*, The Associated Press.
638. *Journal of the American Medical Association*: "JFK's death—the plain truth from the MDS who did the autopsy," At Large, with Dennis L. Breo, Vol. 267, No. 20 (May 27, 1992) pp. 2794-2804; "JFK's death, part II—Dallas MDs recall their memories," pp. 2804-2807.
639. *Ibid.*
640. Stembridge, Vernie A.: Personal Conversation.

641. "Three Patients at Parkland," *Texas State Journal of Medicine*, op. cit.
642. Breo, Dennis, op. cit.
643. McConnell, Thomas Hugh: Personal conversation.
644. Minutes, Texas Society of Pathologists, April 26, 1964, Houston. Signed by Secretary-Treasurer Vernie A. Stembridge, MD.
645. Abbott, Jack P.: "Today's Laboratory Consultant," *Texas State Journal of Medicine*, Vol. 61, No. 6 (June) 1965, pp. 452-453.
646. Minutes, Texas Society of Pathologists, April 26, 1964, Houston. Signed by Secretary-Treasurer Vernie A. Stembridge, MD.
647. Minutes, Texas Society of Pathologists, January 31, 1965, Houston, signed by Vernie A. Stembridge.
648. Mowbray, James: "Helping the Body," in Duin, Nancy, and Sutcliffe, Jenny, op. cit., pp. 236 and 237.
649. Minutes, Texas Society of Pathologists, Inc., May 1, 1965, San Antonio, signed by Jack L. Smith, MD, Secretary-Treasurer.
650. Race, George J.: "Viewpoint: A History of the Development of Pathology at BUMC, *Proceedings, Baylor University Medical Center, Dallas*, op. cit., pp. 27-37.
651. Schlesinger, Arthur M., op. cit., p. 573.
652. Minutes, Texas Society of Pathologists, Inc., May 1, 1965, San Antonio, signed by Jack L. Smith, MD, Secretary-Treasurer.
653. Minutes, Texas Society of Pathologists, April 17, 1966, Austin, unsigned.
654. *Ibid.*
655. Andujar, op. cit., p. 92, and correspondence from the College of American Pathologists dated June 18, 1969.
656. Minutes, Texas Society of Pathologists, April 17, 1966, Austin, unsigned.
657. Minutes, Texas Society of Pathologists, May 7, 1967, Dallas, signed by Jack L. Smith, MD, Secretary-Treasurer.
658. Andujar, op. cit., p. 92.
659. Minutes, Texas Society of Pathologists, April 17, 1966, Austin, unsigned.
660. Minutes, Texas Society of Pathologists, January 31, 1965, Houston, signed by Vernie A. Stembridge, Secretary-Treasurer.
661. Minutes, Texas Society of Pathologists, January 31, 1965, Houston, signed by Vernie A. Stembridge, MD, Secretary-Treasurer.
662. Minutes, Texas Society of Pathologists, January 31, 1965, Houston, signed by Vernie A. Stembridge, MD, Secretary-Treasurer.
663. Campion, Frank D.: *The AMA and U.S. Health Policy Since 1940*, op. cit., pp. 477-478.
664. Minutes, Texas Society of Pathologists, January 31, 1965, Houston, signed by Vernie A. Stembridge, MD, Secretary-Treasurer.
665. Minutes, Texas Society of Pathologists, April 17, 1966, Austin, unsigned.
666. Miscellaneous minutes, Texas Society of Pathologists.
667. Minutes, Texas Society of Pathologists, April 17, 1966, Austin, unsigned.

668. *Texas State Journal of Medicine*: "Governor's Committee Recommends Health, Safety Measures for UT Campus," Vol. 62 (October) 1966, pp. 120-122.
669. Minutes, Texas Society of Pathologists, Austin, January 29, 1967, signed by Jack L. Smith, MD, secretary-treasurer.
670. *Texas State Journal of Medicine*: "Project Viet-Nam," Vol. 62, No. 9 (September) 1966, pp. 114.
671. Neel, Spurgeon: *Vietnam Studies: Medical Support of the U.S. Army in Vietnam 1965-1970*, Department of the Army, Washington, DC, 1973, pp. 114-126.
672. Neel, Spurgeon, op. cit., pp. 136-141.
673. *Ibid.*
674. *Ibid.*
675. Dirks, Kenneth R.: Personal conversation and written materials.
676. Schlesinger, Arthur M., op. cit., p. 581.
677. Schlesinger, Arthur M., op. cit., pp. 583-584.
678. Minutes, Texas Society of Pathologists, Austin, January 29, 1967, signed by Jack L. Smith, MD, secretary-treasurer.
679. Minutes, Texas Society of Pathologists, May 7, 1967, Dallas, signed by Jack L. Smith, MD, Secretary-Treasurer.
680. Schlesinger, Arthur M., op. cit., p. 578.
681. *Ibid.*, p. 580.
682. Earle, Kenneth M.: Personal conversation.
683. Petty, Charles S.: Personal communication.
684. Minutes, Texas Society of Pathologists, January 31, 1971.
685. *Ibid.*
686. Minutes, Texas Society of Pathologists, May 9, 1971.
687. *Ibid.*
688. Minutes, Texas Society of Pathologists, January 31, 1971.
689. Minutes, Texas Society of Pathologists, January 30, 1972.
690. McConnell, Thomas H., III: Correspondence dated August 18, 1995.
691. Hall, Christopher L.: op. cit.
692. Lowry, Joe L.: op. cit.
693. *Texas Medicine*: "TTUSM enrolls 62," Vol. 68, No. 11 (November) 1972, p. 13.
694. Nannini, Louis: op. cit.
695. Information provided by Domingo Useda, MD.
696. Minutes, Texas Society of Pathologists, January 30, 1972.
697. Minutes, Texas Society of Pathologists, May 14, 1972.
698. Minutes, Texas Society of Pathologists, January 30, 1972.
699. Minutes, Texas Society of Pathologists, January 31, 1971.
700. Minutes, Texas Society of Pathologists, May 5, 1973.
701. *Transactions of the Texas Medical Association House of Delegates*, May 1975, p. 65.
702. *Texas Medicine*: "House of Delegates acts on PSRO, education, TMF," Vol. 69 (May) 1973, pp. 6-8 and 23.
703. Minutes, Texas Society of Pathologists, January 28, 1973.
704. Minutes, Texas Society of Pathologists, May 6, 1973.

705. *Texas Medicine*: "HMO, drug substitution, certificate of need fail to get approval of Texas Legislature, Vol. 69 (June), 1973, p. 6.
706. Minutes, Texas Society of Pathologists, May 6, 1973.
707. Minutes, Texas Society of Pathologists, January 26, 1975.
708. *Ibid.*
709. *Ibid.*
710. *Ibid.*
711. *Ibid.*
712. Minutes, Texas Society of Pathologists, May 15, 1977.
713. Davis, Joyce S., and Dirks, Kenneth R.: "A Short History of the Department of Pathology and Laboratory Medicine of the Texas A&M University Health Science Center College of Medicine," unpublished manuscript, 1995.
714. Minutes, Texas Society of Pathologists, January 27, 1980.
715. *Transactions, Texas Medical Association House of Delegates*, May 1989, p. 90.
716. Minutes, Texas Society of Pathologists, May 9, 1971.
717. *Texas Medicine*: "Dr. C. T. Terrell," in Recent Deaths section, Vol. 67 (September) 1971, pp. 149-150.
718. Minutes, Texas Society of Pathologists, January 30, 1972.
719. *Texas Medicine*: Obituary, M. D. Bell, Vol. 67 (October) 1971, p. 128.
720. Minutes, Texas Society of Pathologists, January 30, 1972.
721. Minutes, Texas Society of Pathologists, May 14, 1972.
722. Minutes, Texas Society of Pathologists, January 25, 1976.
723. Minutes, Texas Society of Pathologists, January 30, 1977.
724. Minutes, Texas Society of Pathologists, January 27, 1980.
725. Stembridge, Vernie A.: "Preservation of the Species—Pathologist," *AJCP*, Vol 78, No. 6 (December 1982), pp. 797-805.
726. Minutes, Texas Society of Pathologists, January 27, 1985.
727. *Clinical Laboratory Management Review*, op. cit.
728. Multiple sources and personal experience.
729. Minutes, Texas Society of Pathologists, October 13, 1984.
730. Minutes, Texas Society of Pathologists, January 27, 1985.
731. Minutes, Texas Society of Pathologists, May 12, 1985.
732. Texas Society of Pathologists, Minutes, House of Delegates, February 2, 1986.
733. Minutes, Texas Society of Pathologists' House of Delegates, February 1, 1987.
734. *Transactions, Texas Society of Pathologists*, January 29, 1989.
735. Texas Society of Pathologists' House of Delegates, January 31, 1986.
736. Correspondence from William C. Levin, MD, to Jim Bob Brame, MD, January 4, 1987, and supporting documents.
737. *Clinical Laboratory Management Review*, op. cit., p. 215.
738. Minutes, Texas Society of Pathologists' Board of Directors, May 16, 1987 and July 18, 1987.
739. Jones, Dudley: op. cit.
740. Strate, Susan, and Irvine, Eleanor, op. cit.
741. Schlesinger, Arthur M., op. cit., p. 614.
742. *Ibid.*, p. 619.

743. *Ibid.*, p. 620.
744. *Ibid.*, p. 622.
745. *Ibid.*, p. 623.
746. *Ibid.*, p. 624.
747. *Ibid.*, p. 627.
748. *Ibid.*, p. 626.
749. *Ibid.*, p. 631.
750. *Ibid.*, p. 627.
751. *Ibid.*, p. 629.
752. *Ibid.*, p. 621.
753. Files, Texas Medical Association.
754. Walthall, Walter: "Medical Ethics: Self-Aggrandizement," *Texas State Journal of Medicine*, Vol. 61 (March) 1965, p. 232.
755. Martensen, Robert L.: "Physician Advertising," "In Perspective" column, *Journal of the American Medical Association*, November 23/30, 1994, p. 1623.
756. Schlesinger, Arthur M., op. cit., p. 617.
757. American Medical Association Council on Long Range Planning and Development: "The Future of Pathology," 1987, American Medical Association, p. 1.
758. Baker, Henry: "Of Microscopes and the Discoveries Made Thereby," Volume 1, Chapter XV, Read before the Royal Society, October 28. 1742.
759. Multiple sources.
760. Schlesinger, Arthur M., op. cit., p. 634.
761. Schlesinger, Arthur M.: op. cit., p. 639.
762. Peerwani, Nizam: Personal communication.
763. Lees, Bill: "Diagnosis," in Sutcliffe and Duin, *A History of Medicine*, op. cit., p. 230.
764. Professor Karol Sikoru: "The Search for Cures," in Sutcliffe and Duin, op. cit., pp. 238-239.
765. *Focal Point*, Texas Society of Pathologists, Inc.: "Texas Resolutions Adopted by CAP House," Summer 1995, p. 9.
766. American Board of Medical Specialties Research & Education Foundation: Annual Report & Reference Handbook—1995, June 1, 1995, Evanston, Ill.
767. McGee, William Gordon: Personal conversation.
768. Strate, Susan: Personal conversation.
769. Ramzy, Ibrahim: "Outgoing President's Message," *Focal Point*, Texas Society of Pathologists, Spring, 1995, p. 2, p. 4.
770. *Focal Point*, Texas Society of Pathologists, Inc.: "Medicaid Managed Care Use Increases," Spring 1995, p. 11.
771. Barton, Hugh M.: "Better late than never; Stark I rules issued at last," *Texas Medicine*, Vol. 91, No. 11 (November) 1995, pp. 18-21.
772. *Focal Point*, Texas Society of Pathologists, Inc.: "Wrap-up of the 74th Legislative Session," Summer 1995, p. 6.
773. Ramzy, Ibrahim: "Outgoing President's Message," *Focal Point*, Spring 1995, pp. 2 and 4.
774. BeSaw, Larry: "CME and you, State sets hours required for license renewal," *Texas Medicine*, Vol. 91, No. 6 (June) 1995, pp. 40-43.
775. Newton, Berne: Personal conversation.

776. Wilkenfeld, Jerome: Personal conversation.

777. Stembridge, Vernie A.: "Congratulations!! Susan M. Strate, MD, Named 1995 Lansky Award Recipient," *Focal Point*, Texas Society of Pathologists, Fall 1995, p. 14.

778. *Focal Point*, Texas Society of Pathologists: "John J. Andujar, MD, Named First Honorary President of World Association," Spring 1994, p. 2.

779. *Focal Point*, Texas Society of Pathologists, Inc.: "Congratulations to...", Spring 1995, p. 9.

780. A Texan, John P. Howe, MD, president of The University of Texas Health Science Center at San Antonio, became chair of the AMA Council in 1995.

781. Boyd, Robert S., Knight-Ridder Washington Bureau: "Genome quest under budget, ahead of schedule," *Austin American-Statesman*, September 23, 1995, p. A21.

782. *American Medical News*: "2 purposes in identifying Alzheimer's susceptibility gene," Vol. 38, No. 38 (October 9, 1995) p. 24.

783. Strate, Susan M.: "Message from the President," *Focal Point*, Texas Society of Pathologists, Fall 1995, pp. 10, 16, 19.

784. *Ibid.*

785. *Ibid.*

786. *AFIP* Letter, op. cit.

787. Eliot, Charles W.: On reprinting "The Voyage of the Beagle," *The Harvard Classics*, P. F. Collier & Son Corporation, New York, 1969, p. 5.

788. Survey distributed by the author in August/September 1995.

789. King, Lester S.: Medicine in the USA: Historical Vignettes, "XI. Medicine Seeks to Be 'Scientific,'" *JAMA*, Vol. 249 No. 18 (May 12) 1983, pp. 2475-2479.

790. Long, Esmond R., op. cit., p. 201.

791. Stembridge, Vernie A., op. cit., article in 1982 *AJCP*.

792. Judson, Horace Freeland: "Paradoxes of Prediction; The Shape of Science to Come," *Science* 85, Vol. 6, No. 9 (November) 1985, pp. 32-36.

793. Wagar, W. Warren: "Histories of the Future," *The Future: Opportunity Not Destiny*, World Future Society, Bethesda, Maryland,

794. Thomas, Dylan: Quoted by Thomas H. McConnell, MD, Dallas, in writing about his great mentor and friend, C. T. Ashworth, MD.

795. Thomas, Dylan: From his poem, "Do Not Go Gentle into That Good Night."

796. Information for this chronology was obtained from numerous sources, including previously cited references in this book, and especially a chronology developed by the *Clinical Laboratory Management Review*, op. cit.

797. Long, Esmond R., op. cit., pp. 165-167.

798. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., pp. 138-139.

799. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., p. 167.

800. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., pp. 177-178.

801. Henry, Robert S., op. cit., pp. 103-105.

802. Nixon, Pat Ireland, *A History of the Texas Medical Association 1853-1953*, op. cit., pp. 248-249; p. 253.
803. Clark, R. Lee: op. cit.
804. *The University of Texas Medical Branch at Galveston, A Seventy-Five Year History by the Faculty and Staff*, op. cit., p. 310.
805. *World Book Encyclopedia*.
806. Race, George J.: Viewpoint: A History of the Development of Pathology at BUMC, op. cit.
807. *The University of Texas Medical Branch at Galveston, A Seventy-Five-Year History by the Faculty and Staff*, op. cit., p. 310.
808. Minutes, Texas Society of Pathologists, January 26, 1958, Dallas.
809. Schlesinger, Arthur M., op. cit., pp. 557-558.
810. Minutes, Texas Society of Pathologists, May 7, 1967, Dallas, signed by Jack L. Smith, MD, Secretary-Treasurer.
811. Schlesinger, Arthur M., op. cit. p. 621.
812. Boyd, Robert S., op. cit.
813. Memorandum from the legal firm of Sidley and Austin, Chicago, to Texas Medical Association, December 6, 1995.

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