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Part III: Clinical Departments and Divisions Continued --- Chapter 32: Department of Surgery (pages 505-579)

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PART III

Clinical Departments and Divisions
Continued
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Clinical Departments and Divisions
Continued

Aerial View of Thomas Jefferson University

— Opposite page:
Bust of Thomas Jefferson by Rudolph Evans

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CHAPTER THIRTY-TWO

Department of Surgery

Frederick B. Wagner, Jr., M.D.

“No training of the surgeon can be too arduous, no discipline too stern, and none of us may measure our devotion to our cause.”

—Sir Berkeley Moynihan (1865–1936)

The Department of Surgery may justly claim its first Professor, George McClellan, as the founder of Jefferson Medical College. It was in 1823 that he first began to consider the founding of a second medical school in Philadelphia that would compete with the University of Pennsylvania, his alma mater (1819). Soon after graduation he had devoted his main attention to anatomy and surgery while conducting an active general practice. With an energy characteristic of his genius he soon attracted large private classes into his office near Sixth and Sansom Streets at a site now occupied by the Public Ledger Building.

Within a few years it was the most successful of the private schools of its kind in the City. He was one of the best teachers in anatomy and surgery, and, while still only in his 20s, was looked upon as the coming man in Philadelphia surgery. At that time, Philadelphia was the focal point of American medicine, with the oldest medical school, the University of Pennsylvania, which had been founded in 1765 and was overcrowded with 550 students. In a daring and seemingly outrageous venture he succeeded in 1824 in establishing Jefferson Medical College of Philadelphia as the Medical Department of Jefferson College at Canonsburg, Pennsylvania.

The genealogy of Jefferson’s Surgical Department in terms of its Chairmen is provided in Figure 32-1. In addition to sequence, it graphically demonstrates the division after the retirement of Samuel D. Gross in 1882 and the reunification under John H. Gibbon, Jr. in 1956.

George McClellan, M.D. (1796–1847); First Chairman (1824–1839)

George McClellan (Figure 32-2) was born in Woodstock, Connecticut, on December 23, 1796. He was of Scottish ancestry; his forebears were fighting Highlanders and American Revolutionary patriots. His grandfather, Samuel, had fought in
the French and Indian War and served as a Brigadier General under Washington. The military heritage continued under George McClellan’s son, General George Brinton McClellan, who was Lincoln’s General of the Union Army of the Potomac in the early part of the Civil War.

McClellan received his preliminary education at Woodstock Academy, where his father was Headmaster. He was an excellent student with preference for mathematics and language. In 1812 he attended Yale, from which he graduated in 1815. Both George and his younger brother, Samuel, went on to study medicine and become prominent in the early history of Jefferson Medical College.

George entered the private office of Dr. Thomas Hubbard of Pomfret, Connecticut, under the preceptorship system of the time, in which the aspiring physician would aid his mentor in compounding drugs, running errands, cleaning the office, and by observation learn the art of bloodletting as well as the prescribing of emetics and cathartics for the ill. In the remaining spare time, he would study from the obsolete medical books in the doctor’s library. After one year of this George made the important move to Philadelphia, where he became a pupil of the highly respected Professor John Syng Dorsey and entered the Medical School of the University of Pennsylvania.

In the Medical School, McClellan’s brilliance as a student was manifested by his extensive reading, hard clinical work, and outstanding interest in mathematics and language. In 1815, he attended Yale, from which he graduated in 1815. Both George and his younger brother, Samuel, went on to study medicine and become prominent in the early history of Jefferson Medical College.

George McClellan, 1824
Joseph Pancoast, 1839
Thomas D. Mutter, 1841
Samuel D. Gross, 1836

Samuel W. Gross, 1882
W.W. Keen, 1889
J. Chalmers DaCosta, 1907
(Gross I, 1910)
Thomas A. Shallow, 1931
(Gross II, 1939)

John H. Brinton, 1882
John H. Gibbon, 1907
Edward J. Klopp, 1931
George P. Muller, 1936
(Grace Revere Osler Professor 1939)
John H. Gibbon, Jr., 1946
(Professor of Clinical and Experimental Surgery)

John H. Gibbon, Jr. (Gross III, 1956)
John Y. Templeton, III (Gross IV, 1967)
Harry S. Goldsmith (Gross V, 1970)
Frederick B. Wagner, Jr., Acting Chairman (1977–1978),
(Grace Revere Osler Professor, 1978)
Francis E. Rosato (Gross VI, 1978)

Fig. 32-1. Genealogy of the Department of Surgery
anatomy and surgery. He also found time to serve as a resident student in the Philadelphia Almshouse at Eleventh and Spruce Streets. There he zealously performed autopsies and operated on cadavers. His colleagues were captivated by his knowledge, skill in dissection, and stimulation of medical discussions. At graduation in 1819 his thesis was *Surgical Anatomy of Arteries*.

McClellan went immediately into practice near Sixth and Walnut Streets and had instant success. So many young men sought him out as a preceptor that he started a private school, which also attracted the aid of several colleagues (John Eberle, Joseph Klapp, and Jacob Green). In 1824, McClellan, joined by these men (Figure 32-3), petitioned Jefferson College at Canonsburg, Pennsylvania, to recognize a Medical Department under their Charter with the State of Pennsylvania as the Jefferson Medical College of Philadelphia (Figure 32-4). This circumvented the opposition of the University of Pennsylvania to the establishment of a second medical college in Philadelphia. McClellan served as the first Professor of Surgery for 15 years and also first Professor of Anatomy (1824–1825) and Interim Professor of Anatomy (1827–1830).

In 1826 Samuel D. Gross came to Philadelphia with a letter for his enrollment from his preceptor, Dr. Swift of Easton, addressed to Drs. Hodge and Dewees of the Medical School of the University of Pennsylvania. So widespread was the reputation of Dr. McClellan and his new school that Gross disregarded Dr. Swift's advice and joined McClellan as a private student as well as a matriculant at Jefferson. Gross became McClellan's most illustrious student. Gross later characterized McClellan as follows:

![Fig. 32-2. George McClellan, M.D. (1796–1847); First Chairman (1824–1839).](image)

![Fig. 32-3. Founders of Jefferson Medical College.](image)
“His impulsive disposition often brought him into trouble; he lacked judgment, talked too much, and made everybody his confidant. Of course the betrayal of his confidence made him many enemies, some of them implacable. He was, moreover, a restless man, always pushing ahead. . . . With many faults, McClellan was unquestionably a man of genius, quick to perceive and prompt to execute. With a better regulated mind he would have accomplished much greater ends and achieved a more lasting fame. Probably no man ever handled a scalpel with more dexterity. . . . His reputation as a surgeon will be in great measure traditional, for he has left no adequate record of his observations and experience. He has, it is true, transmitted to us a small volume on surgery, but it is read by few persons, and it really possesses no conspicuous merit. His fame will rest mainly upon the fact that he was the founder of a school.”

Gross apparently overlooked or failed to appreciate McClellan’s great innovative contribution to medical education, namely that of practical clinical instruction directly from patients before students in a collegiate setting. In other schools of the time, the teaching was entirely by lectures, and McClellan’s method was denigrated as “ineffectual, misleading, and superficial.” McClellan’s teaching from patients later was adopted in all medical schools and was no better emulated than by Gross in Eakins’ portrait, The Gross Clinic.

It must be recalled that McClellan throughout his surgical career had to operate without the benefit of anesthesia and that Lister’s first paper (1867) on the Principle of Antisepsis would not appear until 20 years after his death. His surgery was rapid and crude by today’s standards. According to Gross: “As an operator, he was showy, and at times brilliant, yet he lacked the important requisites of a great surgeon—judgment and patience. . . . His saw broke in amputating a poor man’s arm; in a moment the limb was bent over his knees and the bone snapped asunder.”

McClellan clashed openly with Dr. William Gibson, Professor of Surgery at the University of Pennsylvania, over the feasibility of removal of the parotid gland. McClellan claimed to have accomplished this operation 11 times with only one death. In 1828 McClellan was sued for malpractice for alleged want of skill in removal of a cataract, and a verdict of $500 was rendered against him. The suit had been instigated by professional enemies, of which he had many.

By 1839 McClellan was in open dispute with Jefferson’s Board of Trustees, which he denounced publicly. The Board retaliated by dissolving the faculty and ballotted for new appointments. In the process Dr. Joseph Pancoast was elected on July 10 by a vote of seven against McClellan’s five. The latter’s connection with the school he had founded was thus unhappily ended.

The irrepressible McClellan promptly obtained a Charter from the State Legislature for another school in Philadelphia named “The Medical Department of Pennsylvania College” (at Gettysburg). He assembled a good faculty with five associates, including his brother Samuel, and began the first lectures with nearly 100 students in November, 1839. As the result of a quarrel in 1843, McClellan resigned his final Professorship. The school maintained a high rating for two decades,

FIG. 32-4. The desk of George McClellan, M.D.
but ceased by attrition during the Civil War because of the exodus of Southern medical students.

Retired from teaching, McClellan spent the remaining four years of his life in practice. He treated all classes of people, but especially among the poor his name was a household word. He died on May 8, 1847, in an attack of acute abdominal pain. His postmortem examination revealed a perforated sigmoid colon.

According to Gross, McClellan died poor. "He bought town lots, built houses, and lost money." He is buried in East Laurel Hill Cemetery, above the East River (Kelly) Drive in Philadelphia, Section L, Lot 46. A well-preserved granite tombstone marks his gravesite with his wife Elizabeth Brinton.

In addition to his military son, General George Brinton McClellan, he had a physician son, Dr. John Hill Brinton McClellan, who graduated from his second medical school. His grandson was Dr. George McClellan, Chairman of Applied and Topographic Anatomy at Jefferson (1905-1913).

Joseph Pancoast, M.D. (1805-1882); Second Chairman (1839-1841)

Joseph Pancoast (Figure 32-5) was born in 1805 in Burlington, New Jersey, the descendant of an Englishman who is reputed to have come to the Philadelphia area under the auspices of William Penn. It was the same year of birth for Samuel D. Gross, who was his senior by only four months. He graduated from the Medical School of the University of Pennsylvania in 1828, also the year that Gross graduated from Jefferson.

Pancoast and Gross became acquainted soon after they settled in practice, the former on North Fourth Street and the latter on the corner of Library and Fifth Streets near the Philadelphia Dispensary. They promptly became warm friends through their mutual interest in a surgical treatise by Bierowski illustrated with beautiful colored plates. Pancoast was able to compete successfully against the better known George McClellan, who was nine years their senior, but Gross barely made a living by translating foreign medical texts. Gross left Philadelphia in 1830, but again became a colleague of Pancoast when he returned in autumn of 1836 as the Fourth Surgery Chairman at Jefferson.

Pancoast had a flair for anatomy, aided by his natural love for dissection. As early as 1831 he offered private courses in anatomy along with his surgical practice. In his large classes of admiring students he made practical applications of anatomy to surgery as well as correlation with diagnosis and treatment of medical disease. In rented obscure rooms he acquired the fame as an excellent clinical teacher that led to his election as Chairman of Surgery at Jefferson in 1839. His hospital(s) up to that time were the Blockley (Philadelphia General) and its connected Children's Hospital, in which he was Head Physician.

Pancoast was regarded as the equal of George McClellan in the surgery of his day. McClellan...
held the advantage of nine years' experience and clinical fame before Pancoast graduated. On the other hand, McClellan died relatively young (at age 51), and lacked the advantage of using general anesthesia that Pancoast had for at least two decades.

In contrast to McClellan who preceded him and Mütter who followed him, Pancoast was a prolific writer. In 1831 he published an annotated translation from the Latin of Lobstein's *Treatise on the Structure, Functions and Diseases of the Human Sympathetic Nerve*. In 1844 his chief work was *Treatise on Operative Surgery*, with a third edition in 1852, and a revised edition of Wistar's *System of Anatomy for the Use of Students*. He edited *Manee on the Great Sympathetic Nerve* and on the *Cerebrospinal System in Man*, and *Quain's Anatomical Plates*. He was, as well, a large contributor to the *American Journal of the Medical Sciences*, *The American Intelligencer*, the *Medical Examiner*, and author of pathological and surgical monographs, essays, and introductory lectures to his classes. He stopped writing during the last 15 years of his life, and, according to Samuel D. Gross, when spoken to on the subject he said he thought he had "done enough of that kind of work."

Pancoast performed diversified operations and developed original ones. He devised a type of rhinoplasty, procedures for soft and mixed cataracts and certain types of strabismus, drainage for empyema of the pleural cavity, use of an ivory tube for obstructed lacrimal drainage, cutting of the posterior muscles of the *velum palati* for unintelligible voice, a lumbar approach for drainage of retrocecal abscesses (probably appendiceal), and invented an abdominal tourniquet for compression of the lower aorta during hip and high thigh amputations. In 1862 he performed his original operation for extrophy of the urinary bladder. The height of his surgical fame was reached when Sir William Ferguson, the leader of English surgery, referred the daughter of Lord Chancellor Lyndhurst to Pancoast for plastic surgery for scars from burns of the face. In the flowery language of that era he was said "to have an eye as quick as a flashing sunbeam and a hand as light as floating perfume." This was despite the fact that Pancoast was portly, with hands that were "large and thick with immense blunt fingers; any other than a hand you would look upon as facile and dextrous, almost beyond belief."

Pancoast was a member of the American Philosophical Society, the Medical Society of Pennsylvania, and other scientific organizations.

In 1841, another reorganization of the faculty was ordered by the Board of Trustees. This became known as the "Famous Faculty of 1841" that lasted without change until 1856. In this setting, Joseph Pancoast was shifted to Chairman of General, Descriptive, and Surgical Anatomy, which position he held until 1874, when he was succeeded by his distinguished son, William Henry Pancoast. The latter became one of the founding fathers of the Philadelphia Academy of Surgery in 1879.

Joseph Pancoast was in all respects a worthy successor to George McClellan. His name is immortalized in operative surgery and anatomical teaching, in both of which he was a giant for more than 40 years (Figure 32-6). He worked harmoniously with his successor, Dr. Thomas Dent Mütter, as a true friend and strong right arm until Mütter's untimely death in 1859. He then continued with Samuel D. Gross until March 7, 1882, when he died, just two years before Gross, who submitted his resignation that same year.

![Fig. 32-6. Medal in honor of Joseph Pancoast, M.D., struck by the U.S. Mint in 1870.](image-url)
because of ill health. Death was ascribed to a perforation of the intestine (most likely a complication of diverticulitis).

Thomas Dent Mütter, M.D., LL.D. (1811–1859); Third Chairman (1841–1856)

Although the Mütter Museum of the College of Physicians of Philadelphia (Figure 32-7) is well known to the scientific community, the Chairmanship for 15 years of Thomas Dent Mütter in Jefferson's famous Faculty of 1841 has remained obscure. The fame of the Museum as well as his surgical contemporaries (McClellan, Pancoast, and Gross) may account to some degree for this oversight.

Mütter (Figure 32-8) was born in Richmond, Virginia, on March 9, 1811, of German and Scottish ancestors who had settled in North Carolina before the Revolution. He was orphaned at the age of eight, but a relative saw to it that he had a good education in preparation for medicine. Like the two preceding Jefferson Surgery Chairmen, he received his M.D. degree from the University of Pennsylvania (1831) at the age of 20. Because of a lung problem he took to sea as a surgeon and subsequently studied in the best clinics of Europe. He became a Francophile for the remainder of his life and, excepting Pancoast, openly declared the superiority of French surgeons. He referred to Dupuytren, Louis, and Liston as his "friends."

Returning to Philadelphia after his year abroad, Mütter devoted himself to surgery and teaching. He achieved renown in the correction of orthopaedic deformities and in plastic surgery. This field included clubfoot, deformities from burns, and numerous other distortions both congenital and acquired. Antisepsis was still not used, but it is likely that a man as impeccable as Mütter was "clean" in his technique.

The honor of Chairman of the Surgery Department at Jefferson was conferred in 1841 on Mütter at the age of 30. Two Chairs of Surgery were considered by the Board of Trustees—Principles of Surgery and Practice of Surgery. Dr. Jacob Randolph of the Pennsylvania Hospital was offered one of the Chairs, but he declined on the basis that he could not accept this concept and did not wish to share a divided Chair. Nevertheless, 41 years later at the resignation of Samuel D. Gross (1882) the Chair did divide.

Mütter has the credit of being the first to introduce the Edinburgh "quizzing" system into this country. One more important first was his use of ethyl ether in Philadelphia, on December 23, 1846, within one month of Morton's announcement of his discovery. This was administered in the upper amphitheater of the Medical College that Gross, his successor, was to make so famous in the Gross Clinic. The first Jefferson Hospital was not to be built until 1877.

Mütter and his predecessor, Pancoast, worked in perfect harmony, assisting each other in their operations. The association of these two made the "Clinic" so famous that it was usually crowded with practitioners from all parts of the country. The same Sir William Ferguson who had referred the Lord Chancellor's daughter to Pancoast said of Mütter: "The greatest success, before my own views were made public, was achieved by Mütter of Philadelphia, who operated successfully on nineteen out of twenty cases of hare lip."

Mütter, unlike Pancoast who preceded him and Gross who followed him, was not much of a writer. His main works were a monograph of 104 pages on Club-Foot (1839) and his editing of Liston's Operations of Surgery (1846).

Mütter was forced to resign his Chairmanship in 1856 because of worsening of his old lung trouble, now complicated by gout, but he was made an Emeritus Professor. A winter spent in Nice failed to restore his health. He spent the next winter in Charleston without benefit and died at the age of 48 on March 19, 1859.\(^8\)

The year before Mütter died he generously bequeathed his Museum to the College of Physicians of Philadelphia with an endowment of $30,000 for maintenance and a Lectureship in connection with it. The Museum is ideally housed for specimens, models, historical instruments, and as archives for unusual memorabilia from throughout the medical world. There is a constant enthusiastic educational activity in the Museum, which has served as his best monument.

Samuel D. Gross, M.D., LL.D., D.C.L. (1805–1884); Fourth Chairman (1856–1882)

The preceding three Chairmen had been graduates of the Medical School of the University of Pennsylvania. Samuel D. Gross (Figure 32-9) graduated from Jefferson Medical College in 1828 and was its first alumnus to be appointed to a Professorship. In succeeding Thomas Dent Mütter in 1856 he was the first replacement in the famous Faculty of 1841 with which his Chairmanship alone would create a new and separate era in Jefferson History. The triumvirate of Gross, Dunglison, and Pancoast gave Jefferson an unsurpassed prestige among medical schools of the time.

Gross was born on July 8, 1805, near Easton, Pennsylvania, on a 200-acre farm. He was the fifth of six children born to Philip and Juliana Gross. His siblings consisted of two sisters and three brothers. It was Pennsylvania Dutch country, where much of the Americanized German patois persists to this day. His great-grandfather had emigrated from the Lower Palatinate of Germany in the seventeenth century. Gross first attended school in a log cabin in which Pennsylvania Dutch was the native language and where both sexes and successive grades were taught in a single room. He first learned English after the age of 12 and carried a slight German accent for the rest of his life. Gross's mother was a devoted Lutheran and
one of the brothers became the Reverend Joseph B. Gross of the Lutheran Church. The mother exerted a strong influence on the moral character and discipline of her son Samuel. The father died from a cerebral hemorrhage at the age of 56 when Gross was only nine. His mother lived to be 86 and died during the years at Louisville.

Gross states in his Autobiography that his thoughts of studying medicine started at the age of six and he felt himself always to be a “born doctor.” As a self-motivated individual, Gross at age 14 became aware of the defects of his public school education. On his own he began to learn correct English, German, and Latin in preparation for apprenticeship to a medical preceptor. At the age of 17 he tried the offices of three physicians, the last being that of Dr. Joseph K. Swift of Easton, who had graduated from the University of Pennsylvania. Again realizing his inadequate education for the study of medicine, Gross made a solemn determination to remedy his ignorance at the highest possible level. This he accomplished by completing an excellent preparatory course at the famous Lawrenceville (New Jersey) Academy. By the age of 19 he had acquired a thorough knowledge of Latin and had studied Greek from a Latin grammar book and, in addition to proper German, learned French well enough to subsequently translate medical texts into English.

After further study with Dr. Swift in Easton, he proceeded to Philadelphia in October, 1826, with a letter of recommendation from his mentor to matriculate at the University of Pennsylvania. Instead, Gross enrolled as a private student of George McClellan and then matriculated at Jefferson Medical College. He graduated in a class of 27 in 1828 in Jefferson’s first Medical Hall, the renovated Tivoli Theater at 518–520 Prune Street (now Locust Walk). His thesis was The Nature and Treatment of Cataract. George McClellan delivered the address to the graduates of this third class. As on many other occasions, McClellan was ten minutes late, much to the annoyance of the Reverend Green, President of the Board of Trustees.

The record of Gross’s performance as a medical student may be gleaned from his Autobiography:

“I had not only industry, but ambition; my morals and habits were good, and I was a stranger to all amusements. Medicine was the goddess of my idolatry. When, therefore, the time for my examination arrived I had no misgivings in regard to the result. I had planted carefully, and believed that I should ultimately receive the reward of my industry. The thirty-five minutes which I spent in the ‘Green Room’ of my Alma Mater were amongst the happiest of my life, and I could not help giving expression to my feelings in the presence of my assembled teachers. Such, indeed, was my hilarity that McClellan, my private preceptor, who knew me intimately, was induced to ask me afterwards ‘whether I had not been drinking?’—although he was well aware that I was one of the most temperate of youths, and as sober as a judge on the occasion in question. My examination, I had reason to believe, gave entire satisfaction.”

After graduation, Gross opened an office on Fifth Street opposite Independence Square, but had difficulty in establishing a private practice. It was mainly through translating foreign textbooks
into English that he covered his living expenses. During the first year he translated Bayle and Hollard's *General Anatomy* and Hatin's *Manual of Practical Obstetrics* from the French. The second year he translated Tavernier's *Operative Surgery* from French and Hildenbrand's *Treatise on Contagious Typhus* from German. This experience taught him the writing of textbooks, which he thereafter applied throughout life in prolific contributions to American surgical literature.

This industrious man somehow found time to fall deeply in love and marry a 21-year old widow, Louisa Ann Weissel, the year he graduated. She shared his early financial frustrations and afforded him nearly 48 years of happy family life. Their four surviving children out of eight were endowed with intellectual superiority. Samuel W. (the younger Gross) succeeded his father in surgery at Jefferson, and A. Haller became a successful Philadelphia lawyer. Maria and Louisa were accomplished ladies who married two brothers, both lawyers, from Baltimore. Maria endowed the Gross Professorship in 1910 in honor of her father. It was the first such endowment at Jefferson.

Lack of success in practice forced Gross to move to Easton in 1830. There he promptly gained respect and prominence. In the rear garden of his home he erected a small stone building for experimentation on dogs and cats as well as for dissection of cadavers he obtained from Philadelphia by horse and buggy. Within three months of arrival he completed his first original textbook, *Anatomy, Physiology, and Diseases of the Bones and Joints*. This volume of 400 pages sold 2,000 copies but yielded no remuneration to the author.

Gross encountered debt in Philadelphia and mediocrity in Easton. In the spring of 1833 he contacted his former Professor of Medicine at Jefferson, Dr. John Eberle, who by then was lecturing in the Medical College of Ohio at Cincinnati. Through the latter's recommendation Gross obtained the appointment of Demonstrator of Anatomy, in which capacity he taught for the next two years. In 1835 the school reorganized as the Medical Department of Cincinnati College, and Gross obtained the Chair of Pathological Anatomy. This provided the basis for his next textbook on *Elements of Pathological Anatomy* (1838), which was the first systematic work on this subject on either side of the Atlantic. It won the admiration of Dr. Rudolf Virchow, the famous German pathologist, and eventually led to his honorary membership in the Imperial Royal Society of Vienna.

Gross turned down an offer of the Chair of Anatomy at the University of Louisiana as well as the Professorship of Medicine at the University of Virginia to accept the Professorship of Surgery in 1840 at the Louisville (Kentucky) Medical Institute, later the University of Louisville. At the age of 35 he had attained his ultimate goal. Gross spent 16 fruitful years at Louisville, from October 1840 to September 1856. Promptly he started his investigations on the nature and treatment of wounds of the intestines and conducted experiments on more than 70 dogs over a period of two years. Gross refers to the irritation felt by some of the faculty members over the numerous fleas on hot autumn days. The Professor of Chemistry had to appear in class with high boots for protection of his legs. This was one of the first exhaustive pieces of animal research for clinical purposes done in the United States. Gross had to obtain his own dogs and pay a caretaker on an income that year of less than $2,000. In 1843 the work was published in a book entitled *Wounds of the Intestines*.

It is well to recall that Gross was also an eminent urologist. An authoritative *Practical Treatise on the Diseases, Injuries, and Malformations of the Urinary Bladder, the Prostate Gland, and the Urethra* was published in 1851. It was an octavo volume of 925 pages with 184 woodcuts. In the Appendix he presented the first attempt in urologic literature to report the prevalence of stone in the bladder and of calculous disorders in the United States, Canada, Europe, and other countries. His operation of lateral lithotomy, for which he was well known, is described thoroughly in the book. A knife with which he performed more than 40 of these procedures is in the Jefferson Archives (Figure 32-10).

The indefatigable Gross never finished one project before starting another. In 1854 he issued his *Practical Treatise on Foreign Bodies in the Air Passages*, which had been two years in the making. It was a pioneer work, attempting to systematize all current knowledge upon this subject. The book, which consisted of 468 pages and 159 woodcuts, gave full reports of 200 cases. It was to be made obsolete by the later work of Chevalier
Jackson to whom Jefferson again lays proud claim.

In 1850 there was a controversy at Louisville regarding the administration of the Medical School. Apparently never without offers, Gross was induced to accept the Chair of Surgery in the University of New York, just vacated by the retirement of the prestigious Valentine Mott, often referred to as “the Father of Modern Vascular Surgery.” That winter, relieved of his large private practice, he visited surgical clinics and devoted much time to writing. In reality this turned out to be a sabbatical year. After serving for only one academic session, and before having time to build another private practice, the problem of management in the Louisville school was corrected. He was implored by his old colleagues to return to his former post. His successor, Dr. Paul F. Eve, graciously and gladly stepped aside for him.

The years that Gross spent in Louisville were among the happiest of his life. He found time to cultivate close relations with his fellow Kentuckians despite his large practice, teaching, and literary work. He was beloved, trusted, and popular with patients, colleagues, and nonprofessional friends. His beautiful home provided true Southern hospitality for distinguished men and women both American and foreign. His wife was a charming hostess, who kept an ample table ready at all times for reunions in which “the strains of music mingled with flashes of wit and humor.” He had planned to spend the rest of his days in Louisville. Fate was to decree otherwise, for two schools in Philadelphia were about to tempt him to another Professorship.

In 1855 Gross was solicited by Dr. Rene LaRoche, a member of the Board of Trustees of the University of Pennsylvania, to allow his name to be placed as a candidate for the Chair of Surgery vacated by the resignation of Dr. William Gibson, a former bitter rival of Dr. George McClellan. Gross was assured that the entire Department of Surgery • 519

![Fig. 32-10. Lateral lithotomy knife of Professor S.D. Gross, authenticated by the younger Gross in 1887.](image-url)
Medical Faculty, with the exception of Dr. George Bacon Wood, had pledged themselves to support him and would use their best endeavors to secure his election. Various reasons, not the least of which were financial, induced him to decline, and he wrote a warm testimonial in favor of Dr. Henry Hollingsworth Smith, who was elected.

Upon the resignation of the Professorship of Surgery by Dr. Mutter in 1856, Gross received an offer to fill the vacancy. It was an honor from his alma mater that he could not refuse. After a preliminary visit to Philadelphia during which he found Jefferson flourishing, he moved his family in September of that year. For two years he rented Mutter’s furniture and house at the southeast corner of Eleventh and Walnut Streets (now the site of the Martin Residence Building) at $2,000 annually. He then purchased the building for $25,000 and added another $2,000 for renovations. During the first winter in Philadelphia (December 24, 1856), Gross was handed a telegram informing him that the University of Louisville had been totally consumed by fire, including all of his books. This amounted to a loss of approximately 2,000 volumes of the finest and most extensive collection of books on the genitourinary organs that had ever been collected in the United States. They had not been insured. Fortunately, another 2,000 of his books had been previously brought to Philadelphia.

In coming to Jefferson as the fourth Chairman, Gross had to compete with the reputation that his idolized predecessor, Mutter, had acquired for charm, teaching, and surgical skill. Gross had visited the Mutter Clinic during his brief Professorship in New York in 1850 and paid it high tribute. Almost immediately, however, Gross became even more popular than Mutter. Students responded with profound respect for his lectures and operations. The growing fame of the Gross Clinic attracted visitors from home and abroad. In 1860 a group of Japanese doctors visited his clinic. It is believed that these were the first ever to visit a clinic in a foreign country.

Several years before leaving Kentucky, Gross started his System of Surgery, which was to be the most complete treatise of its kind in the English language. The first edition appeared in 1859 and went through six editions, with updating each time, the last in 1882, only 17 months before his death. The initial work consisted of two octavo volumes to a total of 2,360 pages with 936 wood engravings. Two thousand copies were printed. It was translated into several European languages and spread his fame as well as that of Jefferson throughout the world. The Japanese used the Dutch translation to retranslate the section about the ears for their first reference book on otology. Later, the entire book was translated into Japanese from the German.

In 1861, at the start of the Civil War, Gross wrote a Manual of Military Surgery in the incredible period of nine days, with publication two weeks later. For preparation, he visited the battlefield at Shiloh, Tennessee, and examined the wounded on government steamboats at Pittsburg Landing. The book was promptly republished in Richmond in a “pirated edition” for the Confederate Army (Figure 32-U). It became the only mutual communication in the strife between the North and the South. It was retranslated from German into Japanese in 1874.

In the same year (1861), Gross, as a prolific medical historian, edited his Lives of Eminent American Physicians and Surgeons of the Nineteenth Century. It contained an account of the life and work of 32 outstanding American physicians and surgeons. His own contribution consisted of sketches of Drs. Ephraim McDowell, Daniel Drake, and John Syng Dorsey. It is an octavo volume of some 800 pages; few copies remain extant, but one can be found in Jefferson’s Special Collections of the Scott Library.

Several years later, Gross published A Full Account of Special Surgery on Diseases and Injuries of Particular Organs, Textures, and Regions, the fifth edition being issued in 1872. In 1876, for the United States Centennial, he wrote the section on Surgery in the American Journal of the Medical Sciences entitled A Century of American Medicine, 1776–1876. It is a masterful historical document of 100 pages. Gross, in 1881, at age 76, gave the First Annual Oration of the Philadelphia Academy of Surgery, which he founded in 1879 and of which he was the first President. It was a Memoir of John Hunter and His Pupils, published subsequently in book form.

A final gift to posterity and to Jefferson lore was made by Gross in his two-volume autobiography. He began this 1,000-page
Autobiography of Samuel D. Gross, M.D., with Reminiscences of His Times and Contemporaries about 15 years before his death, with the last entry on February 14, 1884. It was published in 1887 by his two sons, Samuel W. and A. Haller, with a memoir by his lifelong friend, Dr. Austin Flint. Gross stated that his reason for writing it was for the gratification of his family and the medical profession. It was his hope that “the devotion which I have shown to my profession may, perhaps, exert a salutary influence upon the conduct of young physicians, and thus serve to inspire them with a desire to excel in good deeds.” According to Dr. Flint it remains as a superb portrayal of the life, times, and labors of “one who is declared to have been perhaps the most eminent exponent of medical science that America has yet produced.”

In addition to the 14 books that Gross wrote, edited, and translated are more than 1,200 articles and case reports compiled in his bibliography at Jefferson. In them this extraordinary writer revealed his original thinking and vast experience. Generally, he devoted five to eight hours a day to his cherished projects, regardless of what else he had to do. Large portions were composed while riding about the city for his daily professional calls.

With the veneration that we hold for Gross today, it is hard to believe what an abysmal state the practice of medicine and surgery was in during his lifetime. Gross himself was aware of it, tried to improve it, and expressed his expectations for the future. Early in his career physicians bled, administered emetics, purged, and starved their patients. Ether was used at Jefferson shortly after its discovery (1846), but not until Gross was 41 years of age and still at Louisville. At Jefferson,
Gross was often heard to say to his orderly: “Hugh (O'Donnell), get me a tumbler of laudable pus for my lecture tomorrow morning.” In the 1860s and 1870s in the miniature College hospital of only 15 beds (before the first detached hospital was built in 1877) pus was always on tap. Its formation was considered as a stage in normal wound healing. One has only to look at Eakins’ portrait of the Gross Clinic to observe what precautions were not taken against infection.

Gross thought of himself as a physician first and a surgeon second. He enjoyed a large family practice, with much of his consultations of a strictly nonsurgical character. Throughout his long career he met, entertained, or was entertained by six United States Presidents—Jackson, Harrison, Fillmore, Buchanan, Johnson, and Grant. Andrew Jackson consulted him in 1859 for ankylosis of the left elbow. Gross’s advice was to leave well enough alone. Gross twice enjoyed private audiences with the widow Polk.

Apart from authorship, Gross made many contributions to surgical technique. Most of these have become so modified through the years that his name is no longer associated with them, while the instruments he devised are now obsolete. Nevertheless, to do justice to his inventive mind, a partial listing of these follows:

- Use of stay sutures to prevent wound dehiscence
- Tracheotomy forceps for extraction of foreign bodies from the air passages
- Wiring the ends of the bones in dislocations of the sternoclavicular and acromioclavicular joints
- Special catheter for draining urine when mixed with blood
- Forceps for arterial compression to arrest hemorrhage from deep-seated vessels
- Tourniquet for compression of vessels of the extremities during amputation
- Instrument for extraction of foreign bodies from the nose and ear (for many years found in doctors’ house-call bags throughout the country)
- Modification of Pirogoff’s amputation at the ankle joint
- Enterotome for treatment of artificial anus
- Laparotomy for rupture of the urinary bladder
- Direct operation for hernia by suturing the pillars of the external ring

Operative correction of ingrown toenail
- Use of adhesive plaster for skin traction in treating fractures of the lower extremities
- Treatment of ganglia of the hand or foot by subcutaneous division of the cyst
- Amputation in senile gangrene at a great distance from the process
- Suturing the accidentally divided tendon of the hand

Professor Gross’s surgical instruments are shown in Figures 32-12 and 32-13. On March 28, 1882, nearing 77 years of age, Dr. Gross resigned his Chair, whereupon he was unanimously elected Emeritus Professor. He was in full possession of his intellectual powers but now felt the desire to spend his declining years in comparative repose. He had been a widower for the previous six years, his wife Louisa having died after a lingering illness in 1876. Fortunately, his son Samuel W. married Grace Linzee Revere in that same Centennial year and brought this lady into the household at Eleventh and Walnut Streets to continue the tradition of open door and ever-ample table.

Dr. Gross enjoyed a too-short period of good health before his final illness. During the autumn of 1883 he began to experience epigastric distress, swollen feet, and other signs of congestive heart failure. A week’s visit to Atlantic City in early April, 1884, was without benefit. Despite the devoted care by Dr. Jacob Mendes DaCosta and Gross’s son, Professor Samuel W., aided in consultation by his distinguished friend, Professor Austin Flint, he died on May 6. A postmortem examination performed by Dr. J. M. DaCosta disclosed marked gastric mucosal inflammation, fatty heart, and a large cyst on the right kidney.

Gross was a strong advocate of urn burial, believing cremation to be the most sanitary way of disposing of the body. This was accomplished in Dr. Lemoyne’s crematory in Washington, Pennsylvania, one of the few in America at the time. The ashes were placed in the family grave at Woodlands Cemetery in West Philadelphia, next to...
his wife (Figure 32-14). None of the other Gross relatives underwent cremation.

The “Nestor of American Surgery,” who religiously practiced his motto “It is better to wear out than to rust out,” published *The Value of Early Operations in Morbid Growths* and *The Best Means of Training Nurses for Rural Districts* in 1883. He wrote until the very end; a paper entitled *Wounds of the Intestines* was read on May 8, 1884, before the American Medical Association two days after he died.

Gross was a master of organization who was deeply involved in membership, founding, and holding office in many societies at all levels. His local societies consisted of the Kentucky State Medical Society (Founder and President); the Philadelphia Pathological Society (Founder and first President, 1857); the Medical Jurisprudence Society of Philadelphia (Founder); the Pennsylvania State Medical Society (President, 1870); the Jefferson Alumni Association (Founder and first President, 1870); and the Philadelphia Academy of Surgery (Founder and first President, 1879).

National societies to which he belonged were the American Medical Association (President, 1867); the American Surgical Association (Founder and first President, 1880); the American Philosophical Society (President); the American Academy of Sciences (President); and the Teacher’s Medical Convention, at which he presided in Washington, D.C., in 1870.

Among international societies were the World Medical Congress (President, 1876); the Imperial Medical Society of Vienna; the Medical Society of Christiana of Norway; the Royal Medical and Chirurgical Society of London; the Medical Society of Vienna; the Medical Society of London; the Medico-Chirurgical Society of Edinburgh; the British Medical Association (twice Delegate); and the Royal Society of Medicine of Belgium.

Fig. 32-12. Amputation instruments used by Professor S.D. Gross.
Gross received honors from governments, universities, and societies, both before and after his death. They constitute a formidable list: his portrait by Samuel Bell Waugh (Figure 32-15); the renowned portrait of the Grosec Clinic by Thomas Eakins (Figure 32-16); his name in mosaic in the ceiling of the Library of Congress (Figure 32-17); a Gross statue (Figures 32-18 and 32-19); honorary degrees (LL.D. in 1861 from Jefferson College at Canonsburg; D.C.L. in 1872 from Oxford; LL.D. in 1880 from Cambridge; LL.D. in 1884 from Edinburgh; and LL.D. in 1884 from the University of Pennsylvania); the Gross Room and Endowed Library in the College of Physicians of Philadelphia; the Gross Prize of the Philadelphia Academy of Surgery; and the Gross Professorship of Surgery at Jefferson endowed by his daughter, Maria Gross Horwitz. Within the Department of Surgery at Jefferson, a Samuel D. Gross Distinguished Service Award was created in 1979, and a Gross Conference Room on the sixth floor of the College was dedicated in 1982.

### The Gross College of Medicine

In 1887 the Gross Medical College was started in Denver, Colorado, when a group of doctors united to form a rival medical school to the Denver Medical College of the University of Denver. They chose the name of Gross to honor Jefferson’s distinguished Professor of Surgery, Samuel D. Gross (Figures 32-20 and 32-21). The College was moderately successful, and the announcement each year claimed that “few medical colleges in the United States have better facilities for teaching than Gross.” It edited a monthly periodical, *The Gross Medical College Bulletin,*
which during six annual volumes commented on local medical conditions. In 1902 the Gross College merged with the Denver Medical College, and at the recommendation of the Flexner Report of the Carnegie Foundation for the Advancement of Teaching, the Gross and Denver Colleges in 1910 consolidated with the University of Colorado School of Medicine.

A fitting conclusion may be taken from Dr. J. Chalmers DaCosta, the first Samuel D. Gross Professor, when he wrote that he "beheld the mighty leader a great many times, heard him lecture frequently, and watched him operate, and in him always saw the embodiment of surgical learning, dignity, and distinction, and felt that fifty years of American Surgery were speaking through his lips." 12

The Chair of Surgery Divides (1882–1956)

As early as 1841 the Board of Trustees had approved the concept of splitting the Chair of Surgery into the Principles of Surgery and the Practice of Surgery. At the time of Thomas Dent Mütter’s appointment (1841), the second Chair was refused by Dr. Jacob Randolph of the Pennsylvania Hospital because he could not reconcile a difference between principles and practice, along with personal reasons for not wishing to share a divided Chair. The issue remained dormant when Samuel D. Gross was appointed in 1856 but became a reality at his
retirement in 1882. The Medical College was still proprietary, with fees being paid to the Professors for their individual lectures. This was a transitional period in which science was enhancing the art of medicine and greatly expanding the amount of material to be covered. It was a stark necessity that it required “two pegs to fill one hole.” Because each Chair would include Clinical Surgery, there was no need to define the boundaries between principles and practice. Two Jefferson graduates were already on its Hospital Staff and equally well qualified academically and clinically for the posts. In addition, they were boon companions. One was Samuel Weissel Gross (Jefferson, 1857), son of the elder Gross, who was appointed Professor of Principles of Surgery and Clinical Surgery. The other was John Hill Brinton (Jefferson, 1852), who was appointed Professor of Practice of Surgery and Clinical Surgery.

Precedent at Jefferson for son succeeding the father had been set in 1874 when William Henry Pancoast succeeded the eminent Joseph Pancoast as Professor of Anatomy. The succession of the younger Gross to the divided Chair of his world-renowned father raised no cry of political
favoritism, and his worthiness remained undoubted. Later Chairmanships of the senior and junior Gibbon proved again that the Board always chose wisely and without interference. It would take 74 years, until 1956, for the divided Chair to once again become unified.

Samuel Weissen Gross, M.D., LL.D. (1837–1889); Fifth Chairmanship (Co-Chairman, 1882–1889)

Samuel W. Gross (Figure 32-22), the eldest son of the famed Samuel D. Gross, was born in Cincinnati, February 4, 1837. He received his preliminary education in Shelby College, Kentucky, and his first year of courses in medicine began in the Medical Department of the University of Louisville, where his father was the Professor of Surgery. When the family moved to Philadelphia, he transferred to Jefferson Medical College, from which he received his M.D. degree in March, 1857.

The younger Gross entered into private practice and under the influence of his father devoted much time to teaching and pathological research. He also aided his father in editing the North American Medico-Chirurgical Review. At the outbreak of the Civil War in 1861 he entered the Medical Corps of the Volunteer Service as a Brigade Surgeon with the rank of Major. Most of his duty was as Medical Director in various Military Departments of the country. He was mustered out in June 1865 and the following year received the brevet of Lieutenant-Colonel for his efficient service. The sword he carried may be seen in the College of Physicians of Philadelphia (Figure 32-23). His father dedicated a Manual of Military Surgery to him.

At the conclusion of the war, the younger Gross returned to Philadelphia to continue his private practice and to lecture at Jefferson on Genito-Urinary Diseases and General Surgery in the summer courses that started in 1866. Active in clinical surgery, he joined the staff of the Howard Hospital, the Philadelphia Hospital, and the first Hospital Staff of Jefferson in 1877. Early on he evidenced a strong interest in tumors and examined all his own operative specimens under the microscope. He was one of the ten cofounders of the Philadelphia Academy of Surgery in 1879, which today is the oldest of its kind in the United States, and was named the histologist for that organization.

In 1876 the younger Gross at age 39 still found time, in spite of his intense professional activities, to be a "gentleman about town." Greater stability and stimulus to his academic career was added in that year by his marriage to Grace Linzee Revere, the great-granddaughter of the Revolutionary Period patriot. At age 22, and 17 years younger than her husband, she was a welcomed member into the Gross household at Eleventh and Walnut Streets in which Mrs. Samuel D. Gross had died just ten months previously. Grace's Bostonian social and cultural background, coupled with a...
warm and giving personality, continued the tradition of Gross hospitality. The younger Gross's best literary contributions dated from the time of his marriage: editing of his father's work on Diseases, Injuries, etc., of the Urinary Bladder (1876); a Treatise on Tumors of the Mammary Gland (1880); Disorders of the Male Sexual Organs (1881); and aiding in later editions of his father's System of Surgery. He also contributed highly respected editorial articles of a practical nature in the Medical News.

In the Professorship of Principles of Surgery and Clinical Surgery of the 1882 divided Chair, Samuel W. Gross immediately commanded the respect and close attention of the students. As an articulate lecturer with a clear strong voice, his opinions were accepted as authoritative. He emphasized to the profession that veins, just as arteries, could be ligated with perfect safety. He was the first American surgeon to advocate extensive operations for cancer of the breast and shares with Halsted the principle of operating for cure. His mastectomy was so wide that he called it "the dinner plate operation," which left a large unclosed wound. At a meeting in which an objection was raised that the granulations in such a large open wound would reproduce cancer, he said: "When oak trees produce polar bears and when fireplugs produce whales, then will granulations produce cancer, and not until then." Dr. Gross was prominent in local, state and national medical societies. He was President of the Pathological Society of Philadelphia (1879); Vice-President of the Philadelphia Academy of Surgery (1884), which he helped to found; a member of the County and State Medical Societies, as well as the American Medical Association; a Fellow of the College of Physicians of Philadelphia; one of the founders of the American Genito-Urinary Association; and prominent Fellow of the American Surgical Association, which his father had founded in 1880.

FIG. 42-20. Gross Medical College buildings. The frame building (left) housed the dispensary and administrative offices. The brick building provided lecture rooms, laboratories, and an anatomical dissecting room in the attic. (Courtesy of the University of Colorado.)
Death came to this brilliant surgeon-teacher-investigator at the age of 52, when he was at the height of his contributions to surgical science and art. The event occurred on April 16, 1889, from pneumonia, despite unremitting watch by four of Philadelphia's best doctors—Jacob Mendes DaCosta, William Osler, Orville Horwitz, and Charles Wirgman. On his deathbed Gross extracted a promise from them that they would take care of his wife, Grace. Osler kept his promise by marrying the “Widow Gross” three years later. She never forgot her “first love,” for in her will of 1928 she bequeathed $15,000 (roughly $25,000) for the “establishment of a Lectureship in Surgery in Memory of Doctor Samuel W. Gross.” This endowment evolved into the Grace Revere Osler Professorship of Surgery at Jefferson.

John Hill Brinton, M.D., LL.D. (1832–1907); Fifth Chairmanship (Co-Chairman, 1882–1906)

Although John H. Brinton was a widely known surgeon, author, and Professor at Jefferson, his name is inadequately remembered. Portraits of all the Surgical Chairmen until 1970 hang on the walls of Jefferson except his, even though he actually was not overlooked, because Thomas Eakins painted his portrait in 1876 (Figure 32-24), a year after he completed the Gross Clinic. Jefferson’s art collection would be enhanced by this typical Eakins masterpiece, which now is in

Fig. 32-21. Lecture room of Gross Medical College. Women students were admitted. (Courtesy of University of Colorado.)
the collection of the National Gallery of Art in Washington, D.C. Perhaps to some extent Brinton was overshadowed by the dynamic personality of Samuel W. Gross and the world renowned W. W. Keen, with both of whom he was successively a Co-Chairman. Finally, the strong Quaker influence in his family background may have tended to accentuate the modest, self-effacing quality that marked him as a gentleman in the finest sense.

Dr. Brinton (Figure 32-25) was born on May 21, 1832, at Fifteenth and Chestnut Streets in Philadelphia, the only son of George and Mary Smith Brinton, who also had three daughters. The “Brinton Country” near West Chester, Pennsylvania, is replete with roads, houses, a lake, quarries, a ford, a bridge, a mill, and places of religious worship associated with descendents of the original family. Dr. Brinton’s aunt, Elizabeth Sophia Brinton (1800–1889), married George McClellan, M.D. Dr. Brinton was thus the nephew of the Founder of Jefferson Medical College as well as the first cousin of McClellan’s two sons, General George Brinton McClellan of Civil War fame and John Hill Brinton McClellan, M.D. By 1962 ten physicians of the McClellan family had graduated from Jefferson. The Brintons, not to be outdone, can lay claim to 11 Milton Brinton attended Jefferson for the session 1826–1827 but died at the age of 21. Ten other Brintons who are Alumni of Jefferson are John B., 1826; John H., 1852; Jeremiah B., 1859; Daniel G.,

![Figure 32-22. Samuel Weisell Gross, M.D., LL.D. (1837–1889); Fifth Chairmanship (Co-Chairman, 1882–1889).](image1)

![Figure 32-23. The sword carried by Samuel W. Gross, M.D., during the Civil War. (Courtesy of College of Physicians of Philadelphia, to which it was given by Lady Osler, the widow of S.W. Gross).](image2)
Brinton enjoyed a superb education from both the cultural and medical standpoints. From the University of Pennsylvania he obtained a B.A. degree in 1850, an M.A. in 1853, and an LL.D. in 1901. He took his medical course at Jefferson and graduated in 1852. His thesis was entitled Record of Microscopical Observations of One Hundred Tumors. Well preserved in the archives of Jefferson, beautifully handwritten and bound, the thesis contains sketches and drawings of cellular arrangements that demonstrate the literary ability, academic excellence, and interest in research that were to characterize the rest of his career. William Smith Forbes and Jacob Mendes DaCosta were among his graduation classmates whose portraits were also subsequently painted by Eakins. All three were destined to serve their Alma Mater with distinction in later years as Chairmen in Anatomy, Medicine, and Surgery.

As was customary for the medical elite of those days, Brinton spent a postgraduate year in Europe. In the company of classmate DaCosta, he first visited Paris, where he most likely met the leaders of French medicine. In Vienna he was influenced by Josef Hyrtl (1810–1894), who was considered the first and greatest teacher of topographic and regional anatomy in the nineteenth century. Brinton thereafter maintained an ongoing interest in research and teaching of anatomy, even aspiring, although unsuccessfully, to the Professorship at Jefferson when it became vacant 20 years later.

On returning to Philadelphia in April, 1853, Brinton entered general practice, but with his
mind also bent on teaching anatomy and surgery. The combination of self-motivation, tireless energy, lecturing ability, scientific curiosity, and cultural refinement led to his steady rise in the profession. At that time it was almost impossible for an academically inclined young physician to gain a teaching post in one of the Philadelphia Medical Schools, as these were occupied and jealously guarded by men of mature prominence and distinction who had at least one or more textbooks in print. The opportunity and proving ground, however, for future leaders in the profession was provided by the Philadelphia School of Anatomy (1820–1875), the history of which has been thoroughly detailed by Dr. W. W. Keen. It was located on the north side at the upper end of Chant Street, then called College Avenue, behind St. Stephen's Episcopal Church, at or near the site where Benjamin Franklin flew the famous kite that drew lightning from the sky. This area has been absorbed by part of the United States Post Office between Ninth and Tenth Streets and Market and Chestnut. Brinton took full advantage of these facilities for anatomic dissection, experimentation, and lecturing on operative and general surgery.

Working in the third story of the eastern end of the two adjacent anatomic buildings, Brinton repeated Suchet's experiments on tanning muscles after injecting gelatin, and in 1854 developed a method of preserving fresh preparations by applying gutta-percha dissolved in benzole. This work undoubtedly was a factor in his later choice by the United States Surgeon General to be the first Curator of the Army Medical Museum. That same year, only two years out of Medical College, he published an American edition of Erichsen's Science and Art of Surgery. In 1856 he reported a previously undescribed valve in the right spermatic vein and suggested its relationship to the lesser frequency of varicocele on that side. Keen credited this as "one of the few discoveries recorded in macroscopical human anatomy of later years." In addition, he dissected over 100 sternums for his later paper in 1867 on Luxation of Body of the Sternum.

Brinton was appointed to the Staff of St. Joseph's Hospital in 1859. He also took time from his increasing clinical practice to give courses on operative surgery as well as general surgical subjects between 1853 and 1861. These lectures were given privately as well as in a Lectureship of the "Summer Association" of the second "Philadelphia Association for Medical Instruction." The "Summer Association" was formed for the purpose of giving lectures during the long recess in the Medical Colleges from March to November, with time off during the hot months of July and August. They were delivered not only in the Philadelphia School of Anatomy but also in a building on Butler Avenue in the rear of Jefferson Medical College, subsequently replaced by the first detached Jefferson Hospital of 1877 (Figures 32-26, 32-27, 32-28, and 32-29). The subjects included surgical anatomy, bandaging and fracture dressings, treatment of hemorrhage, various aspects of trauma, and fractures, all of which laid a firm foundation for the distinguished career awaiting him in the Civil War.

FIG. 32-26. 1877 Hospital on Sansom Street, replaced in 1924 by the Thompson Annex.
At age 29 and only nine years out of Medical School, Brinton was a prime candidate for military service in the Civil War. In July, 1861, he easily passed the examination of the Army Medical Board at Washington, D.C., which was chiefly written and in his words “not very rigid.” His commission as Brigade Surgeon of Volunteers was signed by Abraham Lincoln, and the original document is preserved in the archives at Jefferson (Figure 32-30). Indeed, all of his Army orders and communications from Generals Grant, Rosecrans, McPherson and Sheridan, as well as the office of the Surgeon General, are likewise safely kept in a bound volume. His frequent letters home were also collected into two bound volumes. These served him well for his later book on Personal Memoirs of John H. Brinton, Major and Surgeon, U.S.V., 1861–1865, completed June 14, 1891, but not published until 1914, seven years after his death. This work in arresting literary aplomb recounts the early chaos in the organization of both the military and medical branches of the Army, insights into the personalities of his commanders, the pitiful plight of the wounded soldiers to which he was committed, the difficulties in setting up hospitals and supplies, the ineptness and inexperience of many of the medical officers, battles as viewed through eyes of a Volunteer Surgeon, his efforts to collect specimens for the Army Medical Museum, service on examining boards, and his collecting statistics for the Medical and Surgical History of the War of the Rebellion.

Duly commissioned in August, 1861, Brinton reported to the Department of the West, where he came under the command of General Ulysses S. Grant and was assigned to duty in the office of the Medical Director of the Cairo District of Illinois (Figure 32-31). This marked the beginning of a mutual respect and regard for each other’s abilities that extended well beyond the war years. Jefferson’s archives contains a letter to Brinton from Mrs. Julia Grant expressing comfort that her husband was under his medical care.

Brinton became an Acting Medical Director and, lacking formal Army medical training, relied upon his native intelligence, initiative, and organizational ability to deal with the confusing and at times chaotic conditions that arose. This

FIG. 12-27. Outpatient surgical clinic men’s waiting room of the 1877 Hospital.
could not fail to impress all those with whom he came in contact. His first real test came under General Grant at the Battle of Belmont, Missouri, during which he had the misfortune to lose all of his surgical instruments. Many of these had been brought from Paris, while others had belonged to his old preceptor at Jefferson, Professor Thomas Dent Mütter. In the hurry of leaving for the field at Belmont, Brinton gathered them into a single package, which he entrusted to a young orderly. The latter panicked from the enemy artillery fire and was seen to rush from the open into the woods. The orderly was captured and the instruments fell into the hands of a Mississippi surgeon. General Grant on a flag of truce attempted to barter a captured Arabian pony for the instruments, but the exchange was never consummated.

Brinton was distressed by the inexperience and surgical ignorance of his fellow medical officers. In an effort to remedy this situation he organized the Army Medical and Surgical Society of Cairo, bringing surgeons together chiefly from Illinois, Iowa, Michigan, and Missouri for mutual improvement. The society flourished long after Brinton left Cairo.

The switch from the comforts of a refined home in Philadelphia to the rigors of army life with horseback riding, cramped quarters, tents, filth, sickness, and the many wounded or dead seems to have been made by Brinton without complaint. His description of mince pie that Thanksgiving, however, was unique: “The latter I think was made of dried apples, and the meaty part had a peculiar flavor, suggestive of levee rats and Chinese ideas.”

In 1862 Brinton, as Medical Director of the Army of Tennessee, accompanied General Grant in the campaign which captured Forts Henry and Donelson of Nashville, and in the Battle of Shiloh, at Pittsburg Landing, Tennessee. Samuel D. Gross, his fellow Jeffersonian, visited the battlefield at Shiloh and examined the wounded on the government steamboats at Pittsburg Landing for material for his Manual of Military Surgery, which was published only two weeks later. Little was Brinton to know at that time that he would succeed the “Emperor of Surgery of the

![Fig. 32-28. Surgical dressing room for men in the 1877 Hospital.](image)
Nineteenth Century" upon the latter’s retirement at Jefferson and share the divided Chair of Surgery with his illustrious son, Samuel W. Gross.

Brinton shortly thereafter was assigned to duty in the office of Surgeon General William H. Hammond in Washington, D.C., and in June, 1862, was ordered to prepare The Surgical History of the Rebellion. This was intended to remedy the insufficient and defective statistics on the sick and wounded that became evident in the first year of the war. In August, 1862, he additionally was assigned to collect and arrange all specimens of morbid anatomy that had accumulated in the various hospitals or that might have been retained by any of the medical officers. In carrying out this order, Surgeon Brinton thus established the United States Army Medical Museum. His visits to headquarters of the armies in the field and different hospitals provided data and illustrations for the book and specimens for the museum. The beginning of the museum in that August of 1862 consisted of three dried and varnished specimens placed on a shelf above the ink stand of Brinton's desk. In January, 1863, a preliminary catalogue was printed with brief descriptions of 1,349 objects that had been collected within a five-month period. Of the total, 983 were surgical, 106 medical, 133 missiles, and 125 miscellaneous. By July 1, 1863, Brinton was able to submit a Consolidated Statement on Gunshot Wounds for publication by the Surgeon General’s Office. It would be misleading and grandiose to give Brinton credit for more than the start of these monumental projects that required additional years and teams of workers, but his name is indelibly linked with them.

One of the great disappointments in Brinton’s life was in connection with a proposed Army Medical School that failed to materialize for lack of authorization by the Secretary of War, Edwin N. Stanton. It would have been a postgraduate institution designed to teach medical officers the surgical and medical care as well as the customs of the service under Professors of the Army who were already experienced in these aspects. Lecture rooms, laboratories, and illustrations were arranged in the Army Medical Museum, a curriculum was formulated, a capable faculty was

![Fig. 32-29. Men’s surgical ward of the 1877 Hospital.](image)
available, and Brinton had been instructed to prepare an address for the inauguration of the first military medical course of the United States for the session of 1863–1864. When Mr. Stanton learned the lectures were to be given in the evenings, he dismissed the project with: "They will go to the theater and neglect their duties." A third of a century later, on March 13, 1896, Brinton was gratified to give the Valedictory Address to the second graduating class of the Army Medical School, Washington, D.C., which finally had been established in June, 1893. Brinton's interest in educating physicians committed to a military career reached total fulfillment much later, after his death, by an Act of Congress in 1972, establishing the first Federal Medical School, the Uniformed Services University of the Health Sciences (USUHS) in Bethesda, Maryland, to meet the needs of the Army, Navy, Air Force, and Public Health Service. The first class of 29 physicians received their M.D. degree in May, 1980.

Brinton served on examining boards in Washington on various occasions and was admonished not to be too strict because the need was great for even those of limited knowledge and experience. He was with the Headquarters of the Army of the Potomac in Virginia, at Battles of Antietam, Chancellorsville, Gettysburg, and Grant's march on Richmond through the Wilderness. During his army career he also came to know Generals McPherson, Sheridan, Thomas, and Halleck. Some of these wrote letters on his behalf in later years.

Upon returning to his native Philadelphia, Brinton resumed private practice. He promptly was appointed by the Faculty of Jefferson Medical College as a Lecturer on Operative Surgery in the Summer Course of the School (1866). In 1867, he was elected as one of the Surgeons to the

Fig. 32-10. Civil War commission of John Hill Brinton, signed by Abraham Lincoln.

Fig. 32-31. John Hill Brinton, M.D., as Brigade Surgeon of Volunteers in the Civil War.
Philadelphia Hospital. He delivered the Mütter Lecture in 1869 on *Gunshot Injuries, Their Surgery and Pathology* and served as a member of the Committee of the Mütter Museum of the College of Physicians from 1878 for 29 years until his death. During the intermediate years he worked under the inspiration of his Surgical Chief at Jefferson, the immortal Samuel D. Gross, and became a boon companion to his son, Samuel W. Gross. He aided the elder Gross in the founding of the Jefferson Alumni Association in 1870, the Philadelphia Academy of Surgery in 1879, and the American Surgical Association in 1880. When the first detached Jefferson Hospital of 1877 was in the planning stage, Brinton successfully undertook to raise $150,000 through the Alumni. He was elected by the Trustees as one of the Surgeons of the 1877 Jefferson Hospital and served for five years as President of the Staff.

In June, 1873, the famous Dr. Joseph Pancoast resigned as Chairman of the Department of Anatomy at Jefferson, having held the post with great distinction since 1841 and having served as Chairman of Surgery from 1839 to 1841. Initially nine names of candidates were placed in nomination, and that of John Hill Brinton led the list. Four other Jeffersonians were interested, namely William H. Pancoast (the retiring Professor's son), W.W. Keen, William S. Forbes, and Addinell Hewson. Seventeen ballots were taken in succession without any candidate receiving a majority vote. On later balloting in April, 1874, the younger Pancoast obtained a majority. Although Brinton's professorial ambitions in Anatomy were frustrated by William Pancoast at this juncture, the tables turned in 1882 when Brinton was chosen along with Samuel W. Gross for the divided Chair of Surgery of Samuel D. Gross. The younger Pancoast, as a capable surgeon, had been keeping his eye on the forthcoming vacancy, and his disappointment was keen.

Younger Gross had a special interest in tumors, whereas Brinton's was in fractures, but they shared a common interest in genitourinary surgery. With Samuel W. Gross's death in 1889, the Board of Trustees appointed a new Co-Chairman, William Williams Keen, whom Brinton had known and admired for many years.

Brinton continued to write articles until the age of 70. These related to anatomy, general surgery, urology, the military, surgical history, and various introductory and valedictory addresses. He was also the American editor of Ericksen's *Surgery*. His lectures were well prepared, informative, and delivered in a fluent manner that captivated his students.

Brinton had wide-based social and cultural activities. He was one of the earliest members of the Metropolitan Club of Washington, a founder of the Philadelphia Skating Club, and a member of the Philadelphia Club, still considered by many as the most exclusive men's club of the City. He belonged to the American Philosophical Society, the Academy of Natural Sciences, the Sons of the Revolution, the Loyal Legion, the Society of Colonial Wars, and the Historical Society of Pennsylvania.

In May, 1906, Dr. Brinton felt impelled by the weight of advancing years to tender his resignation, which was accepted with Emeritus status. On March 5, 1907, while in his 75th year, he suffered a cerebral hemorrhage. He seemed to be making a recovery, but died suddenly of an exacerbation on March 18 at his residence, 1423 Spruce Street. Buried in Woodlands Cemetery, Philadelphia, are Brinton, his wife, all six children, his parents, and one of his three sisters.

William Williams Keen, Jr., M.D., LL.D., Ph.D., Sc.D. (1837–1932); Fifth Chairmanship (Co-Chairman, 1889–1907)

The younger Gross and his successor, W.W. Keen, Jr. (Figure 32-32), were both born in the same year (1837). Thus, with the premature death of Samuel W. Gross at age 52, the Chairmanship was continued by a man of the same age and professional maturity. As fate would have it, Keen was not only able to complete 18 years of Co-Chairmanship with Brinton but to have 25 more years as Emeritus to the age of 95. His stature in the surgical world was similar to that of the elder Gross, but in company with William
John Hill Brinton, on being asked to select a Surgeon for the Fifth Massachusetts Regiment, chose Keen. In July, 1861, without taking any examination, he was sent to a camp in Alexandria and within two more weeks was at the Battle of Bull Run. There he witnessed the chaos by not receiving a single order, as well as discovering the general ignorance of the surgeons at that time. Shortly after the battle his period of enlistment in the regiment expired and upon being discharged he returned to Jefferson where he graduated in 1862. Two months later he was duly commissioned as Acting Assistant Surgeon in the U.S. Army and put in charge of Eckington General Hospital in Washington. He quickly established a notable reputation by setting up and equipping a hospital within five days. He was put in charge of a hospital at Frederick, Maryland, and subsequently to the Satterlee as well as the Christian Street Hospital in Philadelphia. In 1863 he served with Drs. S. Weir Mitchell (Jefferson, 1850) and George Morehouse (Jefferson, 1850) in the Turner’s Lane Army Hospital in an important study upon the injuries of nerves, resulting in their joint authorship of *Gunshot Wounds and Other Injuries of Nerves* (1864). This began Keen’s interest in neurologic surgery.

In the grand style of his era, Keen spent two years (1864–1866) in postgraduate study with Duchenne of Paris and in Virchow’s laboratory in Berlin. On his return, his lectures in the “Summer Course” at Jefferson (1866–1867) in pathological anatomy were the first ever given in Philadelphia on that subject. Lister’s *Principle of Antisepsis* (1867) had not yet been published, let alone accepted, so it was common in the 1860s to come directly from the dissecting room to the surgical clinic to assist in operations. Pancoast and the elder Gross were operating in blood-stained frock coats, “the veterans of a hundred fights.” Instruments were not disinfected, and there were no artery forceps. Absorbable catgut sutures were not introduced until 1869. Marine sponges were used, and gauze sponges waited for the 1870s. Fractures of the base of the skull were practically always fatal. Cerebral localization was in its infancy when, in 1874,
Roberts W. Bartholow (later Professor of Materia Medica at Jefferson) first applied electrodes to the human brain. At that time it was generally believed that the brain was of uniform structure, like the liver. The first clinical thermometer that Keen ever saw was a gift from S. Weir Mitchell (Jefferson, 1850), who brought it from London in 1876. Keen in his long life until 1932 would witness the progress of medicine from a time when the physician had little beyond his own fingers, eyes, and ears, to the era of antisepsis, roentgen diagnosis, and the clinical laboratory. Not only would he benefit from these triumphs but would extend their applications to surgery.

In 1866, while already teaching at Jefferson, Keen became the Head of the Philadelphia School of Anatomy until its dissolution in 1875. At that time the courses in the medical schools leading to the M.D. degree were limited to two short terms of didactic lectures. Ambitious students who perhaps could not afford postgraduate study in Europe would supplement their education in these extramural schools that also included clinical teaching. It was through this School of Anatomy that Keen linked his teaching with Jefferson alumni such as Jacob Mendes DaCosta, John Hill Brinton, and S. Weir Mitchell.

In 1875 Keen was appointed Professor of Artistic Anatomy at the Pennsylvania Academy of the Fine Arts (Figure 32-33), a post he held until 1890. It is of interest to note that the famous artist of the Gross Clinic, Thomas Eakins, was his chief demonstrator of anatomy at the Academy from 1876 to 1880.

In 1876 Keen was the first in Philadelphia to adopt Lister's principles of antisepsis at the St. Mary's Hospital, and was closely followed by Samuel W. Gross and J. Ewing Mears in the first detached Jefferson Hospital of 1877. In 1884 he was appointed Professor of Surgery in the Woman's Medical College of Pennsylvania, a post he held until called to Jefferson in 1889 to succeed the younger Gross. In 1887 he operated at St. Mary's Hospital on a patient with an accurately localized large meningioma of the brain. It was the first brain tumor successfully removed in America, and the patient lived without recurrence for more than 30 years. The chapter on the Department of Neurosurgery at Jefferson details his pioneer work in this field.

As a surgical teacher Keen was unexcelled. His clinics were crowded, not only by students but by visiting surgeons from throughout the United States and foreign countries (Figures 32-34 and 32-35). According to Dr. John Chalmers DaCosta, who succeeded him: "He had that combination of earnestness and clearness that was absolutely convincing of his own beliefs." DaCosta's opinion of him as a master surgeon was: "He always showed best when the situation was worst. Dr. Keen was always, calmer, quieter, kinder, pleasanter, the worse the surgical situation was, and I never saw it get the best of him. He had a favorite expression when he would finally get hold of the situation and control the hemorrhage. He would say, 'Now we have the whip-hand of it.' It passed into a proverbial expression in the Jefferson Medical College."

In July, 1893, Keen was chosen to assist Dr. John D. Bryant in operating upon President Grover Cleveland for a verrucous carcinoma of the roof of the mouth. It was performed secretly on board a yacht (the Oneida) off New York Harbor. Keen fashioned special instruments in preparation for the surgery, which was a complete success. The operation was kept secret in order to prevent possible public panic over a national crisis in silver. Keen published his report on that operation in 1917.

As a prolific writer, Keen was in a rank with Robley Dunglison and Samuel D. Gross. His contributions in anatomical subjects included: Keen's Clinical Charts (1870), and Early History of Practical Anatomy (1870); and as editor, Heath's Practical Anatomy (1870); Flower's Diagrams of the Nerves of the Human Body (1872); History of the Philadelphia School of Anatomy (1874); Holden's Medical and Surgical Landmarks (1881); and Gray's Anatomy (1883), with a subsequent second edition (1887).

In 1893, with J. William White, Keen wrote the first compiled American Text-Book of Surgery. It was the forerunner of his eight-volume Keen's System of Surgery, which became the preeminent text for surgeons of the United States in the first decades of the twentieth century (1906–1921). Other articles related to his academic life included: Surgical Complications and Sequels of Typhoid Fever (1898); Addresses and Other Papers (1905); Animal Experimentation and Medical Progress (1914); The
Early Years of Brown University, 1764–1770 (1914); Ether Day Address (1916); Treatment of War Wounds (1917); Colyer Lectures at Brown University on Medical Research and Human Welfare, and Selected Papers and Addresses (1922).

Keen had deep religious convictions. In 1867 he was appointed Charter Trustee of Crozer (Baptist) Theological Seminary, and in 1898 he wrote the History of the First Baptist Church of Philadelphia. Other of his writings in this faith were: I Believe in God and in Evolution (1922) and Everlasting Life (1924). He was an ardent Prohibitionist and only once was seen to take one glass of beer.

In 1904 Keen was 67 years old and thinking of retirement. For a successor, he approached Dr. Harvey Cushing at Hopkins, who declined the honor to be considered as a candidate. Keen did retire in 1907 at the age of 70 and was succeeded by Jefferson's incomparable John Chalmers DaCosta.

Keen not only served his country in the Civil War (Figure 32-36) but in 1917, at age 80, he was in uniform as Major in the U.S. Army as a Consultant in the Reserve Corps of World War I (Figure 32-37); his services had been declined as not needed in the Spanish-American War. He was a member of the Founders and Patriots of America, of the Loyal Legion, and of the Medical Veterans of World War I. In addition to his services to President Cleveland in 1893, he was called in consultation to see Franklin D. Roosevelt during his attack of poliomyelitis in 1921.

Fig. 32-33. W.W. Keen, M.D., teaching anatomy at the Pennsylvania Academy of the Fine Arts. (Courtesy of Pennsylvania Academy of the Fine Arts).
Keen was active in many societies and received many honorary degrees and awards. He was President of the American Surgical Association (1899), of the American Medical Association (1900), of the College of Physicians of Philadelphia (1900), of the International Congress of Surgery in Paris in 1920 (the first American to hold that office), of the Congress of American Physicians and Surgeons (1903); and of the American Philosophical Society (1907–1917). In 1913 he was the first surgeon in the United States to accept and have conferred upon him an Honorary Fellowship in the American College of Surgeons. He was elected an Honorary Fellow of the Royal College of Surgeons of England, of Edinburgh, and of Ireland, as well as elected to the Italian Surgical Society, the Order of the Crown of Belgium (1920), and Legion d'Honneur of France (1923).

From the Boston Surgical Society he was awarded the Bigelow Gold Medal, and from Brown University the Colver-Rosenberger Medal of Honor. He received LL.D. degrees from Brown University (1891), Northwestern and Toronto (1903), Edinburgh (1905), Yale (1906), St. Andrews of Scotland (1911), and the University of Pennsylvania (1919). Jefferson awarded him the Sc.D. Degree in 1912, and Harvard honored him with the same degree in 1920. The University of Uppsala (Sweden) awarded him a Ph.D. degree in 1907, and in 1923 the University of Paris conferred on him a Doctor, honoris causa.

Keen's death occurred on June 7, 1932. After cremation, his remains were buried in Woodlands Cemetery, Philadelphia, and marked by a modest tombstone (Figure 32-38).

Fig. 32-34. W.W. Keen, M.D., in the amphitheater of the 1877 Hospital (1894). Note the ungloved, bloodstained hands. William J. Hearn, M.D., is seated on the right, and J. Chalmers DaCosta, M.D., is standing to the left and behind Keen.
John Chalmers DaCosta, M.D., LL.D. (1863–1933); Sixth Chairmanship (Co-Chairman, 1907–1931), First Samuel D. Gross Professor (1910–1931)

The successor to W.W. Keen in 1907 was John Chalmers DaCosta (Figure 32-39). Although regarded as a native Philadelphian, he was born in Washington, D.C., on November 15, 1863. His mother, Margaret, was residing there temporarily to be near her husband, George Tallman DaCosta, who was serving in the Army of the Potomac.18 The DaCosta name was of Spanish ancestry. The Jefferson archives contains a partial genealogy, handwritten by DaCosta, that traces the first identifiable family member to Isaac DaCosta, who migrated from London to Boston in 1697. Some Boston members served during the American Revolution, but the family became established in Philadelphia about a century later.

DaCosta's grandfather had been a cofounder of the Camden and Atlantic Railroad of which his father, George, became President. George's brother (DaCosta's uncle) was Dr. John Chalmers DaCosta (1834–1910), who, after working as an engineer for 20 years, graduated from Jefferson Medical College in 1878 and was a gynecologist on the staff of Jefferson Hospital from 1884 to 1901. This led to a confusing proliferation of John Chalmers DaCostas—not only was the first Gross Professor, John Chalmers DaCosta, named after his uncle, but the uncle had a son named after him as John Chalmers DaCosta, Jr., (1871–1920), who graduated from Jefferson in 1893. The latter taught internal medicine at Jefferson and was called "Black Jack," as opposed to his first cousin, the Surgical Chairman, who was affectionately known as "Jack" DaCosta. The three John Chalmers DaCostas, each a Jefferson graduate and
teacher, were not related to Jacob Mendes DaCosta (Jefferson, 1852), Professor of Medicine at Jefferson (1872–1891) whose ancestry was Portuguese.

DaCosta's father, in addition to his railroad responsibilities, was interested in literature and book collecting, which strongly influenced young Jack's impressionable character. His mother taught him much of the history of Elizabethan England by the time he was eight. In this environment he developed an early delight in reciting poetry for the entertainment of his family and friends.

At the age of nine, DaCosta was struck in the right eye by a pine cone, resulting in loss of sight in that eye. Possibly because of the injury, his parents lavished extra concessions upon him, such as letting him ride locomotives to Atlantic City in the cab with the engineer and to occupy the fireman's seat. Friendship with railroad men and joy of riding in locomotives persisted until he became crippled in later years.

When DaCosta was 12, his uncle, Dr. John Chalmers DaCosta, and his father were members of the Volunteer Fire Departments of Haddonfield and Philadelphia. Their associations captured his interest to such an extent that he maintained throughout life an intimate connection with the Philadelphia Fire Department.

Although DaCosta's father wished him to study law, Jack had made the decision to study medicine by the age of 15. He obtained a skull through a medical student and on his own initiative read Horner's Anatomy. After receiving his preliminary education at Friends Central and Brown Preparatory School, he entered the University of Pennsylvania (1880) at age 17. While majoring in chemistry, he attended the clinics in the old amphitheater at Blockley (Philadelphia General Department of Surgery).
Hospital) to observe the elder Gross and Joseph Pancoast perform surgery. Unfortunately, before completion of his college course, DaCosta's father died and the family experienced financial reversals. Two years of college were more than ample at that time for matriculation at Jefferson Medical College (1882), from which he graduated in 1883 as Class Valedictorian.

After 13 months of residency at the Old Blockley Hospital, DaCosta became Assistant Physician to the Insane Department. His exposure to the antics of the insane drained him emotionally, and when one of the patients committed suicide by hanging he tendered his resignation. In 1887, however, DaCosta was not totally disillusioned, for he became Assistant Physician to the Pennsylvania Hospital for the Insane at forty-fourth and Market Streets, known then as Kirkbride's. His experience with the insane laid the groundwork for his extensive knowledge and prolonged interest in neurology, which later enhanced his diagnostic skill and teaching.

Later in 1887 DaCosta entered private practice but became appointed as Assistant Demonstrator of Anatomy and a Clinical Assistant in the surgical outpatient department of Professor Samuel W. Gross. His office was at 2047 Locust Street, in one room of the first floor of a dressmaking establishment. The first patient not only failed to pay a fee but stole his umbrella.

With the unexpected death from pneumonia of Samuel W. Gross in 1889, Dr. W.W. Keen, who succeeded to the Professorship, took on the young and promising DaCosta as an office assistant. The latter had very few patients and was as yet unmarried. He would quip that the name on his office was only "a coffin plate on a dead business." Later he added: "In those days patients regarded the "9 to 1" on my sign as a notice of the odds against them."

DaCosta's spare time away from Jefferson and Dr. Keen's office was spent collaborating on Keating's Medical Dictionary and writing his own Modern Surgery, General and Operative, first published in 1894 when he was 31 years of age. By the following year, his many articles and prestigious textbook led to his appointment as Clinical Professor of Surgery.

In 1895 Jefferson Medical College was changing from a proprietary school to a nonprofit sharing corporation. Under this situation the full Professors would have to accept fixed salaries for their teaching, and the surplus funds from student's tuition would belong to the School. DaCosta enlisted the Alumni Association at its annual banquet to support this change in a speech entitled The Professional Jackpot. This was the beginning of his leadership in the affairs of the Alumni Association (President in 1908), which later would honor him in special ways.

Other medical schools began to offer DaCosta alluring teaching positions. In 1900 the Co-Professors Keen and Brinton agreed to his promotion as a third full Professor in order to hold him at Jefferson. DaCosta, 37 years old, had "arrived."

DaCosta's surgical training was acquired in the system of those times: by serving in the surgical outpatient department, by giving anesthesia, and
by acting as office assistant to an established surgeon. His pupil-master relationship had been with the nationally renowned W.W. Keen. In 1907, at Keen’s retirement, DaCosta was appointed the successor. With the endowment of the Samuel D. Gross Professorship in 1910 by Maria Gross Horwitz, Gross’s daughter, DaCosta was the unopposed and unanimous designate.

The Wednesday afternoon surgical clinic in the amphitheater before the combined junior and senior classes was in its heyday during DaCosta’s time and was never surpassed. Edward J. Klopp (Jefferson, 1906), Professor of Surgery from 1931 to 1936, described it as follows:

“He [DaCosta] loved to teach and his hearers were impressed with his foundation in anatomy, his knowledge of surgery, his familiarity with history, his frequent quotations from literature, and his inimitable manner in presenting a subject. Jack DaCosta always was at his best before a large audience. Only those who saw him before he became incapacitated in 1922 will remember his characteristic attitude while conducting a diagnostic clinic for the students; with amphitheater filled to capacity, the clinic floor and doorway crowded with visiting physicians, confreres, assistants and former students, first standing to one side of the ‘pit’ with arm resting on the rail and one leg crossed in front of the other, then walking across the floor with body vibrating and knees bending, he spoke, giving clear systematic, unmistakable facts which left an indelible impression. He was the idol of the medical students. Their admiration was spontaneous. He appealed to the imagination, aroused enthusiasm, and stimulated effort.”

Dr. Benjamin F. Haskell (Jefferson, 1923), later a Clinical Professor of Surgery (Proctology) at Jefferson, remembered as a student the visit to the DaCosta clinic of one of the Mayo brothers in the early 1920s. On being recognized and asked to stand up to make a few remarks, Mayo replied: “In the presence of the greatest teacher of surgery in the United States today, I have nothing to say,” and he sat down.

DaCosta served for many years as Surgeon to the Philadelphia General Hospital and later as Consultant to St. Joseph’s and Misericordia Hospitals. His thorough knowledge of anatomy and sound surgical judgment were always evident in his operations. His surgical techniques would be considered elementary by today’s standards. Anesthesia was administered, usually as open-drop ether, by nurses, interns, or office assistants, with the surgeon in charge as “captain of the ship.” Blood transfusions, fluid and electrolyte replacement, and antibiotics were a generation away. Peritonitis was the dreaded complication of abdominal surgery. Primary anastomosis after colon resection was prohibitive for this reason. Gastroenterostomy was his most complex stomach operation, and he never performed a gastrectomy. Mastectomy, herniorrhaphy, colostomy, hysterectomy, oophorectomy, cholecystectomy, appendectomy, and amputations were the common major operations. It must be recalled that DaCosta was blind in his right eye. His handling of tissues was somewhat rough, and his well-chosen assistants often rescued the situation if bleeding became excessive. Despite this criticism, DaCosta’s reputation as a surgeon was always respected by his peers (Figure 32-40). When arthritis struck him, in the early 1920s, DaCosta’s “hands” became those of his assistant, Dr. Thomas A. Shallow.

DaCosta’s fame as an author rested upon his Modern Surgery, which went through ten editions between 1894 and 1931. It was a standard textbook in medical schools throughout the country. He edited an English version of Zuckerkandl’s Operative Surgery (1898), Gray’s Anatomy (1905), as well as articles in J.C. Wilson’s Applied Therapeutics, Hobart A. Hare’s American System of Therapeutics, Keating’s Encyclopedia of Children’s Diseases, and Wood’s Reference Hand Book. His medical interests were diversified, encompassing such subjects as osteitis deformans, tumors of the broad ligament, polypharmacy, medical ethics, and medical activities of the Navy. His youthful experiences in neuropsychiatry resulted in articles on surgical treatment of epilepsy, the diagnosis of postoperative insanity, concussion of the brain, suicide, and even the surgery of idiocy and insanity.

In 1903 DaCosta wrote an article on The Effects of the Inhalation of Smoke and of Irritating and Poisonous Gases of Firemen. For about 35 years he served without salary as surgeon to the Fireman’s Pension Fund. Until his death he had an extension of the Philadelphia fire alarm system installed in
his home. It signaled all the first alarms and many of the local calls that emanated from the central station. Wearing his badge, and often his uniform, he would attend all the fires he could, riding on the apparatus drawn by horses. Extinction of fires fascinated him, but his purpose was to render immediate care to injured firemen, care that equaled that given to his private patients. In May, 1931, at one of the Wednesday clinics, DaCosta in his wheelchair was made an Honorary Deputy Chief of the Philadelphia Fire Department, a distinction not previously held by anyone (Figure 32-41). He was presented a diamond-studded badge of office that remains greatly admired in Jefferson’s archival treasure trove (Figure 32-42).

Another interest that DaCosta carried into later life was in railroad locomotives. In 1903 he sponsored a free course of illustrated lectures at Jefferson to train employees of the railroads entering Philadelphia in the care of those wounded in wrecks. DaCosta used the railroads in a unique manner to grade the final examination in surgery. He would purchase for $20 a railroad mileage book of 1,000 miles at 2¢ a mile. He would then take a long train ride until all the papers were marked. He also used the train to host fishing parties for his surgical staff and friends at Spidel’s Hotel in Atlantic City. In his final days he often wished for just one more train ride to Atlantic City.

In DaCosta’s earlier years, his interest in neuropsychiatry, coupled with the necessity to augment his income, led to his appointment as Surgeon to the Eastern Penitentiary. This contact with inmates convinced him that some could be rehabilitated by financial and employment aid. He took the risk of befriending “Split-the-Wind Dunlop,” a notorious burglar and safecracker, who had served his prison term, by providing lodging in his own home and obtaining a position for him.
as a "Diener" (laboratory helper) in the Anatomy Department at Jefferson. Dunlop became proficient in preparing specimens and was well liked. DaCosta arranged for a private room for Dunlop in 1910, when the latter became seriously ill. He also paid for his burial, to which bunches of flowers were sent by Jefferson friends.

An example of DaCosta's sympathetic nature, belied by his austere demeanor, was his affection for his handyman, Willie Barrett. This black man was occasionally "fired" at the end of the day for the poor performance of a chore. A smile would appear on Willie's face for he knew that on reporting to work the following morning he would receive an extra dollar. When Willie died of coronary thrombosis in the consoling arms of DaCosta, a request for postmortem examination was refused by DaCosta because "Willie would not like it."

Although DaCosta was not a "joiner" in the ordinary sense of the word, he held membership in many societies. These included the American Surgical Association, Society of Clinical Surgery, International Surgical Society, American College of Surgeons (Vice President, 1928–1929), American Philosophical Society, College of Physicians of Philadelphia, Philadelphia Academy of Surgery, Philadelphia Neurological Society, Pathological Society of Philadelphia, Philadelphia County Medical Society, American Medical Association, the U.S. Naval Reserve, and Society of Surgery of Bucharest, Rumania, in which he was an Honorary Fellow.

DaCosta would have qualified as a college professor of English literature or history. His Selections from the Papers and Speeches of John Chalmers DaCosta, M.D., LL.D. (1931), dedicated to Dr. Harvey Cushing, are replete with scholarly articles and speeches in these fields, and they are put down in pungent, precise style. Their range and scholarship reveal an encyclopedic mind in historical sketches, biography, political denunciations, critiques of medical trends, and reflections on social dilemmas. He had read all the works of Dickens and could quote some sections from memory. His Dickens's Doctors disclosed the low esteem in which the great novelist held the medical profession. In this article DaCosta concluded: "What a pity that he never delineated such a lion-heart as Abernathy's, such a lordly soul as Hunter's, such a noble career as Paget's, or such a helpful life as Gross's. The world will always be poorer because he did not."

![Fig. 32-41. Officials of the Philadelphia Fire Department and City Council present Professor DaCosta with an Honorary Deputy Fire Chief badge at one of his clinics (1931).](image)

![Fig. 32-42. Professor DaCosta’s diamond-studded Deputy Fire Chief badge.](image)
One of DaCosta's more tangible acts relating to the appreciation of his alma mater's heritage was his resurrection of the "old operating table." This was the table made in the early 1850s and depicted by Eakins in the Gross Clinic painting of 1875. It had served in the upper lecture room of the old Tenth Street Medical College and then in the "pit" of the 1877 Hospital. It had been used for anatomy and obstetrical lectures and for surgical operative clinics. Around 1916 DaCosta wondered what had happened to this venerable table. It was found in the basement holding oil cans and waste material. With his suggestion, the Class of 1916 had it repaired and attached a commemorative plate at one end. The Class of 1917 added a plaque at the other end. It was displayed in the library of the 1025 Walnut Street College for many years and again went into storage. In 1982 it was once more restored and placed in a specially constructed alcove of the Samuel D. Gross Conference Room of the Surgery Department (Figure 32-4-3).

DaCosta's article on *Facts Concerning the Old Operating Table* is a classic. 20

At the outbreak of World War I, DaCosta served as a Junior Lieutenant in the Navy and was promoted to the rank of Commander (Figure 32-4-4). In 1919 he sailed on the George Washington on a special mission to care for the ailing President Woodrow Wilson while negotiations of the peace treaty and the League of Nations were conducted.

In 1922, at the age of 59, DaCosta became afflicted with progressive rheumatoid arthritis. With tenacity and courage he continued to teach,
give speeches, write articles, and update his *Modern Surgery*. Two poles placed beneath his wheelchair permitted transport from his home to a waiting automobile. Members of his Staff (Drs. Thomas Shallow, Harvey Righter, and Henry Seelaus) formed a team to ensure his safe passage to and from his Wednesday clinic, which still commanded standing room only.

During this period of deteriorating physical condition, DaCosta’s mind remained sharp and active, and he received many well-deserved honors. In 1923 the students’ Yearbook was dedicated to him for the second time (the first was in 1906). The Class of 1924 had his portrait painted, depicting him teaching from his wheelchair in the amphitheater. This started the yearly tradition of each class thereafter presenting the portrait of a favorite Professor to the College. The Class of 1902 also presented DaCosta’s portrait in 1929, and the Alumni Association commissioned two others. All four portraits are prominently displayed at Jefferson. The Class of 1926 presented him with a gold-headed cane inscribed with his name as the first Samuel D. Gross Professor (Figure 32-45). At its fiftieth reunion in 1976 the same Class endowed a fund in perpetuity to add the name of each succeeding Gross Professor on a separate gold plate. He received the Strittmater Award of the Philadelphia County Medical Society in 1926. The Jefferson Alumni Association, in May, 1927, commissioned a tablet that recorded the gift of $100,000 as a memorial in his honor to the establishment of a Department of Experimental Medicine in the new 1025 Walnut Street Medical College of 1928 (Figure 32-46).

Fig. 32-44. DaCosta as a Commissioned Officer in the Medical Corps in the U.S. Navy in World War I.

Fig. 32-45. Gold-headed cane of the Samuel D. Gross Professorship.
On April 30, 1930, The DaCosta Surgical Night was held under the auspices of the Philadelphia County Medical Society. The purpose was the establishment of the DaCosta Foundation for postgraduate education of members of the Society. Scientific papers were read by Drs. John B. Deaver, Rudolph Matas, and Walter E. Dandy. DaCosta himself gave the second annual oration the following year in a farewell address to the Society. The Philadelphia Record reported that “an audience of about 1,000 physicians and their wives alternately shouted with glee and wept as the aged and broken surgeon and teacher denounced and applauded the things he had found good and bad in his profession and in mankind generally.”

In his library, where DaCosta had spent the final years of his life on a bed built against the wall, the end came on May 16, 1933. Mrs. DaCosta had provided the last measure of devotion in which she had unselfishly understood and supported him in every endeavor. They had no children. His body was buried in Woodlands Cemetery, Lot 265, Section K, but the man remains as one of Jefferson’s immortals (Figure 32-47).

DaCosta wrote poetry that perhaps was more scholarly than inspired. A collection of 27 poems dedicated to his wife was published posthumously in 1942. An appropriate quotation is the following:

“Give up the play of idle priestly canting,
Go out among mankind with loaf and cup,
Without a thought of praying or of chanting,
Give food and drink and raise the fallen up.”

Fig. 32-46. Memorial tablet to Professor John Chalmers DaCosta by the Alumni Association.

Fig. 32-47. Obelisk marking the gravesite of Professor John Chalmers DaCosta.
John Heysham Gibbon, M.D., Sc.D. (1871–1956); Sixth Chairmanship (Co-Chairman, 1907–1931)

John H. Gibbon (Figure 32-48) succeeded Professor John H. Brinton in 1907 as Professor of Practice of Surgery and Clinical Surgery. Brinton had held his post during the Co-Chairmanship of Samuel W. Gross and William W. Keen in the divided Chair following the retirement of Samuel D. Gross in 1882. Gibbon thus became Co-Chairman with John Chalmers DaCosta, with whom he worked harmoniously in tandem throughout their mutual tenures.

Dr. Gibbon was born in Charlotte, North Carolina, on March 16, 1871, with a distinctly medical lineage.22 His great-grandfather, Dr. John H. Gibbons, was a graduate of the University of Edinburgh in 1786, who lectured privately in Philadelphia on the Theory and Practice of Medicine and became a Charter Member of the College of Physicians of Philadelphia. He died at the early age of 36, leaving one son, also John H., who dropped the “s” from the name. The latter graduated in medicine from the University of Pennsylvania, but instead of practicing devoted himself to scientific interests, especially mineralogy. He moved in 1838 to Charlotte, where he became the Assayer in the United States Mint. His second son, Robert, was the father of Co-Chairman John Gibbon, and graduated from Jefferson in 1848. Dr. Robert Gibbon had a large surgical practice in Charlotte and was a Brigadier-Surgeon in the Confederate Army during the Civil War. Co-Chairman Gibbon was thus a fourth-generation physician in a direct line. Additionally, his brother, Dr. Robert L. Gibbon, of Charlotte, graduated from Jefferson in 1888 and became a Professor of Surgery in the North Carolina Medical College in 1918. The lineage would extend into a fifth generation in the person of John H. Gibbon, Jr., who would create a new era in cardiac surgery through his heart-lung machine and also, as Samuel D. Gross Professor, would unite the divided Chair of Surgery in 1956.

Dr. Gibbon received his preliminary education at the Macon School in Charlotte, and was graduated from Jefferson in 1891. He served for one year as Resident Physician in the Polyclinic Hospital and subsequently in the Pennsylvania Hospital (1893–1895). Upon beginning practice in Philadelphia he also became an Assistant Demonstrator of Anatomy at Jefferson, with promotion to Demonstrator of Osteology. In 1896 he was appointed a Surgeon in the Outpatient Department of Pennsylvania Hospital. He was elected Chief of the Surgical Clinic at Jefferson Hospital in 1899, a position he held for three years before resigning to become Professor of Surgery at the Philadelphia Polyclinic in 1901. In 1903 Dr. Gibbon was elected Surgeon to the Pennsylvania Hospital to succeed the late Thomas G. Morton. The same year he became an Associate Professor of Surgery at Jefferson until elected to the full Professorship in 1907 as Co-Chairman with Dr. John Chalmers DaCosta.
Dr. Gibbon had a distinguished military record. During the Spanish-American War he served as First Lieutenant and Assistant Surgeon in the Third U.S. Volunteer Engineers. In 1917 he was commissioned as Major in the Medical Reserve Corps of the U.S. Army and attached to Pennsylvania Base Hospital No. 10, which subsequently took over a British General Hospital at LeTreport, France. This unit sailed for France on May 18, 1917, with Dr. Gibbon as Chief of Surgical Services. In October, 1917, he served on detached duty as Surgeon in charge of a Casualty Clearing Station Team in a hospital situated in a small corner of Belgium still held by the Allies. In December of that year he was assigned as Consultant in Surgery to the American Expeditionary Forces. In August, 1918, he became Surgical Consultant to the American Hospitals in England. When his military service was terminated in January, 1919, he held the rank of Colonel (Figure 32-49).

For some years Dr. Gibbon was Surgical Registrar at the Philadelphia General Hospital and had an appointment on the Surgical Dispensary Staff of the Children's Hospital. He also was elected Surgeon to the Bryn Mawr Hospital (1900).

Dr. Gibbon wrote more than 60 articles in a diverse range of surgical subjects and several others of historical or philosophical nature. In 1902 he reported the fourth case of penetrating wound of the heart operated upon successfully in the United States. The following year he reported a painless amputation of the leg following the intraneural injection of cocaine. He also became interested in aneurysms, on which subject he wrote several papers. For a number of years he edited the Saunders Year Book of Surgery in conjunction with his Co-Chairman, Dr. John Chalmers DaCosta. He wrote the section on “Operative Techniques” in Keen's Surgery. His last literary contribution was in 1926 at his Presidential Address of the American Surgical Association on The Psychology of the Sick Man.

Through his excellent surgical technique, Dr. Gibbon stressed the importance of gentleness in the handling of tissues. He encouraged those he trained to use local anesthesia in order to acquire this quality. In addition to his clinics at Jefferson, Dr. Gibbon gave a weekly clinic at the Pennsylvania Hospital. Several times a year he presented fractures, in which his interest had dated from his earlier years in teaching osteology. These clinics in the Pennsylvania Hospital were always filled and attracted students from all the medical schools in Philadelphia. His lectures were clear, informative, and interesting.

Dr. Gibbon served as President of the American Surgical Association, the College of Physicians of Philadelphia, and the Philadelphia Academy of Surgery. He was an original member of the Society of Clinical Surgery. In 1948 Jefferson awarded the Honorary Degree of Doctor of Science to Dr. Gibbon because of his significant contributions to the medical profession, to his country, and to humanity.

A strong believer that older men should not wait too long before making way for the younger, Dr. Gibbon resigned his Chairmanship at the age of 60. He timed this to coincide with the
resignation in 1931 of his Co-Chairman, Dr. DaCosta, to conclude the Sixth Chairmanship and make way for two new appointees. After retirement, Dr. Gibbon pursued his hobby of carpentry, did much reading, and retained his keen interest in national and world affairs.

Dr. Gibbon had suffered a coronary artery occlusion in 1935 while in Boston for a meeting of the American Surgical Association. He suffered a second one a few years later and a third in December of 1955. On March 13, 1956, he developed sudden pulmonary edema and died within a few hours, at the age of 85. This was the year in which his son, John H. Gibbon, Jr., became appointed the Samuel D. Gross Professor of Surgery and unified the Chair that had been divided for the previous 74 years.

Francis Torrens Stewart, M.D. (1874-1920); Professor of Clinical Surgery (1910-1920)

It is conceded by all Alumni who remember Dr. Francis T. Stewart (Figure 32-50) that he would have been the successor to John Chalmers DaCosta as the second Samuel D. Gross Professor of Surgery. DaCosta himself said that had Stewart lived he would have been the world's greatest surgeon before he was 50. The unfulfilled potential Chairmanship of this brilliant Jefferson surgeon warrants the special place accorded him in this chronicle.

Dr. Stewart, a native Philadelphian, was born in 1874, received his elementary education in the public schools, and graduated from Central High. Following his graduation from Jefferson (1896), he interned at the Polyclinic Hospital (Eighteenth and Lombard Streets), followed by a year as Chief Resident at the Pennsylvania Hospital. During that term he repaired a stab wound of the heart and later added four more successful cases.23

As a surgeon, Stewart was phenomenal for his era. His speed in operating (which merited the term "wizard hands") was matched only by his accuracy and sound judgment. It is said that while the intern was closing the skin following a herniorrhaphy, Stewart would totally complete the entire procedure on the contralateral side. His operation for perforation of a typhoid ulcer of the intestine was a matter of minutes. His transverse incision for mastectomy became known as the "Stewart incision." Always in the forefront of advances in surgery, he advocated the more widespread use of lumbar puncture. He also was influential in changing the color of the garb and sheets in the operating room from the traditional white to another color to avoid glare. His personal choice was jet black.

Stewart wrote articles on a diversity of subjects and had the temerity to publish his own Manual of Surgery (five editions between 1907 and 1921), despite DaCosta's widely used Modern Surgery, which was in its fifth edition, with five more to follow until 1931. This competition with his Chief apparently resulted only in mutual admiration. Among his later papers were those dealing with surgery of the heart and blood vessels; he wrote the section on that subject in the American Practice of Surgery (1909).

FIG. 32-50. Francis Torrens Stewart, M.D. (1874-1920); Professor of Clinical Surgery (1910-1920).
In 1910 Dr. Stewart succeeded Dr. William Joseph Hearn as Professor of Clinical Surgery. His lectures and clinical demonstrations were greatly admired by the students. Although busy at Jefferson, he was also active on the staffs of the Pennsylvania and Germantown Hospitals. He participated in organized medicine and the important professional societies of his field. On the international level he was a member of the Société Internationale de Chirurgie. In 1917 he received a letter from William Mayo waiving all formalities of application to unanimous election to the newly formed American College of Surgeons. The same honor at the time was accorded to Drs. DaCosta and Gibbon, Sr.

In 1920 Stewart was found unconscious in his bathtub, and he died of uremia. His death at age 46 was truly a tragic loss to Jefferson. Mathilda Kellar Stewart presented her husband's portrait to the College. She also endowed the Francis Torrens Stewart Research Fellowship to be awarded to graduates of Jefferson of not less than one year or more than ten years for clinical research under the direction of the Professors of that subject.


Professor John Chalmers DaCosta first tendered his resignation in 1929 because of failing health, but it was refused by the Board of Trustees. The Board finally accepted it in 1931, but continued his Samuel D. Gross Professorship until his death in 1933 at an annual salary of $2,400. There was a stipulation that he would oversee the running of the Department of Surgery by two newly appointed Professors, Thomas A. Shallow and Edward J. Klopp.

Shallow was the protégé of DaCosta, and Klopp was the choice of Gibbon. They were of equal and coordinate rank, with Shallow taking responsibility for the seniors and Klopp for the juniors. After the death of DaCosta in 1933, it could have been proper to designate a successor to the Samuel D. Gross Professorship. It seemed at the time, however, that Shallow and Klopp were of equal ability, yet neither had reached a distinction in the profession appropriate to the prestige of the title. It would take six more years and the death of Klopp in 1936 for Shallow to be designated the second Gross Professor in 1939.

Thomas A. Shallow (Figure 32-48) was born on November 26, 1886, in Philadelphia, the city to be the center of activities for all of his 69 years. Of Irish and Scotch-English descent, he was sixth in the family of seven children of Edward F. Shallow, a millwright, and Elizabeth MacQuilian Shallow, both of Pennsylvania. His preliminary education was obtained in the public schools, in which he was outstanding as a student and athlete. At the age of 13 his interest in medicine was already such that he would cut classes at Central High School.

to attend some of the postmortem examinations and teaching clinics at the old Medico-Chi Hospital. In 1907 he matriculated at Jefferson in the 1898 College Building located on the northwest corner of Tenth and Walnut Streets (Figure 32-52). In his sophomore year he was President of the Spitzka Anatomic League and was class historian in his senior year. He also was a prominent member of Jefferson's last track team and last football team. At graduation in 1911 he received the Alumni Prize for the highest general average of the four years as well as several other awards.

After internship in Jefferson Hospital (1911–1913) and during service as Chief Resident Physician (1914), Shallow worked with Drs. Hobart A. Hare in the Department of Experimental Pharmacology and Albert Brubaker as a quiz master in Physiology. Several senior staff members made overtures to him to work as their assistant, but his acceptance was to Professor John Chalmers DaCosta (1914–1925, with exception for military duty).

As a member of Jefferson's faculty, Shallow's career began as Clinical Assistant, with promotion through the ranks to Professor of Surgery in 1931. He reached the zenith of his career in 1939 when he was appointed Samuel D. Gross Professor and Chairman of the Department.

During his earlier years, Shallow served on the staffs of other local hospitals, among which were Philadelphia General, St. Joseph's, Montgomery County, Delaware County, Sacred Heart, and Grand View in Sellersville, Pennsylvania. Later, he

Fig. 32-52. The 1898 Jefferson Medical College Building at the northwest corner of Tenth and Walnut Streets.
restricted his operative work to Jefferson Hospital but remained influential in the affairs of the other institutions.

During World War I (Figure 32-53), Dr. Shallow served as Captain in the Medical Corps (1917-1919). Initially, he was assigned to the Rockefeller Institute, New York, and later acted as Surgeon to Evacuation Hospital Center No. 25 in France. A “trick knee” acquired earlier in his athletic career was quiescent throughout his Army tour of duty but locked as he was leaving the transport ship at the end of the war. Miss Myrtle Luman, who had been DaCosta’s operating room nurse, was there to greet him, and they married in 1920.

Dr. Shallow was constitutionally rugged, dynamic, and indefatigable. On the Executive Faculty of the College, his alacrity of thought, coupled with profound knowledge of College and Hospital affairs, aided in his rapid solution of complex administrative problems. His advice was sought and followed by many. In later years he became very influential in recommending deserving young men for staff appointments at Jefferson and elsewhere. He was among the last in the era of the “Geheimrat” and dictatorship in Surgery at Jefferson and other institutions. Known as “the boss,” he welcomed being addressed as such.

Dr. Shallow’s rough edge made him controversial in academic circles, but in the operating room he was a superb technician with the soundest of judgment (Figure 32-54). His diagnostic acumen was the product of his long association with Dr. DaCosta. His Wednesday afternoon clinics were models of preparation for case presentations in which he would call four students into the “pit” and quiz them as well as

FIG. 32-53. Thomas A. Shallow, M.D., in World War I.

FIG. 32-54. Professor Thomas A. Shallow scrubbing before surgery.
members of his staff, (Figure 32-55). He lacked the literary polish of his old master, DaCosta, but had a flair for sorting out the salient features of a patient’s problem and having expert consultants on hand to elucidate the important details.

Immediately after the clinic he would perform major surgery before the assembled class, most of whom would remain. It was the last of the type of teaching immortalized in the Gross Clinic. Shallow stated that his favorite operation was the one he happened to be doing. It was conceded, however, that his supreme excellence was in surgery of the gastrointestinal tract.

Although not a prolific writer, Shallow contributed more than 80 scientific papers in clinical rather than in laboratory research. He pioneered in the one-stage operation of pharyngeal diverticulectomy, which required the teamwork of surgeon and esophagoscopist. His series of over 400 cases in collaboration with Dr. Louis Clerf at Jefferson was the largest in the country and without a single instance of mediastinitis. He also devised his own operation for gastrostomy and invented an intestinal crushing clamp for extraperitoneal closure of colostomy. His private practice was huge, and his surgical fees were modest—the patients, whether poor or affluent, adored him.

Dr. Shallow spent little time away from Jefferson, but was active in the important societies. He was a President of the Philadelphia Academy of Surgery (founded by Samuel D. Gross in 1879), Fellow of the American College of Surgeons and International College of Surgeons, founder member of the American Board of Surgery, Fellow of the College of Physicians of Philadelphia, member of the County, State, and American Medical Association, the American Association of the History of Medicine, and the American Medical Editors’ and Authors’ Association. He was active in the Nu Sigma Nu medical fraternity of Jefferson as well as Faculty Adviser for the Alpha Omega Alpha honorary fraternity. He served as President of the Alumni Association in 1938, and his portrait was presented to the College by the Class of 1950 (Figure 32-56). An LL.D. degree from Jefferson Medical College was awarded him in 1953.

Shallow’s extramural activities were many and varied. He belonged to the Union League of Philadelphia, Philadelphia Racquet Club, Art Club of Philadelphia, Franklin Institute, and Pennsylvania Scotch-Irish Society. He devoted time to civic affairs and was a member of the Board of City Trusts of Philadelphia, the Board of Directors of Wills Eye Hospital, the Board of Directors of the Municipal Court, Director on the Board of the Old Eagle School (a historical society), and Chairman of the Philadelphia Inquirer Hero Award Committee.
During his last illness from carcinoma of the pharynx, Shallow chose to work despite great discomfort and failing strength. When admitted to Jefferson Hospital for his final days of life, he had four operations on his schedule. On his deathbed he refused to be coddled and maintained his characteristic wit and humor. The end came on December 26, 1955. He was buried in West Laurel Hill Cemetery (Figure 32-57).

Dr. Shallow was the last of the Surgical Chairmen to be nonsalaried. His academic and administrative duties were conducted between operations from a Windsor chair in the surgeon’s dressing room on the fourteenth floor of the Thompson Annex. He knew his own faults and advised young men to emulate only his good characteristics. He was truly a man’s man, and in his own way was totally devoted to the welfare of Jefferson.

Edward J. Klopp, M.D. (1880–1936); Seventh Chairmanship (Co-Chairman, 1931–1936)

Like the first Co-Chairman, Samuel W. Gross, the life of Edward Klopp was prematurely cut short by an infectious disease. He developed streptococcic endocarditis after extraction of an infected tooth and died at the age of 56. What he might have achieved after five short years of Professorship can only be surmised.

Edward Klopp (Figure 32-58) was born in Sheridan, Pennsylvania, on June 10, 1880. After graduation from the Philadelphia College of Pharmacy and Science (1901) and from Jefferson (1906), he served a two-year internship at Jefferson Hospital, followed by appointment as Chief Resident Physician. The latter supervisory position was an honor accorded to the best of the previous interns.

Klopp began his surgical career in the service of...
Dr. Francis T. Stewart, Clinical Professor of Surgery at Jefferson, whose brilliant career was also cut short by premature death at age 46 from renal failure in 1920. Through association with Drs. Steward and Gibbon, he acquired staff positions at Jefferson and the Pennsylvania Hospitals, supplemented later as Attending Surgeon to the Memorial and Delaware County Hospitals and Consultant to the Girard College. His surgical technique was characterized by delicacy and dexterity, associated with the calm manner in which he overcame difficulties and complications. His operative skill, coupled with well-developed diagnostic acumen, led to his developing a large surgical practice. He obtained excellent results in an unusually large number of colonic and rectal resections for cancer.

During World War I, Klopp was a member of the Medical Advisory Board of Philadelphia. Although not a large contributor to the surgical literature, he wrote a number of papers on intestinal resection, diseases of the breast, surgery of the thyroid, and blood transfusion. In the various important societies in which he held membership, Klopp kept a low profile but served on many of their committees. He was President of the Alumni Association in 1930.

According to Dr. John H. Gibbon, Sr.:
"Although not a brilliant lecturer, he was the best kind of a teacher. He loved his students and was always kind and helpful to them, and in return they exhibited for him a respectful appreciation of his sterling qualities." In 1931 he gave to the junior class the first Grace Revere Osler Lectures that Lady Osler had endowed in honor of her first husband, Samuel W. Gross, for his special interest in tumors. This Lectureship evolved into the Grace Revere Osler Professorship, to which Dr. George P. Muller was the first appointee in 1939.

Dr. Klopp died on September 19, 1936, after an illness of several months in which cerebral emboli complicated his streptococcal endocarditis. The sulfa drugs that became available soon thereafter might have saved or prolonged his life. The Class of 1936 presented his portrait to the College.

George P. Muller, M.D., Sc.D. (1877–1947); Seventh Chairmanship (Co-Chairman, 1936–1946), First Grace Revere Osler Professor (1939–1946)

George P. Muller (Figure 32-59) became Professor of Surgery on November 17, 1936, as the successor to Dr. Edward J. Klopp. He was born on June 29, 1877, in Philadelphia, the son of Philip R. and Francis Hughes Muller. His preliminary education was in the public schools of Philadelphia, with graduation from Central High in 1895. He was a good student, prominent in academic and extracurricular activities.

George P. Muller, M.D., Sc.D. (1877–1947); Seventh Chairmanship (Co-Chairman, 1936–1946), First Grace Revere Osler Professor (1939–1946)

Following his graduation in Medicine from the University of Pennsylvania (1899), he interned in the Old German Hospital (Lankenau). While there he became captivated by the diagnostic ability, surgical skill, and dynamic personality of Dr. John B. Deaver (1855–1931). Muller's academic inclinations led to his appointment in a junior teaching position in the Department of Anatomy of the University of Pennsylvania. His depth of knowledge in anatomy coupled with his clinical experience led to his selection to revise Davis's *Applied Anatomy* (1934). This book became a student text in many medical schools throughout the country.

Dr. Muller took his initial surgical training as a junior assistant to Professor Charles H. Frazier, Chairman of Surgery at the University of Pennsylvania. In his rise through the ranks of teaching surgery, he obtained the Chair of Surgery at the Graduate School of Medicine of the University of Pennsylvania from 1918 to 1933, and for several years he was Chairman of the Postgraduate Clinics of Philadelphia. In 1933 he became Professor of Clinical Surgery at the University of Pennsylvania. Following the death of Dr. Deaver in 1931, Dr. Muller returned to Lankenau Hospital as a Senior Surgeon. In addition, he was surgeon to the Misericordia Hospital, Children's Hospital, and the Mary J. Drexel Home, as well as a Consulting Surgeon to several suburban institutions.

On his arrival at Jefferson, Dr. Muller, at 59 years of age, was three years older than his recently deceased predecessor, Dr. Klopp. He was at the height of his prestige, having served as President of the American College of Surgeons, the American Association for Thoracic Surgery, the College of Physicians of Philadelphia, the Philadelphia Academy of Surgery, and the Philadelphia County Medical Society. He ascribed his multiple Presidencies to attending all the business meetings, sitting in the third row, and entering into all the discussions and deliberations.

Shortly after assuming his Chair at Jefferson, Dr. Muller attended a meeting in Chicago to plan with other surgeons the organization of the American Board of Surgery. Its aims sounded very idealistic at that time (1937). He described how a successful candidate would receive a certificate indicating he had passed a qualifying examination. This would not guarantee a hospital or academic appointment.

Muller's background, temperament, and scope were different from those of Klopp. His dynamic qualities were evidenced to their fullest degree in the operating room and in the amphitheater before the entire class. There he was innovative in introducing the use of intravenous fluids to supplant the former use of hypodermoclysis in the thighs and to use the newly available sulfonamide drugs. He was a pioneer in thoracic surgery and in the late 1930s performed many pulmonary resections. Needless to say, the results were not comparable to those one-half century later, and tension and drama could usually be found in his operating theater. Anesthesia, control of hemorrhage, and blood replacement were problems that more commonly led to loss of life on the operating table. His temper was at times immoderate and he was not loathe to throw down an imperfect instrument or demonstrate in physical ways other signs of anger. Some thought he was a prima donna in the operating room, but this was only because of his constant demands on others for perfection. More detail of Dr. Muller's role in the development of the Division of Cardiothoracic Surgery at Jefferson follows in a later section of this history.

Dr. Muller was a prolific writer, who not only edited the Davis textbook of *Applied Anatomy* but contributed many articles, wrote sections in a number of textbooks on surgery, and was a member of the Editorial Board of *Annals of Surgery*. Villanova granted him an Honorary M.S. degree and Muhlenberg College awarded him an Honorary Doctor of Science degree. The Jefferson Class of 1946 commissioned his portrait for the College.

The lectures of Dr. Muller were meticulously prepared and highly informative. He continued the Grace Revere Osler Lectures to the junior class that Dr. Klopp had been giving since 1931. In 1939, when Dr. Shallow was named the second Samuel D. Gross Professor and Head of the Department, Dr. Muller was named the first Grace Revere Osler Professor. The evolution of this second Professorship within the Department of Surgery is of unusual interest.27
The Grace Revere Osler Professorship of Surgery; the Jefferson Legacy of Lady Osler (1854–1928)

The first husband of Lady Osler (the wife of Sir William Osler) was Samuel W. Gross, whom she married in 1876. The elder Gross (Samuel D.) was her father-in-law, in whose home at Eleventh and Walnut Streets she lived until the great surgeon’s death in 1884. She completed the remainder of her 13 years of happy married life at 1112 Walnut Street (present site of the Forrest Theater) until the death of Samuel W. Gross in 1889. The “Widow Gross” then married Dr. William Osler, a close friend of the Gross family, in 1892. Osler, a world-renowned Professor of Medicine at Oxford, died in 1919. Lady Osler (Figure 32-60) never forgot her “first love,” Samuel W. Gross. In her last will, signed just four days before her death from a massive stroke on August 31, 1928, she made 42 bequests to eight institutions, 18 relatives, six friends, and ten employees. Jefferson, Hopkins, Oxford, and McGill Medical College were all included in the generosity of this truly gracious lady, whose only son, Revere, had been killed in World War I. The first bequest in her will was to Jefferson, as follows: “To the Jefferson Medical College, Philadelphia, for the establishment of a Lectureship in Surgery in Memory of Doctor Samuel W. Gross, Five Thousand Pounds.”

On August 26, 1929, a check in the amount of $24,250 was received by the Chairman of the Finance Committee of Jefferson Medical College. The Board of Trustees adopted that the “course of lectures given by the Professor of Surgery to the third year class shall be designated ‘The Samuel W. Gross Lecture on Tumors.’ At the beginning of the course of lectures the professor giving them shall make a brief statement of the advances made in the knowledge of tumors by Dr. Samuel W. Gross. It was further recommended that the income from the bequest of Lady Osler be used in part payment of the salary of the Professor of Surgery giving the course of lectures.”

Samuel W. Gross’s special interest in tumors was manifested by the fact that he was among the first surgeons to personally section and examine by microscope all the tumors he removed. In recognition of this, he was designated the pathological histologist for the Philadelphia Academy of Surgery, which he helped his father found in 1879. At the first scientific meeting of this Academy he gave a paper on the treatment of sarcomas.

The Lectureship in Surgery in Memory of Samuel W. Gross first appeared in the Jefferson Medical College catalogue for 1930–1931 and was delivered to the third-year class by Professor Klopp. The Lectureship took on the name of Lady Osler, and alumni of that era recall Dr. Klopp as the first “Grace Revere Osler Lecturer.” As already noted, Dr. Muller continued the Lectureship in his capacity as successor to Dr. Klopp. When Dr. Muller was designated the first Grace Revere Osler Professor in 1939, the College catalogue for 1940–41 next listed “The Grace Revere Osler Professorship, a memorial lectureship in surgery established in 1929.” The Samuel D. Gross Professorship and Grace Revere Osler Professorship at that time carried an annual stipend of $2,400.

Fig. 32-60. Grace Revere Gross Osler became Lady Osler at the coronation of King George V on June 20, 1911.
Dr. Muller served until 1946, when he resigned because of ill health. He died on February 18, 1947. With his death the Grace Revere Osler Professorship of Surgery remained vacant until reactivated by Dr. Francis E. Rosato in 1978.


The successor to Dr. George P. Muller, Dr. John H. Gibbon, Jr. (Figure 32-61) entered the Professorship at Jefferson as a lamb in 1946 and left as a lion in 1967. His initial appointment was as Professor of Surgery, Director of Experimental Surgery, and Chief of Hospital Surgical Service. “B.” One can only surmise why he was not given the title of Grace Revere Osler Professor held by his predecessor. For one thing, his experimental interest was in surgical aspects of cardiac physiology, although not strictly so, because he performed many operations for lung tumors. As a man of only 43 years, he may justifiably have believed that he would eventually succeed Dr. Shallow, 17 years his senior, as Gross Professor to the Chair, which was the oldest named Chair in the College and the dominant one of the Surgery Department. His eye was on the Gross Chair; he desired it and bided his time. His genius ranked him with Gross, Keen, and DaCosta. The details of his monumental work in developing the heart-lung machine and its successful application are covered in the chapter on the Division of Cardiothoracic Surgery.

John H. Gibbon, Jr., a fifth-generation physician, was born on September 29, 1903, in Philadelphia. His father (Jefferson, 1891) was Professor of Surgery and Co-Chairman with Dr. John Chalmers DaCosta at Jefferson from 1907 to 1931. The younger Gibbon attended Penn Charter School and graduated from Princeton University (1923). After graduation from Jefferson (1927), he completed his internship at the Pennsylvania Hospital (1929) and accepted a research fellowship in surgery at the Harvard Medical School. In 1930 he conceived the idea of developing an extracorporeal apparatus for temporarily supporting the function of the heart and lungs while taking care of a patient dying of pulmonary embolism. He devoted full time to this project until World War II intervened.

After service in the Army Medical Corps in the Pacific arena (Figure 32-62) and a brief stay at the University of Pennsylvania, Dr. Gibbon continued his ongoing investigations when appointed to Jefferson in 1946. Supported by the International Business Machines Corporation and the National Heart Institute, his invention was proven practical after many successful trials on cats and dogs. It was ready for human surgery in 1953.

On May 6, 1953, Dr. Gibbon successfully repaired an interatrial septal defect in the heart of
18-year-old Cecelia Bavolek of Wilkes-Barre, Pennsylvania. Although the operation lasted only 26 minutes, it represented a major surgical breakthrough. For the first time, a patient’s heart and lung functions had been maintained entirely by a machine. This brilliant achievement initiated the era of open heart surgery for repair of congenital and acquired heart defects as well as the transplants of today.

With the death of Dr. Thomas A. Shallow from pharyngeal carcinoma on December 26, 1955, Dr. Gibbon was appointed the third Samuel D. Gross Professor and Head of a single unified Surgery Department. Despite his liberal and easygoing nature, old loyalties seemed to persist, and in spirit the Department remained divided between the old regulars of Dr. Shallow and the new, young, “brain trust” that Dr. Gibbon accumulated in his research activities, often referred to as the “combine.” Gibbon’s brilliance and international reputation brought much pride to the Department and strengthened the residency programs.

Dr. Gibbon was active in matters relating to health, training, teaching, research, professional organizations, and community affairs. He served on the American Board of Surgery, of which he became Vice Chairman, as Chairman of the Conference Committee on Graduate Training in Surgery, the Surgery Study Section of the U.S. Public Health Service, the National Board of Medical Examiners, the Subcommittee on the Cardiovascular System of the National Research Council, the Advisory Committee on Research on the Therapy of Cancer of the American Cancer Society, and the Board of Health of Philadelphia.

He was President of the Philadelphia Academy of Surgery, the College of Physicians of Philadelphia, the Laennec Society of Philadelphia, the Pennsylvania Association of Thoracic Surgery, the Society for Vascular Surgery, the American Association for Thoracic Surgery, and the American Surgical Association. He was a longtime Governor of the American College of Surgeons and served on several of its important committees. Membership was awarded him in the American Academy of Arts and Sciences and the National Academy of Sciences, and Honorary Fellowship in the Society of Thoracic Surgeons of Great Britain and Ireland and in the Royal College of Surgeons of England. He received Honorary Degrees of Doctor of Science from the University of Buffalo (1969), Dickinson College (1967), and Duke University (1970), and the LL.D. Degree from Jefferson (1969). His many other awards of distinction are listed in the chapter on the Division of Cardiothoracic Surgery.

Although best known for his heart-lung machine, Dr. Gibbon’s bibliography from 1930 to 1971 lists 93 research and clinical contributions. He was a distinguished editor of *Annals of Surgery* and editor of his textbook *Surgery of the Chest* (1962).

Dr. Gibbon’s portrait was presented to the College by the Class of 1963, and his name was inscribed on Jefferson’s Winged Ox Column of the 50 most notable physicians in medical history. His name on the Column is preceded by four other immortal Jeffersonians, namely J. Marion Sims, Samuel D. Gross, Carlos Finlay, and Chevalier Jackson. In 1979 a conference room on the second
The floor of the Medical College Building was named in his honor.

After his prodigious literary output and innumerable honors, Dr. Gibbon entered legend and history by taking early retirement in 1967 at the age of 64. At his home in Media, Pennsylvania (Figure 32-63), he died on February 5, 1973, while playing tennis. This was just before a planned celebration of the twentieth anniversary of his first successful open heart operation and one-half year short of his 70th birthday. An Annual John H. Gibbon, Jr., Lectureship was established at Jefferson in 1987.

John Young Templeton, III

The Chair vacated by the retirement of John H. Gibbon, Jr., was awarded to his protégé, Dr. John Y. Templeton, III (Figure 32-64), a man of colossal energy, forthrightness, scholastic brilliance, and a pioneer in cardiovascular surgery. His contributions in that field will be detailed in the chapter on the Division of Cardiothoracic Surgery.

John Templeton was born on July 1, 1917, in Virginia but raised in North Carolina, where the roots of his family go back almost to Revolutionary times. His father, John Y. Templeton, Jr., was a Jefferson graduate in the Class of 1913, and his brother, Thomas B., was an Alpha Omega Alpha member of the Class of 1943. Dr. Templeton received his B.S. degree in chemistry from Davidson College, North Carolina, in 1937, and was graduated from Jefferson in 1941 among the top in his class. He was a junior-year member of the Alpha Omega Alpha Honorary Society. After internship at Jefferson, he served four years in World War II (1942–1946), after which his surgical career started.

Templeton began his Residency training under Dr. John Gibbon, Jr., who himself was just starting his Professorship at Jefferson. In this capacity, Dr. Templeton was the first Resident to work with Dr. Gibbon in the laboratory on the heart-lung machine, which at that time was far from perfected. He accompanied Dr. Gibbon to...
Endicott, New York, for some of the weekends to consult with the engineers of the International Business Machines Corporation about an experimental model for use in cats and dogs. In 1949, although an adequate method for the extracorporeal maintenance of the circulation in humans was still four years away, he published work on experimental reconstruction of cardiac valves by venous and pericardial grafts. At the completion of his general surgical Residency in 1950, Dr. Templeton continued at Jefferson for two additional years as the American Cancer Society Clinical Fellow and Damon Runyon Fellow.

Dr. Templeton’s first faculty appointment at Jefferson was in 1950 as Instructor in Surgery, from which he rose to Clinical Professor by 1957. For ten years of this time he worked closely with Dr. Gibbon both in the laboratory and in clinical practice.

In 1964 Dr. Templeton left Jefferson to become Professor of Surgery in the University of Pennsylvania School of Medicine and the Graduate School as well as Chief of Surgery at the Pennsylvania Hospital. He held these posts until 1967, when appointed Samuel D. Gross Professor and Head of the Department to succeed Dr. Gibbon.

Dr. Templeton’s name was engraved on the fourth plate of the gold-headed cane that had been presented to Professor John Chalmers DaCosta by the Class of 1926. There was universal delight within the Department at the well-deserved appointment of Dr. Templeton, matched by equal disappointment when he tendered his resignation “for personal reasons,” effective for January 1, 1969. At that time he received the appointment of Professor of Surgery and carried on a prestigious private practice until his retirement on July 1, 1987, the date of his 70th birthday.

The resignation of Dr. Templeton from the Chair came as a shock that could not be related to any dissatisfaction on the part of students, residents, staff, or the administration. His further career was one of uninterrupted increasing prominence in academics, clinical work, professional societies, and organized medicine. He remained admired by students, revered by residents and colleagues, and esteemed by his nursing and cardiac technical staff.

A prolific writer, Dr. Templeton wrote more than 80 articles on subjects pertaining to the lungs, heart, blood vessels, gastrointestinal tract, hypothermia, metabolism, and human resuscitation. His membership in societies numbered more than 50 at the local, national, and international level, with service on the Board of Governors or as Chairman of committees on 14 of them. Among his Presidencies, he treasured most the one of the Philadelphia Academy of Surgery, founded by Samuel D. Gross in 1879. He also served as President of the Jefferson Alumni Association, Pennsylvania Association for Thoracic Surgery, the Laennec Society, the Philadelphia County Medical Society, the Pennsylvania State Medical Society, the Meigs Medical Association, and the Medical Staff of Thomas Jefferson University Hospital.

A portrait of Dr. Templeton was presented to Jefferson in 1980 by residents and colleagues. The John Y. Templeton, III, Annual Lecture in Surgery was first given in May, 1980, by internationally known Dr. Denton Cooley. He received the Alumni Achievement Award (1981) and the Winged Ox Award (1987). His undergraduate alma mater, Davidson College, awarded him the Honorary Degree of Doctor of Science in April, 1987, and Jefferson bestowed upon him the Honorary Degree of Doctor of Laws in September of the same year. Dr. Templeton has been called “a legend in his own time.”


The search for a successor to Dr. Templeton extended over the period of a year and one-half, and concluded with the appointment of Dr. Harry S. Goldsmith (Figure 32-65), effective for July 1, 1970. Dr. Goldsmith was born on September 30, 1929, in Newton, Massachusetts. He obtained his A.B. degree from Dartmouth College in 1952 and his M.D. from the Boston University School of Medicine in 1956. During internship and surgical
residency at the Boston City Hospital (1956–1961), he was a Research Fellow in the Department of Anesthesia (1959–1960). He then completed a period of military service (1961–1963) as Captain in the U.S. Army Medical Corps, Chief of Surgery in the Seoul Military Hospital, Korea (1961–1962) and Staff Surgeon at Fort Devens, Massachusetts (1962–1963).

While pursuing postgraduate work as Senior Surgical Resident at the Memorial Hospital for Cancer and Allied Diseases (1963–1965), Goldsmith was a Research Fellow in the Sloan-Kettering Institute for Cancer Research (1964–1965). In 1965 he became a Diplomate of the American Board of Surgery.

Dr. Goldsmith’s teaching career started as Assistant in Anatomy (1958–1960) at the Boston University Medical School and then as Senior Teaching Fellow in Surgery (1960–1961). He then became an Instructor in Surgery at the Soo Medical School in Korea (1961–1962). At the Cornell Medical School he rose from Assistant (1964–1965) to Instructor (1965–1967) and to Assistant Professor (1967–1970). From 1968 to June, 1970, he was Director of Surgical Education in the Memorial Hospital for Cancer and Allied Diseases in New York City. At the Memorial Hospital he rose from Clinical Assistant Surgeon in 1965 to Attending Surgeon and Chief of the Gastric and Mixed Tumor Service (1968–1970). In the field of research at the Memorial-Sloan-Kettering Cancer Center he rose from Assistant Director of Surgical Research in 1966 to Associate Director of Surgical Research in 1968–1970.

Dr. Goldsmith brought to Jefferson his research and clinical interests in malignant melanoma and revascularization procedures by omental transposition. He also brought new members into the Surgical Staff, which included Drs. Gordon E. Schwartz, with special training in diseases of the breast, Jose Castillo in plastic surgery, Candadai Rangaratham in pediatric surgery, James E. Colberg in renal transplantation, Edgardo S. Alday in gastrointestinal surgery, Louis F. Plzak in cardiovascular surgery, and, subsequently, Stanley K. Brockman as Head of the newly created Division of Cardiothoracic Surgery in 1973.

Dr. Goldsmith’s lectures were well organized and appreciated by the students. Saturday morning Grand Round Conferences were instituted and well attended. The first few years of his administration slipped by quietly, but were followed by a period of creeping malaise. Dr. Goldsmith secluded himself in his laboratory, punctuated by long summer sojourns in the Orient as a Visiting Professor. His work in omental transposition for lymphedema, spinal cord injury, and later on for stroke remained controversial. Despite widespread lack of acceptance of his work, Dr. Goldsmith remained productive in scientific papers and in the meetings of his various societies such as the American College of Surgeons, New York Medical Society, Massachusetts Medical Society, New York Surgical Society, James Ewing Society, Society of Sigma Xi, Society for Surgery of the Alimentary Tract, and the Philadelphia Academy of Surgery.

By 1977 Dr. Goldsmith was no longer able to reconcile his personal ideals with the frustrations of his staff, and he resigned. He transferred to
Dartmouth Medical School, Hanover, New Hampshire, as Professor of Surgery. By that time he had written over 140 journal articles and text chapters and took on the editorship of *Practice of Surgery*, published by Harper and Row in twelve loose-leaf volumes.

Dr. Frederick B. Wagner, Jr., Clinical Professor of Surgery in the Department since 1955, was selected by Dean Kellow to serve as Acting Chairman, effective July 1, 1977.


Frederick B. Wagner, Jr. (Figure 32-66), a native Philadelphian, was born on January 18, 1916. After graduation from Olney High School in 1933, he received his A.B. degree from the University of Pennsylvania in 1937 (Phi Beta Kappa) and M.D. from Jefferson in 1941 (Alpha Omega Alpha). During the last eight of those years he was a church organist, and in 1935 he took a summer course at the University of Heidelberg. Music, languages, and history were to remain pervasive avocations throughout his life.

Following internship at Jefferson (1941–1942) and surgical residency (1942–1945), he was a Ross V. Patterson Research Fellow (1945–1946). Although having taken Reserve Officers’ Training throughout medical school, he was honorably discharged as First Lieutenant during World War II on a physical disability that obviously did not shorten his life.

Upon completion of his formal surgical training (Figure 32-67), Dr. Wagner was invited by Dr. Thomas A. Shallow, the Gross Professor of Surgery, to become his private assistant. This honor entailed many duties, which included being present as first assistant at every operation, no matter how small or large, taking care of his emergency surgery after 5 P.M., giving his spinal anesthetics, participating in all his scientific papers and exhibits at meetings, and supervising the residency care of his private patients. The demands of Dr. Shallow were exorbitant but rewarded by Dr. Wagner’s advancement from Assistant Demonstrator of Surgery (1943) to Clinical Professor (1955). During this period he authored, or coauthored with Shallow, 45 scientific articles on a diffuse range of general surgical subjects and was a pioneer in arteriography of abdominal blood vessels by translumbar aortography.

With the death of Dr. Shallow, the Chairmanship of a unified Department was assumed by Dr. John H. Gibbon, Jr. in 1956. Dr. Gibbon by then had achieved worldwide fame for the creation of his heart-lung machine that initiated the era of open heart surgery. He became so engulfed in Presidencies of societies, receiving awards, traveling as a Visiting Professor, editing the *Annals of Surgery*, and preparing his large text on *Surgery of the Chest* that he was absent from Jefferson a great deal of the time. Some of his medical students may never have seen him, and he was affectionately known within his own Department as the “Visiting Professor.” The weekly staff meetings, which he attended as often as he could, were always highlighted by his inquiring mind that stimulated study and encouraged research. During this period, Dr. Wagner had inherited much of Dr. Shallow’s private surgical practice and had little time except for teaching and clinical work. Many of the
hospital surgical beds were insidiously absorbed into the rapidly expanding Medical Department, and the busy staff surgeons had to seek outside sources of beds for their patients. In the crunch, Dr. Wagner, although maintaining his home base at Jefferson, became a Consultant in Vascular Surgery to St. Mary's Hospital in Philadelphia (1963–1965) and Director of Surgery at the William B. Kessler Memorial Hospital in Hammonton, New Jersey (1963–1972). For approximately ten years he became associated in practice with Dr. William Bosley Manges (Jefferson, 1944), Clinical Associate Professor in the Department, who also had taken his surgical residency under Dr. Shallow.

Dr. Wagner was startled one day in June, 1977, by an urgent call from Dean Kellow's office to report on "what is going on in the Surgery Department." In the presence of Dean Kellow and Dr. Francis J. Sweeney, Jr., Vice President of the University Hospital, he was given the charge of Acting Chairmanship with the challenge to "heal old wounds and create harmony in the Department."

Dr. Wagner maintained his busy surgical practice while taking on the administrative tasks of a demoralized Department. It was like an innocent swim into the waiting arms of an octopus. The arms were replete with survey forms, committee meetings, conferences, applications, promotion
papers, students seeking recommendation or advice, operating room problems, emergency room unassigned patients, compensation clinic coverage, medical record delinquencies of the staff, changes in academic programs, departmental self-assay, and endless people dropping by the office for a so-called few minutes. It was a mandate for strong commitment and flexibility to the concerns of students, residents, and staff, and thereby to the Department and Medical School.

Whatever success may have been achieved during the critical year of 1977–1978 must be ascribed to leadership, communication, and teamwork. Carefully selected members of the Department carried out their newly assigned duties in student and resident education and equitable solving of problems through a diligent Surgical Advisory Committee. Research continued in the Division of Cardiothoracic Surgery and on a very limited scale by individual staff members. It was a holding and healing period, while trusting that a newly appointed Samuel D. Gross Professor would consummate the unfulfilled Departmental dreams for the future. This occurred with the selection of Dr. Francis E. Rosato, effective as of August 1, 1978.

Dr. Wagner's portrait was presented to the University by colleagues and friends in 1978. In that year he was also appointed through Dr. Rosato as the second Grace Revere Osler Professor of Surgery and became Emeritus in 1982. On January 1, 1984, he retired from the practice of surgery and started a new career as Jefferson's first University Historian. In 1985 he received the Samuel D. Gross Distinguished Service Award of the Department of Surgery, became an Alumni Representative member of Jefferson's Board of Trustees, and served as President of the Philadelphia Academy of Surgery. The following year a Surgical Library on the seventh floor of the University Hospital was named in his honor by the Residents of the Department. In 1987 he received the Dean's Medal for dedicated service to Jefferson Medical College.

Dr. Wagner coauthored a textbook on Preoperative and Postoperative Care (1947) and published The Twilight Years of Lady Osler (1985). As a historian he has lectured at Oxford University (1984), the University of Düsseldorf (1986), and at yearly meetings of the American Osler Society. His later writings relate to Jefferson's rich tradition and heritage.

Francis Ernest Rosato, M.D. (1934–); Eleventh Chairman and Sixth Samuel D. Gross Professor (1978–)

Dr. Francis E. Rosato (Figure 32-68) was born in Philadelphia on June 2, 1934. His father was a highly respected general practitioner in the City. After graduating from St. Joseph's College (1955) as a member of Alpha Sigma Nu National Jesuit Honor Society, he became an Alpha Omega Alpha honor graduate of Hahnemann Medical College (1959). His Rotating Internship was taken at the Philadelphia General Hospital (1959–1960) and Residency in General Surgery at the Hospital of the University of Pennsylvania (1961–1964), with Chief Residency (1964–1965). During this time he was also a Postdoctoral Fellow in the Department of Biochemistry of the School of Medicine of the

Dr. Rosato’s teaching activities began as Assistant Instructor in Surgery in the School of Medicine of the University of Pennsylvania (1960–1964) and Instructor (1964–65). After one year (1966) as Senior Instructor in Surgery at Hahnemann Medical College, he returned to the University of Pennsylvania and rose to the rank of Professor of Surgery (1972–1975). From 1975 to 1978 he served as Professor and Chairman in the Department of Surgery of the Eastern Virginia Medical School at Norfolk, Virginia.

In the important aspect of clinical experience, Dr. Rosato from 1965 to 1975 held hospital staff appointments at the Hahnemann, Philadelphia General, and University of Pennsylvania Hospitals. He also was a Consultant to the Veterans Administration Hospital of Philadelphia and Chief of the Solid Tumor Program and Co-Director of the Neoplastic Chemotherapy Clinic of the Hospital of the University of Pennsylvania. From 1975 to 1978 he was Director of Surgery in the Norfolk General Hospital, on the Attending Staff of DePaul Hospital in Norfolk, and Consultant in Surgery to the Naval Regional Medical Center, Veterans Administration Hospital and U.S. Public Health Service Hospital of the area.

In basic and clinical surgical research, by the time of his appointment in 1978 at age 44, Dr. Rosato had authored or coauthored more than 125 scientific articles in the prestigious journals of his field. In addition to awards, honors, and research grants, he belonged to a complete array of the important societies of his specialty.

Among the impressive group of candidates for the Samuel D. Gross Chair, Dr. Rosato was the unanimous choice of the search committee, and this situation was capped by his enthusiastic acceptance of the position. He faced the formidable challenge to rejuvenate a major Department that had endured a decade of stasis.

One of Dr. Rosato’s top goals on arrival August 1, 1978, was to reactivate surgical investigation. His underlying philosophy was that this activity lends honesty and healthy curiosity to all efforts of surgery. Initially, there was essentially no laboratory work save the skeleton effort of the previous Gross Professor that had been carried out behind locked doors. He recruited Susan P. Lanza-Jacoby, Ph.D., in conjunction with Stephen M. Weiss, M.D., on the clinical side, to begin a basic and clinical nutrition laboratory. Doctor Jacoby established ongoing studies that related primarily to lipid metabolism, which became supported by the National Institutes of Health.

Dr. Rosato was disheartened by the poor quality of the kidney transplant program in which only six had been carried out during his first year as Chairman. He was able to recruit Dr. Bruce E. Jarrell (Jefferson, 1973), who elevated the program to a par with the best in the area and additionally instituted a successful liver transplant program that had been badly needed in the Delaware Valley (Figure 32-69). Dr. Jarrell’s outstanding work is detailed in a later section of this Departmental history.

Research work was further enhanced through Dr. Jarrell’s interest in endothelial cell culture and its applications to prosthetic graft coverings. The collaboration of Stuart K. Williams, Ph.D., in this effort led to expansion into newly renovated locations in the sixth floor of the College. Dr. Michael Moritz was added for his work on immunologic aspects of cell–cell interaction and cell adhesion phenomena, with support from the American Heart Association.

Dr. Richard Edie, who succeeded Dr. Stanley Brockman as Director of the Cardiothoracic Division in 1987, instituted new research studies upon his arrival. He recruited Dr. John Mannion for investigation of latissimus dorsi (skeletal muscle) cardiac assist pumps as “holdovers” for end-stage cardiac patients awaiting heart transplantation. Dr. John Francfort was also recruited for basic studies on atherogenesis particularly in deranged metabolic states, starting with diabetes.

Under Dr. Rosato’s impetus for research, the laboratories on the sixth floor that had been empty not only filled up but required additional space. A funding of $1.3 million was appropriated by the Dean and Board of Trustees for 1,300 square feet of new research space on the eleventh floor of the Curtis Building and other laboratory renovations in the Department. The effort became supported by $600,000 from outside funds with prospects of increases in subsequent years.
The critical component of trauma planning for patient care and resident training was given strong impetus around 1982 when Dr. Francis J. Sweeney, Jr., Vice President for Health Services and Director of Thomas Jefferson University Hospital, arranged for Emergency Medicine to become an official Division of the Department of Surgery. With involvement of Dr. Jerome J. Vernick (Jefferson, 1962), Jefferson became designated a Level One Trauma Center in 1987.

The Residency Program was rescued during Dr. Wagner's Acting Chairmanship by Dr. Herbert E. Cohn (Jefferson, 1955), but, with the arrival of Dr. Rosato, became highly structured and much sought after. The Department within several years was receiving over 600 residency applications, with interviews of more than 120 to finally select six individuals for full five-year training and four to five additional individuals for one- or two-year training preparatory to moving into other specialties. The pass rate in both written and oral examination for board certification became 95%, with the goal set at 100%. Dr. Cohn, Professor of Surgery, advanced to become a Vice Chairman of the Department (1985) and President of the Medical Staff (1986–1987).

The undergraduate medical students are the center of the Department entity. The programs for their education have been under the successive direction of Drs. Bruce E. Jarrell, James E. Colberg, and Philip J. Wolfson. In a recent major curriculum review, Surgery came in second only to Pediatrics in terms of student satisfaction. In an American College of Surgeons Long-Range Study, Jefferson across the country became the number two school in contributing students into surgery and surgical specialties. In the years between 1982 and 1987, Drs. Herbert Cohn and Bruce Jarrell

Fig. 32-69. Francis E. Rosato, M.D., jubilantly celebrates his 50th birthday (June 2, 1984) and the first successful liver transplant in Philadelphia (May 31, 1984).
and Chairman Rosato won Lindback Awards for Distinguished Teaching.

The affiliation pattern and philosophy underwent significant changes in which tile drive was to bring more of the house officers increasingly within the University and its geographic confines. The eventual hope is to have just one or two strong affiliates that will round out the rather strong and intensive University experience that the residents now receive.

In 1985 a Division of Colorectal Surgery was created in the Department, with Dr. Gerald J. Marks (Jefferson, 1949) as the Director. Dr. Marks also became Chief of the Section of Colorectal Surgery at the Pennsylvania Hospital. He was a founder of the Society of American Gastrointestinal Endoscopic Surgeons, which established an annual “Gerald Marks Honorary Lecture.” The Colorectal Surgical Residency at Jefferson became one of the few in the country based in the primary hospital of the academic institution. Within three years it became necessary to recruit two new staff members into the Division, namely Drs. Maryalice Cheney and Scott Goldstein. Dr. Marks, with an international reputation in colorectal surgery, is active in organized medicine and is supervising a series of clinical research projects within the Division.

Organization of two new Divisions is near completion. The first is a Division of Research under Dr. Stuart Williams that will administratively supervise the large research effort and arbitrate issues that relate to shared research space. The other is a Division of Transplantation under Dr. Bruce Jarrell, which will probably be a surgical/medical combined Division.

Over a period of nine years (1978–1987), Dr. Rosato recruited at least 15 new faculty members. This was accomplished not only by improving the morale of the full-time faculty by attracting new people to their ranks, but also by warm acceptance of additional volunteer faculty. The equal interaction and mutual esteem between full-time and volunteer faculty were so effectively united that the goal of a single system was practically at hand.

Dr. Rosato has defied the myth that a Chairman can no longer excel equally in teaching, research, and patient care. In his case one may also add a plaudit in administration. Among recent achievements were his involvement in the performance of the first mesoatrial shunt (anastomosis of mesenteric vein to right atrium of the heart by grafting, for portal hypertension) ever done in this region, involvement in the genesis of a pancreatic cancer program, his strong role in a major liver surgery program that has received acclaim, and coediting with Dr. Jan O. Strombeck of Stockholm, Sweden, a book on Surgery of the Breast (1986). He was chosen by Philadelphia Magazine as one of the Best General Surgeons in their comprehensive health care survey of June, 1987.

In addition to Chairmanship on prestigious committees of the American College of Surgeons, Rosato served as President of the Philadelphia County Medical Society (1983) and the Philadelphia Academy of Surgery (1986), and as Interim President of the Jefferson Medical Staff (1987). He was recipient of the Shaffrey Award of the Medical Alumni of St. Joseph’s College (1981) and Hahneman’s Alumnus of the Year Award (1981). His other civic and scientific society activities constitute a most impressive list.

Samuel D. Gross, who could be considered the patron saint of the Surgery Department, would be astonished and pleased with its renaissance. The spirit of inquiry, the dedication to teaching, and the commitment to patient care have never been stronger.

### Other Surgical Faculty Notables and Contributors

The Jefferson Medical College Catalog for 1985–1987 lists 120 members of the Surgical Faculty besides the Chairman: Professors Emeriti, 2; Professors, 21; Associate Professors, 18; Instructors, 60; Assistant Instructors, 2; and Honorary Members, 17. This gamut of talent and dedication, which includes the affiliated hospitals, provides insight into the complexity and advancement of surgical knowledge that have occurred since the founding of the Medical College in 1824. Until the first Summer School Course of 1866, all the lectures were delivered by the one and only Professor. The entire medical course consisted of two years of lectures, with four months in each academic year, with the lectures being the same in...
each of the two years. The philosophy of repetition was that it would lead in the second year to better comprehension and longer recall. Surgical names that appeared after 1866 were those of Richard J. Levis, John Hill Brinton, Samuel W. Gross, J. Ewing Mears (Figures 32-70 and 32-71), William H. Pancoast, William W. Keen, and William Joseph Hearn (Figure 32-72). It has been noted that with the retirement of Samuel D. Gross in 1882, it took two Professors to conduct the formal required lectures. By 1900 there were still only six surgical names listed in the College Catalog. This increased to 15 by 1910, to 19 by 1920, and to 36 by 1930.

Charles F. Nassau, M.D. (University of Pennsylvania, 1891, and of Jefferson, 1906), LL.D. (Villanova College, 1912), and Sc.D. (St. Joseph’s College, 1931), was recruited by Professor John Chalmers DaCosta in 1907. He became a Clinical Professor of Surgery in 1930, President of the Philadelphia County Medical Society in 1932, a founding member of the American Board of Surgery in 1937, appointed Director of the Department of Health of the City of Philadelphia in 1939, and died while in active practice in 1940 at the age of 71. He had studied abroad, written many articles, and was a superb teacher and technical surgeon (Figure 32-73).

Adolph A. Walking (Figure 32-74), a Jefferson graduate in the Class of 1917, lectured on fractures in the Department before this teaching was transferred to the Orthopaedic Department. He served as Chief of Surgery at the Pennsylvania Hospital and as President of the Alumni Association (1931) and the Philadelphia Academy of Surgery (1958).

Fig. 32-70. J. Ewing Mears, M.D., LL.D. (1838–1916), gave a course in Operative Surgery, became prominent in gynecologic surgery, and was among the first Philadelphia surgeons to adopt Lister’s antiseptic method.

Fig. 32-71. Certificate of Session (1877–1878) from a course in Operative Surgery given by J. Ewing Mears, M.D.
Henry K. Seelaus (Figure 32-75) requires special mention as one who had potential to become a Chairman but whose life was cut short at age 43 by pneumonia in 1937. He was the top man in his Jefferson Class of 1918 and nicknamed “the shark” for his keenness and depth of knowledge. His superbly organized lectures, operative skill, authorship of many papers, and compassion for patients marked him “a coming man in surgery.” In the 1918 Clinic he was described as “an ordinary-looking individual with the brains of a genius.” In the portrait of Professor John Chalmers DaCosta teaching from a wheelchair in the amphitheater, Seelaus is depicted reading the history of the patient.

Two members may be considered surgical martyrs. Duncan L. Despard (Figure 32-76), a Jefferson graduate in the Class of 1901, was shot to death in his office in 1924 at the age of 55 by an insane patient who thought his hernia had been repaired incorrectly. S. Dale Spotts (Jefferson, 1922) was an early victim of excessive x-ray exposure to his hands while reducing fractures under the fluoroscope without protection. He developed a squamous cell carcinoma of the hand that resulted in axillary metastasis, suppuration, and fatal septicemia in 1952. In 1949 Bucknell University had conferred upon Dr. Spotts the honorary degree of Doctor of Science, and in 1950 he was elected a Trustee of that University (Figure 32-77).

William J. Tourish (Jefferson, 1928) performed dedicated service as a Chief in the Outpatient
Clinic during World War II and was active on the Ward Service (Figure 32-78).

Clinical Professor Kenneth E. Fry (Jefferson, 1931) was a role model in his lectures, operative technique, beside teaching of students (Figure 32-79), care of patients, and training of the surgical residents. He served throughout World War II in the Middle East and was very active in Alumni affairs, such as Chairman of Annual Giving and President (1965). He was the first member of the Surgical Department to become board certified (1939).

Additionally, names of those who operated or lectured at Jefferson between the late 1930s to late 1970s with significant impress include: Arthur E. Billings, William T. Lemmon (Figure 32-80), J. Hall Allen (Proctology), William P. Hearn, Patrick A. McCarthy, Sherman A. Eger (Figure 32-81), Hubley R. Owen, Alan P. Parker, Herbert A. Widing, Eli R. Saleebey, Benjamin F. Haskell (whose portrait was presented in 1975), Milton Harrison, Alfred E. Brunswick, Hugh P. Robertson, Paul O. Blake, Lewis C. Manges, Louis K. Collins (Proctology), Ned T. Raker, Thomas B. Mervine, James B. Carty, John J. Cheleden (Proctology), Edward D. Weiss (Proctology), Louis Chodoff, Frederick W. Deardorff, Harry J. Knowles, John D. Allen (Proctology), Benjamin Lipshutz, Herbert Lipshutz, Frederick W. Dasch, Moses Behrend, W. Bosley Manges, Armando F. Goracci, William F. Coghlan, Robert E. Colcher, Harold Rovner.

Fig. 32-74. Adolph A. Walkling, M.D. (1895–1966), the last teacher of fractures within the Department of Surgery.

Fig. 32-75. Henry K. Seelaus, M.D. (1894–1937), a brilliant teacher and surgeon, who died prematurely.
(Colo-rectal), Jose H. Amadeo, William K. Gorham, Henry C. Stofman, Bernard Borkowski, George F. Gowen, Peter S. Liebert (Pediatric Surgery), Edward D. McLaughlin, Stephen Gosin, Norton Hering, Jerry Stiffel, Robert W. Solit, D. Stanton Smullens, Melvin L. Moses, and George S. Nicoll. Many of these were active in clinics and lectures at the Philadelphia General and Pennsylvania Hospital. The services of more than 100 of those unmentioned dedicated staff members connected with the Affiliated Hospitals can only be acknowledged with gratitude.

Surgical Epilogue

In 1879 a dinner was held in honor of Dr. Samuel D. Gross at the St. George Hotel, later to become

Fig. 32-76. Duncan L. Despard, M.D. (1869–1924), a Surgical Department staff member shot to death in his office by an insane patient.

Fig. 32-77. S. Dale Spotts, M.D., Sc.D. (1895–1952), a surgical martyr to early unprotected use of x-rays for reducing fractures.

Fig. 32-78. William J. Tourish, M.D., Chief of the Surgery “A” Outpatient Clinic.
the Bellevue Stratford, in Philadelphia. Gross was 74 years old, and the occasion marked the fifty-first anniversary of his entrance into medical practice. D. Hays Agnew, Professor of Surgery at the University of Pennsylvania, as Toastmaster, pinned a jeweled badge, *now in* the Mütter Museum, on Gross's lapel as a testimonial of esteem from the 105 subscribers. One quote from Gross's acceptance speech expresses the ideals he had cherished: "Oh, for a glance at the profession half a century hence when man, enlightened and refined by education shall reflect more perfectly the image of his Maker!" Gross may have had some insight into the progress to come, but could not possibly have imagined the surgical advances of more than a century. Surgery is never perfected, and new ideas will irrepressibly spring forth from thinking minds.

From 1824 until the Summer Courses of 1866 the Department of Surgery consisted of one person, the Professor. There evolved two Professors when the Chair divided upon the resignation of Gross in 1882. Unthinkable to Gross, the surgical staff of 1987 consisted of a Chairman, 2 Vice-Chairmen, 2 Emeritus Professors, 18 Honorary Members, 16 Professors, 22 Associate Professors, 71 Assistant Professors, and 84 Instructors. This totaled a staff of 212 surgeons in association with 475 faculty members in 13 Divisions of the Department of Medicine (1985).

When Jefferson Medical College changed from a proprietary to a nonprofit status in 1895, the Professors in basic sciences became salaried, and

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*Fig. 32-79. Kenneth E. Fry, M.D., Clinical Professor, outstanding teacher, and surgeon.*
the Professors in clinical branches obtained minimal stipends. In the late 1950s and through the 1960s the Clinical Chairmanships became salaried as previous volunteers were phased out. As of 1987 the ratio of full-time fully salaried faculty to volunteers was approximately 50%, but more than 60% of hospital admissions were associated with the full-time faculty. This trend will continue under the influence of complex social, governmental, and health policy changes.

FIG. 32-80. William T. Lemmon, M.D., Clinical Professor, devised continuous spinal anesthesia, was a brilliant anatomist and quizmaster, and was sometimes called "the last of the great general surgeons."

FIG. 32-82. Books written by Jefferson's surgical faculty.
The Surgical Department's strength has always been in teaching medical students and training highly competent surgeons. Its faculty has contributed significantly to the surgical literature. Samuel D. Gross led the way with 14 textbooks and a bibliography of approximately 1,200 items. Figure 32-82 shows an imposing array of textbooks written entirely by Jefferson surgical faculty. Additionally, the Gibbon heart-lung machine created a new era in surgical history.

While the names of Gross, Keen, DaCosta, and Gibbon shine forth as beacon lights, the others, whether alumni or not, maintain the proud tradition and heritage of the Department.

References