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## Chapter 4

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# 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.<sup>130</sup>

GALVESTON WAS IN CHAOS, thousands dead from the powerful hurricane that surprised inhabitants on September 8 and 9, 1900.<sup>131</sup>

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.<sup>132,133</sup>

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."<sup>134</sup> 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.<sup>135</sup> 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,<sup>136</sup> 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.<sup>137</sup>

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.<sup>138</sup> 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.<sup>139,140</sup>

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.<sup>141</sup> Further, in 1907, the "Typhoid Mary" report would identify the presence of carriers.<sup>142</sup>

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.<sup>143,144</sup>

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.<sup>145</sup>

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.<sup>146</sup> Seven years earlier Texas had created its Section on Microscopy and Pathology.<sup>147</sup>

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.<sup>148,149</sup>

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.”<sup>150,151,152</sup> 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.<sup>153,154</sup> 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*."<sup>155</sup>

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.<sup>156</sup>

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.<sup>157</sup> 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.<sup>158,159,160</sup>

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.<sup>161</sup> From 1903 to 1908, Dr. Joe Becton taught surgical pathology at Baylor University College of Medicine, Dallas.<sup>162</sup>

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."<sup>163</sup>

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,<sup>164</sup> 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.<sup>165,166</sup>

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.<sup>167</sup>

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."<sup>168</sup>

"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."<sup>169</sup>

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.'"<sup>170</sup>

Since 1901, the American Medical Association, Association of American Medical Colleges, and state medical licensing boards had been cooperating on medical education reforms.<sup>171</sup> 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.<sup>172</sup>

### 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.<sup>173,174</sup>

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.”<sup>175,176,177</sup> **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.<sup>178</sup>

### 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.<sup>179,180</sup>

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.<sup>181</sup>

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.<sup>182</sup> In August, John T. Moore, MD, of Galveston published, "The Differential Diagnosis of the Type of Malarial Parasites by the Microscope."<sup>183</sup>

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.<sup>184</sup>

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.<sup>185,186,187</sup>

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.'"<sup>188</sup>

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.<sup>189</sup>

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,<sup>190</sup> 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."<sup>191</sup>

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.<sup>192</sup> In the same issue, Dr. Wm. R. Howard of Fort Worth wrote, "The Examination of Sputum by Expert Laboratory Methods and Its Clinical Significance,"<sup>193</sup> 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."<sup>194</sup>

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.<sup>195</sup>

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.<sup>196</sup> 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.<sup>197,198</sup>

“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.”<sup>199</sup>

“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.<sup>200</sup>

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.<sup>201</sup>

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.<sup>202</sup> Abraham Flexner<sup>203</sup> 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.<sup>204</sup>

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,<sup>205</sup> 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."<sup>206</sup>

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). . . ."<sup>207</sup>

"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 . . ."<sup>208</sup> 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.<sup>209,210</sup>

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.<sup>211</sup>

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.<sup>212</sup>

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.<sup>213</sup>

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.