

Historical Vignette

The Duke University Medical Center

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✓ The events leading up to the creation of Duke University, the Duke University School of Medicine, and Duke Hospital are reviewed. The efforts of many individuals during more than 80 years were rewarded by an endowment and then a bequest by James B. Duke that converted Trinity College into Duke University and made possible the origination of its Medical Center. The first neurosurgical operation at the new hospital was performed on July 24, 1930, the fourth day it was open.

KEY WORDS • Duke University Medical Center • neurosurgical history • historical vignette

IN December, 1924, less than a year before he died, James B. Duke established Duke University with an endowment that was the culmination of many philanthropic contributions by the Duke family. By this action, Mr. Duke converted Trinity College into Duke University in honor of his father, Washington Duke, whose gifts had made possible the building of Trinity College in Durham, North Carolina, in 1892.^{3,7}

Trinity College and the Duke Family

Trinity College had begun as a rural subscription school, Brown's Schoolhouse, in the village of Trinity, North Carolina. In 1839, as the result of the union of purpose of Quaker and Methodist groups, this neighborhood school became Union Institute. The Institute was incorporated by the state as Normal College in 1849; 10 years later the name was changed again, to Trinity College. The total enrollment reached a high of 238 students before the Civil War, but hard times followed and only 107 students were enrolled in 1875.⁷

Trinity College attracted a new president, John Franklin Crowell, in 1887, and there was renewed interest in the school by the Methodist Church. Changes occurred at the instigation of President Crowell that invigorated the faculty and students. For example, the curriculum was revised and expanded, and a campaign was launched to acquire books for the library and equipment for the laboratories.⁷ However, the college continued to experience a shortage of funds that im-

peded its development. President Crowell persuaded the Board of Trustees to investigate the possibility of moving Trinity College to an urban location. Although several cities expressed interest, a group from Durham made the best offer. This group included Washington Duke, who became the main benefactor of the struggling college.^{3,7} Mr. Duke and his sons were Methodists, and had contributed previously to Trinity College. Furthermore, one of the sons, Benjamin, had been elected to the Board of Trustees in 1889. The offer made by the Durham group included land donated by Julian S. Carr, but the key to the relocation of Trinity College to Durham in 1892 was the provision of sufficient funds by Washington Duke.^{3,7}

Washington Duke had been a farmer near Hillsborough, North Carolina, when at 43 years of age he was drafted into the Confederate Navy during the Civil War. He had been married twice and had been a widower twice. At the time when he was drafted in 1864, he was responsible not only for managing his 300-acre farm but also for rearing a teenage son, Brodie Leonidas Duke, and three small children, Mary Elizabeth Duke, Benjamin Newton Duke, and James Buchanan Duke. Washington Duke arranged for the care of his children and reported for duty in Charleston, South Carolina. A year later, he was captured by Union troops in Richmond, Virginia. After the war, Washington Duke was released in New Bern, North Carolina, and walked some 130 miles home to his children and what was left of his farm.³

"Possessing in ready cash only a fifty-cent coin . . . , Washington Duke found his farm stripped and bare — save for a quantity of dried leaf tobacco. . . . Washington Duke, aided by ten-year-old Ben and nine-year-old 'Buck,' proceeded to launch his manufacturing career. In a crude log shed which stood close by the dwelling, they beat the tobacco with wooden flails, sifted it by hand, and packed it in cloth bags labelled 'Pro Bono Publico'

"Although every member of the family worked hard, the children received some schooling too. Ben and Buck Duke attended sessions at the academy in nearby Durham. . . . And in 1871 Washington Duke enrolled Mary and Ben Duke in the New Garden School (later Guilford College). . . . Buck Duke, . . . who was sent to New Garden in 1872, missed the farm and factory. . . . Coming home from New Garden before the term was half completed, Buck Duke later attended the Eastman Business College in Poughkeepsie, New York. . . .

"The first member of the family to move into Durham . . . was Brodie Duke. In 1869, at twenty-three years of age, he purchased a small frame building on Durham's Main Street, and while living in the upstairs room began to manufacture in the ground-floor room his own brands of smoking tobacco. . . . Inspired by Brodie Duke's move and lured by the larger business opportunities offered by bustling little Durham, Washington Duke sold his farm and moved his family into town in 1874. . . . Washington Duke and his sons built their frame factory on the south side of Main Street. . . . but the business from the first was a family affair, with Washington Duke selling goods for his son Brodie and vice versa. . . . Through the labors and skill of Washington Duke and his three sons . . . , they built a modestly successful business in the 1870's. . . . But they were only one of about a dozen tobacco manufacturers in Durham — and the firm that stood far ahead of all others . . . was W. T. Blackwell and Company, with its globally-famed 'Bull Durham' smoking tobacco."³

As a way of beating the competition, W. Duke, Sons and Company entered the cigarette manufacturing business in 1881 and introduced the newly invented Bonsack cigarette-making machine to their enterprise in 1885. W. Duke, Sons and Company was reorganized in 1885 as a joint-stock company and, led by its young president, James B. Duke, forged to the top of the cigarette industry by 1890. At that point, James B. Duke engineered the affiliation of his company with the nation's four other major cigarette manufacturers as a new entity, the American Tobacco Company, and became its first president.³

Although the initial Duke fortune came from the tobacco industry, the family later diversified its interests. Led by Benjamin Duke, the family became involved in textile production starting in 1892. The Dukes then became interested in the potential of hydroelectric energy in the Carolinas as an economical source of power for their factories. After several years of preliminary experience, James and Benjamin Duke formed the Southern Power Company (later the Duke Power Company) in 1905 and subsequently were key figures in the creation of an electric railroad, the Piedmont and Northern Railway. Other business ventures involved hydroelectric power plants in other locations, including Canada, and factories to produce various chemicals.³

After Trinity College moved to Durham in 1892 and while James and Benjamin Duke were developing the

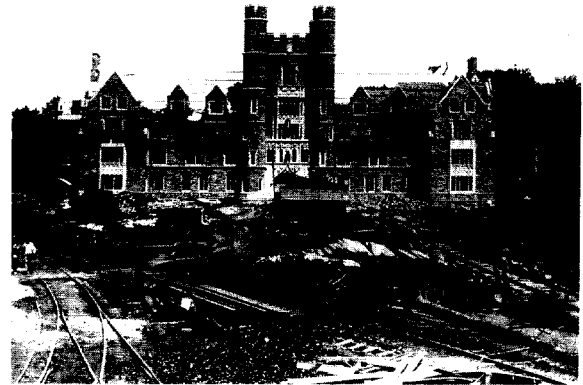


FIG. 1. The front of the Duke University School of Medicine (later named the Davison Building), shown while under construction in 1928.

family's businesses, the little college passed through a series of turbulent events. As it matured, Trinity College continued to receive periodic financial support from the Duke family. But it took the perseverance of a far-sighted Trinity College president, William Preston Few, to take full advantage of the Duke philanthropy and transform the college into a university. It was President Few who gradually convinced James B. Duke to make a sufficient endowment in 1924 to permit the major institutional changes that followed, including the establishment of a medical school and hospital.^{3,4,7}

Duke University Medical Center

The hope for a medical school in Durham had surfaced five times between 1889 and 1923, but each time a plan had been put forward, it had failed because of political or economic factors.⁴ Success was finally achieved as the result of the 1924 and 1925 gifts from James B. Duke. The Duke Endowment of December, 1924, provided benefit to many institutions, especially educational institutions, hospitals, and the Methodist Church. The newly established Duke University received 32% of the initial gift of \$32 million.^{3,4,7} Then, at the time of his death in October, 1925, Mr. Duke bequeathed an additional \$10 million for Duke University, of which \$4 million was to be expended for a medical school, hospital, and nurses' home.²

As the endowment was being planned and put into effect, more than 5000 acres of woodland near the site of Trinity College were quietly obtained for expansion of the new Duke University.^{3,7} The Tudor Gothic buildings that were to be built on this West Campus included a medical school facing the main quadrangle and an attached 400-bed hospital.^{2,4} Trial walls of stone from various quarries in the United States were erected to permit James B. Duke and the trustees of the endowment in March, 1925, to select the stone from which the new Duke University buildings would be constructed.^{2,3} Interestingly, they selected stone from a



FIG. 2. Physiology finals at Oxford in 1916.⁵ Professor Charles Sherrington is third from the left in the upper semi-circle, Wilder Penfield is immediately in front of him in the middle row, and Wilburt Davison is at the right end of the bottom row.

location in Hillsborough, near the original Duke farm. The University purchased the quarry and constructed railroad tracks so that the stone could be brought to the building site. (Fig. 1).

The initial Duke medical faculty was recruited primarily from the Johns Hopkins University School of Medicine, beginning with the appointment in 1927 of the Dean, Wilburt C. Davison, who had been a pediatrician and assistant dean at Johns Hopkins.^{2,4,6} Dr. Davison also took on the chairmanship of the Duke University Department of Pediatrics. As an interesting footnote, Wilburt Davison had become friends with Wilder Penfield during their student days.^{1,5} Both were Rhodes scholars who studied physiology at Oxford with Charles Sherrington (Fig. 2). Both were admitted in the fall of 1916 as transfer students to the Johns Hopkins University School of Medicine, and they roomed together that year.

After the selection of the Chairman of the Department of Medicine, the third individual appointed to the Duke medical faculty was Deryl Hart, a Johns Hopkins-trained surgeon, who accepted the appointment as Professor and Chairman of the Department of Surgery in 1929.⁶ After Duke Hospital opened on Monday, July 21, 1930, Dr. Hart and his associate, Dr. Clarence E. Gardner, Jr. (who came to Duke from Johns Hopkins in 1932) included neurosurgery in their daily practice. The 73rd patient to register at the new facility presented with headaches and papilledema: on July 24, a ventriculogram was performed through bilateral occipital trephine openings, and a right frontal cyst was aspirated by Dr. Hart. This cystic glioma was then successfully resected 2 days later by Dr. Hart.

In September, 1937, Barnes Woodhall came to Durham after completing his surgical training at the Johns Hopkins Hospital where he had been a favorite resident of Walter Dandy.^{8,10} Dr. Woodhall was given the charge of forming a Division of Neurosurgery, but his work was interrupted when he volunteered for military serv-



FIG. 3. Dr. Barnes Woodhall (*left*) and Dr. Guy L. Odom (*right*), who worked together to establish the Duke University Division of Neurosurgery.

ice in 1943.⁶ Later in 1943, Guy L. Odom, who had received his training in neurosurgery under Wilder Penfield and William Cone at the Montreal Neurological Institute, was recruited to the Duke faculty by Dr. Hart.⁹

Dr. Woodhall returned to Duke University after his discharge from the Army in 1946, and he and Dr. Odom (Fig. 3) founded the Duke University Division of Neurosurgery, including the establishment of a residency program. In 1960, Dr. Woodhall resigned his position as Chief of the Division to start a second career in medical and university administration that culminated in a term as Chancellor *pro tem* of Duke University in 1969 and 1970. Dr. Odom succeeded Dr. Woodhall as Chief of the Duke University Division of Neurosurgery, serving from 1960 to 1976 and establishing many of the patterns of practice and instruction used today by those who have followed in his path.

Conclusions

Many individuals and many events led to the formation and development of the Duke University Medical Center, but a few stand out because of their primary importance: Washington Duke overcame recurrent personal adversity to establish finally a successful family business by 1880. Trinity College demonstrated the same tenacity in surviving decades of financial drought before it began to receive major support from Washington Duke and his sons in 1892. In 1924, toward the end of his life, James B. Duke felt the need to leave a worthwhile legacy that would benefit others in perpetuity. And finally, William Preston Few had the foresight and patience to bring substance to Mr. Duke's dream.

The seed that was planted by James B. Duke in 1924 has grown into an outstanding medical center. In many ways it has eclipsed the various other significant achievements that he realized during his lifetime.

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References

1. Brown IW Jr: A classmate's tribute to Dean Wilburt C. Davison. A recently discovered and previously unpublished memorial note by Wilder G. Penfield, M.D. *NC Med J* 51:164-166, 1990
2. Davison WC: *The Duke University Medical Center (1892-1960)*. Durham: Duke Endowment, 1966
3. Durden RF: *The Dukes of Durham, 1892-1929*. Durham: Duke University Press, 1987
4. Gifford JF Jr: *The Evolution of a Medical Center: A History of Medicine at Duke University to 1941*. Durham: Duke University Press, 1972
5. Granit R: *Charles Scott Sherrington: An Appraisal*. London: Thomas Nelson & Sons, 1966
6. Hart D: *The First Forty Years at Duke in Surgery and the P.D.C.* Durham: Duke University Press, 1971
7. Porter EW: *Trinity and Duke, 1892-1924: Foundations of Duke University*. Durham: Duke University Press, 1964
8. Wilkins RH: Barnes Woodhall, M.D.: a biographical sketch. *Clin Neurosurg* 18:xvii-xx, 1971
9. Wilkins RH: Guy L. Odom, M.D.: a biographical sketch. *Clin Neurosurg* 22:16-21, 1975
10. Woodhall B: Neurosurgery in the past — the Dandy era. *Clin Neurosurg* 18:1-15, 1971

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