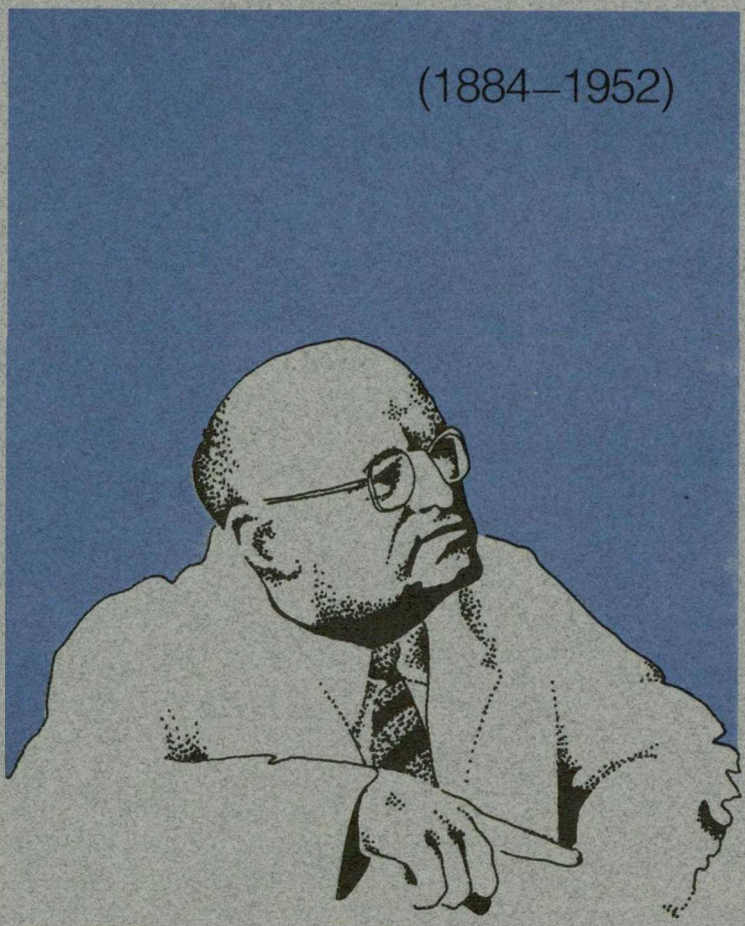
Barney Brooks, M.D.



Louis Rosenfeld, M.D.

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LOUIS ROSENFELD, M. D.

Vanderbilt University Medical Center

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This book is dedicated to the students and house officers who benefited directly from association with and teaching by Barney Brooks, M.D., and to the innumerable other persons who benefited indirectly from his many contributions to the art and science of surgery.

Contents

Foreword

ONE OF the advantages of the university is said to be the cross fertilization that can occur between the various schools. This refers almost exclusively to the faculty, since the students in each school or even sometimes each class within a given school, have problems peculiar to themselves, and there isn't therefore a whole lot of contact, even where there is close proximity between them. Rumors do filter down, however, and since every student—or at least almost every student—wishes to leave the impression that he and his classmates have it tougher than any others could possibly have—or indeed ever did or ever would have—these rumors often paint a lurid, larger-than-life picture of situations and individuals.

As undergraduates at Vanderbilt we didn't pay a whole lot of attention to such goings-on in the medical school until the time we found we would one day share those experiences; then names and places began to take on added importance. A persistent name in those extravagant tales was Barney Brooks. In his case, at least, the tales turned out to be not so extravagant, and the lurid, larger-than-life canvas a poor parody on the genuine article. It really was tougher there.

Louis Rosenfeld was one of Dr. Brooks' chief residents, and it was the chief resident who not only bore the often onerous responsibility for the surgical service, but who also knew the man better than any others outside his immediate family. As an obvious admirer of Dr. Brooks, for whom he had not only immense esteem but also great affection, Dr. Rosenfeld has written a sympathetic account of Dr. Brooks' life and times. Not everyone who knew Dr. Brooks well, including some of his chief residents, would have been so kind in their accounting. Unquestionably an effective teacher, Dr. Brooks relied a great deal on intimidation, a method many found at best unnecessary, and at worst cruel. That it was generally tempered with a keen sense of the ridiculous failed to assuage the hurt in many of his victims. He

was a man with staunch friends and implacable enemies. Few were neutral, and the mere mention of Brooks' name more than thirty years after his death stirs many of the old sentiments, one way or another.

Whatever one's experience with Dr. Brooks, whether close or casual, I believe no one can deny that Barney Brooks was one of Vanderbilt's most colorful characters; many would say one of its greatest. Some would doubtless go even further than that. Though by minimizing the negative aspects of Dr. Brooks' tenure at Vanderbilt Dr. Rosenfeld has produced somewhat less than a balanced account, it is not inappropriate to the remembrance of his revered chief. Since time smooths out the rough places for those of his readers who like myself shared the experience of being "in the pit," the book will stir memories of happy days at Vanderbilt. To the rest, it presents a portrait of a remarkably complex man who exerted tremendous influence on medicine not only at Vanderbilt, but in the entire South. Though his wider influence through his writings may be more difficult to catalog, it is clearly not inconsequential, and made a lasting impact on his profession.

John B. Thomison, M.D.

Acknowledgements

THE IDEA of writing a biography of Barney Brooks, M.D., germinated in my mind for several years. I casually discussed the idea with Dr. William Darby, Dr. John Sawyers, and Dr. H. William Scott, and all three encouraged me, urging me to move forward with the project. In 1984, an exhibit about Barney Brooks was presented by Mrs. Mary Teloh, curator of the Rare Books and Museum section of the Vanderbilt Medical Library, along with her staff. The exhibit—placed in the show cases at the front of the Medical Library in recognition of the hundredth anniversary of Brooks' birth—stimulated a renewed interest on my part.

Special credit is due to Brooks' daughter, Mrs. Mary Jane Brooks Evans of Fort Valley, Georgia, for sorting through the wealth of her father's papers stored in her garage. At my suggestion she forwarded them to the Vanderbilt Medical Library. Mary Teloh and Tom Turley, Associate Curator, have been a driving force behind this project and have spent long hours cataloguing the letters, the books, and the transcriptions of Brooks' famous Tuesday morning clinics. They developed the bibliography for the book, secured photographs, and have been a constant source of encouragement.

As always, the Vanderbilt University Department of Publications has been most cooperative. Ms. Elizabeth Walker Marshburn has been both copy editor and guiding light to the manuscript, and she has put better life and composition into my writing. Ms. Mary Egerton "Skip" Higgs, Director of University Publications, and Mr. Gary Gore, University Designer, have made production of the book a pleasant task for me. The publication costs were shared equally by the H. William Scott Surgical Society and the Vanderbilt Medical Alumni Association.

Last, but not least, I express my appreciation to my constant copy editor, my wife Helen, who has reviewed and corrected the manuscript repeatedly.

Introduction

BARNEY BROOKS was a master surgeon, a renowned teacher of surgeons and medical students, and an innovative scientific investigator. From 1925 until 1952, he was professor of surgery and chairman of the Department of Surgery at Vanderbilt University School of Medicine. During this time he also served as surgeon-in-chief of Vanderbilt Hospital in Nashville, Tennessee. Little has been written about the life and accomplishments of this remarkable man. In 1954, while attending medical school, Dr. Byron E. Green, Jr. presented an excellent manuscript before the Vanderbilt Society of Historical Medicine. The paper, which delineates Dr. Brooks' life and contributions, was condensed and published in the November 1959 edition of the *American Journal of Surgery.* In response to Brooks' death, the late Dr. Rollin Daniel wrote a brief "In Memoriam" for the *Transactions of the Southern Surgical Association.* Dr. Harris Riley, Jr., professor of pediatrics at the University of Oklahoma School of Medicine, published a delightful article in the *Vanderbilt Medicine* magazine pertaining to an experience he had with Brooks while a third-year medical student. To my knowledge these three articles comprise the complete body of material published about Barney Brooks.

The one hundredth anniversary of Brooks' birth occurred in 1985. In 1984 Brooks' daughter, Mary Jane Brooks Evans of Fort Valley, Georgia, opened several crates that had been stored in her garage. These crates contained Dr. Brooks' papers, his correspondence, and the transcriptions of his clinics. Mrs. Evans was delighted to find the material remarkably well-preserved. The wealth of historical data was welcomed by Mrs. Mary Teloh, curator of the rare books and museum section of the Vanderbilt Medical Library.

Librarians sorted and filed the papers in manila folders. Several of these folders contained a melange of letters. In all, there are 226 folders in the collection, occupying eleven feet of shelf

space. Included are two voluminous scrapbooks in which Brooks preserved some of his memorabilia. There are also reprints of Brooks' published material, as well as transcriptions of his famous Tuesday morning clinics attended by both junior and senior medical students.

In writing this book, I have garnered information from several individuals. Mrs. Evans has been generous in furnishing facts pertaining to the backgrounds of her parents, including personal memories and impressions of her father. Several former surgical chief residents have written to me of their relationships with and feelings toward Dr. Brooks. The author of a manuscript may be prejudiced in writing about a person to whom he is so deeply indebted for his education and training; nevertheless, all attempts will be made to control personal feelings and keep bias to a minimum.

Barney Brooks was short in stature and practically baldheaded. His physical characteristics included a slightly protruding lower jaw, and a pointing right index finger accompanied by planter flexion of the left hand that was especially evident when Brooks was emphasizing a statement. Though a heavy cigarette smoker, his health was robust until the last few years of life. His carriage, mien, and gait were typically Napoleonic, emphasizing an autocratic and didactic manner. Barney Brooks always strode rapidly down the hospital corridors, the back of his white coat flying in his wake.

Just Any Day in the Hospital

Hush you idiot, do not cry
That's just Barney going by;
Maybe he will speak to you,
Maybe he will bark, it's true,
Just remember, he's at work
And his duties must not shirk,
(Incidentally golf's at two!)

—Mary Blalock

Brooks possessed an incredibly alert and incisive mind. Sometimes he might seem preoccupied when a case was being presented, but Barney Brooks missed not a word. A perfectionist in

work and speech, he refused to tolerate slovenliness from subordinates or from any other people with whom he came in contact. On many occasions Brooks wrote either the author of a published article or the editor of a journal to call attention to a factual or literary error. The exacting doctor also would not hesitate to reprimand an author for omitting a reference when an article failed to cite work previously published by Brooks.

Barney Brooks drove himself as relentlessly as he drove his house officers. Teaching was his love—and his forceful methods at times seemed brutal. The Halsteadian method of teaching as employed by Barney Brooks left an indelible impression on students and house staff alike. His biting wit and keenly-honed sarcasm were often devastating to recipients. This method of training was resented by some and there were those who, while respecting Brooks for his many skills, did not condone his teaching techniques. However, in letter after letter to him—received even many years after their graduation or after leaving Brooks' surgical service—former students expressed appreciation for the value of Brooks' training and told him that the fundamentals of surgery he had so forcefully driven home were now engrained in their memories.

Though a martinet in the hospital, Barney Brooks had a different personality at home. He adored his wife, Edith, and daughter Mary Jane. Every Thursday night was reserved for a movie and dinner out with his wife and daughter. Brooks' love for teaching carried over into his home; indeed, his daughter remembers that her father was constantly sharing with her his wealth of knowledge. In addition to spending time with his family, Brooks enjoyed entertaining and was always the gracious host. The following poem exalts the doctor's splendid hospitality:

Hospitality

I have gorged on bread and meat,
Drunken long on potent wine.
Every meal with you I eat
Proves you to be a host divine.

—Mary Blalock

In his spare time, Brooks participated in several outdoor recreational activities. He enjoyed playing golf and had a regular

foursome with whom he played weekly. Occasionally, he took trips to Florida for fishing, often with his close friend Dr. John Morton, chairman of the Surgical Department at the University of Rochester. Barney Brooks also enjoyed bird hunting. One of many Brooks stories concerns the game warden who was about to arrest him for illegally hunting after sundown. Brooks told the officer that he was *not* hunting, whereupon the warden retorted that Brooks was equipped for hunting with proper clothes, boots, hat, shotgun, and shells. Brooks replied that he was also equipped for rape but was not performing such. As the story goes he was not given the summons.

Brooks' interests ran the gamut from farming to woodworking. In his later years he owned a farm in Williamson County where he raised tobacco and white-faced cattle. In the basement of his home, Brooks had a well-appointed woodworking shop where he made furniture. Scratches on his hands from this work were not unusual, yet these did not deter him from taking the usual full scrub before operating. We house officers wondered if he would have allowed us to operate should we have had similar potentially contaminated hands.

Barney Brooks was an avid reader, preferring histories and biograhies. A difficult bridge partner, he refused to view the game as a true partnership. As his daughter writes: "To him the bidding back and forth was not a matter of questions and answers; his bids were *all* questions and as soon as he had surmised the distribution of the cards from everyone else's orthodox bids, the challenge was to maneuver the contract into the most advantageous for his hand. A confusing bid, he once explained, confuses one partner *but two* opponents."

Bridge—or IS it?

Have you ever bid one, been raised to six?
If you play with him, you'll be in that fix.
About his bridge, the least that's said
Would be the kindest thing in the end, I'm afraid.
—Mary Blalock

With this brief introduction and portrayal of Barney Brooks, the man, we shall now proceed to trace his roots and career.

1
Early Years

BARNEY BROOKS was born December 17th, 1884 near Jacksboro in Jacks County, Texas. Though raised under austere circumstances, he inherited good genes from noteworthy forebears. One of his mother's ancestors was a member of the House of Burgesses in Williamsburg. A great-grandfather studied medicine with Crawford Long, accompanied Sam Houston to Texas, and as an army contract surgeon selected the site to establish the town of Fort Worth. A great-great-grandfather was a surveyor in Georgia and his reports are still used today; this same man was also a commissioner of Indian affairs whose daughter and son-in-law traveled west with the Cherokee Indians on the infamous "Trail of Tears."

After their marriage, Barney Brooks' parents drove off in a wagon to a two-room cabin that lacked even outdoor facilities. James Standifer Brooks, hard-working but poor, was a Texas and New Mexico rancher whose fortune fluctuated with range rainfall and the price of cattle. Barney was raised as a cowboy and his formal education was obtained irregularly—much of it from his mother, Emma Jane Holmes Brooks. The simplicity of Barney Brooks' childhood and the isolation of life on the range instilled great self-reliance and independence in the boy. He developed a consuming curiosity about anything that was new, and this curiosity persisted throughout life. The desire to know what makes phenomena occur was a driving force behind many of his investigations. A simple early life was probably responsible for inculcating the ability to develop original thoughts and ideas, uncluttered by preconceived dictates.

Barney Brooks' penchant for medicine became evident when he was very young. Emma Brooks stated that her son's favorite childhood game was tending to "sick" dolls he had constructed from corn husks. Barney's sole ambition was to become a physi-

cian. Yet with a meager formal education and without a high school diploma, how would it be possible to enter a university and prepare for medical school? Realizing that a teacher's certificate would provide the necessary alternative to a high school diploma and thus allow admission to the University of Texas, Barney studied for and secured the certificate. At the age of sixteen, he entered college in Austin with fifty dollars borrowed from his father. By earning the funds necessary to remain in school, he was able to graduate in 1905. During his senior year, as a student assistant in the department of zoology, Brooks presented a paper on the urogenital organs of the North American lizard, which was subsequently published in the eighth volume of *Transactions of the Texas Academy of Science*. This was the first of many publications. After college, Brooks taught high school science for two years to earn money for medical school, and in 1907 entered Johns Hopkins. He did well at Hopkins—graduating fifth in the class of 1911.

The year after graduation from Johns Hopkins was spent as an intern on Dr. Halstead's surgical service. Brooks applied for a position as assistant resident in Surgery but was not retained. He felt that Halstead had taken no notice of him during the year of internship. However, some few years later when Halstead became aware of some of Brooks' innovative and original investigative work it is said he inquired of his assistant, Dr. Bloodgood, "Who is this fellow Brooks? We could use him on our staff." Bloodgood informed his superior that Brooks *had* been on their housestaff but had been let go. Halstead grew to value Barney Brooks' opinions. Between 1920 and 1922 there was considerable correspondence between Brooks and Halstead. Halstead was interested in Brooks' work on arthroplasty and bone regeneration. Several letters concerned aneurysms of the aorta, carotid, and femoral arteries. A series of four letters from Halstead in 1920 pertained to the advisability of ligating a corresponding vein when it was necessary to ligate a major artery. Halstead, as well as Brooks, deemed the ligation worthwhile. Two years after his internship, Brooks received a letter from Halstead requesting a reprint of an article about the antiseptic action of silver.

2
St. Louis Years

KNOWING that Barney Brooks was searching for a hospital in which to do his residency, Dr. George Whipple arranged an interview for Brooks with Dr. Fred Murphy, who was leaving Boston to become professor of surgery at Washington University School of Medicine in St. Louis. Brooks was offered a position as an assistant resident surgeon on the house staff of Barnes Hospital at a salary of nine hundred dollars a year. The years from 1912 to 1916 were spent as a member of the Barnes house staff. In addition to the clinical work and teaching responsibilities incumbent on a house officer, Brooks found time to conduct original investigative work in the experimental laboratory. With Dr. Nathaniel Allison, a highly respected orthopedic surgeon, Brooks published two papers on ankylosis and mobilization of ankylosed joints. In the March 1915 issue of *Archives of Internal Medicine*, Murphy and Brooks reported on an experimental study regarding the causes of symptoms and death in intestinal obstruction. In this landmark paper and in another paper on the same subject published in *Annals of Surgery* in 1918 by Brooks alone, the pathogenesis of intestinal obstruction was elucidated. Further experimental work on this subject was published in a third paper published in *Annals of Surgery* in 1923 in conjunction with Glover H. Copher, a general surgeon at Barnes Hospital. The essence of this work was the harmful effects of toxic materials absorbed through intestinal mucosa damaged by impaired blood supply from either strangulation or distension.

Brooks completed his residency at Barnes Hospital in 1916 and was invited to remain as a member of the surgical staff at Washington University School of Medicine. He accepted the offer. During the four years of his residency training, he became enamoured of Miss Edith den Bleyker of Kalamazoo, Michigan, who was teaching mathematics at the Mary Institute for Girls in

St. Louis. She returned his affection and they wished to be married. Since finances were a problem, Brooks requested help from his father. However, James Standifer Brooks believed that his son should return home, establish a practice, and wait for marriage until he was financially secure. After much hesitation, and against his better judgment, Mr. Brooks forwarded the money from Texas. Miss den Bleyker's parents were living in Tacoma, Washington, and there on 9 August 1916 Barney and Edith were married.

Edith Brooks, reminiscing about their early courtship days when both rented rooms in a St. Louis boarding house, states that the young Dr. Brooks was a social disaster. He blushed if a lady merely spoke to him. His small stature and his background as a poor Texas cowhand and school teacher had not been conducive to development of social graces. After meeting Edith, however, Brooks learned quickly, and in later life always traveled first class, stayed at the best hotels, ate the finest foods, and ordered the best vintage wines.

Brooks began his eight years on the Washington University surgical staff as an assistant professor, eventually rising to the position of associate professor. The surgical pathology laboratory he established became the model after which many laboratories elsewhere were patterned. His responsibilities were heavy, and his teaching duties and ward responsibilities were time-consuming. However, this was the period during which he devoted considerable time to research, producing some of his finest, most innovative and fundamental investigation.

The years at Washington University were among Brooks' happiest years—years during which a son Jimmy and a daughter Mary Jane were born. With his fellow staff members, Barney Brooks developed a close personal relationship based on mutual respect and admiration. These friends, to mention a few, included Dr. Fred Murphy, his chief; Dr. Edwin Lehman; Dr. Malvern Clopton; Dr. Nathaniel Allison; and Dr. Evarts Graham, who succeeded Murphy as chief surgeon. On his retirement, Murphy was distressed that Brooks was not chosen to succeed him as chief. After failure to secure the professorship, Brooks wished to enter private practice in St. Louis—but was without the necessary financial resources. Murphy loaned his protégé

the required amount of money, which was secured by the young man's insurance policies. The debt was gradually retired, but Brooks was forty years old before he became free of debt.

When Barney Brooks was in St. Louis his publications began to attract attention throughout the world. Rising in the academic ranks, he was invited to join the foremost professional societies. These included the American College of Surgeons, the Society of Clinical Surgery, the American Orthopedic Association, the Southern Surgical Association, and the Southern Medical Association. In later years he was a charter member of the Society for Vascular Surgery and was in the founding group of the American Board of Surgery, though he was not in complete agreement with some of the aims of the latter organization.

In 1917 the United States became involved in World War I. Much to his chagrin, Brooks was declared an essential teacher and was unable to accompany the Barnes Hospital group to France. On May 21, 1918, Dr. C. Canby Robinson (at this time acting as dean of the Washington University School of Medicine) wrote Brooks informing him that he had been designated an essential teacher by the St. Louis Medical Defense Committee. The Brooks-Robinson association thus began prior to their work together at Vanderbilt. Due to this disappointing experience, Brooks was able to empathize when, during World War II, he was forced to declare Dr. Rollin Daniel and others essential teachers over their strong protests.

Brooks had a great interest in orthopedic surgery, both on the wards and in the investigative laboratory. In the June and December 1917 issues of *Annals of Surgery* he published papers on bone growth and bone regeneration. In 1918, in conjunction with his good friend Nathaniel Allison, Brooks published an article on arthroplasty in the *American Journal of Orthopedic Surgery.* Over the next three years, the following papers were published: "Bone Transplantation"; "Exarticulation of the Hip Joint with Preliminary Ligation of the Common Iliac Artery"; "Bone Atrophy"; Studies in Bone Transplantation"; "The Bone Changes in Von Recklenhausen's Neurofibromatosis"; and "Bone Tumors."

In the July 1922 issue of *Archives of Surgery,* Brooks published his landmark paper clarifying the pathogenesis of Volkman's ischemic paralysis. He performed numerous experiments on dogs

that clearly demonstrated that the phenomenon was not due to arterial obstruction or nerve damage, but rather to constrictive bandaging that obstructed the veins of an extremity while preserving arterial inflow. With publication of this paper, Brooks' interest began to shift from orthopedics to diseases of the vascular system. During the next two years, while still in St. Louis, he published "Two Cases of Aneurysm" in *Surgical Clinics of North America* and a paper on the same subject in the *Journal of the American Medical Association*. In the latter journal in the same year Brooks published a paper entitled "Simultaneous Ligation of Major Veins and Arteries." "Diseases of the Blood Vascular System of the Extremities—An Experimental Study," appeared in *The Journal of Bone and Joint Surgery*. In this paper Brooks emphasized the importance of mechanical blockage rather than vessel spasm as the principal cause of ischemia. He alluded to experimental work in progress that he hoped would allow accurate localization of the site of arterial obstruction. This experimental study served as a prelude to a classic paper on "The Intra Arterial Injection of Sodium Iodide," which appeared in the *Journal of the American Medical Association* on March 29, 1924. Brooks' pioneering work laid the foundation for all present-day cardiovascular diagnostic procedures. Of itself, this monumental contribution to medical knowledge reserves for Brooks a high place among those who advanced the science of medicine.

Four publications on ligation of the abdominal aorta were to be published by Dr. Brooks when he came to Vanderbilt, but the original investigations were instituted while he was in St. Louis. Efforts to treat an aneurysm of the abdominal aorta had previously been attempted unsuccessfully by others, utilizing the Hunterian principle of proximal ligation. Failure was usually due to ligatures cutting through the artery. Though Dr. Rudolph Matas' patient survived a year, post mortem examination revealed the occlusion to be incomplete. Brooks successfully cured a large syphilitic abdominal aortic aneurysm by ligating the aorta with strips of fascia lata. The patient died three months later of intestinal obstruction, but an autopsy revealed that the aneurysm had been cured. Brooks clarified many aspects of this subject, including the fact that ligation of the aorta produced no deleterius effects on the heart. His paper on the topic concluded

with a prophetic statement: "It is my belief that the ultimate satisfactory method of the surgical treatment of abdominal aneurysm, if it is ever attained, will be the development of methods that make it possible to excise completely the aneurysmal sac."

The happy years in St. Louis were marred by the greatest tragedy in Brooks' life. Both his son Jimmy and daughter Mary Jane were stricken with scarlet fever. At first his daughter appeared to be more ill than her brother, but gradually she improved, convalescing completely. Originally, Jimmy did not seem extremely sick; thus, according to Edith Brooks, Jimmy's illness was not taken as seriously as it should have been. The boy developed a mastoid infection that progressed to a brain abscess and meningitis. Jimmy died at age seven. Barney Brooks was crushed; Mary Jane Evans states that to her knowledge her father never again mentioned his son's name. The only reference to Jimmy found in Brooks' papers is a letter written in 1925 to Dr. Harvey Cushing, expressing sympathy on Cushing's loss of a son. Brooks wrote, "in spite of what people say, time does not heal the wound of such a loss."

In 1924 Brooks was invited to Milwaukee to be considered for the chairmanship of the Department of Surgery at the University of Wisconsin. During this period, Brooks frequently corresponded with the dean of the Wisconsin School of Medicine as well as with Dr. Yates, a friend in Milwaukee who informed Brooks of the friction between the school and the Wisconsin Medical Society. Brooks also consulted with Fred Murphy, whose advice he greatly respected. After considerable thought and discussion, Brooks refused the Wisconsin offer. Later he was glad about the decision.

During this period, Brooks was also being interviewed by Canby Robinson at the newly reorganized Vanderbilt University School of Medicine. There he was offered the position of professor of surgery and chief of the Department of Surgery. At first the offer had no appeal because the Rockefeller Foundation, which was helping finance the reorganization of the Vanderbilt school, had stipulated that the faculty must be "full-time," thus obviating any private practice. Brooks did not want his income limited to a small teaching salary, and felt that the absence of

private patients was not conducive to superior surgical instruction. Further discussion ensued and a compromise was reached. The staff would be full-time in the sense that their practice would be limited to the Vanderbilt Hospital; however, they would be allowed to supplement their salaries by caring for private patients. Brooks would have control of all surgical beds, operating rooms, and the surgical outpatient department when he assumed his position at Vanderbilt. He would be designated as surgeon-in-chief at Vanderbilt Hospital; in the School of Medicine, Brooks would be serving as professor of surgery and chairman of the department. A long letter from Dean G. Canby Robinson to Chancellor Kirkland dated 24 March 1924 outlined the agreement, which included $25,000 yearly to the Department of Surgery, a salary of $7,500 for Brooks, and an allowance of $500 to defray expenses of his move to Nashville. The Board of Trust confirmed the appointment and arrangements.

Prior to his departure from St. Louis in May 1925, a dinner was given in Brooks' honor. To mark the occasion, innumerable letters and telegrams were sent from present and former St. Louis associates and from many Nashville physicians, including Lucius Burch, W.A. Bryan, and Canby Robinson. Brooks also received messages from several Nashville laymen, welcoming him to the new position at Vanderbilt.

3
Brooks at Vanderbilt

OTHER Vanderbilt department heads had been appointed in 1924, and since construction of the new hospital and medical school on the west campus had not yet been completed, these men were sent to Europe for a year at the Rockefeller Foundation's expense. However, because Brooks was indispensible, his trip was postponed for two years. Canby Robinson needed Brooks in Nashville to aid in planning surgical wards and operating rooms and to help secure the necessary equipment and instruments.

When informed that their practices and admitting privileges at Vanderbilt Hospital would be limited to one specialty, many Nashville surgeons became bitter and dissatisfied. No longer could a urologist perform general abdominal surgery or a gynecologist perform gastric and biliary tract operations. Another point of contention was the restructuring of academic titles. Surgeons who had been full professors were now designated clinical professor, a less exalted rank. A third controversial issue regarded placement of the hospital itself. An earlier campaign had raised funds for construction of a new hospital to be built on Second Avenue, South. Now the Rockefeller Foundation announced that it would finance construction *only* if the new facility were built on the west campus of the university. Thus the pledges and contributions that had been given for the half-finished and inadequate hospital on Second Avenue would be lost. As a result of the dissension, Brooks occasionally received abusive telephone calls at home from local doctors. After the calls, Mrs. Brooks would "hit the ceiling." Barney placated his wife with the comment, "Well, Dee, you have to remember they are talking about their bread and butter." Because of his own limited financial resources, Brooks could understand the financial worries of fellow physicians. Fortunately, the antag-

onism toward Barney Brooks was not shared by all. Lucius Burch, W.A. Bryan, and Harrison Shoulders were supportive of their colleague's position.

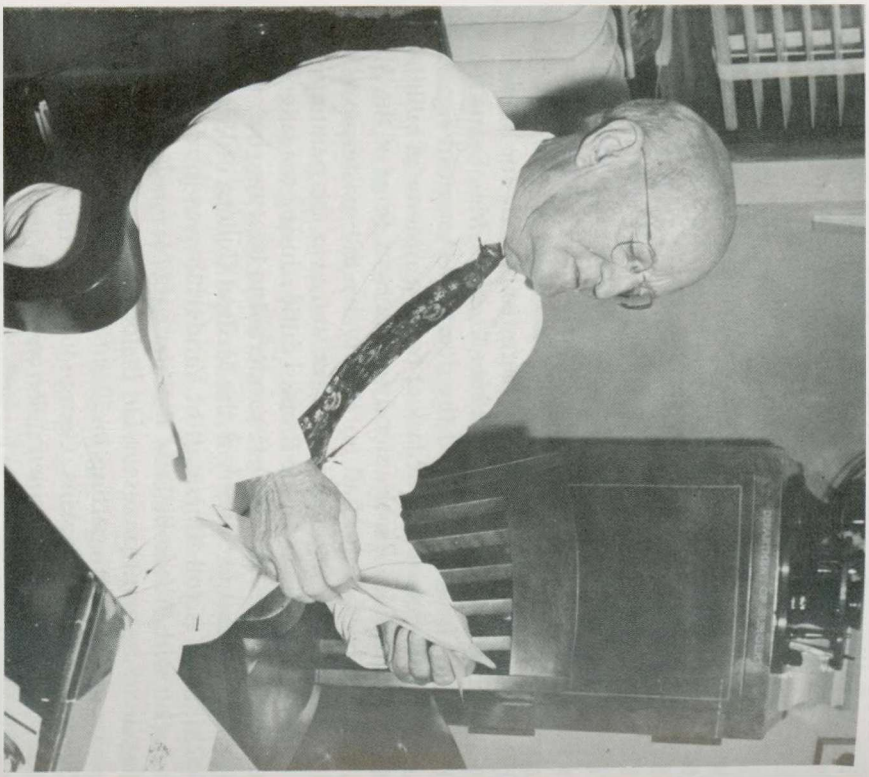
An additional unpleasantness arose from the transfer of the students from the south campus, the Rutledge Hill area where they ruled supreme, to the west campus where they were merely an integral part of a large university. Students enjoyed the more relaxed teaching of the town physicians and resented the stringent and didactic methods of the short, bald surgeon named Brooks. It has been said that Brooks was once even "booed" by students. It is difficult to comprehend *anyone* having the audacity to heckle Barney Brooks. These harassments, added to the trauma of the recent loss of his son and the stress of the move from his pleasant situation in St. Louis, might have defeated a less strong-willed person. Not Brooks, who calmly went about the task of building a strong surgical service with a capable house and teaching staff.

Brooks needed a capable surgeon to come to Vanderbilt as an associate professor and help him develop the Department of Surgery. A search included the names of many individuals who subsequently attained high esteem in American surgery. Among these were Monroe McIver and Edward Churchill of the Massachusetts General Hospital; Roy McClure and Edward Cave; and Edwin Lehman, who had been a close friend of Brooks in St. Louis and later headed the surgical department at the University of Virginia.

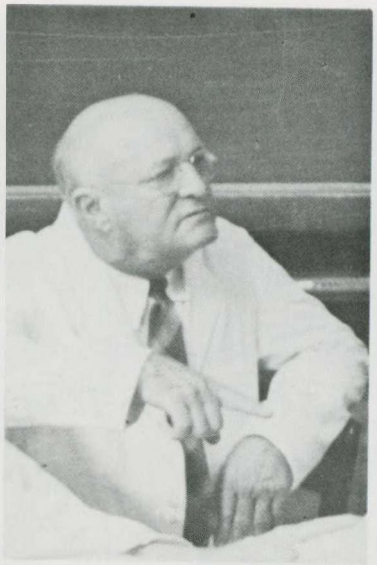
In 1927 the Rockefeller Foundation sent Brooks to Europe for six months to visit surgical clinics. Dr. Ike Bigger from the University of Virginia at Charlottesville was chosen by Brooks to run the service during his six-month absence. Brooks left detailed instructions for Dr. Bigger, who had been intern, resident, and teacher for seven years at the University of Virginia. Bigger came to Vanderbilt as associate professor of surgery, the rank he had held at Virginia. Dr. George Johnson was responsible for the management of the house staff. The visiting staff was to be given the best possible service and preference for operating times, especially if they also worked at other hospitals. Brooks felt the visiting staff would not abuse this privilege, and he knew that Bigger would work well with Dr. Bromberg in urology; with Dr. Billington in orthopedics; with Dr. Cullom in eye, ear, nose, and throat; with Dr. McKinney in neurological surgery; and with Dr. Douglas in plastic surgery.

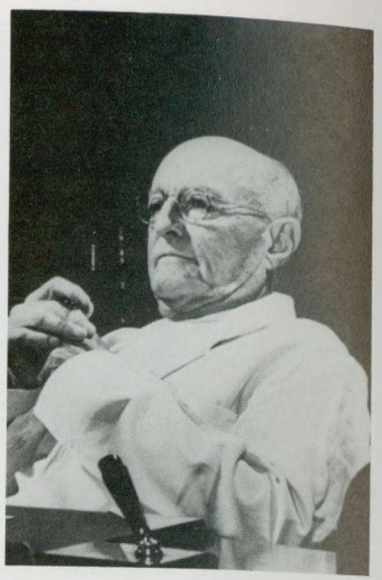
Prior to departure for Europe, Brooks received many letters of introduction from his good friend Allison. Included were letters to Robert Jones of Liverpool; Cochrane in Edinburgh; Rawley Bristow in London; Rene LeReich in Strasbourg; Gosset and Heitz-Boyer in Paris; and Rollier, Putti, and Bastianelli in Italy. The things he witnessed on the trip to Europe convinced Brooks that European surgery was abominable. Mary Jane Evans has many vivid memories of the trip. For instance, prior to departure her father insisted on having a baggy suit made for himself so that Europeans would not label him "tourist." Mrs. Evans recalls her father's frustration about the dearth of American cigarettes and his irritation about the lack of heating systems in buildings. On one occasion, Brooks stood for hours in front of the *Mona Lisa*—not because he had an affinity for the masterpiece, but because the hot air register was situated near the painting.

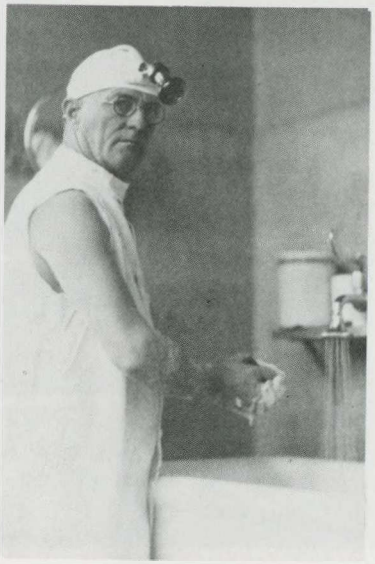
Dr. Bigger, who assumed Brooks' duties during the latter's trip to Europe, subsequently left Vanderbilt to become chairman of the Department of Surgery at the Medical College of Virginia in Richmond. A full-time staff at Vanderbilt was gradually developed with Alfred Blalock, the first surgical resident, remaining as an assistant professor. Dr. Blalock rose to the rank of full professor before departing in 1941 to head the Department of Surgery at Johns Hopkins. George Johnson, the second to hold the position of chief resident, also remained on the staff at Vanderbilt and was responsible for both the surgical pathology laboratory and the General Surgical Outpatient Department. Dr. Eugene Regen, Sr. became chief of orthopedics; Dr. Edward Barksdale chief of urology; Dr. Guy Maness, head of otolaryngology. Later, Dr. Cobb Pilcher became chief of neurological surgery. Due to the efforts of these talented and dedicated men and their leader—a surgeon whose forceful methods of instruction were unique—the teaching of surgery at Vanderbilt was probably unsurpassed in the United States.



Dr. Brooks' chief resident surgeons, 1925–1949.







4

Brooks the Teacher

IN letter after letter, former students have expressed their deep gratitude for the important and fundamental principles of surgery inculcated by Barney Brooks. In August 1949, he received the following letter from a student who subsequently became a renowned cardiac surgeon at Stanford University School of Medicine:

> . . . some time should be taken to pay tribute to the men who have been my teachers in medical school. I shall never forget the ward rounds and noon clinics presented by you. The one regret is that there were not more of them. The process of thinking is difficult to teach, but your efforts to stimulate clear thinking in us have been rewarded. A way of approaching surgical problems with precise and logical thought is still the most useful instrument in the surgeon's armamentarium. I am very grateful for the opportunity to have studied with you and to have known you. Your appearance at our Witherspoon Club meeting last spring was an inspiration for us all. Thank you for being my professor of Surgery.
>
> With greatest admiration,
> Norman E. Shumway, Jr., M.D.

Formal teaching by the chief consisted of his famous Tuesday morning clinics in the amphitheater for the entire junior and senior classes; 8:30 a.m. ward rounds for third-year students assigned to surgery; and Sunday morning walking rounds attended by all house staff, senior staff, and any students who wished to crowd in. At the Tuesday morning clinics a junior student always presented the case and a senior student was interrogated by Brooks. Both students were petrified, especially the senior. The chief often entered the arena carrying an armful of

reference books, for he prepared well for these sessions. Brooks admitted to his daughter that he attended the clinics with anxiety and foreboding. His nervousness, however, could not possibly have equaled that of the students—who had legions of "butterflies" wreaking havoc in their abdomens. After the case had been presented, Brooks would ask the senior student to delineate the salient features. Because he wanted the "meat of the matter," he would persist with questioning until the pertinent facts were elicited. The relentless quizzing continued even when the student became flustered. On occasion embarrassment was so great that syncope ensued. Did the other students in the room benefit from the discomfort of their classmate? Yes—for they could visualize themselves in a similar situation and the facts presented were thus indelibly ingrained on the minds of all.

One morning each week the third-year students assigned to the surgical service met on a ward with Brooks. On the remaining mornings of the week teaching rounds were conducted by others of the surgical staff such as Alfred Blalock, George Johnson, or Eugene Regen. The student whose patient was the subject of discussion presented the history and physical findings while Brooks sat by the bed with an elbow resting thereon and hand limply flexed. The important features of the illness were extracted from the quivering student by incisive queries and subtle hints. An improper choice of words could at times anger the chief. Once a student described a large granulating burned area as "raw." Brooks, in a disgusted tone, replied, "Man, where do you think we are, in an abattoir?" The recipient of this verbal wound, a six-foot, two hundred-pound man, broke into a cold sweat and was forced to leave the room.

Not all of Brooks' teaching sessions entailed such drama. At times the doctor embarked on a monologue about the history and background of an illness and the procedures developed over the years to effect a cure. There were occasions when a student performed well and received a modicum of praise. Farmers and wives of farmers were among Brooks' favorite patients and he sometimes spent a portion of class time discussing farm life, crops, or weather with the patient. Upon finding a post-operative patient feeling miserable, Brooks was not above requesting rubbing alcohol and talcum powder, pulling a chair to the bedside, and administering a first-class back rub.

While he often exhibited a pleasant and agreeable bedside manner, Brooks had scant tolerance for individuals of low moral or ethical stature. A rough character who had previously been admitted to the hospital for injuries sustained in a fight, was again admitted with severe knife lacerations. In order to prevent exsanguination, two teams of surgeons were required to spend several hours in the operating room during the night. Brooks recognized the patient for the distasteful character he was and, in spite of the resident's remonstrances, demanded that the rogue be discharged at once.

Brooks was always teaching and demonstrating the proper way that things should be done. Before the advent of Velcro, muslin abdominal binders were used on all laparatomy patients. The muslin cloth was pulled tight and secured with safety pins, the points of which were lubricated by sticking them into bars of soap. Rarely, if ever, did Barney Brooks see a binder applied to his satisfaction, so occasionally he would remove the binder and apply it tighter and smoother than had been done by nurses or house staff.

A delightful article by Dr. Harris Riley relates an experience he had as a third-year student with Brooks. Riley had developed excellent rapport with a patient assigned to him. When Brooks told the patient that surgery was scheduled for the following morning, the patient said, "Dr. Brooks, you will have to obtain the permission of my physician, Dr. Riley, before you can do that." In a most serious manner, Brooks agreed to a consultation. Riley, quaking in his boots, followed Brooks and retinue into the student laboratory. Several interminable moments of silence passed. The suspense was terrific, and Riley became convinced that his medical career was finished. Finally Brooks, in his characteristically clipped speech, broke the silence: "I am deeply gratified," he said, "at what we have just witnessed. That a student has established such a relationship with his patient pleases me greatly." In stunned relief, Riley listened as Barney Brooks proceeded to deliver a masterful discourse on the physician-patient relationship. In 1943, Brooks elaborated on this same subject in a paper. Entitled "Psychosomatic Surgery," the paper was published in *Annals of Surgery*, March 1944. Many letters of praise and requests for reprints were received from physicians in all disciplines and all areas of the country.

Dr. and Mrs. Brooks enjoyed entertaining guests. Each year, all members of the senior class were invited in small groups to attend the Brooks' famous Sunday night waffle and sausage suppers. There was an enormous contrast between the gracious, charming, and jovial host of the suppers and the withering interrogator of the Tuesday morning clinics. Humorous stories abound concerning the dinners at the Brooks home. One such episode pertains to two students who were playing pingpong upstairs. Suddenly they realized that the house was quiet and that the living room was dark and empty. They tiptoed down the stairs and had almost reached the front door when light flooded the room amidst laughter from Dr. and Mrs. Brooks and another student. Though embarrassed, the pingpong players weakly joined in the laughter. Another story passed down through the years concerns the student who mashed his cigarette butt on a fine china plate at the dinner table. Brooks immediately served another waffle on top of the cigarette butt, commenting that he trusted the student would enjoy it. The student ate every crumb.

In 1950 Brooks presented a special "clinic" for members of the class of 1930 who were attending their twentieth reunion. After reviewing class records, Brooks had invited several patients who had been presented to these physicians when they were students. In the introduction, Brooks remarked that he had followed the careers of the more than one thousand students involved in the clinics with more interest than any of them had realized. "It is a source of great pleasure to me to have found that, as far as I know, all of them held fast to the ideals of Vanderbilt for unselfish service to the sick and to their country in periods of depression, prosperity, and war. Perhaps my most treasured possession is a collection of letters, received from all parts of the world, expressing an appreciation of something of value remembered as having been acquired in one of my surgical clinics." The introductory remarks he committed to writing for "fear of reaching a stage of senile loquacity noted in some of his elders." He then proceeded to conduct a clinic not unlike those he had taught throughout his career. But there were differences. "This clinic," he stated, "is meant more for your pleasure than for your enlightenment." Then followed a "clinic" in which

Brooks parodied his own teaching style. Calling each doctor by the title of "Mr.," Brooks requested several men to come to the floor of the amphitheatre as if they were still students. There he quizzed them in a humorous manner. Among those queried were doctors Knickerbocker, Kizer, Jenkins, McSwain, Newman, Dozier, Larsen, Estes, and Clark. Brooks had an especially good time with Barton McSwain, an associate professor on Brooks' staff at that time. Brooks asked Barton if he were sober, if he had learned more about femur fractures than the little he had known in 1930, and whether he thought his grade should be raised. The hilarity was enjoyed by all—by Brooks more than anyone else.

The teaching of undergraduate medical students was a pleasant task to Brooks, but perhaps of equal or greater interest was the training and development of his house staff. This was a smaller group, a group who had chosen the field of surgery for their life's work. Brooks felt that his tasks and responsibilities were not only to teach surgical skills, but also to inculcate the highest moral and ethical standards; to approach patients as human beings, not merely as disease entities; to eschew any work which was inferior; and to use the English language properly.

Brooks drove his staff mercilessly. When once asked why he was such a demanding taskmaster, he is said to have replied, "How else can I teach them surgery?" House officers had no regular nights off-duty; they could leave the hospital only if all work were completed and if another house officer were willing and able to cover for them. Some interns believed that Brooks was unaware of their existence. However, just because he seemed to ignore the interns was no indication that he did not keep informed of their work. Brooks appointed a man for only one year, though if a house officer spent a year in the research laboratory he was automatically returned to general service the following year. Assistant residents were never guaranteed that they would eventually become chief residents; in fact, Barney Brooks felt it important that his men spend one or two years of training at another hospital to broaden experience and perspective. Thus, Rollin Daniel spent a year at Barnes Hospital in St. Louis; Dick Crutcher a year in San Francisco with Dr. Nafziger; Louis Rosenfeld two years in Boston with Dr. Charles Mixter

and Dr. Jacob Fine; and Tom Wyatt trained in New York with Dr. Heuer.

During Brooks' tenure, the number of surgical beds in Vanderbilt Hospital fluctuated between fifty and seventy. He expected each of his house officers to be familiar not only with the thirty or so patients on his own ward, but also with *all* surgical patients in the hospital, including the surgical specialties. Thus the entire house staff, unless in the operating room or on urgent duty elsewhere, met with the resident surgeon each afternoon at five o'clock and, going from bed to bed, briefly discussed the patients. Every intern and assistant resident, as well as the chief resident, made his own early morning rounds. It was a tightly-run service and Brooks had his finger on every facet. In this era all of the routine urinalyses and blood counts were done by the interns or medical students. Transfusions were done by the multiple syringe method in the operating suite. Typing and crossmatching of blood was done by the intern. The admission of a jaundiced person was dreaded, for vitamin K had not yet been discovered to control bleeding in patients with biliary tract obstruction.

In this milieu of work, work, and more work, it was distressing, though not surprising, that an intern committed suicide during the summer of 1936. Neither the house staff nor others of the teaching staff could comprehend the reason Brooks forbade house officers to attend the funeral. A full operating schedule was maintained that day.

Thirty-two men served under Brooks as chief resident surgeon. Eight of these met untimely deaths: two from accidents and six from suicide. None of the self-inflicted deaths occurred during the years of surgical training; most occurred years later. These men might have been considered overachievers whose accomplishments in later life, after the bright promise of the early years, had failed to live up to their expectations. To some degree, a common thread linking these six surgeons was an excessive use of alcohol.

Upon arrival at the office each morning between 7 and 7:30, Brooks immediately called his chief resident to discuss the events that had occurred during the previous night. The resident was responsible not only for Dr. Brooks' personal cases, but

also for all surgical patients; therefore, the resident's personal rounds began before 6 a.m., and if he had been off duty the preceding night, it was imperative that he be properly briefed on the night's events by the assistant resident who had been covering the service. An unwholesome lack of cooperation between one chief resident and his senior assistant resident made for a less than delightful year for the former. One evening a patient died in whom Brooks had been quite interested. The chief resident's assistant failed to inform his superior of the patient's demise. Thus, the following morning an unsuspecting chief resident was greatly embarrassed when he and Brooks entered the room to find an empty bed.

Brooks' daughter believes that, to some extent, members of her father's house staff helped fill the void left by Jimmy Brooks' death. Dr. Brooks repeatedly demonstrated a sincere interest in the careers of his staff. He mailed innumerable letters of recommendation to his many surgical friends about worthy house staff members he was not able to retain. House officers were occasionally invited to join Brooks and his family for meals. Tickets to theatrical or sporting events were sometimes given to the resident to be used by him or dispersed among the staff. The highlight of the chief resident's year was the opportunity to accompany Barney Brooks to the annual meeting of the Southern Surgical Association. One of the most memorable of such meetings was held in early December 1941 at Pinehurst, North Carolina, just two days after the attack on Pearl Harbor. This was the meeting at which Brooks was elected to the presidency of this, his favorite surgical association.

As mentioned earlier, there was no assurance that a house officer would be reappointed for an additional year of training. This uncertainty resulted in anxiety for members of the house staff. There was no set date on which notice would be given as to who would be retained and who would be let go. The decision sometimes came late in the year—at which time there was little chance to secure another worthwhile position. Dick Crutcher, on being refused an anticipated position back at Vanderbilt after working in San Francisco, secured a commission in the army. Another surgeon was unaware that he was to return to Vanderbilt until he received a letter from a Nashville clothing store re-

questing his uniform size. This letter arrived just two weeks before completion of his previous appointment in Boston.

There was a special close and reciprocal arrangement between Brooks and Dr. John Morton, chairman of the Surgical Department at the University of Rochester, and also between Brooks and his many surgical friends at Barnes Hospital in St. Louis. Most of Brooks' letters contained favorable recommendations of students, but others indicated luke-warm approbation and still others indicated frank disapproval. His honesty and integrity were so appreciated by surgical colleagues that his favorable recommendation carried great weight.

Since Brooks wished to be aware of all that was being done in the operating pavilion, his office was located across the corridor from operating suite number two. Brooks was adamant in his conviction that it was necessary for him to be available if his services should be required, especially by a member of the house staff. Concerned that a young surgeon in training might find himself in a difficult situation from which he was unable to extricate himself, Brooks wished to be on hand to come to the rescue. Once when Blalock was out of town, a senior assistant resident on Blalock's service lost a patient on the operating table from air embolism. This occurred while draining, under local anesthesia, a thick-walled chronic lung abscess. Brooks was called, assessed the situation, and volunteered to speak with the family. The house officer refused the offer. Brooks instructed the young man to come to his office after he had seen the family. When the house officer arrived, the chief made a few instructive comments and then spent the better part of an hour reassuring the young surgeon. Brooks was afraid that such a catastrophy during the house officer's training period might cause self-condemnation, loss of confidence, and so result in the ruin of a promising career.

The ambivalent attitude of house officers toward Brooks is of interest. His young surgeons had unanimous respect for Brooks' breadth of knowledge and his ability to impart this information in an unforgettable manner. There was great appreciation of his surgical technical skill, as well as his diagnostic acumen. However, his expectation of perfection and his abrupt and at times vitriolic manner generated fear in his subordinates. A call to

come to Brooks' office precipitated palpitations and gastric butterflies in all house officers. Yes, Barney Brooks was a man to respect and revere, but not one to evoke the feeling of love.

The most illustrious of Brooks' many chief residents was his first, Alfred Blalock. Blalock came from Johns Hopkins in 1925, where he had been on the house staff, and returned to Hopkins in 1941 as professor and chairman of the Department of Surgery. While at Vanderbilt, experimental work on shock brought him world-wide renown. On Brooks' staff, Blalock developed expertise in surgery of large arteries; this expertise later enabled him to utilize Dr. Helen Taussig's studies in developing his famous "blue baby" operation. Blalock developed pulmonary tuberculosis in 1927 and was confined to the Trudeau sanitarium in Saranac Lake, New York. A voluminous correspondence ensued between Blalock and Brooks, and the latter states he "had no other interest than in helping Blalock secure the most rapid and complete convalescence." An interesting letter from Blalock to Mrs. Brooks, dated 3 May 1927, reads in part: "The one thing which has given me more pleasure than anything else during the past year has been to see the popularity which Dr. Brooks has justly earned among the student body. . . .On occasion he has been extremely considerate of me, passing up many opportunities to find fault with my work." Brooks wrote to Blalock at the Trudeau infirmary: "It may be of some satisfaction to you to have me tell you that your accomplishments here were perhaps never so thoroughly appreciated as they have been since you left. We have, indeed, missed you a great deal."

Numerous other letters of interest are in their correspondence. A 1943 letter from Blalock stated he had established at Hopkins very much the same plan for student ward work as used at Vanderbilt. "We think of you very often; I am constantly impressed with how much I owe you. If I make a success of this job, and I think I will—it will be to a large extent due to you." In 1945 Blalock wrote asking for Brooks' advice on whether Blalock should leave Hopkins for the chair at Columbia-Presbyterian Hospital, which had been vacated by Dr. Allen Whipple. Brooks answered in great detail in a soft and helpful manner. There was no suggestion of any of the antagonism that had been rumored on Blalock's leaving Vanderbilt for Hopkins in 1941. Blalock was

unable to attend Cobb Pilcher's funeral in 1949 and wrote Brooks about the rough luck Brooks had had with many of his house officers. Regardless of these problems, however, Blalock acknowledged that his chief was "still the greatest."

Blalock was not the only resident who attained high stature in both academic and clinical surgery. Among those attaining professorial rank were Ralph Larsen, Cobb Pilcher, and George Johnson, all of whom remained at Vanderbilt. Cato Drash became professor of thoracic surgery at the University of Virginia and Edward Parker became professor of thoracic surgery at the University of South Carolina. Among those who became clinical professors at Vanderbilt University Medical Center were Edmund Benz, B.F. Byrd, Jr., Douglas Riddell, and Louis Rosenfeld.

Complimentary comments were rarely meted out by Brooks; thus, when a house officer received the chief's approbation it was a treasured remembrance. Once in the middle of the night, resident Edmund Benz was operating on a man with a perforated duodenal ulcer. Closure of the perforation in the usual manner would have caused obstruction of the gastric outlet. In spite of the contamination of an acute perforation, Benz resected the stomach using the Bilroth II technique. Under such circumstances, the procedure had never been done at Vanderbilt and had rarely been done elsewhere, for it was considered to be frought with risk. Ralph Larsen was in charge of the service at the time and raked Benz over the coals for using this operative procedure. Later, Brooks called Benz to his office, seated him by the side of the desk, and listened patiently to all details of the case and reasons for so radical an operation. After the facts had been presented, Brooks was silent for a few moments. Then he rolled his chair to the end of his desk closest to Benz, reached over and patted him on the knee several times, and said, "Benz, I am glad you did what you had to do and had the courage of your convictions." The patient recovered without complications.

Brooks' interest in his many house staffs did not terminate when they left his service. A humorous incident demonstrates well the degree to which Brooks would inconvenience himself in the interest of one of his men. A former resident had returned from the army, had begun the practice of surgery with offices

downtown, and was frequently seen in the company of a recently divorced lady. With not a word to the young surgeon, Brooks rode a bus downtown to inquire of a good friend (who he surmised would know the lady) whether the woman was worthy to be the wife of his former resident surgeon. The informant, well-acquainted with both parties, tried to keep a straight face. He exclaimed, "Hell, Barney, I wonder if he is worthy of her! She is my very favorite first cousin!" Subsequently, the lady became a good friend of Brooks and she did marry the young surgeon. Barney Brooks approved.

The chief had great reservations about house officers marrying while on his service. Occasionally he would give a position to a surgeon already married; this was an exception, however, for Brooks believed that it was impossible to satisfy the demands of both surgical training and marriage. He was especially censorial of men who attempted to meet the demands of courtship and subsequent marriage while working as house officers. Every house officer was well aware that his position would be automatically terminated should he be brave enough to flaunt the edict. While working as an assistant resident, Dr. Andrew Mayer married and was duly relieved of his duties. Brooks, however, secured an excellent position for Mayer with Dr. Sam Harvey at Yale. Another such case concerned the late Dr. Hal Houston, an excellent intern who attempted to spend as much time as possible with his fiancee. He wished to be married as well as remain an assistant resident, but could not do both. Knowing the consequences, Houston married and moved to Louisville for a four-year residency. Years later, at a residents' banquet, Houston gave a little speech in which he stated that when confronted with a difficult surgical problem he depended not only on his Louisville training, but especially upon the basic and fundamental principles inculcated by Brooks during medical school and intern years.

A banquet was customarily held to honor the chief resident surgeon near the end of his tenure. In June 1942, with war in progress, a banquet was deemed inappropriate and so a picnic supper at Dr. Rudolph Light's farm was held. When baseball and horseshoes were played, Barney Brooks became just one of the boys, participating joyfully. The Vanderbilt Medical Unit, the

"300th General Hospital," was shortly to be mobilized. Though Brooks had no official control over the assigned duties of surgeons in the unit, his wishes bore weight. Around the campfire that June evening he announced the type of work each surgeon would be doing in the unit. One had requested chest work, but Brooks explained that this request could not be granted since Edward Parker had previously requested it and had been assigned the duty.

The years of World War II were difficult ones for Brooks. He could not tolerate mediocrity. The students and some of his house staff were not always up to his usual high standards. However, Brooks' chief residents were capable: Rosenfeld for 1941–42; Buchholz for 1942–43; Meacham for 1943–44; and Benz for 1944–45. The staff under the chief residents consisted of fewer men than usual; thus, Brooks' teaching duties were greatly increased. There is little doubt that the physical and mental stresses of these years took their toll on Brooks' health.

5
Brooks the Surgeon

DUE to his vast clinical experience and his ability to analyze historical and physical findings, Barney Brooks was an astute diagnostician. A case in point is that of a young female who had been experiencing abdominal pain for twenty-fours hours and had a right lower quadrant mass. The resident believed the patient had a ruptured appendix with an appendicial abscess. Brooks looked at the patient from a distance of a few feet, turned to his staff, and told the resident to take her to the operating suite and remove a twisted ovarian cyst. Brooks' diagnosis was correct. The short duration of symptoms, the asymmetrical abdomen, and the tender mass in a young female were not indicative of an appendiceal abscess.

As a consultant, Brooks was asked to see a man who was a patient on the medical service. Dr. Brooks diagnosed a perinephric abscess and recommended drainage. The medical service did not concur, and opted to repeat some of the diagnostic tests. A week later a surgical consultation was again requested for the patient. Brooks replied that he had already seen the patient, had diagnosed a perinephric abscess which required drainage, and knew no reason that he should see the patient again. With the resident surgeon as intermediary, the medical service finally agreed to Brooks' recommendation. Brooks rarely underwent a full preoperative scrub when he anticipated encountering pus, so after a brief hand-washing he was gowned and gloved. The stands were filled with physicians of the medical staff. Though Brooks had not seen this patient for a week, he strode confidently to the table and with a single stroke of the scalpel made a long and deep incision in the patient's flank. Pus gushed forth in large quantity. Brooks stepped back, commanded his assistant to insert drains, and stalked out of the room without another word.

Another example of Brooks' perspicacity concerned a patient with typhoid fever whom he had seen in consultation. Early one morning a few days after consultation, the resident was reviewing with Brooks the happenings of the previous night. The resident mentioned that the patient with typhoid fever had developed abdominal pain, distension, and tachycardia. Brooks knew that patients with typhoid fever do not have distension and pain, much less a fast pulse, unless some complication has arisen. Patients with typhoid fever normally have slow pulse rates. The resident was instructed to take the patient to the operating room immediately and close the perforated typhoid ulcer in the ileum. This was exactly the complication that had occurred. The patient slowly recovered from the perforation and the typhoid fever. Most patients with perforated typhoid ulcers succumb to the disease.

A masterful technical surgeon, Brooks approached problems in a logical and direct manner. Though it is not possible to be certain of another person's thought processes, one might conjecture that either consciously or subconsciously, Brooks thoroughly analyzed and planned the operative approach to each case he undertook. Should he encounter the unexpected, Brooks' broad experience, his knowledge of human anatomy, both normal and abnormal, and his keen analytic mind enabled him to handle the most difficult situations. He demanded alertness and maximum effort from his assistants around the operating table, and woe to the person who went to sleep while on the end of a retractor. Brooks was not a temperamental surgeon, never throwing an instrument in anger and rarely raising his voice. However, if a patient's abdominal muscles became rigid when Brooks was working in the abdomen, the nurse anesthetist might receive a sharp rebuke. While Brooks never dawdled or was indecisive or wasted time when operating, he was not a "fast" surgeon. His incisions were liberal, for he strongly believed in adequate exposure. He was meticulous in obtaining complete hemostasis. Usually, unless on a tight schedule, Brooks would stay throughout the entire operation, even to the skin closure, in order to train staff in the exact way all phases of the procedure should be done. During and after the war years, fatigue and time constraints made these lengthy hours at the operating table less frequent.

As demonstrated by the story of Brooks' drainage of the perinephric abscess, it was not beyond the chief to be a bit of a showman. In 1941 the resident requested a light Saturday morning operating schedule, as the Vanderbilt-Tennessee football game was to be played that afternoon. Much to the resident's chagrin, Brooks decided during Friday rounds to operate on four lengthy cases Saturday morning. He announced that he intended to use two operating rooms, two anesthetists, and two teams of nurses and house staff. On Saturday morning, Brooks performed the essential phase of each operation–and the fourth and final case was completed promptly at noon.

In April 1939 the Society of Clinical Surgery held its annual meeting in Nashville. At this time there were only two Nashvillians–Barney Brooks and Dr. William Haggard–who were members of this, the most prestigious of all surgical societies. Haggard was ill and did not attend the meeting. Brooks demonstrated his surgical expertise by performing a gastric resection, a cholecystectomy, and repair of an arterio-venous aneurysm. Other operations were demonstrated by his staff members, among whom were Blalock, Daniel, Johnson, Kirtley, Larsen, Parker, and Pilcher.

In the Vanderbilt operating rooms, Brooks demanded a high calibre of work not only from house staff and full-time staff, but also from those surgeons who practiced in Nashville and held clinical appointments in the Medical School. At times Brooks would request a surgeon to accompany him to his office after the surgeon had completed an operation. There, Brooks might make suggestions. In at least one instance he suggested that the individual watch the resident surgeon perform the same type operation the surgeon had just completed. Needless to say, few general surgeons practicing in Nashville continued to operate at Vanderbilt. Those who were capable, however, were strongly encouraged by Brooks to work at Vanderbilt Hospital and continue teaching and operating there.

With several Nashville surgeons Brooks developed strong ties of friendship and mutual admiration; among these colleagues were L.W. Edwards, Harrison Shoulders, Sr., Nathaniel Shofner, and Marvin Cullom. Even though he rarely operated at Vanderbilt, William Haggard was appointed by Brooks to conduct the Friday morning surgical clinic in the ampitheatre for junior and

senior students, the counterpart of Brooks' famous Tuesday clinic. Haggard was a renowned orator and his flowery use of the English language was fascinating to hear. Perry Bromberg, who gave a series of lectures on urology, was also a fine orator.

Brooks' heavy responsibilities and time-consuming duties during the early years at Vanderbilt precluded his spending as much time in the experimental laboratory as he had in St. Louis. He ran a very tight service, demanding that he be informed of all activities on the surgical wards. While the famous case in which he successfully treated an aneurysm of the abdominal aorta occurred in St. Louis, Brooks' interest in the disease persisted after his move to Nashville. In 1926 he published two papers from Vanderbilt on the experimental aspect of the subject. In 1928, in conjunction with Blalock and Johnson, another manuscript on aortic aneurysms was published. In 1929 he published an article on diseases of the gallbladder in the *Journal of the Southern Medical Association*. For the Rockefeller Foundation's series, *Methods and Problems of Medical Education*, Brooks wrote an article about the Vanderbilt School of Medicine's surgical department. Before the St. Louis Surgical Society on 15 January 1929, Brooks made a presentation on "Surgical Applications of Therapeutic Venous Obstruction"; the paper was published in the July edition of *Archives of Surgery*. This same year Brooks became fascinated by a patient with unilateral clubbing of the fingers and Dupeytron's contraction, both of which were apparently due to a spontaneous aneurysm of the axillary artery. After operating successfully on the man, Brooks wrote a detailed report of the case.

The breadth of Brooks' interests is manifest in the great variety of subjects on which he wrote. He authored three manuscripts on partial gastric resection for peptic ulcer disease; the first was completed in 1932 and the last in 1944. Even though Brooks was a pioneer in the radical approach to peptic ulcer disease, his criteria for patient selections were rigid and operations were recommended only after failure of more conservative therapy. In 1934 Brooks and Blalock co-authored a famous paper elucidating the pathogenesis of shock. In a 1936 sequel to Brooks' landmark paper on Volkman's ischemic contracture, a manuscript written in conjunction with Rogers Hill was published on this condition as evidenced in hemophiliacs. Brooks published two papers pertaining to carcinoma of the breast. The first of these, presented

before the Southern Surgical Association in 1939, delineated the "Present Status of the Radical Operation for Carcinoma of the Breast." The second paper, one of his last publications, was entitled "The Influence of Pregnancy on Cancer of the Breast." In the April 1937 issue of *Annals of Surgery*, Brooks published an article on "Surgery in Patients of Advanced Age." Probably as a result of this manuscript he was invited to be a participant at the University of Pennsylvania's bicentennial celebration. This prestigious affair lasted four days and included addresses by Herbert Hoover and President Franklin D. Roosevelt, as well as a host of other famous and learned persons. Brooks' contribution occurred during a symposium on medical problems of old age, in which he discussed the surgical aspects.

During the few years preceding World War II Brooks was able to resume work in the experimental laboratory. George Duncan, an assistant resident assigned to the laboratory, ably assisted Brooks in fundamental work pertaining to the effects of temperature and pressure on the healing of wounds and the survival of ischemic tissue. The two men constructed ingenious equipment enabling them to study these phenomena on the tail of the living rat. Three publications ensued from this work—one appearing in *Archives of Surgery*, volume 40, 1940, and two published in *Annals of Surgery*, one in July 1940 and the other in December 1941. Duncan resigned his position at Vanderbilt in 1941 to accompany Blalock to Hopkins. This did not please Brooks, for he felt that Duncan carried with him Brooks' ideas and techniques for investigating the effects of temperature and pressure on tissue. During the next few years, publications by Blalock and Duncan dealt with the effect of heat and cold as it pertained to survival of animals in shock. However, instead of using the rat tail techique, the two used an experimental model that Blalock had employed in earlier work on shock—namely, the traumatization of an extremity of an anesthetized dog. No investigations were published by Duncan from Hopkins in which the rat tail technique was utilized. Brooks' prior work was credited in the Hopkins publications where appropriate. As manifested in several warm and personal letters exchanged in later years, Brooks and Blalock's estrangement was not permanent.

The presidential address given by Brooks before the 1943

meeting of the Southern Surgical Association in New Orleans was entitled "Psychosomatic Surgery." The presentation was well-received by this group of capable surgeons. Published in the March 1944 issue of *Annals of Surgery,* the paper received accolades not only from surgical peers but from a large number of psychiatrists and internists. Eyebrows were raised that a famous surgeon published a manuscript emphasizing the need for all surgeons to consider anxieties and fears of patients and the need to appreciate the emotional stress occasioned by an operation. One of his last publications was entitled, "The Making of a Surgeon, Yesterday and Today." This paper was read before the St. Louis Medical Society on 10 May 1947 at a banquet honoring the famous plastic surgeon Dr. Vilray Papin Blair. Brooks and Blair were close friends; thus, Brooks was the logical choice to be principal speaker for the occasion. The address was later published in the *Journal of the Missouri State Medical Association.*

Time after time, Barney Brooks was invited to address medical groups. In the early years at Vanderbilt, he availed himself of opportunities to speak at many local medical meetings in Tennessee, Alabama, Kentucky, and Mississippi. This exposure helped him develop a referral practice that benefited both him and Vanderbilt Hospital. Later it became necessary for Brooks to refuse many invitations due to the time and expense involved in his responsibilities to national surgical organizations of which he was a member. The list of invitations tendered but refused is too lengthy for mention here. A few of the invitations accepted follow:

February 1919. Presented "The Surgical Treatment of Osteomyelitis" to the Pulaski County Medical Society on the evening preceding the Arkansas State Medical Meeting.

January 1921. Gave a demonstration to the St. Louis Medical Society.

March 1921. Presented a demonstration on bone work before the Joplin, Missouri Medical Society.

March 1922. At the American Medical Association convention, opened the discussion on two papers about intestinal obstruction.

1922. At the St. Louis Medical Society, discussed two cases of aneurysm of the lower extremity.

1923. In Omaha, Nebraska, gave the Oration on Surgery before the Medical Society of the Missouri Valley.

1924. Addressed the American Surgical Association, the Americal Orthopedic Association, and the American Medical Association.

April 1925. Received an invitation from Dr. Charles Cowden, president of the Nashville Academy of Medicine, to give an address on *any* subject at *any* regularly scheduled weekly meeting of the organization.

May 1925. Due to his son's illness, was forced to cancel a planned presentation before the Pacific Northwest Medical Association.

March 1927. Addressed the Arkansas Medical Society, which he attended in spite of extensive flooding in the state of Arkansas.

January 1928. Spoke on gallbladder disease before the Chattanooga Medical Society.

January 1928. Spoke at a Clarksville, Tennessee medical meeting.

March 1928. Presented an address on arterio-venous fistula at Hopkinsville, Kentucky.

October 1928. Addressed the Rutherford County Hospital Institute in Murfreesboro, Tennessee.

January 1929. Gave the Hodgen Lecture before the St. Louis Surgical Society. This was a very prestigious lecture, previously given by such notable doctors as Rudolph Matas, Samuel Mixter, J.M.T. Finney, John Gibbon, and Dean Lewis.

September 1930. Presented "Diagnosis and Treatment of Congenital Pyloric Stenosis" to the Knox County Medical Society.

March 1932. In Birmingham, Alabama, spoke on "Syphilis of the Stomach."

1933. Invited by doctors Roger Hill and J. Kuhns to take an

extended trip to Honolulu and give a series of lectures and clinics.

1934. Addressed the Tennessee Medical Association meeting.

1935. Was guest speaker at the Chattanooga, Hamilton County Medical Society. He submitted an expense report of $13.70.

1935. Spoke before the Washington County Medical Society at Johnson City, Tennessee.

1945. Gave the Arthur Dean Bevan Lecture at the Chicago Surgical Society.

In addition to the above engagements, Brooks gave numerous other addresses before small-to-medium sized groups. Many papers given before surgical societies were subsequently published in medical journals. These papers are recorded in the bibliography at the end of this book.

6
Later Years

IN DECEMBER of 1944 a surprise party was held at the Belle Meade Country Club in honor of Barney Brooks' sixtieth birthday. Pilcher and Daniel were in charge of arrangements, and preparations had been begun many months before the party. Invitations were sent to colleagues, friends, and pupils; the invitations requested that congratulatory letters be sent by those unable to attend. The presence of many famous physicians lent elegance to the occasion. These dignitaries included Evarts Graham of St. Louis, Alton Ochsner of New Orleans, and Waller Leathers and Hugh Morgan of Vanderbilt. Hugh Morgan arrived wearing the full regalia of a brigadier general. There was a tremendous response in the form of letters and telegrams from those unable to attend the function. Outstanding surgeons who responded included Dallas B. Phemister, R.W. Billington, Alfred Blalock, Walter Dandy, John Morton, and Rudolph Matas. Many letters were received from former students and house officers. In his paper presented before the Vanderbilt Society of Historical Medicine, Byron Green quoted the letters written by Kirtley, Rosenfeld, and Light. Since the long letter from Rudolph Light is so delightful, it is reproduced here in full:

> Not to be present at Dr. Brooks' birthday party is one of the losses that war brings many of us. For one of his students to attempt to express himself adequately on such an occasion is a greater task than enduring combat. No one who has been in contact with him has failed to be touched by a form of hero-worship and to date I have heard of none who has discovered feet of clay. However, after considerable thought, I have concluded that the man just isn't fair. I cite a few illustrations to prove my point.
>
> Confidentially, Cobb, I wouldn't for the world have this reach

his ears. His golf stinks, his swing is lusty but erratic and his results fantastic. I've seen him take a stance nearly at a right angle to the flag, lunge into his iron shot like a man trying to break down a door, pivot on his right foot and end up facing ninety degrees to the left of the flag. That such a procedure should take the ball to within a few inches of the cup is not fair. Again, I recall an occasion when his ball rested on the far lip of a ditch so that it was impossible to take a normal stance. As he walked up, he blithely stated, "A man ought to have a left-handed club for this," and he actually pulls one out of his bag, addresses the ball left-handed and pitches up on the green. It ain't fair!

Take his bridge. Anybody who has played with or against him cannot fail to realize that he has no conception of the bidding conventions which many experts have spent years in devising. His ignorance of card values is truly to be pitied; I know of few more harried moments than those just after one lays down a minimum one club bid as Dr. Brooks wriggles into his chair to play the hand at the seven no trump response he has made. One's opponents chortle over their double and chide him on his redouble. Then he makes the hand! No matter how nice it is to win, it isn't fair. And, if you by chance are an opponent in such a predicament, you lie awake for hours that night wondering how in hell he made it in the face of your two ace-kings.

Again, his farming. Those of us who have been indulging in bucolic pursuits have had many occasions to wonder why we can't do as well. In the spring he asks, "What did your lambs average?" "Thirteen dollars, we reply." His averaged fourteen-fifty. In the summer, "What did you get for your wool?" "Fifty-two cents a pound." His brought fifty-four cents. In the fall, "How much hay did you make?" "Fifty tons from fifty acres." He says, "I made fifty tons from thirty acres." Now you've got him and you ask, "How much did you get a ton?" "Oh, I didn't sell any." The man ain't fair.

Finally, his teaching. In common with every one of his students I have forgotten little of his teaching and none of that imparted when I was up for one of his clinics or ward rounds. No one who has survived an hour of his pertinent questioning, who has gone through that soul-searing moment when the

mind becomes a blank and the body aches to fade through the floor out of sight, can fear anything that the Japs or Hitler can devise; the ultimate in emotion has already been reached, and you never forget! Often I wake in a cold sweat, trembling in every limb, recalling the memory of my first ward round; a case of multiple arteriovenous fistulae. Helpful interns and residents had bolstered my morale by pointing out that this was the chief's dish and that he saw and examined the patient four times a day. I had MEMORIZED Christopher, Homans, Sir Thomas Lewis, and the chief's chapters in Graham's *Surgical Diagnosis;* I was a walking encyclopedia on arteriovenous aneurysms; I was panting to impart my knowledge. Came the day and I found that in some snide manner he had turned this case of his into a discussion of scurvy! There may possibly have been some hint of this being part of the differential diagnosis but to me, floundering in my blur of Captain Cook and south sea natives as my only reply to his forty-five minutes of rights and lefts to the jaw, it was an underhand bit of maneuvering. At last, limp and groggy, I opened my mouth to slay him with my first chance to answer a question on aneurysms, to find that he had wearied of me and was attacking fresher game. All I'll ever know of scurvy I learned from him that day but I've never had a chance to quote to him, "Aneurysms may be static or dynamic." Unfair, I say.

With such a record one wonders how he has achieved the widespread reputation of which his students are aware from the moment of their first contact with him and which is accompanied by a feeling that will become veneration when he is old enough to allow it but which for the next fifteen or twenty years can only be expressed by the word "adoration."

Please give to Dr. Brooks my most heartfelt wishes for "A happy birthday and many more to come."

A letter from Lieutenant Colonel James A. Kirtley reads:

Dear Chief,

The surgical service that you are running (by proxy) overseas would like to be among the group honoring your birthday. I feel that the service that has been rendered by the men and women of this unit whom you have taught and

> trained is a tribute to a great teacher. I am sure that the close teamwork, the willingness to put in long hours to attain a better result, and the "surgical alertness" of the surgical service are due to your training at Vanderbilt."

The third letter quoted in Byron Green's paper about Barney Brooks was by Captain Louis Rosenfeld:

> Your house staff over here, for truly this is your hospital, is mute testimony to the training you have given over the past eighteen years to Vandy men and we are attempting to do justice to that knowledge imparted by you. If we fail at times it is not that you have not taught us the correct way. Constantly, both in open conversation and discussion, as well as even more frequently in our own minds, the ever-present question arises, namely: "What would the Chief do under like circumstance?"

Brooks' sixty-fifth birthday was also celebrated at a black tie banquet at the Belle Meade Country Club. Since the war had ended, many former house officers had come home from abroad and were able to attend the festivities. Cobb Pilcher's recent death weighed heavily upon the mind of Brooks. While conversing with a newlywed couple, he inquired how they spent their evenings. When told that the evenings were spent together, playing cards and reading, Brooks replied, "I wish that Cobb had done that." Pilcher had been a recognized workaholic whose office lights had shone nightly into the wee hours.

Until 1946, Brooks' general health was good. He did have frequent attacks of bronchitis or even broncho-pneumonia perhaps enhanced by an excessive consumption of cigarettes. Because he had a hydrocele of appreciable size, the chief resident was assigned the unpleasant duty of evacuating the hydrocele about twice yearly with a large syringe and needle. As early as 1932, Brooks' blood pressure was 152/92, but he was asymptomatic. In 1946 he became ill with murine typhus. This time, when he was admitted to the hospital his blood pressure had risen to 175/95 and an electrocardiogram revealed myocardial disease. He was free of symptoms and continued his heavy routine. Readmitted to the hospital in 1949, Brooks exhibited symptoms of congestive heart failure and evidence of a prior coronary occlusion. His

blood pressure was now 190/115. Improving rapidly, Brooks was discharged after five weeks with the admonition that he should limit activities. Soon, however, he returned to his usual routine.

On 25 June 1951 Brooks suffered a cerebrovascular accident with a right hemiparesis and was hospitalized for ten days. The last year of life was a sad and frustrating one for Barney Brooks, during which he spent hours at a time shut in his office reviewing correspondence files. He had hoped that Rollin Daniel would be appointed to succeed him. This was not to be, however, and Brooks deeply resented that the search committee, even out of courtesy, had not consulted him about his successor. In earlier years he had hoped that Blalock would succeed him at Vanderbilt. There are copies of letters in Brooks' file in which he states that he had specifically trained Blalock to return to Hopkins as chairman of the Department of Surgery.

On 12 February 1952, Brooks suffered another stroke with convulsions and loss of consciousness. He survived this episode only to have a massive gastrointestinal hemorrhage. With the aid of twenty-five units of blood, he survived. Even though he seemed to be improving, he suffered generalized convulsions on 30 March and died at 7:35 that evening.

Thus ended the illustrious career of a man, enigmatic in many ways, who brilliantly advanced the field of surgery by his original and innovative investigative work, his skill in patient care, his expertise in the operating room, and above all by his unique and dynamic method of teaching.

Bibliography

Allison, Nathaniel, and Brooks, Barney. The Mobilization of Ankylosed Joints: An Experimental Study. *Surgery, Gynecology, and Obstetrics.* (Dec. 1913), v.17, no.6:645-663.

———. Ankylosis: An Experimental Study. *Surgery, Gynecology, and Obstetrics.* (Nov. 1914), v.19, no.5:568-581.

Murphy, Fred T., and Brooks, Barney. Intestinal Obstruction: An Experimental Study of the Causes of Symptoms and Death. *Archives of Internal Medicine.* (Mar. 1915), v.5:392-412.

Allison, Nathaniel, and Brooks, Barney. Ankylosis: An Experimental Study. *Journal of the American Medical Association.* (Jan. 1915), v.64:391-92.

Brooks, Barney. Studies in Bone Regeneration and Growth of Bone. *Annals of Surgery.* (June 1917), v.65, no.6:704-11.

———. Studies in Bone Regeneration. *Annals of Surgery.* (Dec. 1917), v.66, no.6:625-639.

Allison, Nathaniel, and Brooks, Barney. Arthroplasty: Experimental and Clinical Methods. *American Journal of Orthopedic Surgery.* (Feb. 1918), v.16:1-11.

Brooks, Barney. Intestinal Obstruction: An Experimental Study. *Annals of Surgery.* (Feb. 1918), v.68, no.2:211-15.

———. Umbilical Teratoma: A Report of a Case Containing Pancreas and Intestine. *Annals of Surgery.* (June 1919), v.69, no.6:603-5.

———. Studies in Bone Transplantation: A Study of a Method of Increasing the Osteogenetic Power of a Free Bone Transplant. *Annals of Surgery.* (Feb. 1919), v.69, no.2:113-126.

———. The Treatment of Traumatic Arteriovenous Fistula. *Surgical Medical Journal.* (Feb. 1920), v.23:100-106.

Brooks, Barney, and Hudson, William A. Studies in Bone Transplantations: An Experimental Study of the Comparative Success of Autogenous and Homogenous Transplants of Bone in Dogs. *Archives of Surgery.* (Sept. 1920), v.1:284-309.

Brooks, Barney. Exarticulation of the Hip Joint with Preliminary Ligation of the Common Iliac Artery. *Journal of the American Medical Association.* (Jan. 1921), v.76:94-96.

Allison, Nathaniel, and Brooks, Barney. Bone Atrophy: An Experimental and Clinical Study of the Changes in Bone which Result from Non-Use. *Surgery, Gynecology, and Obstetrics.* (Sept. 1921), v.33, no.9:250-60.

Brooks, Barney. Pathologic Changes in Muscle as a Result of Disturbances of Circulation: An Experimental Study of Volkmann's Ischemic Paralysis. *Archives of Surgery.* (July 1922), v.5, no.1:188-216.

———. Bone Atrophy. *Southern Medical Journal.* (Oct. 1922), v.15:823-25.

Allison, Nathaniel, and Brooks, Barney. Bone Atrophy: A Clinical Study of Changes in Bone which Result from Non-Use. *Archives of Surgery.* (Nov. 1922), v.5:499-526.

Brooks, Barney. Two Cases of Aneurysm. *Surgical Clinics of North America.* (1922), v.2:1657-73.

Brooks, Barney, and Martin, Kirby A. Simultaneous Ligation of Vein and Artery. *Journal of the American Medical Association.* (June 1923), v.80:1678-81.

Copher, Glover H., and Brooks, Barney. Intestinal Obstruction: An Experimental Study of the Therapeutic Value of the Administration of Sodium Chloride. *Annals of Surgery.* (Dec. 1923), v.78, no.12:755-60.

Brooks, Barney. Diseases of the Blood Vascular System of the Extremities—An Experimental Study. *Journal of Bone and Joint Surgery.* (Apr. 1924), v.6:326-34.

———. Intra-Arterial Injection of Sodium Iodide. *Journal of the American Medical Assocation.* (Mar. 1924), 82:1016-19.

Brooks, Barney, and Lehman, Edwin P. The Bone Changes in Recklinghausen's Neurofibromatosis. *Surgery, Gynecology, and Obstetrics.* (May 1924), v.38, no.5:587-95.

Brooks, Barney, and Joster, Fred A. A Clinical Study of Diseases of the Circulation of the Extremities. *Archives of Surgery.* (Nov. 1924), 9:485-503.

Brooks, Barney. Bone Tumors. *The Southern Medical Journal.* (Apr. 1925), 18:274-82.

———. New Methods for Studies of Diseases of the Circulation of the Extremities. *Journal of Bone and Joint Surgery.* (Apr. 1925), v.7, no.2:316-17.

Probstein, J.G., and Brooks, Barney. Subungual Exotoses. *Journal of the Missouri State Medical Association.* (June 1925), v.22:211-14.

Brooks, Barney. Ligation of the Aorta: A Clinical and Experimental Study. *Journal of the American Medical Association.* (Sept. 1926), v.87:722-25.

———. Ligation of the Aorta: An Experimental Study. *Transactions of the Southern Surgical Association.* (1926), v.39:228-35.

———. Diseases of the Circulation of the Extremities. *Journal of Medicine.* (Feb. 1927), v.7:642-646.

Brooks, Barney; Blalock, Alfred; and Johnson, G.S. Ligation of the Terminal Abdominal Aorta: An Experimental Study. *Archives of Surgery.* (Nov. 1928), v.17:794-812.

Brooks, Barney. Surgical Applications of Therapeutic Venous Obstruction. *Archives of Surgery.* (July 1929), v.19:1-23.

———. Diagnosis and Treatment of Disease of the Gallbladder. *Journal of the Southern Medical Association.* (Mar. 1929), v.22:233-36.

———. Vanderbilt University School of Medicine, Department of Surgery. *Methods and Problems of Medical Education,* no. 13. (1929) New York: The Rockefeller Foundation.

———. Aneurysm of the Axillary Artery: Spontaneous Aneurysm of First Portion of Axillary Artery with Unilateral Clubbing of Fingers and Dupuytren's Contracture. *Surgical Clinics of North America.* (Aug. 1930), v.10, no.4:741-755.

———. Congenital Hypertrophic Pyloric Stenosis: A Report of Ten Cases. *Journal of the Tennessee State Medical Association.* (Feb. 1931), v.24, no.2:48-55.

Brooks, Barney, and Johnson, George S. An Experimental Study of the Distribution of the Peripheral Blood Flow. *Journal of Bone and Joint Surgery.* (Jan. 1932), v.14, no.1:102-8.

Brooks, Barney. The Surgical Treatment of Arterial Aneurysm. *Journal of the Tennessee State Medical Association.* (June 1932), v.25, no.6:215-19.

———. Treatment of Peptic Ulcer by Resection of the Stomach. *Southern Medical Journal.* (Jul. 1932), v.25, no.7:682-87.

Brooks, Barney, and Hillstrom, Harry T. Effect of Roentgen Rays on Bone Growth and Bone Regeneration. *American Journal of Surgery* (June 1933), v.20:599-644.

Brooks, Barney; Johnson, George S.; and Kirtley, James A. Simultaneous Vein Ligation: An Experimental Study of the Effect of Ligation of the Concomitant Vein on the Incidence of Gangrene Following Arterial Obstruction. *Surgery, Gynecology, and Obstetrics* (Sept. 1934), v.59:496-500.

Brooks, Barney, and Blalock, Alfred. Shock, with Particular Reference to that Due to Hemorrage and Trauma to Muscles. *Annals of Surgery.* (Oct. 1934), v.100:761-69.

Brooks, Barney, and Johnson, G.S. Simultaneous Vein Ligation: An Experimental and Clinical Study of Therapeutic Venous Occlusion. *Annals of Surgery.* (Oct. 1934), v.100: 761-69.

Hill, Rogers Lee, and Brooks, Barney. Volkmann's Ischemic Contracture in Hemophilia. *Annals of Surgery.* (Mar. 1936), v.103, n.3.

Brooks, Barney. Surgery in Patients of Advanced Age. *Annals of Surgery.* (Apr. 1937), v.105, no.4:481-95.

———. Surgery of the Stomach. *The Mississippi Doctor.* (Apr. 1937), pp. 7-11.

Brooks, Barney, and Wyatt, Thomas E. Surgery of the Gallbladder. *Annals of Surgery.* v.109, no.3:334-50.

Brooks, Barney, and Duncan, George W. Effects of Pressure on Tissues. *Archives of Surgery.* (Apr. 1940), v.40:696-709.

Brooks, Barney, and Daniel, Rollin A. The Present Status of the "Radical Operation" for Carcinoma of the Breast. *Annals of Surgery.* (May 1940), v.3, no.5:688-99.

Brooks, Barney, and Duncan, George W. The Effects of Temperature on the Survival of Anemic Tissue. *Annals of Surgery.* (Jul. 1940), v.112, no.1:130-38.

Brooks, Barney. The Influence of Temperature on Wounds. *Annals of Surgery.* (Dec. 1941), v.114, no.6:1069-75.

———. Intestinal Drainage—Uses and Abuses in Obstruction. *Journal of the Tennessee State Medical Association.* (Sept. 1942), v.35, no.9:335-39.

Brooks, Barney, and Weinstein, Albert. Cyst of the Ampulla of Vater. *Annals of Surgery.* (May 1943), v.117, no.5:728-34.

Brooks, Barney. Psychosomatic Surgery. *Annals of Surgery.* (Mar. 1944), v.119, no.3: 289-99.

Brooks, Barney, and Meacham, William F. Partial Gastrectomy for Duodenal Ulcer. *Journal of the Southern Medical Association.* (Feb. 1945), v.38, no.2:150-55.

Brooks, Barney. The Making of a Surgeon, Yesterday and Today. *Journal of the Missouri Medical Association.* (Aug. 1947), v.44:578-84.

Brooks, Barney, and Proffitt, James N. The Influence of Pregnancy on Cancer of the Breast. *Surgery.* (Jan. 1949), v.25, no.1:1-11.

Brooks, Barney. Surgery in the Aged. *Fifth Clinical Conference of the Chicago Medical Society.* (1949), pp. 57-60.

———. Diseases of the Blood Vessels. In *Surgical Diagnosis by American Authors.* vol. I, 3 vols. ed. Evarts Ambrose Graham, pp. 209-250. London: W.B. Saunders, 1930.

References

Green, Byron E. Dr. Barney Brooks, 1884-1952. *American Journal of Surgery.* (Nov. 1959), v.98:706-12.

Daniel, Rollin. Barney Brooks, 1884-1952. In Memoriam. *Transactions of the Southern Surgical Association.* (1952).

Riley, Harris D., Jr. A Medical School Experience. *Vanderbilt Medicine.* (Spring 1984), v.2:30-32.