
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 Fluellen, 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.