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thesis entitled

DUKE UNIVERSITY:
AN ARCHITECTURAL AND
HISTORICAL PERSPECTIVE

presented by

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has been accepted towards fulfillment
of the requirements for

M. A. degree in History of Art

Major professor

Date April 26, 1991

DUKE UNIVERSITY:

AN ARCHITECTURAL AND HISTORICAL PERSPECTIVE

By

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A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

MASTER OF ARTS

Department of the History of Art

1991

ABSTRACT

DUKE UNIVERSITY:
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By

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As an historical study, this thesis examines Duke University's turbulent, yet prosperous history to 1924, emphasizing the Duke family and James B. Duke's forty million dollar Endowment.

From an architectural perspective, this study examines the Georgian Revival East Campus, with its order and rationale, and the Collegiate Gothic West Campus, depicting irregularity and verticality, as the epitome of each respective style. The success as an architectural unit, however, lies in the talents of its architect, Horace Trumbauer, and designer, Julian Abele, who employed a variety of techniques to give each campus, as well as the overall unit, a sense of unity and harmony.

Both history and architecture at Duke culminate in a successful campus planning effort where University ideals as well as aesthetic and functional unity are manifest in the campus plan.

This study relies heavily on archival sources.

To GGH

ACKNOWLEDGEMENTS

Grateful acknowledgement is made to the following:
Dr. Sadayoshi Omoto, chairman of my committee, whose respect, support, and trust was vital to the success of this paper.
Dr. Susan Madigan and Dr. Webster Smith, my committee members, for their time, patience, and advice throughout this project.
The staff at Duke University Archives, without whose assistance this project would have been impossible.
My husband, Greg, whose constant support and unending patience enabled me to complete this work.

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INTRODUCTION

> The Northern part of North Carolina is a rolling country of vague, indeterminate contour. Pine forests, tobacco fields, more pine forests succeed one another interminably. Meanwhile, the sun shines, the spring sky is brilliantly blue. It is a pleasant land, but unexciting; a land where one would never expect anything in particular to happen. And then, all of a sudden, something does happen. One emerges from yet another of the warm, sweet-smelling pine woods, and there, astonishingly, is by far the largest Gothic building one has ever seen--larger than the Houses of Parliament, larger than St. Pancreas Station, far larger, certainly, than any church or abbey or castle set up by the original inventors of the style. The eye wanders in amazement over a whole city of grey stone.
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> At the center stands a huge cathedral with a leaping tower, and on either side, spreading out into a succession of quadrangles, lie ranges of grey buildings, . . . these buildings are genuinely beautiful. Yes genuinely beautiful. For this huge and fantastic structure which houses a large university. . . is the most successful essay in neo-Gothic that I know. . . . it seems a really splendid piece of architecture. Indeed, I prefer the towers and quadrangles of Duke to many of the genuinely antique buildings of our [England] university towns.[1]

While the "Gothic building" at Duke University is truly not larger than either the Houses of Parliament or St. Pancreas Station, this passage conveys one visitor's astonishment upon seeing the

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[1] "Praise by Noted Writers For Chapel and Carillon," Duke Alumni Register, September 1937, p. 238, Duke University Archives.

immensity and beauty of the Main Quadrangle on the West Campus of Duke University in Durham, North Carolina. Constructed between the years 1927 and 1932, this "city of grey stone" is the more majestic, more romantic and some would argue more beautiful of the two campuses at Duke University. It incites visions of medieval knights, monastic cloisters on rugged cliffs, Sir Lancelot and the Holy Grail, and Tennyson poetry. Just a few miles away from this Gothic wonderland, however, lies the second of Duke University's campuses, the East Campus, built in the very different, but equally as breathtaking, classical Georgian Revival style of architecture. Erected over a course of thirty-five years, this campus invokes images of colonial settlements, George Washington, academia and order. The combination of these two completely different architectural entities gives Duke University one of the most varied and beautiful campuses in the United States today. Stretching over twelve thousand acres in the North Carolina Piedmont forest, Duke University has grown to include over two hundred buildings, many serving as splendid examples of both the Georgian Revival and Collegiate Gothic architectural styles.[2]

Duke University, however, was not always so large and architecturally unique. The school dates to 1838 when it was founded as Brown's Schoolhouse, a one-room log cabin structure in Randolph County, North Carolina.[3] Over the course of the next fifty years, the school withstood not only immensely fluctuating

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[2]"Facts About Duke University," p. 1, Duke University Archives.
[3]Nora Campbell Chaffin, Trinity College 1892-1924: The Beginnings of Duke University (Durham: Duke University Press, 1950), p. 22-40.

enrollments, four different name changes (Duke University is actually the fifth name given to the school), and endless financial hardships, but also the Civil War. In 1890, Duke University was little Trinity College, a struggling liberal arts institution with an enrollment of just over 180 students, a faculty of fourteen, a poorly kept physical plant, and a bleak financial situation.[4] At this time of despair, one family in particular came to the aid of Trinity and established a pattern of giving that enabled the college to not only move to nearby Durham, but also to grow into present day Duke University. Washington Duke and his two sons, Benjamin Newton and James Buchanan, made their first gift to Trinity in 1887. This gift of one thousand dollars aided in efforts to secure an endowment for the college. By 1923 the Dukes had donated over five million dollars to Trinity College, and in 1924, James Buchanan, the youngest son of Washington, established the Duke Endowment. This forty million dollar Indenture and Deed of Trust stated that upon the changing of Trinity College's name to Duke University (in memory of his father and family), the school would not only receive six million dollars for immediate use but would also be the recipient of a permanent sizable endowment.[5]

In the Endowment Mr. Duke stipulated that the original six million dollars would be used for "expanding and extending said University, and improving such lands, and erecting, removing,

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[4]Earl W. Porter, Trinity and Duke 1892-1924: Foundations of Duke University (Durham: Duke University Press, 1964), pp. 32-3.

[5]James B. Duke Indenture and Deed of Trust of Personalty Establishing The Duke Endowment, December 11, 1924. Reprinted in Robert Durden, The Dukes of Durham 1865-1929 (Durham: Duke University, 1975), pp. 268-280.

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remodeling and equipping such buildings, according to such plans, as the trustees may adopt and approve for such purpose. . . ."[6] With this mandate the trustees approved the creation of an entirely new campus for men built in the Collegiate Gothic style (the West Campus), and the enlargement of the existing Trinity College campus which at the time was not built in any particular architectural style (the East Campus). The Philadelphian architectural firm of Horace Trumbauer was responsible for both the East and West Campus additions and expansions. Mr. Trumbauer's right hand man, Julian Abele, the "forgotten black designer" as described in a recent article, designed the plans for both campuses.[7] That two men could envision and successfully blend together two such distinctly different architectural styles at one institution is surely a credit to the talents of both Mr. Trumbauer and Mr. Abele.

Upon James Buchanan Duke's death in 1925, plans at Duke University were slowed temporarily as the institution mourned the loss of its greatest benefactor. Within seven years, however, both campuses were completed and Duke University began an upward climb into the rankings as one of the most beautiful and successful academic institutions in the United States.

Examining the architecture and history of Duke University is significant for many reasons. One, the institution serves as a remarkable example of beautifully well-preserved Georgian Revival and Collegiate Gothic architecture. Two, tracing the history of Duke

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[6] Ibid, section IV, p. 274.

[7] Randy Dixon, "Forgotten Black Designer," Philly Talk, 1970, p. 26, Duke University Archives.

University will help correct a long existing myth relating to James Buchanan Duke's contribution to the College, a myth that supposes Mr. Duke donated his money to Trinity College only after being turned away at institutions such as Yale and Princeton.[8] A third reason for studying Duke University is to introduce a major player in the creation of the physical plant of the University. This man is the designer Mr. Julian Francis Abele, a man to date not given his due credit. And lastly, this study will highlight the architect's and designer's campus planning efforts and successes at Duke University in the early twentieth century.

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[8]Durden, p. 236 footnotes 8 and 9 list several of the newspaper accounts that mention this as well as some of the rumors.

CHAPTER 2

HISTORY OF DUKE UNIVERSITY[1]

Brown's Schoolhouse and Union Institute

Duke University finds it's roots in "Brown's Schoolhouse," a small structure erected in the days preceding the Civil War on property owned by farmer John Brown of Randolph County, North Carolina. The one room schoolhouse was founded in 1838 by Methodist and Quaker families in the county who desired a place for instruction of their own children. After only a year, the "crudely constructed . . . sixteen by twenty feet . . . building . . . made of round logs" was not adequate in size and the same founders built in its place a "one story frame structure resting on brick pillars . . . [with] an eight foot passageway dividing the building into two rooms of equal size. . . ."[2] This private academy was then renamed Union Institute, "[t]he union [being] that of the two church groups, Methodists and Quakers, sharing a conviction that in a democracy

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[1]The history of Duke University relies exclusively on three sources, unless otherwise noted. These sources are Nora Campbell Chaffin, Trinity College 1892-1924: The Beginnings of Duke University (Durham: Duke University Press, 1950), Earl W. Porter, Trinity and Duke 1892-1924: Foundations of Duke University (Durham: Duke University Press, 1964), and Robert H. Woody (editor), The Papers and Addresses of William Preston Few, Durham: Duke University Press, 1936.

[2]Chaffin, pp. 35, 49.

those who wished education could get it, by their own resources if necessary."[3] Mr. Brantley York, a local Methodist preacher, performed the duties as principal of the institute from its inception in 1838 until his resignation in 1842 at which time his assistant Braxton Craven took over.

Normal College and Trinity College

Braxton Craven remained president of the school for the next forty years. During his term many important changes evolved at Union Institute. In 1849, the growing enrollment of the Institute led the North Carolina Legislature to charter the school and the name was changed once again. The new name was Normal College, a school specializing in the training of teachers, which began awarding degrees in 1852. Although the school originally began as a joint Methodist and Quaker undertaking, the Quakers soon relinquished control to the Methodists. During the mid 1850's, the Methodist Church became interested in Normal College and envisioned the school as an ideal setting to train Methodist ministers. In exchange for training clergy, the Methodists assumed financial support of Normal College and changed the name to Trinity College in 1859. Now a Methodist liberal arts college, Trinity College hoped to grow in number, prestige and size. In 1855, the college erected another building, "the new edifice was a substantial brick building, one hundred feet long, fifty feet wide, and three stories high. . . ."[4]

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[3]Porter, p. 4
[4]Chaffin, p. 58.

While Trinity College continued to develop in many areas, the eruption of the Civil War caused problems for the little Methodist College. The enrollment dropped substantially and financial support promised by the Methodists was not forthcoming. Although Craven remained president during the war years, Trinity College barely survived. In fact, the school closed it's doors during the last year of the hostilities. Classes resumed the following fall and the college slowly increased in size as young men became interested in obtaining an education.

Another new building was constructed by the fall of 1876, "the old and new buildings, substantially built of brick, three stories high, were united under one iron roof and were arranged in the form of a cross, making an edifice 160 feet long and 90 feet wide at the top of the cross."[5] In 1878, Trinity College became one of the first schools of higher learning in the state of North Carolina to award advanced degrees to women. In that year, the Giles sisters, Mary, Teresa and Persis, received diplomas from the school. Despite these educational and physical improvements, financial problems continued to plague the college. In fact, it is documented that during this time period Craven himself personally repaid one of the colleges debts of $10,000 to the state.[6] Upon his death in 1882, the college was still in financial trouble and would remain so until an endowment was established many years later.

Between 1882 and 1887 Trinity College was under the control of various members of the faculty. During 1882, two faculty

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[5]Chaffin, p. 58.
[6]Porter, p. 6.

members resumed charge of Trinity College: Professor Pegram acting as chairman of the faculty, and Professor Gannaway as treasurer. In 1883, Marquis L. Wood, Trinity class of 1855, member of the Board of Trustees and founder of the "China Mission" of the North Carolina Methodist constituency, was elected president of the college. Mr. Wood's presidency was short-lived; he resigned just one year later. Trinity then came under the supervision of a Committee of Management headed by James Alspaugh, Julian Carr, and James Grey. These three administrators attended to the affairs of the College until their two year term ended in December of 1886.

John Franklin Crowell served as the next president of Trinity College between the years 1887 and 1894. When Crowell arrived in North Carolina, Trinity College consisted of one "crude and almost featureless three-story brick structure," six often unpaid professors, and an uncataloged library of ten thousand volumes.[7] He proceeded to introduce many changes at Trinity, among them the requirement of entrance examinations and the emergence of collegiate football. Crowell also "launched a campaign to acquire library and research materials to give the research meaning and to meet the minimum teaching needs."[8] While Trinity continued to grow in size, Crowell recognized that future growth was restricted by both lack of finances and the location of the college, a rural area of Randolph County. He successfully enlisted the help of two men to aid in the future of Trinity. Julian Carr donated sixty-two acres of

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[7]John Franklin Crowell, Personal Recollections of Trinity College, North Carolina, 1887-1894 (Durham: Duke University Press, 1939), p. 35.
[8]Porter, p. 13.

land in nearby Durham for the creation of a larger, more centrally located Trinity College, and Washington Duke bestowed a financial gift of $85,000 to assist with the move to Durham. By 1891, plans for the college to move to the nearby growing industrial town were underway. Six faculty residences were planned for the new campus as well as three academic buildings including the Main Building, "a three-story brick building, covered with slate, . . . with an imposing tower in the center," the College Inn, often "described as the most attractive feature of the new Durham plant," and the Technical Building "a three story brick structure with a basement" dedicated in memory of Crowell's late wife.[9] In August of that same year construction was halted when the tower of the Main Building collapsed causing extensive physical damage and a loss of morale. While this temporarily thwarted the move, Trinity College finally became Durham, North Carolina's first institution of higher education in 1892.

The city of Durham[10] is located approximately twenty-five miles to the northwest of the capital city, Raleigh, in the Piedmont region of North Carolina. Its origins date to the early eighteenth century when the area was inhabited by the Occoneechee and Eno Indians. The actual town of Durham began in 1853 when Dr. Barlett Durham offered the North Carolina Railroad four acres of land if it would make a stop in the area. The Railroad accepted and the stop was named Durhamville in honor of Dr. Durham. The Civil War

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[9]Chaffin, pp. 507-09.

[10]The history of Durham is taken exclusively from William K. Boyd, The Story of Durham City of the New South (Durham: Duke University Press, 1927).

brought both bad and good fortune to Durham: bad in that many of the men left the area in defense of the Confederate cause; but good in that the bright tobacco leaf native to the region rose in popularity and demand. Soon after the war, orders for the bright leaf tobacco were coming in from all over the state and Durham was established as an excellent tobacco growing and processing area. From that point on, Durham was engaged in the tobacco industry and that industry, more than any other, characterized the city in 1892.

When Trinity College arrived in Durham in the summer of 1892, the physical state of the college did not look very promising. "When classes began, there were still unfinished buildings, no electric lights, unfurnished rooms, . . . much incompetent help and an inadequate amount of funds to do anything."[11] Despite these problems, Trinity did receive much needed financial support through donations from the Duke family, Benjamin Duke in particular. One example of the Duke family's support dates to late 1892 when Benjamin offered, on behalf of his brother James and sister Mary, a joint donation of $7,500 a year for a three year period on the condition that the college would raise $15,000 in matching funds each year over the same time period. These financial gifts combined with the changes introduced by Crowell allowed the college to slowly acquire a stake in the North Carolina educational hierarchy. In the summer of 1894, John Franklin Crowell, the man responsible for moving the school to Durham, resigned as president of Trinity College.

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[11]Porter, p. 34.

Crowell's successor was the very outspoken John Carlisle Kilgo, a Methodist preacher from South Carolina. Unlike the academist Crowell, Kilgo often relied on his religious instincts throughout his years as president. During his reign as head of Trinity College, the school overcame several crises, many of these related to Kilgo's educational beliefs.

> His insistence upon higher educational standards met a mixed reception from the smaller denominational schools, even within his own church, and his emphasis upon Christian education, as opposed to the secular--in the realm of higher education, that is--put him in disfavor with the supporters of the state institutions.[12]

Kilgo's years at Trinity, like those of most of his predecessors, were filled with financial difficulties as well. The Duke family continued to answer many of these crises with much-needed financial assistance. Examples of this help include Benjamin's donation of $5,000 for improvement of the campus grounds in June of 1895 and his check for $2,500 a year later which helped to pay off a large portion of the school's debt at that time. Despite this second donation, within a few short months the college had incurred a substantial deficit once again. College trustees were beginning to give up hope as to the success of the school. At one particularly desperate moment in late 1896, Andrew Tyer, member of the Board of Trustees, wrote the following to Benjamin Duke: "The only hope that Trinity College has of ever being endowed is to be found in the Dukes. I, therefore, ask that you give five hundred thousand dollars

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[12] Ibid, p. 33.

as endowment and allow the trustees to name it "Duke College."[13] The college name remained unchanged.

Although these educational and financial crises vexed the institution, the physical plant did expand during Kilgo's reign. In 1896 the three academic buildings were renamed: the Main Building became the Washington Duke Building, College Inn became Epworth Hall, and the Technological Building became the Crowell Building. A women's residence hall, the Mary Duke Building, was constructed in the late 1890's after Washington Duke offered Trinity College $100,000 if Trinity "open[ed] its doors to women, placing them in the future on an equal footing with men, enabling them to enjoy all of the rights, privileges and advantages of the college now enjoyed or to be hereafter enjoyed by men. . . ."[14] The college accepted Mr. Duke's offer and admitted women on an "equal footing with men."[15] The remainder of Kilgo's presidency was spent engrossed in the hopeful establishment of a permanent endowment and in keeping peace at the college. In 1910 Kilgo left Trinity for the Bishopric of the Methodist Episcopal Conference.

The new leader of Trinity College was William Preston Few, a man who had begun his association with the College in 1896 as a member of the English faculty. A year later he was named chair of the English department, shortly thereafter Dean of Trinity College,

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[13]Andrew Tyer to Benjamin Duke, 16 November 1896, transcript in the hands of the Manuscript Department, William R. Perkins Library, Duke University, Durham.
[14]Washington Duke to John Kilgo, 5 December 1896, transcript in the hands of the Manuscript Department, William R. Perkins Library, Duke University, Durham.
[15]While women had attended Trinity College prior to 1878 when the three Giles sisters graduated, they were never considered as academic equals. Women were relegated to specific courses and could only attend day classes.

and president in 1910. He remained so until his death in 1940, making him the fifth president of Trinity College and the first of the newly-created Duke University. The early years of Few's presidency were spent absorbed in the enlargement of Trinity College and the formation of Duke University through the Duke Endowment of 1924.

Prior to the actual founding of Duke University, the physical and emotional well-being of Trinity College was growing and strengthening thanks again to the efforts of the Duke family. Among other family donations, Benjamin gave $150,000 for buildings in 1910, Angier, Benjamin's oldest son, presented the college with ten thousand dollars in 1921 to be used as needed and in late 1922 James donated $1,025,000 of which "$25,000 will be added to the fund subscribed for the new gymnasium . . . $50,000 toward a $100,000 law building and $50,000 more to the erection of a $100,000 building for the new school of religious training."[16] It is important to note that the Duke family donations did not come from just one or two family members, but rather from many members of the Duke family.

Beginning early in the second decade of the twentieth century, Few realized that his hopes for a stronger, larger institution of learning founded in Trinity College were going to be fulfilled. In 1924, Few's wishes were granted when James Buchanan Duke endowed Trinity College with over six million dollars for immediate use and much more in the future. In fact, during the thirty-seven years that the three tobacco tycoons (Washington, James, and

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[16]"Greater Trinity Will Result from Gift of James Buchanan Duke," Trinity Chronicle XVIII, no. 3 (4 October 1922), p. 1, Duke University Archives.

Benjamin Duke) donated to Trinity College and Duke University, they endowed the school with over thirty million dollars, a phenomenal sum for the early twentieth century which in 1984 dollars equals over $175,000,000.[17]

The history of Duke University prior to this point was characterized by a poor physical plant, continued financial difficulties, changing leadership and unstable enrollments. Throughout this turbulent time, however, the Duke family continued to respond to the college's needs with monetary gifts. Why? What motivated the Dukes to contribute to this relatively small institution of higher learning? To better understand the "why" of the Dukes' philanthropy, it is important to first understand the family business history. The Dukes' business successes clearly enabled them to amass a great deal of wealth and eventually establish the Duke Endowment. Upon closer examination of both the Duke businesses and the Duke Endowment, a variety of parallels between the two become evident, and ultimately one is better able to understand both the "how" and the "why" of the Dukes' gifts to Trinity College.

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[17]United States Department of Labor, Handbook of Labor Statistics, Bulletin 2340, August 1989, p. 513.

Duke Businesses,[18] Endowment, and Parallels

The Duke fortune was amassed thanks to the pioneering efforts of the family in the areas of tobacco, textiles, and hydroelectric power in the Carolinas. The family businesses began in late 1865 when Washington returned home from the Confederate fight. At that time the Dukes concentrated their farming efforts in tobacco. They were engaged in that industry until 1911 when the federal government disbanded the so-called "tobacco trust." In addition to tobacco, the late 1890's saw Benjamin and James become interested in textiles mills as well as water power.

The Duke interests in the tobacco industry began at the end of the Civil War when Washington Duke saw tobacco as the crop with which to build his future. Washington, his two youngest sons, and his daughter Mary, engaged in the farming and manufacture of tobacco on their property in Randolph County. Soon Washington began peddling tobacco around the Carolinas and was later joined by James, while Ben and Mary stayed at home to cultivate the plant and keep up with the chores. Through the families' efforts, the Washington Duke & Sons, Company was established in 1878. While the firm remained based in North Carolina, they quickly expanded their market into other states and enjoyed large profits. This success enabled the Dukes to open offices in other states and continue promoting their brand of tobacco, Pro bono publico, nationwide. Shortly thereafter, W. Duke & Sons, Company

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[18]The history of the Duke family businesses relies solely on Durden, Zella Armstrong, Notable Southern Families, (Chattanooga: Lookout Publishing Company, 1926), and The National Cyclopedia of American Biography, XVII (1921), s. v. "Duke, James Buchanan."

revolutionized the cigarette industry with the introduction of the Bonsack machine, a machine that rolled thousands more cigarettes a day than possible with human hands, and an advertising campaign that included miniature portraits of famous movie stars in cigarette boxes.

The biggest expansion of the W. Duke & Sons, Company, however, came in 1890 when James B. Duke, president since 1883, and four other major tobacco tycoons in the United States sold the entirety of their stock to the American Tobacco Company. This gave the American Tobacco Company a virtual monopoly on the cigarette industry and James his first taste at national power as president of this newly formed conglomerate. In the next ten years, James embarked on a business campaign of forming smaller companies that would monopolize other tobacco industries. Among these companies formed by James were the Continental Tobacco Company, the Union Tobacco Company, the Atlantic Snuff Company, the American Cigar Company and the Consolidated Tobacco Company. Each one, with the exception of the American Cigar Company, achieved dominance in their respective markets. These companies successfully monopolized the tobacco industry bringing large profits to their respective stockholders. While they were all located in the United States, James B. Duke also organized subsidiary companies in Australia and China, among other places, during this time and in 1902 he formed the British-American Tobacco Company.

By 1907, however, the conglomerate began to crumble. During that year the federal government began their investigation of the Consolidated Tobacco Company which they found to be in direct

violation of the Sherman Anti-Trust Law of 1890. In 1911 the government handed down their ruling which demanded the dissolution of the so-called "tobacco trust." Once the trust was dissolved, James seemed to lose interest in the tobacco industry possibly because he no longer had control or perhaps because of his growing interest in the fields of textiles and hydroelectric power.

While James Duke was monopolizing the tobacco industry, his brother Benjamin was immersed in the textile industry. Beginning around the late 1880's and early 1890's, Benjamin became interested in textile mills and realized their potential in the Carolinas. In 1892, the year Trinity College moved to Durham with the aid of Washington Duke, Benjamin purchased the Dukes' first textile mill, named the Erwin Cotton Mill Company of Durham for the secretary-treasurer and manager of the mill, Mr. William A. Erwin. Hired by Benjamin, Erwin operated all of the Dukes' textile mills and was responsible for merchandising as well as manufacturing of the textiles. Similar to the tobacco industry, the Dukes' textile adventure included buying up several smaller companies, among them the Pearl Cotton Mill which had been founded by Washington Duke's eldest son, Brodie. By the time the federal government was to hand down its decision in the tobacco trust case, Erwin Cotton Mill Company owned four mills and had controlling interest in four others throughout the state of North Carolina. Similar to the Dukes' tobacco venture, interest in the textile industry diminished as they became engaged in another industry, that of hydroelectric power.

By seeking cheaper sources of power for their textile mills, the Dukes began to learn about electricity produced at water power

sites and the endless possibilities in that virtually untapped field. By 1897 Benjamin and James began purchasing water power sites in the Carolinas as they further investigated the successes and failures of hydroelectric power. They formed the Southern Power Company in 1905 and started construction on their first site, the Great Falls of the Catawba River in South Carolina, that same year. Once completed and operating Benjamin and James quickly realized the successes that would follow and the feasibility of operating a textile mill with electric power. They unhesitatingly expanded into other areas of the Carolinas, like they did with tobacco, forming somewhat of a monopoly in the water power industry. In 1913 they formed the Southern Public Utilities Company, the retailing branch of their water power company. Similar to their venture in tobacco, the Dukes also looked outside of the Carolinas for a market, purchasing land in Canada near the Sagenuay River for future development. Their operation in Canada was short-lived, however, and they quickly returned to production solely in the Carolinas.

While the Dukes did dabble in a few other industries such as railroads and banking, tobacco, textiles and water power remained their three most successful businesses. Through these three enterprises the Dukes were able to accumulate a substantial fortune which Mr. James B. Duke once exclaimed, "was easier to make than to give away."[19] But give away they did, to needy relatives, orphanages, hospitals, the Methodist Church, and educational facilities. Each of these institutions were recipients of Duke money

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[19]John Wilber Jenkins, James B. Duke: Master Builder (New York: George H. Doran Company, 1927), page unknown.

over the course of many years. The largest donation of the Duke family, however, came in 1924 when the Duke Endowment was established.

In 1924 James Buchanan Duke created the Duke Endowment, a forty million dollar endowment (the equivalent of $233 million 1984 dollars[20]) funded solely through stock in the Duke Power Company. The Endowment was divided into three general groups: educational institutions, hospitals, and the Methodist Church. Of the original forty million dollars, "80 percent of the annual income would be distributed **solely** [author's bold] in the two Carolinas as follows: 46 percent to educational institutions, 32 percent to hospitals for both races, 12 percent for specified purposes of the Methodist church [in North Carolina only], and 10 percent for orphanages of both races."[21] The other original twenty percent was set aside "to be added to the principal until an additional $40,000,000 had been accumulated. . . The lion's share, 32 per cent, of the annual income [of forty-six per cent] earmarked for education was designated to go to an institution of learning to be known as Duke University. . . ." This six million dollars, however, would be transferred to Trinity College if the College agreed to change the name to Duke University as a memorial to James Buchanan's father and family.[22]

Since James Buchanan Duke died shortly after the creation of the Duke Endowment the task of carrying through his goals were left to President Few and the officers of Trinity College. During the

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[20]United States Department of Labor, p. 513.
[21]Durden, p. 229.
[22]Ibid, p. 229.

following years two paramount changes occurred at Trinity. First, on December 30, 1924 the name was changed to Duke University according to Mr. Duke's proposal and Trinity College became the name of the men's undergraduate college. The second change at Trinity, now Duke University, was the creation of two separate campuses, one for men and one for women, both financed through the original six million dollars from the endowment and an additional gift of nineteen million dollars ($111 million in 1984 dollars[23]) rendered to the University upon Mr. Duke's death in 1925.

The specific terms of the Endowment are significant for many reasons. One, it should be noted that **all** recipients of money from the Duke Endowment are exclusively Carolina institutions. It is obvious that he felt a strong attachment to the area. Most of his business ventures were centered in the region and it appears he always returned to his roots, as is evidenced in his Canadian and overseas investments. This fact, combined with his consistent support of the Carolinas' development and industrial growth, should indeed confirm that Duke gave his money to Trinity because he believed it to be a lasting, worthwhile, and valuable step towards helping the people of the Carolinas and solidifying his family's role in its history. It has been suggested, however, by Duke University alumni, journalists, and employees of the Duke Family Homestead that Mr. Duke gave his money to Trinity College only after being turned away at more prestigious collegiate institutions such as Yale

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[23]United States Department of Labor, p. 513.

and Princeton.[24] The long-established relationship between the Duke family and Trinity College, coupled with Mr. Duke's wishes as stated in the Endowment, however, should remove any doubt as to the sincerity of Mr. Duke and his loyalty to Trinity College.

Two, the terms of the Endowment help establish the Dukes' role in the development of both North and South Carolina charitable institutions. Money from the Endowment went to hospitals, churches, orphanages, and schools of both races, such as Furman College and Johnson C. Smith University. Most importantly, however, their donations transcended the racial problems of the time. During the 1920's racial tensions were extremely high in the Southern states and many Southern whites stressed the superiority of their race. The Dukes donations seemed to ignore racial strife; it appears they gave money to those institutions they deemed worthy, regardless of race.

After examining the Dukes' business enterprises as well as the formation of the Duke Endowment, many parallels between the two become evident. On one level, the Duke Endowment could be considered another of the Duke "businesses" based on the following similarities. The first similarity between the Endowment and their "for-profit" businesses is location. The majority of their business ventures were centered in both North and South Carolina. While they did seek outside markets in tobacco and water power, they always found themselves returning to their roots in their next business

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[24]Interviews with Duke alumni from the classes of 1986 and 1987, a visit to the Duke Family Homestead, and a conversation with members of the Princeton University family confirm this suggestion. Additionally, page 238 of Durden, footnotes 8 and 9 further support the suggestion that Duke tried to give his money elsewhere.

venture or at the close of the previous one. This is also the case in the Endowment. All of the institutions cited in the endowment are from either North or South Carolina.

A second parallel can be drawn between the Duke businesses and the Duke Endowment with regards to the development of the businesses. All of their business ventures, like the establishment of Duke University, began as small investments that grew increasingly larger with time. These investments then culminated in one gigantic investment. In the tobacco business, they explored many different industries but the major investment was the formation of the American Tobacco Company which eventually oversaw all other developments. In textiles they investigated many different options then began purchasing mills. In the utility of water power they first explored the feasibility of hydroelectric power and ultimately formed the Duke Power Company. Similarly, the Duke Endowment was the result of many, many years of supporting Trinity College followed by an additional nineteen million dollars willed to the University upon Mr. J. B. Duke's death.

A third parallel relates to the development of each successive industry. Each industry was built on the income of a previous one, textiles on tobacco money, water power on textiles, and the Duke Endowment solely on the stock of the Duke Power Company. Given the above parallels, it seems that one could correctly conclude that the Duke Endowment was essentially an extension of the Dukes' varied business interests. A key difference between the Endowment and the other businesses, however, lies in the actual motivation for

establishing the Endowment, a motivation that was at once religious and personal.

Reasons for Endowment

While the Duke Endowment was funded solely through the Dukes' business enterprises, namely the Duke Power Company, it appears that the reasons for the creation of the Endowment, and consequently Duke University, are not business related. Instead, both the Endowment and Duke University are founded on religious and personal principles; religious in the Dukes' association with the Methodist church and their "deep appreciation for Church and Christianity," and personal in Mr. James Buchanan Duke's desire to serve humanity, memorialize his family, and pay homage to his "native state."[25]

The religious principles stemmed from Washington Duke's staunch Methodist upbringing of his children, in whom he instilled a sense of loyalty to the Church and Christianity. This pride and loyalty can be seen in many different ways. One specific example of loyalty to the Church is found in the Washington Duke & Sons, Company policy of placing a church near all factories. This practice was intended to encourage religious sentiments among employees. After Washington's death in 1905, James and Benjamin continued in their father's footsteps of donating money to the church by assisting

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[25]Woody, pp. 104-07. This is further supported in Jenkins, p. 212 where James Buchanan Duke is quoted as saying, "I was born in North Carolina and I am sixty-six years old. . . It is time I was beginning to think about a monument. . . . Every man owes something to the state he was born in, and this is what I want to leave North Carolina."

with Methodist projects in the Carolinas, as well as donating money for building funds and support of older ministers. It is apparent that a strong and continually growing relationship between the Dukes and the Methodist church was clearly established prior to 1924 and that the Methodist award in the Duke Endowment was a continuance of the Dukes' good nature toward the Methodist Church.

In addition to religious reasons, the founding of the Duke Endowment was supported by personal reasons of James Buchanan Duke, most importantly, service to humanity. Prior to 1924, the Duke family, including Washington, Benjamin, and James, were loyal advocates of social institutions in the Carolinas from orphanages, to colleges and hospitals. Washington began the family pattern of giving money to the church and then to needy relatives who wrote asking for help and finally to institutions all around the Carolinas. His son Benjamin followed in his philanthropic footsteps donating money to orphanages, schools, hospitals and any other institution he deemed worthy. It can clearly be shown that after Washington's death in 1905, while Benjamin and James were partners in all business and philanthropic ventures, Benjamin conducted all the philanthropic work and James dominated the businesses, excluding textiles. This pattern remained essentially the same until Benjamin's illness in 1915 at which point James continued the family giving. Given the Dukes' prior pattern of giving on a variety of different levels, it follows that a major portion of the Endowment, eighty percent, would be awarded to institutions such as those continually supported by the Duke family. Of all the

institutions mentioned in the Duke Endowment, however, the luckiest was little Trinity College in Durham.

Trinity College was singled out for a variety of different reasons. One reason included Trinity's obvious connection with the Methodist Church which, as evidenced above, was an important part of the Dukes' family life. A second reason included the Dukes' continuous pattern of giving to Trinity College. As was indicated earlier, Washington Duke, his two sons, Benjamin Newton and James Buchanan, and a variety of other family members supported Trinity College from 1887 to the creation of the Duke Endowment in 1924, and thereafter. It is estimated that between 1887 and 1923 alone, the family donated over $5,200,000 to Trinity College.

A third reason for the singling out of Trinity College in the Duke Endowment was the Dukes' association with the school through various family members who were graduates of Trinity College. Another reason was James' desire to erect a memorial to his father and family. The renaming of Trinity College to Duke University would clearly accomplish this end and immortalize the Duke family name forever. A final reason for the choice of Trinity College was Mr. Duke's attachment to the state of North Carolina. The above reasons for the founding of the Duke Endowment as well as the favoring of Trinity College are perhaps best summarized in the following excerpt from President Few's recollections of the creation of the Duke Endowment.

> So far as I can discover James B. Duke made the largest gift ever made by one individual for the founding of a university in the history of the world. . . .

In the first place, it ought always to be remembered that Mr. Duke had long had it in mind to render some signal service to humanity. Indeed, I believe that he had carried through life a purpose of this kind. He probably acquired it in his early years from his father, Washington Duke, in many ways an extraordinary man. Furthermore, Mr. Duke, like his father, had a deep appreciation of organized Christianity and the Church, and their value to human society. . . . It is also probable that his interest in Trinity College was strengthened by the fact that the College rested upon moral and religious sanctions. He loved his native state, and- -an experience common to men- -the feeling grew much stronger as he drew toward the end of his life. Along with other members of his family, two of whom were graduates and others of whom were ardent supporters, he came to have a personal interest in Trinity College. . . .

It was in 1916 when Mr. Duke first spoke definitely to me concerning his purpose to give away during his lifetime a large part of his fortune. . . .

I believe that Mr. Duke had had no thought of the establishment of a university. Our talks had been about strengthening Trinity College and other philanthropies. I had as yet laid before him no plan for building a university. I had found it difficult to work out a plan by which a new university could be built and in which Trinity College with its setting and constituency could be included. I continued to find this difficult in spite of the fact that I had given it a great deal of thought and talked with a good many others about it.

In March, 1921 I had a serious illness and during this illness I had a good deal of free time to reflect. The whole idea of the University became clear in my mind. As soon as I could go to New York I laid the whole plan before Mr. James B. Duke. Future developments made plain that the idea took strong hold on him, but he gave no evidence of it that day. This was the occasion on which I suggested that the new institution be called Duke University. There were both in North America and in

> Great Britain many colleges, some independent and some parts of universities, with the name Trinity; and it seemed to me therefore to have too little individuality to be attached to a great university. But I was, of course, heartily for keeping Trinity as the name of the college, just as there is a Trinity College at Oxford, one at Cambridge, and one at the University of Toronto. Mr. Duke has sometimes been blamed for insisting that the institution be named Duke University. It is for this reason that I am here going to some pains to make it plain that this was not his suggestion but mine.[26]

This passage clearly establishes both the religious and personal reasons for Mr. Duke's donations to Trinity College. Few mentions James Duke's desire "to render some signal service to humanity," and his "deep appreciation of organized Christianity and the Church," among others. It is also important to note that the passage verifies that the formation of the Endowment and the creation of the University were in the planning stages for a long period of time. This statement refutes previous notions that Mr. Duke was turned away at schools such as Yale and Princeton and then hurriedly offered his money to Trinity College. In fact, there is no evidence or testimony that such efforts at other institutions were ever even made. In addition to confirming the lengthy planning process behind the creation of the Endowment, Few's account clearly states that the change of name from Trinity College to Duke University was his idea, not Duke's, as many people suggest. President Few even lists reasons why he felt a change in name was appropriate, such as the great number of North American schools named Trinity. It is likely he was aware of stories that were

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[26]Woody, pp. 104-07.

spreading at this time concerning Mr. Duke's alleged self-glorification. Otherwise it seems unlikely that he would go to such "pains" to confirm his role in the formation of the name.

While the above identified points can be extracted from the wording in President Few's passage, what the passage does not say is also important. Since it is a recollection of President Few, the man responsible for securing and maintaining the Duke family support, there is sure to be some professional and personal bias. Professional bias may enter into this account due to his interest in protecting the image of the donor, Mr. Duke, and ensuring continued Duke family support in the future. Few might have gone to great lengths here to guarantee that Mr. Duke's reputation is not harmed in any way. The reasons for a personal bias are many. These include, among others, Few's wanting to assure himself a role in the history of the University, to give himself quite a bit of credit for the transformation of Trinity College to a major University, and to ensure a place in North Carolina history for himself. Regardless of the personal or professional biases, the recollection serves as a primary source for the reasons behind the creation of the Endowment and as a step-by-step history of the Endowment's formation.

Although this is just one man's account of the formation of the Endowment and the choice of Trinity College, the majority of authors specializing in the history of Duke University or the history of the Duke family cite similar reasons for Mr. Duke's choice of Trinity College and also for the change in name. In fact, the following statement from James Buchanan Duke himself, solidifies

his reasons for the choice of Trinity College and parallels those reasons rendered by President Few.

> I have selected Duke University as one of the principal objects of this trust because I recognize that education, when conducted along sane and practical, as opposed to dogmatic and theoretical lines, is next to religion, the greatest civilizing influence. I request that this institution, secure for its officers, trustees and faculty men of such outstanding character, ability and vision as will insure its attaining and maintaining a place of real leadership in the educational world, and that great care and discrimination be exercised in admitting as students only those whose previous record shows a character, determination and application evincing a wholesome and real ambition for life. And I advise that the courses at this institution be arranged, first, with special reference to the training of preachers, teachers, lawyers and physicians, because these are most in the public eye, and by precept and example can do most to uplift mankind, and second, to instruction in chemistry, economics and history, especially the lives of the great of the earth, because I believe that such subjects will most help to develop our resources, increase our wisdom and promote human happiness.[27]

While the purpose of the Duke Endowment was to serve humanity, show appreciation to the Church, Christianity, the Carolinas, and Trinity College, the Duke Endowment accomplished still more. It benefitted those institutions in the Carolinas dedicated to personal growth, the future, and mankind. It enabled small hospitals and orphanages to pay their bills, it encouraged hospitals for other races, and it established a new institution of

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[27]Porter, p. 236.

learning that would grow to become the premiere private higher educational institution in North Carolina. It is a true tribute to the family that this University bears their name.

Similar to the Dukes' business undertaking, the establishment of a University bearing their name would be only of the highest caliber. An extensive effort monetarily, emotionally and physically would be required. The following section describes in detail the two campuses of Duke University and the care and planning that went into their formation.

CHAPTER 3

DESCRIPTION

There were two steps to creating the newly-formed Duke University. The first was the expansion of the present Trinity College campus which would be used for women. The second was the creation of an entirely new campus for men. Many of the people chosen to work on Duke University were hired by Mr. Duke himself, including the architect, Mr. Horace Trumbauer of Philadelphia, architect of James B. Duke's house in New York. Trumbauer's chief designer, Mr. Julian Abele, was responsible for all of the plans on both the East and West campuses. The engineer was Mr. Carl Lee of Durham, the contractors were Fuller Construction Company, E. H. Clement Construction Company and the Duke Construction Company of North Carolina. The Olmstead Brothers, designers of several other college campuses from the same period, were selected as the landscapers.[1]

[1]The names of people associated with the construction of the East and West Campuses between 1925-32 was compiled with information acquired in various files of the Duke University Archives.

East Campus

Between 1925 and 1927 the current Trinity College campus in Durham was transformed into the Women's College of Duke University. At the time of the Endowment and the creation of Duke University, the campus of Trinity College consisted of approximately fifteen buildings haphazardly placed over the sixty-two acres of land donated by Julian Carr in 1892. The buildings were erected in various architectural styles. The new plans attempted to make order out of chaos by keeping as many of the old buildings as possible and constructing new ones around the old and hopefully arriving at a unified whole. This transformation required the destruction of three existing buildings and the construction of eleven new buildings, all erected in American Georgian Revival architecture.[2] The eleven new buildings formed the basis of an open-ended quadrangle, modelled on the same principles as Jefferson's University of Virginia. In addition to the eleven new structures, four previously existing Trinity College buildings bordered the south end of the new quadrangle. This quadrangle, with the eight previously existing Trinity College buildings scattered over the land, served as the new home of the Women's College of Duke University.

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[2]Robert F. Durden, The Dukes of Durham 1865-1929 (Durham: Duke University Press, 1975), p. 239.

Destruction and Construction

The first task in the enlargement of the former Trinity College campus was the destruction of three existing buildings, Craven Memorial Hall, Alspaugh Hall, and the Library. Built in 1898, Craven Memorial Hall, served as the chapel and was the oldest of the three buildings to be demolished. The second building razed was Alspaugh Hall named in honor of Mr. John W. Alspaugh, a Trinity alumnus and a strong supporter of the college during the 1880's. This building, constructed in 1902 by funds donated by Benjamin Duke, functioned as a men's dormitory. The last building destroyed was the library, of special interest because it was the first building donated by James B. Duke. After the removal of these three structures, twelve buildings from the existing Trinity College campus survived. Four of them, Aycock, Jarvis, East Duke, and West Duke were incorporated into the new plans of Duke University's East Campus Main Quadrangle (Figure 1. East Campus Main Quadrangle Layout and Figure 2. View of East Campus Main Quadrangle from Above) while the other eight remained on the periphery of the newly formed quadrangle.[3]

The second task in the Trinity College campus enlargement was the construction of eleven new buildings, all in the Georgian Revival architectural style. Placed on a 900 foot long by 215 feet wide open-ended quadrangle, these eleven buildings, each exactly

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[3]R. P. Harriss,"Two of Old Trinity's Buildings Will Fall Under New Program," Raleigh Herald, 9 August 1925, page unknown, Duke University Archives.

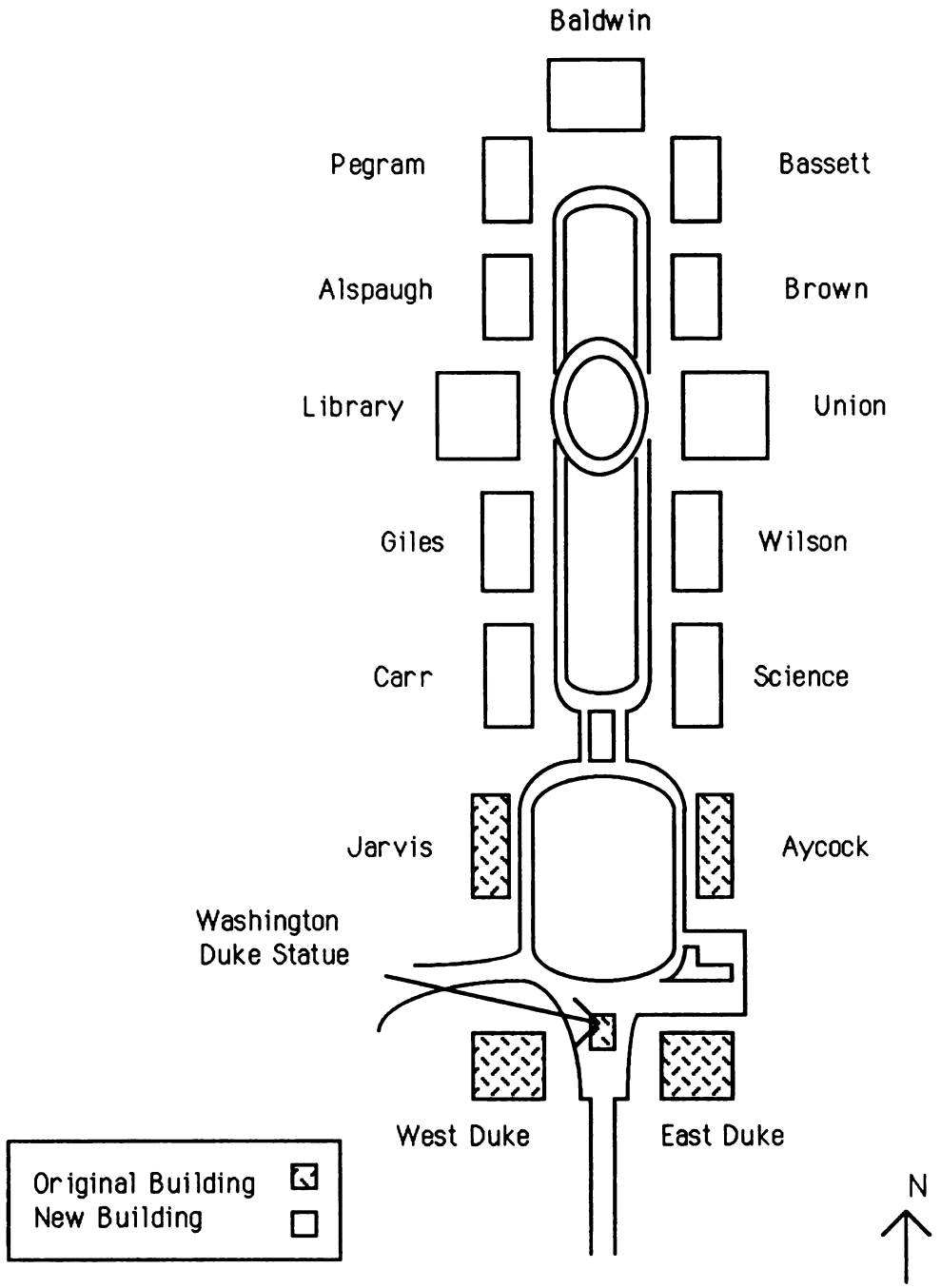

Figure 1. East Campus Main Quadrangle Layout

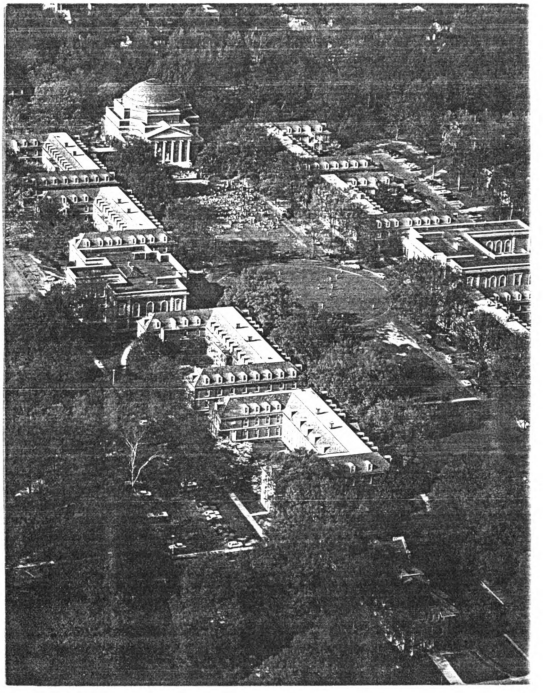

Figure 2. View of East Campus from Above. Reprinted, with permission, from Duke Reflections (Durham: Duke University Stores, 1985), p. 46. Photo by Steve Dunwell.

forty-five feet apart from the next, are connected by rounded arcades of red Baltimore brick.[4] Adjoining these eleven new buildings on the quadrangle are the four Trinity College buildings (Aycock, Jarvis, East Duke and West Duke) identified above. Located at the south end of the quadrangle, these four buildings are recessed from the Main Quadrangle lines. While these four structures are built in similar architectural styles and materials, the style and material does not reflect the new American Georgian or the red Baltimore brick of the eleven new buildings. Instead, these buildings are constructed of white pressed brick in variations of the Greek Revival architectural style. A walkway/ driveway circles in front of all the buildings on the Main Quadrangle of the East Campus entering and exiting at the southern end between the East and West Duke Buildings. Plans for the inner portions of the driveway depict a grassy park with a large water fountain in the middle.[5] The fountain, however, was never built, due to lack of funds.

The buildings of the new East Campus Main Quadrangle are divided into four groups. "A group of four residential houses, two on each side of the Auditorium, makes up the northern end of the quadrangle. In its center, each placed a few feet behind the main lines, stand the Library on the west side and the Union on the east. . . A group of four buildings, precisely like those at the north end completes the quadrangle."[6] The fourth group contains the four

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[4]William Blackburn, The Architecture of Duke University (Durham: Duke University Press, 1939), p. 4, and "First Unit of Southgate College Now Being Erected," The Chronicle XXI, no. 1, p. 5, Duke University Archives.

[5]Harriss, page unknown.

[6]Blackburn, p. 4.

pre-existing buildings from Trinity College and will be named the tangent group because of its location in relation to the Main Quadrangle. An examination of these four groups yields a cohesive East Campus Main Quadrangle.

North Group

The north group of the new East Campus Main Quadrangle of Duke University contains four residential buildings, Bassett Residence Hall, Alspaugh Residence Hall, Pegram Residence Hall and Brown Residence Hall, as well as the anchor of the north end, Baldwin Auditorium (Figure 3. East Campus Main Quadrangle North Group). Since all five of these buildings are additions to the Trinity College campus, they are all constructed of the same materials, red Baltimore brick for the building proper, Vermont marble for the trim, and Buckingham slate for the roofs. They are also of the same architectural style, American Georgian Revival.

The American Georgian Revival architectural style is divided into two branches, the neo-Colonial and the neo-Adamesque. The buildings on the East Campus at Duke University are from the neo-Colonial branch which is characterized by "rectangular . . . plan[s] with a minimum of minor projections and . . . strictly symmetrical facades."[7] Additionally, little decorative sculpture, red brick, white trim, and a vast expanse of space are characteristics of

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[7]Marcus Whiffen, American Architecture Since 1780: A Guide to the Styles (Cambridge: MIT Press, 1969), p. 159.

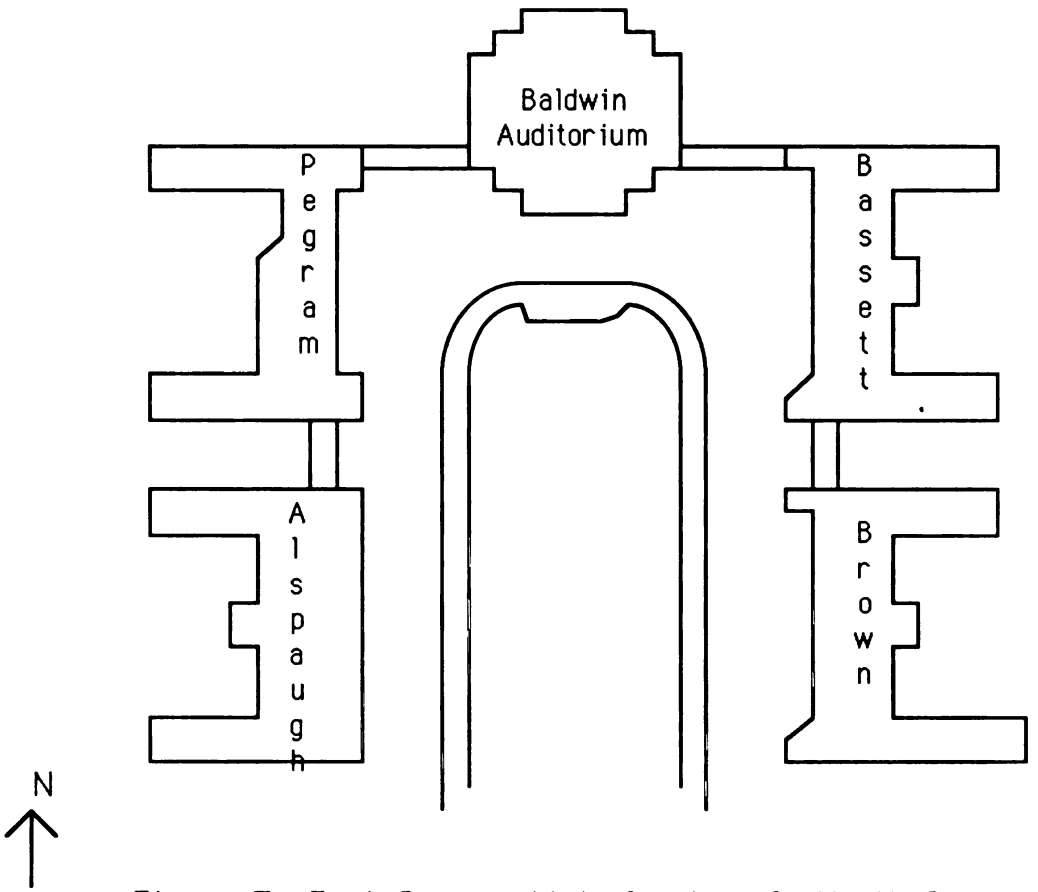

Figure 3. East Campus Main Quadrangle North Group

American Georgian Revival architecture. The function of this style is a "desire to restore order to the architectural scene."[8] This is a particularly appealing style for the East Campus considering the random architectural quality of the campus prior to 1925. As the buildings on the East Campus are discussed, the "symmetrical plan" and order will become more apparent.

At the far north end of the quadrangle is Baldwin Auditorium, the most imposing building on the East Campus (Figure 4. View of Baldwin Auditorium from Center of Main Quadrangle).

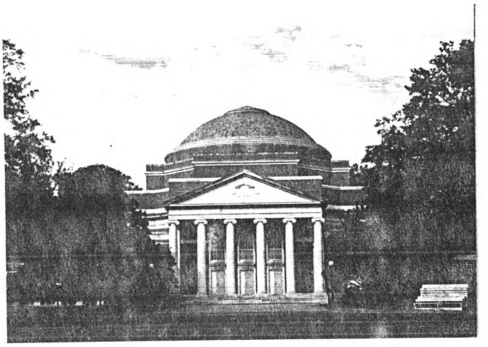

Figure 4. View of Baldwin Auditorium from Center of Main Quadrangle. Photo by author.

[8] Ibid.

Recalling the Roman Pantheon and also Jefferson's Rotunda at the University of Virginia,[9] the massive slate dome rises above a large square red brick building. A triangular pediment juts out from the front of the building, bolstered by six marble Ionic columns, each one forty feet high. Six marble steps the width of the portico lead to the entrance which consists of three identical white wooden double doors encased in a marble frame. While these three doors are centered between the four inner columns of the portico, the lintel of each door also serves as a base for a large arched window, over one and a half times the size of the door. Above the mammoth columns, a strikingly plain marble frieze contains the word "AUDITORIUM" carved across its polished surface. Overhead, the seal of the University is engraved in the pediment. The combination of the stark white marble, the building proper of red brick, and the capping dome of green slate increases the overall beauty of the building by its virtual simplicity. Named in honor of Alice Mary Baldwin, the "first dean of the Women's College and first woman member of the Duke faculty. . . ," the building began functioning as an Auditorium in September of 1927.[10]

The four remaining buildings of the north group are Bassett and Brown Residence Halls to the southeast of the Auditorium and Pegram and Alspaugh Residence Halls to the southwest. Like their counterpart to the north, these four structures are constructed in

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[9]A more detailed comparison between Baldwin Auditorium and Jefferson's Rotunda will be discussed in a later chapter.

[10]Marguerite E. Schumann, Stones, Bricks and Faces: A Walking Guide to Duke University (Durham: Duke University Office of Publications, 1976), p. 85. The persons for whom the buildings are named and the beginning dates of operation for all East Campus Buildings are found on pp. 66-85 of Schumann.

the Georgian Revival architectural style with red Baltimore brick, Vermont marble, and Buckingham slate. All four of these buildings have identical facades, possessing the symmetry so characteristic of the Georgian Revival style. Each building is three stories high with fourteen rectangular windows stretching across each of the first two floors and ten equidistant windows projecting from the pitched roof. A delicate rose window is centered in the middle of the red brick pediment. Each building has a single rounded arched doorway surrounded by four Doric columns. These columns support a marble frieze, containing the name of the building carved in capital block letters, and a small second floor marble balcony with an open balustrade. In addition to the same facades, these four buildings are constructed in a similar overall design, that of an E-shaped English manor house (Figure 3. East Campus Main Quadrangle North Group). The architect and designer of the campus employed these two techniques of sameness as a device to create an overall sense of balance between the two sides of the quadrangle. This sameness also increases the monumentality associated with the Auditorium because of its uniqueness in the north group.

Each of these buildings was named in honor of a man associated with Trinity College in its earlier years. Bassett was named for John Spenser Bassett, a professor of history at Duke from 1894 to 1906, a graduate of Trinity College in 1888; Pegram was named in honor of William Pegram, a longtime faculty member at Trinity, one of the executive heads of the institution during 1882, and a student of Trinity during the time of Craven. Alspaugh Hall was rebuilt on this location after the original Alspaugh Hall was

torn down during renovation. Brown Residence Hall was named for Joseph Gill Brown, a member of the Trinity College Board of Trustees for thirty-four years, ten of which he functioned as its chairman.

These five buildings at the northern end of the quadrangle represent the private realm of college life. It is both a home and a recreational center for students of Duke University. The next group, the center group, represents both the public and private lives of the students.

Center Group

The center group of the East Campus Main Quadrangle contains just two buildings, the Library, completed in the spring of 1927, and the Union completed in the fall of that same year (Figure 5. East Campus Main Quadrangle Center Group).

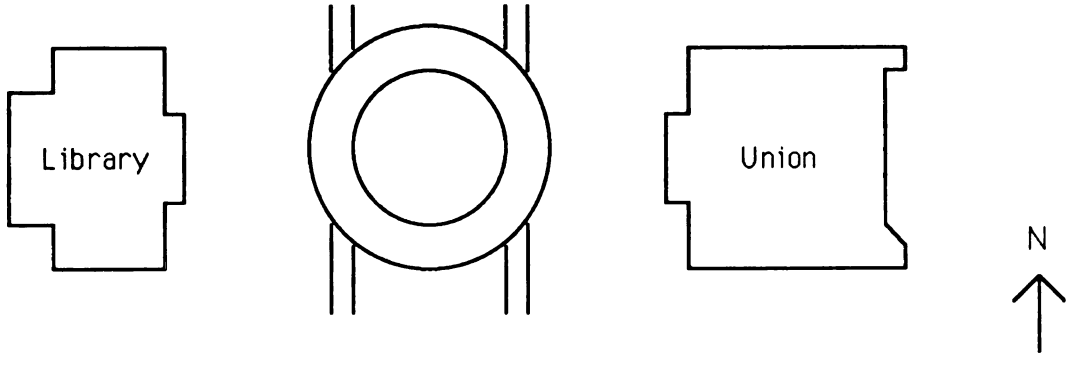

Figure 5. East Campus Main Quadrangle Center Group

Like all of the buildings in the north group, these two Georgian Revival buildings are constructed in red Baltimore brick, Vermont marble and Buckingham slate. The Union and Library facades, however, are not similar to those of the other four buildings of the north group. Rather, they are closer in style to the Auditorium with the main feature being an immense marble colonnade of six Ionic columns each forty feet high (Figure 6. View of East Campus Union from Center of Main Quadrangle).

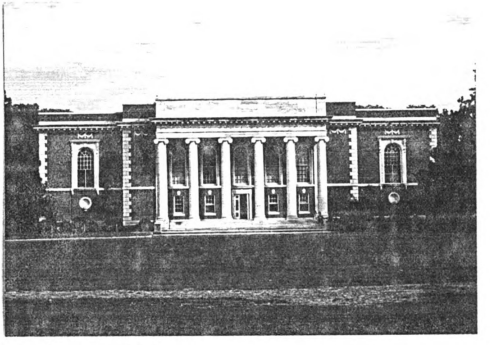

Figure 6. View of East Campus Union from Center of Main Quadrangle. Photo by author.

The parallels between these two buildings of the center group echo the colossal dimensions of the Auditorium and balance the Library and Union against each other. Like the Auditorium, six marble steps the width of the portico guide one toward the interior, however, unlike the Auditorium, the entrances consist of a single wooden door surrounded by a rectangular marble frame. Five large rounded arched windows, like those of the Auditorium, are centered between each of the marble columns. Above the column volutes, the sleek marble frieze is inscribed with the words "LIBRARY" and "UNION", respectively. While at first glance these two buildings appear to have identical facades, after further inspection many minor differences appear, such as the size of the rectangular windows on the first floor and the rounded arched windows on the second. Unlike the Auditorium with its dome or the residence halls with their pitched roofs, the Library and Union both have flat roofs and a simple square Vermont marble cornice the width of the portico and over two times the height of the frieze. These features help distinguish these buildings from the rest of the quadrangle and adds to the uniqueness of the campus as a whole.

The most unique element about these two buildings, however, lies in their location on the quadrangle of the East Campus. The Library on the west side and the Union on the east side are in recessed positions so that they "form a cross-axis on the campus and break the straight lines of the quadrangle."[11] This positioning enhances their prominence on the quadrangle and reinforces their

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[11]Blackburn, pp. 4-5.

monumental qualities. The center group represents two different spheres of the student's life: the private sphere as seen in the Union, and the public, as exemplified by the Library. The four buildings of the following group, the south group, represent both the student's public and private life as well.

South Group

The south group consists of four new structures; Giles Residence Hall and the Carr Building stand on the east side of the quadrangle while the Wilson Residence House and the Science Building lie on the west side of the quadrangle (Figure 7. East Campus Main Quadrangle South Group). Each of these buildings, excluding Giles, was completed in 1927; Giles was completed the following year.

Like the other new structures, these four are erected in red Baltimore brick, Vermont marble, and Buckingham slate. Their facades mirror those of the four buildings in the north group so that they not only balance one another but also balance the four buildings at the north end.[12] Also like the residence halls of the north group they are built in variations of the E-shaped English manor house style with pitched roofs. The combination of the four buildings of the south group united with the four of the north group thus

[12]The only visible difference between the Carr and Science Buildings and the remaining six E-shaped structures is that there is a different window configuration as well as a different number of windows on Carr and Science.

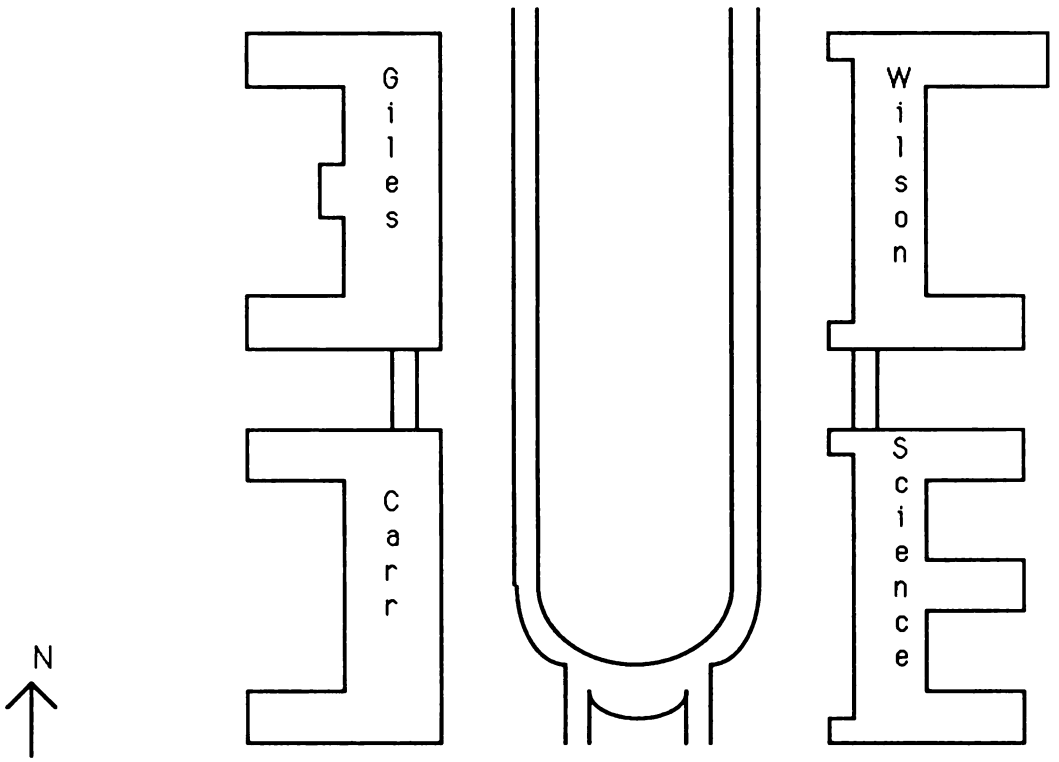

Figure 7. East Campus Main Quadrangle South Group

consists of eight separate buildings of the exact same materials, with almost identical facades and plans (Figure 8. Front View of Giles Residence Hall and Figure 9. Detail of Giles Residence Hall Entrance). The harmony among these eight structures lends prominence, in turn, to the other three buildings to the north (Baldwin Auditorium, Union, and Library).

Figure 8. Front View of Giles Residence Hall. Photo by author.

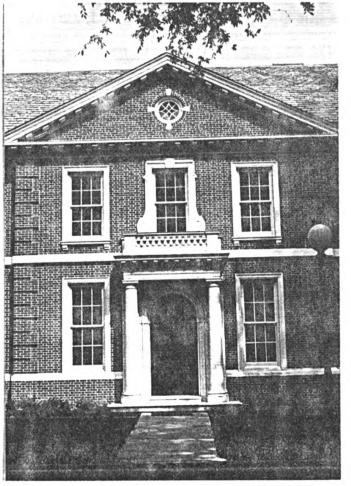

Figure 9. Detail of Giles Residence Hall Entrance. Photo by author.

Three of the four buildings of the south group are, again, named for persons associated with Trinity College. The Wilson House, named in 1970 for Mary Grace Wilson, the director of social affairs for the original Women's College and Dean of Undergraduate Women until 1970, is unique among the new buildings of the East Campus in that the building remained unnamed until 1970; no name is carved in marble above the doorway. Giles Residence Hall is named for the three Giles sisters, Teresa, Persis, and Mary, who were the first three women graduates of Trinity College in 1879. The Carr Building was named in honor of Julian S. Carr, trustee from 1882-1898 and donor of the sixty-two acres of land on which a portion of the present campus is situated. These four buildings represent both the public and private side of student life. Carr is used for classes, the Science Building is now the Museum of Art, and Wilson and Giles are residences. The remaining four buildings of the East Campus Main Quadrangle represent the former Trinity College as well as the public and private sphere of student life.

Tangent Group

The tangent group is composed of four surviving buildings from the old Trinity College campus, Jarvis Residence Hall and West Duke Building on the west side and Aycock Residence Hall and East Duke Building on the east side, as well as a large bronze statue of Washington Duke (Figure 10. East Campus Main Quadrangle Tangent Group). While the statue of Washington Duke separates the East and

West Duke Buildings, these two buildings and the statue combine to anchor the south end of the quadrangle.

To the south of Carr and the Science Building are Jarvis Residence Hall and Aycock Residence Hall, respectively. Constructed of white pressed brick, Indiana sandstone, and green tile roofs, these three-story buildings differ in plans as well as facades and materials from the eleven new buildings.[13]

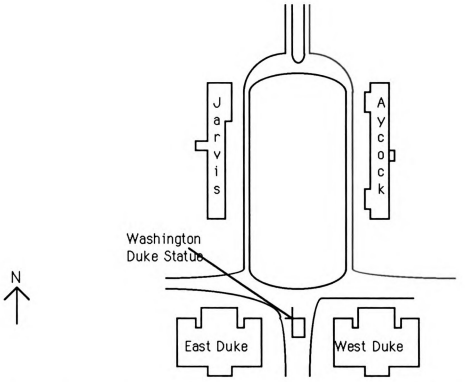

Figure 10. East Campus Main Quadrangle Tangent Group

[13]Blackburn, p. 4.

Adhering to the symmetry and order of the East Campus Main Quadrangle, the rectangular buildings of Jarvis and Aycock with their minor projecting bays and minimal architectural details, have almost identical symmetrical facades. This three-story facade consists of two mock doorways situated on either side of the main entrance, four dormers spread out across the original pitched roof, windows of varying rectangular size and a middle bay containing a pointed roof top (Figure 11. View of Jarvis Residence Hall from Aycock).

Figure 11. View of Jarvis Residence Hall from Aycock. Photo by author.

Aycock Hall was first occupied in September 1911. It was named in honor of governor Brantley Aycock, Governor of North Carolina between 1901 and 1905 and a strong supporter of the North Carolina public school system. Jarvis was completed and occupied a year later. This building was named in honor of another Governor of North Carolina, Thomas J. Jarvis, who served the state from 1875-1885 and also was a member of the Trinity College Board of Trustees.

To the south of Jarvis and Aycock are the West and East Duke Buildings. The main entrance to these two buildings faces south onto Main Street which serves as the southern border of the East Campus. Both buildings are constructed in the Greek Revival style with large porticoes each supported by four fluted Doric columns (Figure 12. View of Front Entrance of East Duke Building). Above the entrances lies a strikingly plain frieze. Many of the features of the new East Campus buildings can be found in the East and West Duke Buildings, such as the symmetry of these two buildings. In addition, the windows across the first floor are rectangular while those on the second floor are arched, a concept incorporated into both the Library and Union. While the West Duke Building was first occupied in early 1911, the East Duke Building was first used in late 1912. Today both buildings are used as classrooms. Like both the center and the south group, the buildings of the tangent group represent the private as well as the public realm of student life.

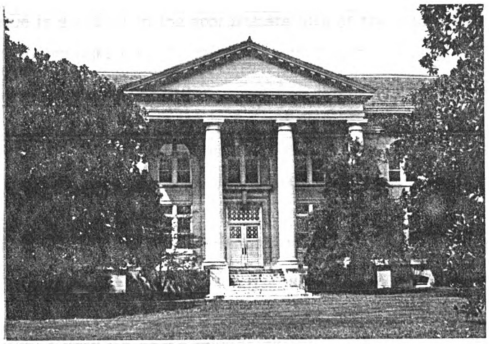

Figure 12. View of Front Entrance of East Duke Building. Photo by author.

The remaining structure from the south group is the approximately eight-foot high bronze statue of a bearded Washington Duke sitting in a monumental easy chair. Sculpted by Richmond artist Edward Valentine[14], the statue is located at the southern terminus of the East Campus Quadrangle. Centered between the East and West Duke Buildings, the marble base of this memorial statue contains the words "Patriot" and "Philanthropist" on two sides and a

[14]Durden, p. 164.

short biography of Mr. W. Duke in the front facing Main Street. Donated by several friends of Mr. Duke's after his death in 1905, the statue is situated on the approximate site of the original Washington Duke Building which was destroyed by fire in 1911.

Through the use of balance and variety the Main Quadrangle of the East Campus possesses an aura of dignity and calm. The architect and designer successfully employed several unusual techniques in the composition of the Main Quadrangle, including the Library and Union offsetting one another, and eight E-shaped English manor houses interspersed throughout the quadrangle. In addition to these unusual techniques, there are several other devices utilized by the architect and designer to create the overall beauty that emanates from the East Campus Main Quadrangle today. One especially notable device is their use of space; each new building is the same distance from its neighbor to the north or south and from its mirror image on the other side of the lawn. This use of space lends a serene sense of order to the quadrangle, an effect that the original Trinity College campus had lacked. In addition to order, a sense of unity, especially architecturally, can now be found on the East Campus. These and other characteristics of the East Campus were then repeated in the design of the Collegiate Gothic West Campus which was begun in 1927.

West Campus

The second step in the creation of the new Duke University was the building of an entirely new campus for men adjacent to the existing one. For this campus, James B. Duke purchased over 5,700 acres of land one and a half miles southwest of old Trinity College. The land was located on a narrow ridge four hundred feet above sea level in the rolling hills of the North Carolina Piedmont forest. Mr. Duke chose Collegiate Gothic as the architecture for this entire campus.

While the Collegiate Gothic[15] architectural style evolved in the United States during the early years of the Gothic Revival, it was not until the third period of Gothic Revival, between the years 1890 and 1920, that this style achieved its greatest acclaim. Based on many of the Gothic elements including the pointed arch, scale, and high roofs, Collegiate Gothic during this period was also characterized by little polychromy, simple silhouettes, stone buildings, and verticality, which symbolized not only "lofty spiritual aims but the equally high ideals of education and knowledge."[16] The most pronounced difference between true Gothic and Collegiate Gothic, however, was in function. True Gothic was built from the inside out, according to function, while Collegiate Gothic was the opposite, with "functions forced into a "Gothic" form."[17] Thus, many of the asymmetrical aspects of Gothic were lost in Collegiate Gothic

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[15]The short history of Collegiate Gothic as an architectural style is taken from Whiffen, pp. 173-4.

[16]Claudill, Rowlett, and Scott, "Design Study Duke University," November 1963, p. 8, Duke University Archives.

[17]Ibid, p. 8.

which tended towards symmetrical facades. According to several authors,[18] there are two primary reasons for the use of Gothic in colleges and universities: the association with "Europes great seats of learning," such as Oxford and Cambridge, and the "image of age and respectability" that colleges might project through this style. Both of these reasons can be found at Duke where James Duke chose Gothic to represent the new University and the ideals of the institution.

Thirty-seven buildings were planned for the West Campus of Duke University. The majority were completed between 1927 and 1932, making this six-year project the fastest constructed educational institution of this size prior to 1931.[19] The center of the West Campus was located in the middle of the narrow ridge purchased by James Duke on a long north-south axis (the Main Quadrangle) and a short east-west axis (the Chapel Court) which terminated in a towering chapel (hereafter the term "Main Quadrangle" will include the 1600 x 200' north-south axis as well as the smaller east-west axis often times referenced as Chapel Court). Seventeen buildings[20] were carefully placed around the Main Quadrangle (Figure 13. West Campus Main Quadrangle Layout).

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[18]Blackburn, pp. 6, 13, Jean Block, The Uses of Gothic (Chicago: The University of Chicago Library, 1983), pp. 7, 13, and Paul V. Turner, Campus An American Planning Tradition (Cambridge: The MIT Press, 1984), p. 245.

[19]"Duke University Holds Unique position in World's Educational Plants," The Hercules Record (St. Louis), August-September, 1931, p. 9, Duke University Archives. It was the largest educational plant constructed in that period up to publication date of 1931.

[20]Fifteen of the buildings were completed between 1927 and 1932. The other two buildings on the Main Quadrangle were added in 1938 and 1954.

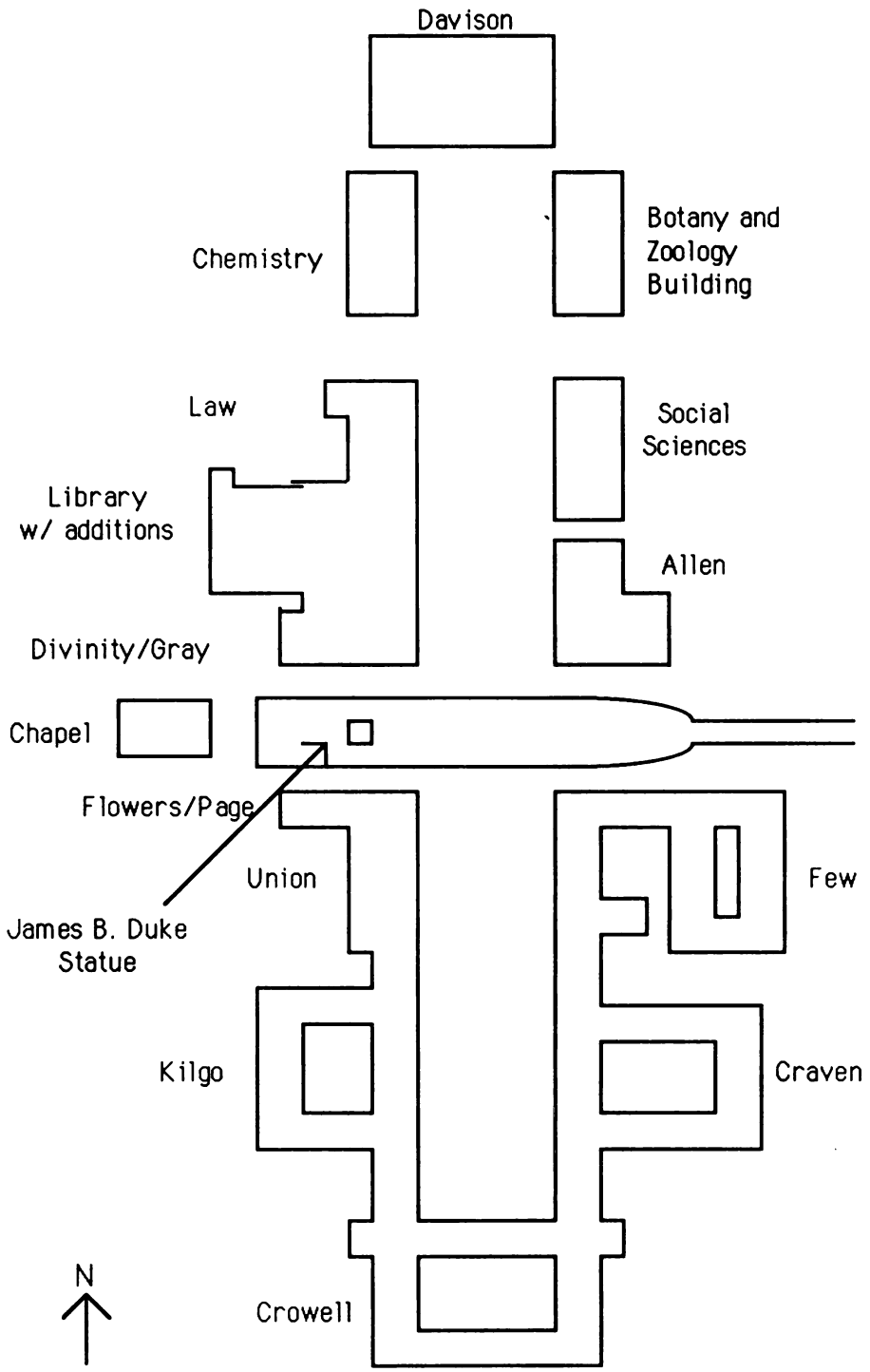

Figure 13. West Campus Main Quadrangle Layout

Paralleling the east-west axis is a one lane road which enters the quadrangle from the far east end and circles through the center of the campus directly in front of the Duke Chapel and then exits in the same format (Figure 14. View of Intersection of Chapel Court and Main Quadrangle West Campus from Above). A large park with a cascading fountain and reflecting pool was originally planned for the area enclosed by the road, however, lack of funds prevented the execution of any such plans.[21] "Three general groups of buildings make up the West Campus. . . . At the north end of the Main Quadrangle are the School of Medicine, . . . three science buildings, and the School of Law; in the center of the campus are the Chapel, the Administration, [and] the School of Religion. . . . The Library and the Union face upon both the Chapel Court and the Main Quadrangle. And at the south end are the residential quadrangles."[22] These buildings were originally grouped according to similar functions: the sciences in the north group, residences in the south and the center group represented a union of these two groups, a union of the public and private sphere of student life. In the discussion of each group, the changed functions, if any, will be noted.

Before examining these three groups individually, it is important to note several universal characteristics emanating throughout the Main Quadrangle of the West Campus. First, each

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[21]B.M. Hall Diary March 30, 1925, Duke University Archives, Letters Containing J B Duke's Views on the Design and Construction of the New Buildings, Duke University Archives, and Louis Graves, "Duke University Fortune's New Child," New York Magazine, 22 November 1925, page unknown.

[22]Blackburn, p. 9.

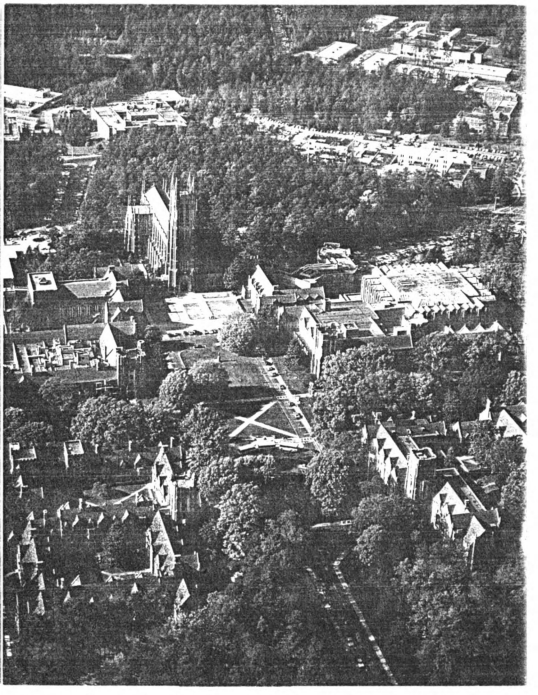

Figure 14. View of Intersection of Chapel Court and Main Quadrangle West Campus from Above. Reprinted, with permission, from Duke Reflections, Durham: Duke University Stores, 1985, p. 38. Photo by Steve Dunwell.

building is constructed of the same high quality materials, Hillsborough stone brought by train from a nearby quarry, and Indiana limestone used for tracery and sculpture. This stone was chosen by Mr. Duke because of the vibrancy of the colors in the stone (as many as eight colors can be found in a single piece) and because of its size. On the average each stone's width equals twice its height, giving an overall sense of order to the irregular Gothic architecture.[23]

A second universal characteristic of the West Campus Main Quadrangle is the sculptural details on all of the buildings. Many of these details are elements taken from the surrounding countryside. It is not unusual to find sculpted squirrels scampering up doorposts or acorns and oak leaves adorning a lintel. While eagles preside over both the front and back face of the Crowell Quadrangle Clock Tower, sixteen native flowers adorn the main entrance to the Social Sciences Building. In addition to the native sculptural details, many of the building facades are embellished with emblematic motifs. Seals of medical schools adorn the facade of Davison, symbols of the fine arts ornament Page Auditorium, and a judge's wig and scales can be found above the entrance to the Law Building.[24]

A third universal characteristic of the Collegiate Gothic buildings of the Main Quadrangle is that they receive their inspiration from English Gothic architecture. While the entire West Campus Quadrangle is medieval in character, the time periods from

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[23]B.M. Hall Diary, March 29, 1925, Archivist William E. King of Duke University, interview by author, October 1989, Durham, and Claudill, Rowlett, and Scott, p. 21.
[24]For a complete list of sculptural details see Appendix.

which the buildings emanate range from the early twelfth through the seventeenth centuries of English Gothic architecture.[25] Examples of this variety are found in the twelfth-century inspired Library Tower, located at the intersection of the north-south and east-west axis, with its "squat, heavy almost dark kind of massiveness," the fourteenth-century Chapel Tower which receives its inspiration from several English High Gothic churches including Canterbury Cathedral,[26] and the seventeenth-century Jacobean Chemistry Building with its open porch and balustrade as well as three arched Italianized entrance. Many other buildings depict this variety in English Gothic architecture including the tower of the Davison Building, inspired by sixteenth-century architecture in its lighter and numerous openings, and the Law Building, inspired by fifteenth-century residential architecture with its unsymmetrical massing, small bays, and informal elevation. Through this variety in time periods of English Gothic architecture, the architect and designer instantaneously project an element of age in the structures, as if the buildings were constructed over a long period of time.

A fourth universal characteristic of the West Campus Main Quadrangle buildings is their irregularity. Not only are the individual plans of all the buildings completely different from one another but other elements such as heights of walls, location of entrances, and placement of sculpture are varied in every building.

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[25] "On the Architecture of Duke University," Duke University Archives, pp. 1-8.

[26] Horace Trumbauer to G. G. Allen, British-American Tobacco Company, 12 June 1926, transcript in the hands of Duke University Archives, Durham. Letter states that "the . . . tower of the chapel was suggested by the Canterbury spire."

The most obvious example of this irregularity is Crowell Residence Quadrangle where "the west wall is four stories; the north and south, three stories; the northeast corner and most of the east wall are only two stories above the ground level."[27]

While the above characteristics are found in all buildings of the West Campus Main Quadrangle, each group is unique as is each individual building. The three groups that compose the Main Quadrangle of the West Campus will now be examined individually.

North Group

The group of buildings located at the northern end of the Main Quadrangle consists of five structures, the Davison Building (often referred to as the Medical School), the Chemistry Building, the Social Sciences Building, the Law Building, and the Botany and Zoology Building (now the Psychology-Sociology Building), all constructed before 1930 (Figure 15. West Campus Main Quadrangle North Group).[28]

Like all of the buildings on the Main Quadrangle these five buildings were originally placed together because of their similar functions, that of teaching the sciences. Only the Davison Building still houses its respective discipline. The Chemistry Building now harbors the Institute of Public Policies and Affairs as well as the Oral History Project and the Duke Media Center, the Law Building is home to many of the language departments at Duke, the Social

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[27]Blackburn, p. 10.

[28]All names and dates of West Campus Buildings are taken from pp. 1-54 in Schumann.

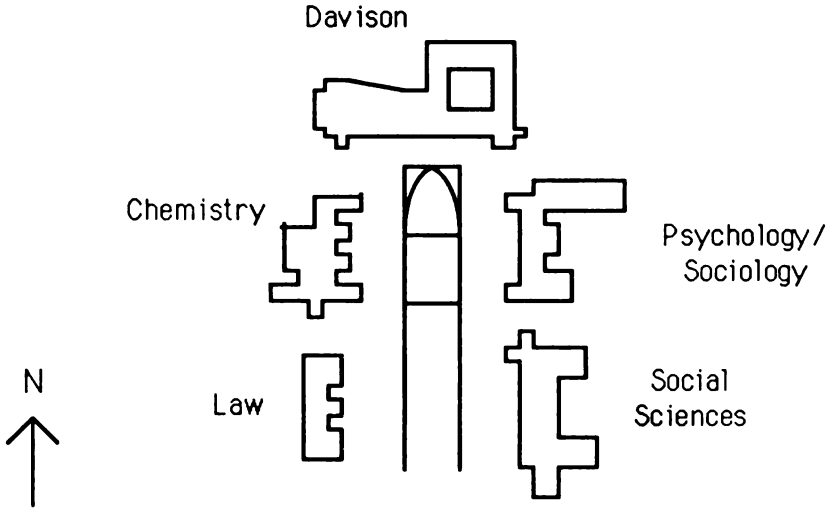

Figure 15. West Campus Main Quadrangle North Group

Sciences Building houses programs in economics and cultural anthropology.

The terminus of the north group, the Davison Building (see Figure 16. View of Northwest Corner of Main Quadrangle Depicting the Davison and Chemistry Buildings), merits special note. First, it is the only building in this group to be named after an individual, Wilburt Cornell Davison, the James B. Duke Professor of Pediatrics and the founding Dean of Duke University Medical School. Second, it is the only building in the group to contain a tower. The large six story tower is bounded by two crenellated turrets each with six windows interspersed throughout the floors. Third, while the Davison Building is part of the original campus planned at Duke University, the bequest in Mr. Duke's will for a medical facility

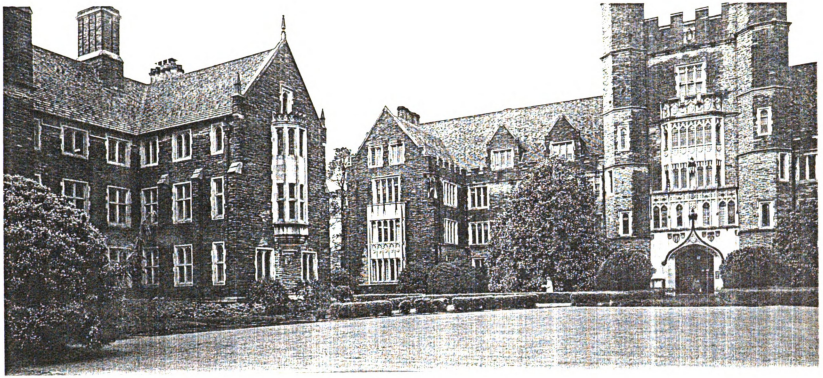

Figure 16. View of Northwest Corner of Main Quadrangle Depicting the Davison and Chemistry Buildings. Reprinted, with permission, from Duke Reflections, Durham: Duke University Stores, 1985, p. 10. Photo by Steve Dunwell.

unparalleled in North Carolina is attached to the rear of the Davison Building and leads to an entire medical quadrangle. Finally, the unusual plan of the Davison Building embodies a unique feature of the architecture on the West Campus: an enclosed quadrangle "typical of the medieval English college."[29] This makes the quadrangle in the Davison Building a quadrangle within a quadrangle.

While the buildings at the northern end of the Main Quadrangle are centered in the public realm of the student, those at the opposite end, the south group, are devoted to the private life of the student.

South Group

The southern end of the Main Quadrangle is home to the residence halls of Duke University's West Campus. When the campus was completed in 1932 there were three residential buildings: Kilgo, Crowell, and Craven Quadrangles. Each is a self-enclosed quadrangle separated from the Main Quadrangle by one or two pointed arched doors. This is similar in plan to the Davison Building from the north group (Figure 17. West Campus Main Quadrangle South Group and Figure 18. View of Kilgo Residence Quadrangle Outer Wall from Center of Main Quadrangle).

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[29]Turner, p. 215.

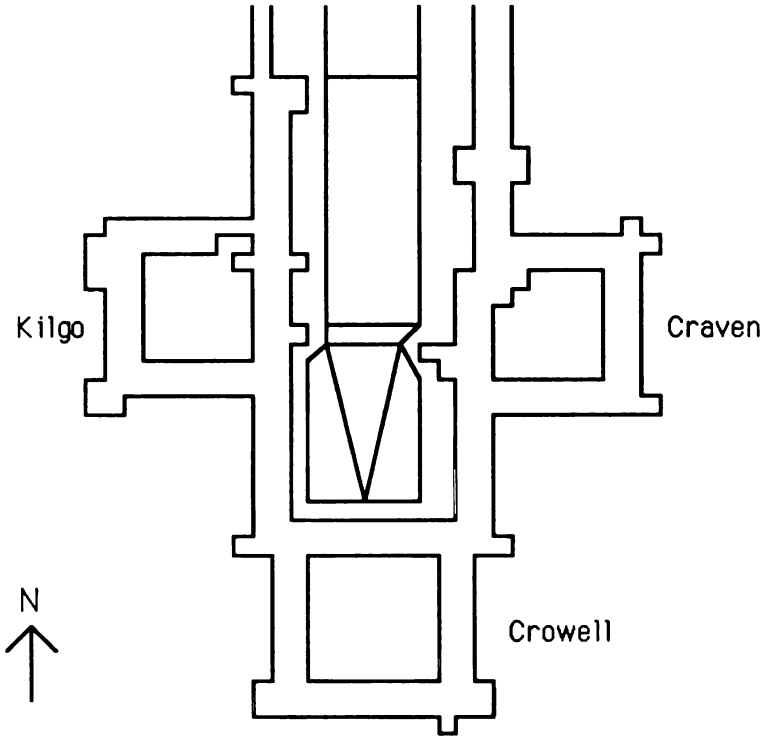

Figure 17. West Campus Main Quadrangle South Group

Figure 18. View of Kilgo Residence Quadrangle Outer Wall from Center of Main Quadrangle. Photo by author.

In addition to the quadrangle within a quadrangle element, the south group as a whole contains three other unique features. One, all buildings of the south group are connected to each other through Hillsborough stone walls. Two, all buildings of the south group are named after presidents of Trinity College or Duke University. The southern terminus of the Main Quadrangle is Crowell Quadrangle named in honor of John Franklin Crowell, president of Trinity College between 1887-1894. To the northeast of Crowell Quadrangle is

Craven Quadrangle named in honor of Braxton Craven, president of Union Institute, Normal College, and Trinity College from 1842-1884. The last residence quadrangle is Kilgo, named in honor of John Carlisle Kilgo, president of Trinity College from 1894-1910.

Three, each building contains a six-story tower. While Crowell's six-story clock tower echoes the tower of Davison at the north end of the quadrangle, Kilgo's single tower balances the two towers of Craven. Between the two six-story towers of Craven sits a three-story wall which lends to the Gothic irregularity so prominent on the West Campus.

While the south group represents the student's private life and the north group represents the student's public life, the designers of the University brought these two elements together in the center group of the Main Quadrangle.

Center Group

The center group of the Duke University West Campus Main Quadrangle contains seven buildings: the Union, Page Auditorium, and the Flowers Building (originally built as an administration building, today it is a student services building) to the south of the Chapel; the Divinity School, the Gray Building (home to many liberal arts programs), and the Library, to the north of the Chapel; the Duke Chapel in the center, and an over-life-size bronze sculpture of James Buchanan Duke located in front of the Chapel (Figure 19. West Campus Main Quadrangle Center Group). This center group with its

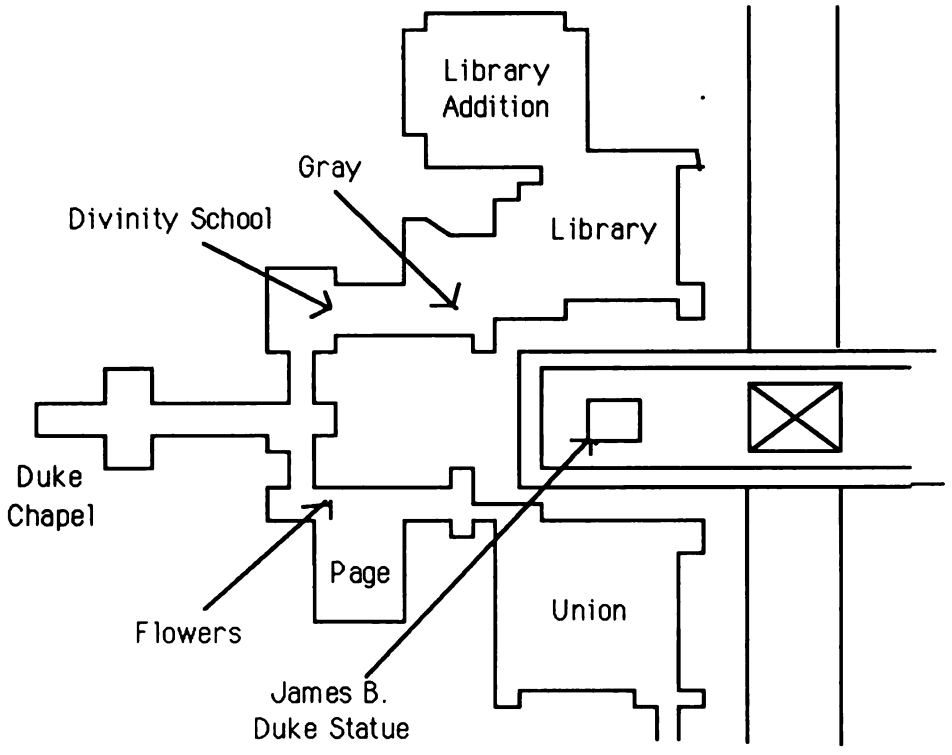

Figure 19. West Campus Main Quadrangle Center Group

varied functions represents the union of the north, public quadrangle, and the south, private quadrangle.

As a group, these buildings have several common characteristics. First, they are all connected to each other either through a common roof, as is the case with the two groups of buildings to the north and south of the chapel, or through symbolic arcades. These arcades, which are located on each side of the Chapel, link the Duke Chapel to the academic and residential buildings on either side of the Main Quadrangle thus reinforcing Mr. Duke's firm belief that religion lay at the heart of a solid education.

Second, the center group contains several buildings named after persons associated with Trinity College and Duke University. The Flowers Building was named after Robert Lee Flowers, a faculty member in mathematics, secretary, treasurer, vice-president, president, and chancellor between the years 1891 and 1951. Page Auditorium is named for Walter Hines Page and his nephew Allison Page. Mr. Allison Page was the first Trinity alumni to lose his life in WWI. The Gray Building was named for James Alexander Gray, one of the members of the Committee of Management which presided over Trinity College between 1884-1886.

A third common characteristic of the buildings of the south group is balance as evidenced in the towers; the towers on three of these buildings offset one another, thus providing balance for the group as a whole. The Library on the northwest corner of the two intersecting axes and the Union on the southwest corner (Figure 13. West Campus Main Quadrangle Layout) both contain six-story towers which serve to balance the massive 210' tower of the Duke Chapel. Located in the very middle of the center group, the Duke Chapel Tower becomes the focal point of the entire West Campus. The prominence and importance of the Duke Chapel itself, merits examining the building in detail.

James B. Duke said that he "want[ed] the central building to be a church, a great towering church which will dominate all the surrounding buildings because such an edifice would be bound to have a profound influence on the spiritual life of the young men and young

women who come here."[30] The first-planned and last-constructed building on the West Campus Main Quadrangle, the Duke Chapel is estimated to have cost over two million dollars and took over two years to complete. Cruciform in plan, the Duke Chapel is modeled on many of the Cathedrals in England, among them Canterbury Cathedral (Figure 20. View of Duke Chapel from Center of Main Quadrangle). This is especially evident in the upper one-third of the Duke Chapel Tower which closely resembles the tower at Canterbury Cathedral. The location of the tower above the narthex, however, is unusual for a Gothic church (in the majority of Gothic churches the tower is located to the side or at the crossing of the nave and transepts). The Memorial Chapel, which contains the sarcophagi of the three Dukes credited with creating Duke University (Washington, Benjamin and James), is located in the southwest corner of the Duke Chapel. The exterior is ornately decorated including over seventy-three stained glass windows representing scenes of both the Old and New Testaments and many sculpted figures depicting leaders of the Church.

Located directly in front of the Duke Chapel is a large bronze sculpture of Mr. James Buchanan Duke, cigar in one hand and cane in the other, sculpted by New York artist Charles Keck[31] in 1935 (Figure 21. James B. Duke Statue with Duke Chapel in Background). The sculpture was placed there as a memorial to the greatest benefactor of Duke University. The inscription on the sculpture

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[30]William E. King, Duke Reflections (Durham: Duke University Stores, 1985), p. 1.

[31]Mr. Keck is also responsible for much of the interior sculpture of the Duke Chapel including the three marble sarcophagi of Washington, Benjamin and James Buchanan Duke.

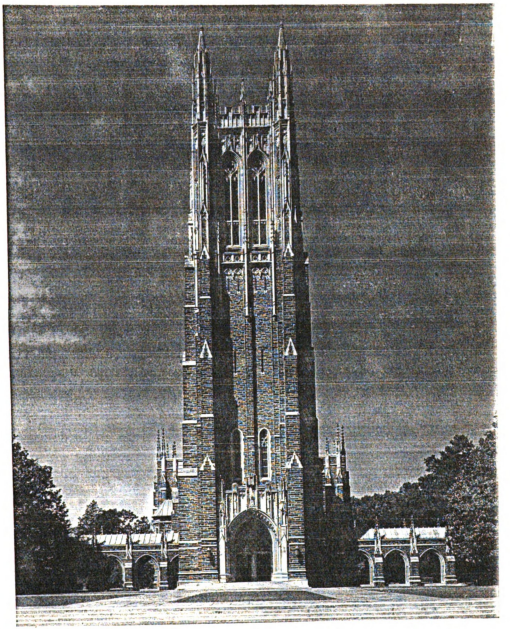

Figure 20. View of Duke Chapel from Center of Main Quadrangle. Reprinted, with permission, from The Chapel Duke University, Durham: Duke University Stores, 1986, p. 12. Photo by Richard Cheek.

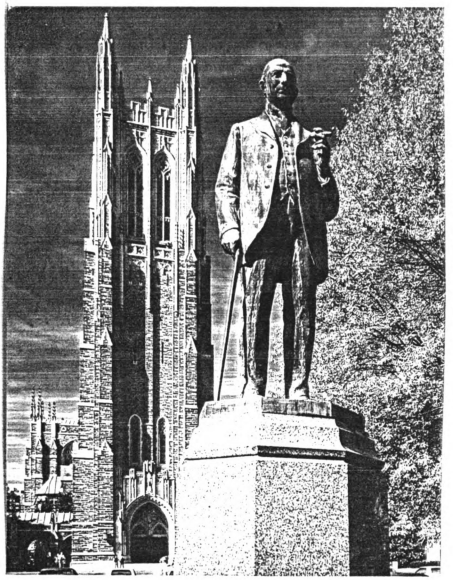

Figure 21. James B. Duke Statue with Duke Chapel in Background. Reprinted, with permission, Duke Reflections, Durham: Duke University Stores, 1985, p. 48. Photo by Steve Dunwell.

reads, "James Buchanan Duke. December 23, 1856-October 10, 1925. Industrialist, Philanthropist, Founder of the Duke Endowment." Many feel that the prominent location of this statue, in the middle of campus, emphasizes how the concept of the University as a memorial to Mr. Duke originally evolved. While it is true that the statue is indeed a memorial to Mr. Duke, statements about original intent seem unfounded given the prior historical accounts of President Few and James Duke and the fact that the statue was not erected until 1935, ten years after Mr. James Duke's death.

While the fifteen buildings described above composed the Main Quadrangle as it stood in 1935, there have been several additions to this quadrangle since that time, each one created in the same architectural style with the same materials, and each one enhancing the "gothicness" of this campus.[32]

Conclusion

The combination of these unique characteristics, the placement of the buildings, and the Collegiate Gothic architecture gives the West Campus Main Quadrangle at Duke University a varied yet harmonious quality. Not withstanding the characteristic irregularity of Collegiate Gothic architecture, the individual buildings and the West Campus as a whole possess a sense of

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[32]The two additions to the West Campus Main Quadrangle are Few Quadrangle, named for President Few, built in 1938 and the Allen Building constructed in 1954. The Allen Building was named for George Garland Allen, James B. Duke's personal counselor and the first Chair of the Duke Endowment. The location of these two buildings is found in Figure 13.

balance and order, no less pervasive than that of the symmetrical East Campus. Perhaps one of the most amazing characteristics of Duke University, however, is that both the East (Georgian Revival) and West (Collegiate Gothic) Campuses were the creation of one architectural firm, the Office of Horace Trumbauer.

CHAPTER 4

ARCHITECT AND DESIGNER

Duke University is one, if not the only, collegiate institution in the United States that can boast that both completely different campuses were the creation of one architectural firm. The Philadelphian architect Horace Trumbauer and his chief designer Julian Abele are responsible for the designs on both the East and West Campus. When James Buchanan Duke formed the Duke Endowment and decided that a large portion of the money would go to an institution of higher education in North Carolina, he had already hired the architect and the designer of that new institution.[1] Trumbauer and Abele had executed various projects for Duke on his farm in New Jersey in 1905, and had built Duke's marble mansion on Fifth Avenue in New York City. Because they were most often associated with the elite of the East Coast and were commissioned for their fanciful mansions and palaces, Trumbauer and Abele were relatively unheard of in the field of collegiate architecture. Although Duke University is one of only two institutions of higher education on which they have worked[2] as well as their only

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[1]Robert F. Durden, The Dukes of Durham 1865-1929 (Durham: Duke University Press, 1975), p. 226.

[2]Trumbauer and Abele designed Irvine Auditorium on the Philadelphia campus of the University of Pennsylvania.

commission in North Carolina, it is one of their most successful accomplishments.

While alive, Mr. Duke took an active role in the overall development of the University. Not only did he have final say on major items such as the architectural style of the West Campus, the choice of stone for the West Campus, and the overall layout of the grounds, but he also made actual design changes. These design changes were usually minor, such as reducing the number of toilets in one of the women's dormitories or changing the elevation of the steps in front of Page Auditorium.[3] After Mr. Duke's death in late 1925, Trumbauer and Abele had full reign over the University design. Their ideas had to pass inspection only by President Few and the Board of Trustees. While it is true that Mr. Duke did indeed play an active role, in the end the two architects, with their long list of experiences and accomplishments, truly molded the Duke University Campus into the success that it is today.

Horace Trumbauer[4]

During the early twentieth century, the Philadelphia architectural firm of Horace Trumbauer became famous for their designs of palatial residences for the elite of Philadelphia and the east coast. Trumbauer designed mansions for the Widener and Elkin

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[3]James B. Duke File on Design Changes, Duke University Archives.

[4]Sources used in Trumbauer's biography are Alfred Branam, Newport's Favorite Architects (New York: Classical America, 1976), Duke University Archives, and Sandra Tatman and Roger Moss, Biographical Dictionary of Philadelphia Architects (Boston: G. K. Hall and Company, 1985), s. v. "Trumbauer, Horace," unless noted.

families' among others. In addition to these palatial estates, Trumbauer also created architectural fantasies of every kind from eigthteenth century French galleries and chapels to Renaissance revival apartment buildings. One of Trumbauer's largest, lengthiest, and most costly undertakings, however, was his creation of the two campuses at Duke University.

The third eldest child of Josiah and Mary Trumbauer, Horace was born in Philadelphia on December 28, 1868. He attended the Philadelphia public schools until he was sixteen, at which time he dropped out of high school and began work as a draftsman for the architectural firm of G. W. and W. D. Hewitt in downtown Philadelphia. While employed at the Hewitt firm, Trumbauer was exposed to many palatial estates including the oil magnate H. H. Houston's elaborate mansion, "Drum Moir." Some authors cite this exposure as a possible source for Trumbauer's affinity for the fanciful palatial residences he would execute for the remainder of his career.[5]

In 1890 Trumbauer left the Hewitts to try his hand at business for himself. He opened his own firm at 310 Chestnut Street in downtown Philadelphia, the same building in which he had worked for the Hewitts. While he was engaged in several smaller commissions, mostly alterations and additions, his career began to flourish with his drawings for Wendell & Smith, Philadelphian builders and developers. Trumbauer's designs for Wendell and Smith spanned the architectural styles of the period, including everything

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[5]James T, Maher, The Twilight of Splendor (Boston: Little, Brown, 1975) and Tatman and Moss, p. 799.

from Colonial Villas to Queen Anne residences (Figure 22. Trumbauer Drawing for Wendell & Smith). One design in particular, the tower house, a medieval-looking fortified castle, attracted the most attention and led to many future commissions, beginning with the house of sugar tycoon Mr. William Welsh Harrison.

Trumbauer began working for Mr. Harrison in early 1891 doing alterations on his country estate "Rosedale Hall" in Glenside, Pennsylvania. When the house burned to the ground later that year, Harrison commissioned a new "fire-proof castle" based on Trumbauer's tower house design. Harrison's new "Rosedale Hall" was a "massive three story granite house with towers and battlements at its corners." The name was changed to "Grey Towers" and it appears this house, more than any other, held the key to Trumbauer's future.[6]

Commissions poured in for the architect of "Grey Towers." P. A. B. Widener, the transportation tycoon, and William L. Elkin's, his financial associate, both had mansions close to "Grey Towers." When they decided on building new estates in the country to house their art collections, both men immediately contacted the architect of "Grey Towers" to do the work. Trumbauer finished Widener's Georgian palace, "Lynnewood Hall" and Elkins' Italianate mansion, "Elstowe Park," both in late 1898. Thus began a long and profitable relationship between these two families and Trumbauer which ultimately lead to over thirty-seven commissions in the next forty years, including the Widener Memorial Library at Harvard University which Trumbauer completed in 1915. His success with these houses

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[6]Maher, p. 49.

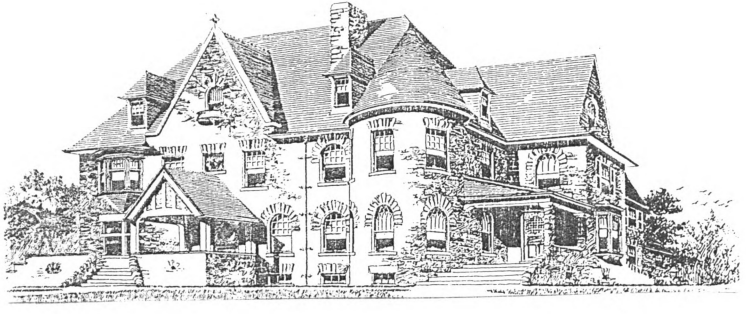

Figure 22. Trumbauer Drawing for Wendell & Smith. Dates to 1893. Reprinted from American Architect and Building News, no. 924, 3 september 1893, p. 163.

and his acceptance by the elite of Philadelphia greatly enhanced his now growing reputation as an accomplished architect.

While Trumbauer's firm was growing in popularity, it was expanding in personnel as well. Frank Seeburger served as chief designer and in 1906 Trumbauer hired Julian Abele, graduate of the University of Pennsylvania School of Architecture, as assistant designer. Mr. Abele became chief designer in 1908 when Mr. Seeburger left to open his own architectural firm. The hiring of Abele was perhaps one of Trumbauer's most insightful moves; the two men complemented each other very well. Trumbauer arranged for commissions while Abele created beautiful designs that delighted their clientele. Among these designs were expansions on Trumbauer's castle house, Italianate villas, Swiss chalets and Georgian mansions.

Over the course of the next thirty-five years, the architectural firm of Horace Trumbauer became famous for the large palatial residences it designed in and around Philadelphia as well as in other parts of the east coast. They worked in various architectural styles from medieval castles to Italianate and Georgian mansions (Figure 23. Residence of James W. Paul, Jr. Radnor, PA and Figure 24. Residence of Martin Maloney, Spring Lake, New Jersey). One distinct characteristic of their work is that Trumbauer's firm had no identifiable style of its own. They created mansions and villas according to the desires of their clients with no particular identifying mark.

In addition to these majestic palatial residences, Trumbauer and his firm were involved in many varied commissions. The firm

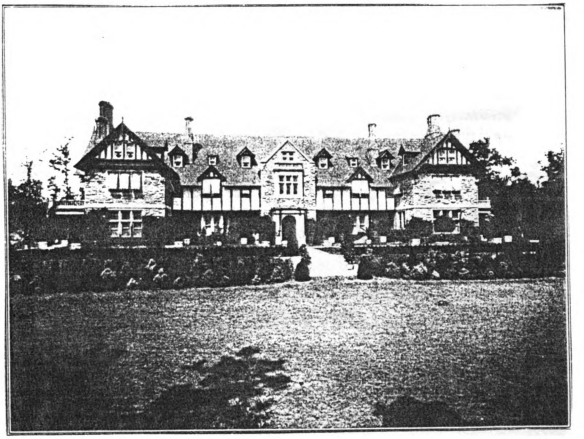

Figure 23. Residence of James W. Paul, Jr., Radnor, PA. Reprinted from "The Works of Horace Trumbauer," Architectural Record, February 1904, p. 105.

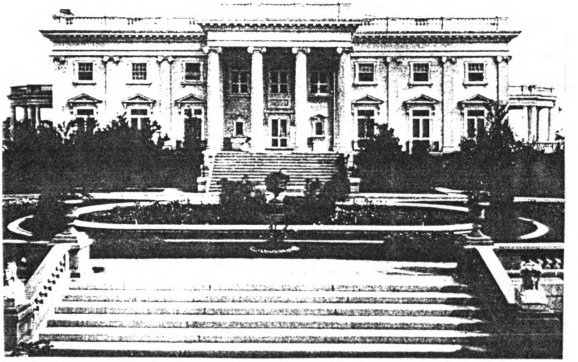

Figure 23. Residence of Martin Maloney, Spring Lake, NJ. Reprinted from "The Works of Horace Trumbauer," Architectural Record, February 1904, p. 109.

worked on the designs of the Free Library of Philadelphia, the Philadelphia Museum of Art, the St. James Apartment Building in Philadelphia, St. Catherine's Chapel in Spring Lake, New Jersey (Figure 25. St. Catherine's Chapel, Spring Lake, New Jersey), and the Widener Training School for Crippled Children in Long Station, Philadelphia. The most monumental of their efforts, however, can be found in Durham, North Carolina where they created the two completely different campuses at Duke University.

When James B. Duke established the Duke Endowment in 1924, Trumbauer was already familiar with the Duke family. When the time came to decide on an architect for Duke University, James Duke, without hesitation, chose Trumbauer. The two campuses at Duke represent Trumbauer's finest work. Only here can one see the endless possibilities and scope of Trumbauer's talent. Following the orders of Mr. Duke as far as architectural style was concerned, the planning remained in the hands of Trumbauer's firm. No one can say for sure at this point if the designs were the idea of Trumbauer himself or his chief designer, Julian Abele. Regardless, Trumbauer and Abele were able to create two distinctly different campuses and thus explore to the fullest two different architectural styles.

With all of Trumbauer's successes, there are some rather unusual elements about his career as an architect. The first is that most of his commissions came from a small group of wealthy east coast clients who entrusted Trumbauer with the spending of their money.

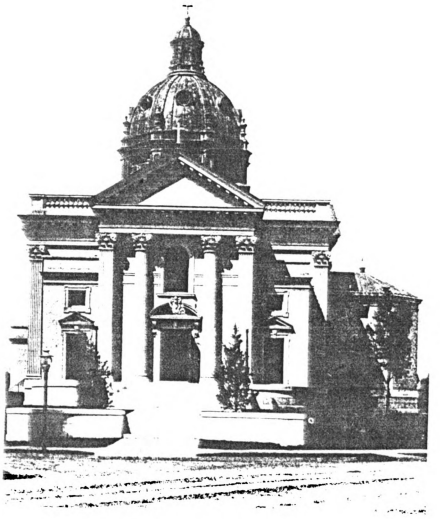

Figure 23. St. Catherine's Chapel, Spring Lake, NJ. Reprinted from "The Works of Horace Trumbauer," Architectural Record, February 1904, p. 110.

> Trumbauer's clients had in common, besides their wealth, a remarkable loyalty to him [families like the Dukes, Wideners, and Elkins]. Men who were fearsomely exacting in the use of their money came back to him again and again with commissions of all types: residences, stores, hotels, hospitals, churches. And he was able to persuade them to let him build for them a succession of costly mansions, a number of which rank with the most distinguished houses designed in this country at any time. Over a period of almost four decades they entrusted to him the expenditure of many millions of dollars, a reliable measure of his professional diligence.[7]

Mr. Duke is an excellent example of the wealthy client who "entrusted" Trumbauer with the spending of his money.

A second unusual aspect of Trumbauer's success is that all of this money and these very large, profitable commissions were being given to a man who not only dropped out of high school at the age of sixteen but also received no formal architectural training. Perhaps this aspect of Trumbauer is what first attracted Mr. Duke. James Duke, like Trumbauer, had very little formal schooling. He attended a local school in Greensboro for a short time and later attended the Eastman Business School in New York, also for a short time.

Very little is known of Trumbauer's personal life. He was elected into the Architectural League of New York in 1899. In April 1902 he married divorcee Sarah Thompson Williams, the couple had one adopted daugther, Helena.[8] In 1915, he received an honorary Master of Arts in architecture from Harvard University after

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[7] Ibid, p. 50.

[8] "Horace Trumbauer, Architect for Buildings at Duke, Passes in Philadelphia," Duke Alumni Register, September 1938, p. 233, Duke University Archives.

designing the Harvard Memorial Library for the Widener family. In 1927 he was awarded first prize at the Third Pan American Congress of Architects and in 1931 he was admitted into the American Institute of Architects. He died in 1938.

Trumbauer's success as a designer in Philadelphia is due to many factors. The trust that his clients placed in him as an architect, the ability to declare no limits on what you can do financially, and according to one author, the very nature of his work which does not reflect the personality of the man himself at all.

> If his work lacks the very decided individuality which has hitherto marked the better class of work in Philadelphia, it is at the same time free from all eccentricity. It is never crude. It conforms successfully to the prevalent standards of educated architects. His work exhibits the eclectic facility which is one of the characteristics of the modern American architect. . . . It is extremely difficult in it to catch the designer, so to speak, at any of his preferences. That this impersonality, accompianied by the good qualities of sobriety, accuracy and good taste, should have come out of Philadelphia, is not only a matter for astonishment, but for congratulations.[9]

That Trumbauer's work lacks his own individuality is evident in the vast array of buildings associated with his firm in very different architectural styles from the classical Free Library of Philadelphia and the Philadelphia Museum of Art to the Swiss Chalet mansions he designed in Newport, Rhode Island. The buildings of Trumbauer do not reflect any new architectural style but rather rely

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[9]"A New Influence in the Architecture of Philadelphia," Architectural Record XV, no. 2, p. 121.

on styles from the past. "One may learn fairly quickly to respect the stylistic authority of the Trumbauer palaces. However, they yield their subtle eloquence only very slowly, for nuance is their secret. And one may sense at the heart of that secret the presence of Abele at the drafting board gently persisting against the academic absolutism of the modernist era- an eloquent man, who was also, in Ralph Ellison's bitter phrase, an invisible man."[10]

Julian Abele[11]

Julian Francis Abele was born in Philadelphia on April 29, 1881 and throughout the next sixty-eight years he became one of the most successful designers of his time as well as a pioneer for blacks in the field of architecture. In spite of the fact that he spent the majority of his professional architectural career as chief designer to Horace Trumbauer, little is known about his personal contributions to the firm. He almost always functioned in the shadow of Mr. Trumbauer. Only recently has his success as an architectural designer been explored leading to the increased recognition which he so richly deserves.[12]

Julian Abele was the youngest of six children of Charles and Adelaide Abele. As a high school student he attended the Institute for Colored Youth in Philadelphia and the Brown Prepatory School.

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[10]Maher, p. 371.

[11]The biography of Julian Abele relies exclusively on Randy Dixon, "Forgotten Black Designer," Philly Talk, 1970, Duke University Archives, James G. Spady, "Julian Abele and the Architecture of Bon Vivant," Duke University Archives, and Tatman and Moss.

[12]At the present, Mr. Dreck Wilson of Washington D.C. is working on an extensive biography of Mr. Abele which should be published within the next year.

While a student at Brown, Abele worked on his drafting skills at the Philadelphia Museum's School of Industrial Art during the evenings and then went on to attend the University of Pennsylvania School of Architecture from 1898 to 1902. In order to finance his education, Abele worked full-time for the architectural firm of Louis Hickman while attending classes in the afternoon and evening at the University. During his four years at the University of Pennsylvania Abele achieved much academic success and acclaim. He was elected president of the Architecture Society, ranked second in a design competition sponsored by the Society of Beaux Arts Architects, won first prize in a design contest for a tablet to commemorate senior class gifts to the University[13] and was the salutatorian of his class. He became the first black student ever to receive a degree in the field of architecture at the University of Pennsylvania when he was awarded a bachelor of science degree in architecture in 1902.

Prior to Abele's graduation, William O. Laird, Founder and Dean of the School of Architecture, showed Abele's sketches and drawings from his years at the University to Mr. Trumbauer. Trumbauer saw Abele's work, "immediately interviewed Abele and made arrangements for him to take the entrance examinations at the Ecole des Beaux-Arts in Paris that fall."[14] It is questionable as to whether Abele actually studied at the Ecole or if instead he studied the architecture of the Ecole in France. Upon Abele's return to the states in 1906, he registered as an architect in the state of

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[13]"Tablet Commemorates University's Classes," Philadelphia Press, 3 March 1901, page unknown, Archives of the University of Pennsylvania.
[14]Maher, p. 370.

Washington where he designed and built a home for his sister, Elizabeth Cook.[15] Soon after, however, he began full time employment in Philadelphia with the firm of Horace Trumbauer as assistant to Frank Seeberger, Trumbauer's chief designer. Only a few years later Abele had the good fortune of becoming chief designer when Seeberger left in 1908 to start his own firm.

"Following Abele's admission to the firm, Trumbauer emphasized French 17th and 18th-century designs more often. . . "[16] most likely as a result of Abele's years in France and his interest in designs from this period. While they continued to work in other styles, after 1906 Abele and Trumbauer were very much influenced by the Beaux-Arts system. This sytem engaged order as the keynote of any building plan. The probable reasons for their continued use of the Beaux-arts style are many. First, this style became very popular once it arrived in the United States. Architects across the country employed this style not only in chapels and libraries, but in apartment buildings and mansions as well as any other type of building. A second, and probably more likely cause for the popularity of the Beaux-Arts style is the ease with which it could be applied to a building. It seems very logical to make order the mainframe of any building and puts less demand on the architect for innovation. Therefore, Abele was clearly in vogue with what was happening architecturally during this time period.

Nowhere is Abele's Beaux-arts tradition more prevalent than in Trumbauer and Abele's work for Mr. Duke, both at his house in New

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[15]Judge Julian Abele Cook, Jr. to author, 23 May 1990.
[16]Tatman and Moss, pp. 799-800

York and at the two campuses of Duke University. Mr. Duke's white marble mansion on Fifth Avenue in New York City, now the Institute of Fine Arts of New York University, was designed by the firm in 1909, just a short while after Abele had joined Trumbauer (Figure 26. Residence of James Buchanan Duke, New York City, NY). The mansion contains much influence from the Beaux-Arts style, including the well-executed overall plan, as well as the order and the balance typical of this style.

Duke University, a much later project, again reflects this tradition. The East Campus Quadrangle contains fifteen buildings of two different architectural styles that are uniquely blended into one harmonious whole. The plan of the East Campus is reminiscent of the strict sense of order and the monumental qualities of this style as evidenced in the massive columns of the Auditorium, the Library and the Union. The West Campus was once described as "a Gothic village. . . put down. . . in a Renaissance garden,"[17] indicating the irregularity of the Gothic buildings in direct contrast to the symmetry of a Renaissance garden. The Beaux-Arts "principles of monumental organization facilitated orderly planning on a grand scale and were capable of including many disparate buildings or parts within a unified overall pattern."[18] As previously described, this is continuously evident throughout the two campuses in Durham. While it is unrealistic to suggest that Trumbauer would have designed the two campuses at Duke any differently if Abele had not

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[17]William Blackburn, The Architecture of Duke University (Durham: Duke University Press, 1936), p. 8.

[18]Paul V. Turner, Campus An American Planning Tradition (Cambridge: The MIT Press, 1984), p. 167.

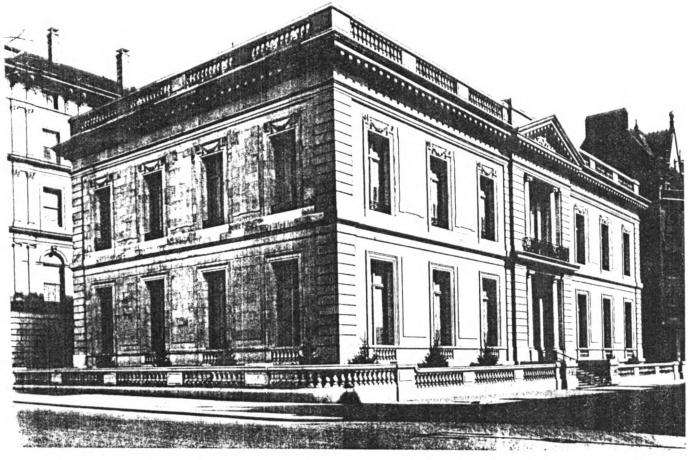

Figure 26. Residence of James Buchanan Duke, New York City, NY. Reprinted from Architecture 27, 1913, plate 35.

been chief designer at his firm, it is nevertheless most likely that Abele played a major role in the formation of the campuses and the design of the buildings.

During the twenty-five years that Abele and Trumbauer worked together, the two men worked on some of the outstanding building projects of the early twentieth century. They designed and built palaces such as Shadow Lawn in West Long Branch, New Jersey, for Hubert Parson president of W. F. Woolworth and Company, and Whitemarsh Hall in Chestnut Hill, Pennsylvania for Edward Stotesbury, czar of Drexel and Company. One of many honors bestowed upon Abele was related to the 1919 commission for the Philadelphia Museum of Art. The project was so large that three different architectural firms were commissioned by the city of Philadelphia. Abele was chosen from the three firms as chief designer, at which point he traveled overseas to study the great classical buildings of Greece.

A comparison could be drawn between the unschooled Trumbauer and the very well educated Abele. Perhaps Abele's extensive schooling is one of the reasons Trumbauer was so taken by him. As mentioned earlier, some authors have gone so far as to say that Trumbauer hired Abele not only for his talent but also because of his friendly disposition and his ability to talk to clients, a skill apparently not held by Trumbauer.[19] It is obvious that Abele was a very talented architect and designer and a prized employee of

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[19]"Architectural Firm of Horace Trumbauer," Duke University Archives, information from an interview between one of Trumbauer's employees, Valentine Lee, and the Duke University Architect, Jim Ward.

Trumbauer. "Trumbauer supported his European studies, paid him a high salary, kept him on during the Depression and was totally devoted to him. . ."[20] Because and in spite of this, "Julian Abele throughout his career in the firm submerged his identity and his talents in the corporate name."[21]

By the early 1930's the palatial building era was coming to an end as was the success of Trumbauer and Abele.

> Trumbauer's firm specialized in the construction of tasteful palaces celebrating and embodying America's new-found industrial wealth. Abele worked in a time that prized not originality but the interpretation of precedents to accommodate current needs. Abele had a great berth with Trumbauer; he was probably the only black architect in this country ever to have been responsible for such major projects. But when houses that require seventy-five servants became a thing of the past, so did Horace Trumbauer and so did Julian Abele.[22]

When Trumbauer died in 1938, Abele and Frank Edward took over the firm as partners. While they continued working on many of the ongoing projects started by Trumbauer, Duke University among them, new projects were diminishing in number. Abele was admitted into the American Institute of Architects in 1942. The speech commemorating Abele's acceptance into the American Institute of Architects reflects the respect and admiration Abele received from his colleagues at this time.

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[20] "Text by Fallett," Archives of the University of Pennsylvania, p. 1.
[21] Ibid, p. 2.
[22] Thomas Hine, "Black Architect Gave Shape to an Idea," The Philadelphia Inquirer, 27 March 1982, p. 1B, Duke University Archives.

> I have been in intimate professional contact for the last seventeen years with Mr. Abele, who was the right-hand man and designer for the late Horace Trumbauer, one of the Associated Architects of our Museum here. I had ample opportunity to know his qualities, for which I have very high admiration. Abele is certainly one of the most sensitive designers anywhere in America, and has shown great versatility in an immense body of work. He is by no means limited merely to design; I consider him thoroughly qualified in every branch of his profession. I have also been able to observe his attitude on ethical problems, which is entirely what we should all wish. I have indeed acquired much personal admiration and indeed affection for Julian Abele.[23]

One interesting point concerning Abele's admission to the American Institute of Architects is that on his application for the question that asks "list below in chronological order, the periods during which and the states in which I have practiced architecture as an individual or as a member of a firm or corporation or have taught architecture or the arts and sciences allied therewith."[24] Abele wrote "1906 in the state of Washington," and "1938 to present in North Carolina, Pennsylvania and Maryland." There is no mention at all of the time in between when he worked for Trumbauer. The reasons for this could be many and varied, among them his submission to Trumbauer as boss, his race, and his desire to not upstage Trumbauer.

There is little published information about Abele's private life. In 1924 he married the French musician Marguerite Bulle whom he

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[23]Fiske Kimball to the American Institute of Architects, 6 April 1942, transcript in the hands of the Archives of the University of Pennsylvania. Kimball was Director of the Philadelphia Museum of Art and one of the leading architectural historians at this time.
[24]American Institute of Architects Application, Archives of the University of Pennsylvania.

met on one of his many trips to Paris. They had three children, Julian Jr. born in 1926, Nadia born three years later, and a third child, "Henrietta, who was affectionately known as "Paquette" [and] died around 1929 at the age of three."[25] "The marriage of Julian and Marguerite lasted only a short time, around six years. Julian Abele was shattered when his wife left him. His world caved in and from then on his work was his whole life."[26] Henry Magaziner, son of fellow classmate and Abele's good friend, Louis Magaziner, recalls Abele as "the most polished man you would ever meet. He seemed to know every painting and sculpture that had ever been done. In his conversation, he seemed always to be discussing philosophy or reeling off poetry. He was the epitome of culture."[27]

In one of the most recent articles on Julian Abele, Randy Dixon referred to him as Ralph Ellison's "Invisible Man." While Mr. Abele was invisible in the sense that his name does not appear on any surviving plans from the Trumbauer firm and that few people are familiar with his career or accomplishments, he was indeed visible in regards to influence and style from 1906 on as evidenced in the transformation to the Beaux-arts style after Abele joined the Trumbauer firm. At Duke University, Abele's concepts are most evident in the Beaux-arts campus, with its order and well planned design. It is unfortunate that there is so little information on him to date.[28]

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[25]Judge Cook Jr. letter.
[26]Maher, p. 374
[27]Hines, p. 28.
[28]It is hoped that this study will stimulate further exploration of his career and in particular, his successes.

Conclusion

The combination of Abele as chief designer and Trumbauer as architect at Duke University resulted in one of the most unique campuses in the United States. The two men possessed a remarkable ability to translate Mr. Duke's ideas into reality and further expand upon the ideals of the University through architecture and planning in Durham. It is this ability that makes the tandem of Trumbauer and Abele distinctive at this time. They successfully translated the varied wishes of their clientele into a multitude of different magnificent projects throughout the United States, Duke University among the best. Thus far, the architecture of Duke University has been discussed in detail, concentrating on both the physical structures as well as the three men, Mr. Trumbauer, Mr. Abele, and Mr. Duke, responsible for the campus. The actual planning of the University, however, is equally important.

CHAPTER 5

CAMPUS PLANNING

In the United States the correlation between campus planning and the concern for a successful long-term, learning environment was probably discovered in the early part of the twentieth century. Prior to this time, campus plans were either one of many necessities in constructing a campus or were completely neglected in terms of design. Many architects and designers saw no particular reason for placing buildings in certain locations, for planning around a central axis or for building an institution of only one architectural style. That slowly changed, however, as we entered the twentieth century. During this time, historians and architects began to notice the chaos that existed on many American campuses, the shortage of space for future growth, and the lack of order so characteristic of many European institutions.

Between 1909 and 1913, Montgomery Schuyler authored ten articles for Architectural Record on the architecture of American colleges. In these articles he often referred to the plans of a collegiate institution and their compatibility with a learning atmosphere. Soon after, other historians and architects realized the importance of campus plans and by the late 1930's several books had been published on campus planning. In addition to the demand for

literature, many schools insisted on a campus plan that would ultimately provide a scholarly environment. While the discussion of campus planning began in the early twentieth century, campus plans have been in existence for many, many years. After a brief look at some of the earliest campus plans, the success of the 1925-32 campus plan at Duke University will be examined in the light of aesthetics and function.

History[1]

The history of campus planning begins with William and Mary College which is "the earliest ... premeditated architectural composition . . . ."[2] Surviving plans illustrate that the college was incorporated into plans for the town of Williamsburg, and served as a terminus for the western end of the major axis. Not until almost a full century had passed does another college utilize a campus plan. In 1792, John Trumbull was chosen to devise a campus plan for Yale University. Trumbull's plan for Yale was commissioned "to replace older buildings that fell apart during the Revolutionary War." The plans included "a long city block of buildings, brick, low in height, and backing to an open green."[3]

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[1]The history of campus planning is taken exclusively from Richard Dober, Campus Planning (New York: Reinhold Publishing Corporation, 1963). Dober's book, ironically, is the first, as far as can be determined, to trace the evolution of the campus plan. It is ironic in the sense that his book was not written until almost three hundred years after the first American plan was conceived.

[2]Dober, p. 17

[3]Ibid.

The "first coherent architectural campus plan" was formulated for Union College in Schenectady New York in 1813 by Joseph Jacques Ramee. Ramee's "plan emphatically rejected monastic self-containment of the Oxford and Cambridge traditions," and instead was based upon a quadrangle with a "rectangular court of honor, flanked on both sides by two buildings which housed students and teachers." Unlike the plans at both William and Mary College and Yale University, Ramee's plans for Union College somewhat guide planning at that institution today.[4]

Thomas Jefferson's plans for the University of Virginia are probably the most well-known of any collegiate institution to date. Built like an "academical village," his earliest plans (1817) consisted of an 800 foot square which was then changed to a rectangle based on the plot of land secured for the campus. "Two parallels were linked by a rotunda and colonnade. The parallels contained [ten] classroom pavilions . . . [n]o two pavilions were alike in detail, ..."[5] Jefferson wanted to make the pavilions into "models of chaste and correct architecture, and of variety and appearance, no two alike so as to serve as specimens for the architectural lecturer."[6] Since academic buildings occupied just three sides of the quadrangle, the fourth side allowed for "indefinite expansion of the facilities."[7]

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[4]Ibid, pp. 19, 20.

[5]Ibid, p. 21.

[6]Mills Lane, Architecture of the Old South Virginia (New York: Abbeville Press, 1989), p. 100.

[7]Joseph J. Thorndike, Three Centuries of Notable American Architects (New York: American Heritage Publishing Company, Inc., 1981), p. 64.

The campus plan of the University of Virginia has become a model for many American universities, the East Campus of Duke being one such example (Figure 27. Comparison of Duke University's East Campus Main Quadrangle and University of Virginia's Quadrangle). Not only does Baldwin Auditorium resemble the Rotunda[8] at the University of Virginia, but the overall layout of the East Campus Quadrangle and the connecting arcades simulate the school in Charlottesville. The three-sided plan, buildings directly across the lawn from one another, and the terminus centered on a building of architectural magnificence are other ideas borrowed from Jefferson's University of Virginia plan and incorporated in Duke's East Campus. Unfortunately, Duke's East Campus would have been gravely disliked by Mr. Jefferson considering his distaste for Georgian architecture.[9]

Tracing the early history of campus planning helps to illustrate the length of time that campuses have been planned relative to the short period of time that professionals have come to articulate the most significant reason for this planning, that of producing an atmosphere conducive to learning. It appears that perhaps only Thomas Jefferson realized this potential back in 1825 when he envisioned an institution with students' and professors' quarters close to each other so as to promote learning, as well as

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[8]In 1895, the Rotunda sustained massive damages when the building caught fire. Between 1895-98 the architectural firm of McKim, Mead and White repaired the building. Unfortunately their repairs altered the exterior and thus Jefferson's original design. In 1976 the building underwent a major renovation so that its exterior looks like the original plan of Jefferson. Lane, p. 121.

[9]Dober, p. 22.

academic and residential quarters within the same area for a continual learning experience.

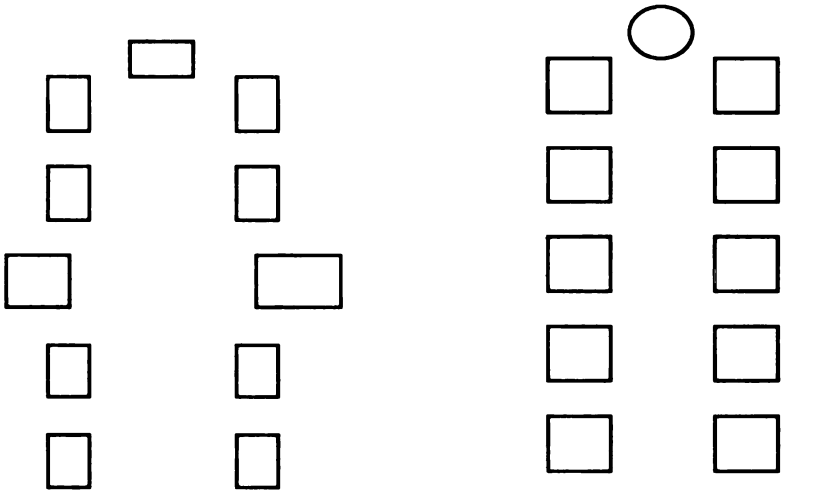

Figure 27. Comparison of Duke University's East Campus Main Quadrangle and University of Virginia's Quadrangle

Duke University's Campus Plan

From a campus planning perspective, Duke University's campus plan of 1925-32 is a success, both aesthetically and functionally. Through the combination of these two elements, Trumbauer, Abele, and Duke were able to create an architecturally successful unit that fostered learning and promoted a continual learning environment.

From an aesthetic view, Trumbauer, Abele, and James Buchanan Duke employed several devices which would ultimately unite both campuses. These devices include the use of high-quality materials, human scale, balance, and variety. Since Mr. Duke was responsible for choosing the materials of the new Duke University, it is only natural that those materials be of the finest quality. Everything that he did in his lifetime was done with the best possible materials, manpower and ingenuity. The stones for the East Campus, red Baltimore brick, Vermont marble, and Buckingham slate were brought by train to Durham during the construction of the new buildings. Like the stone used on the East Campus, the stone utilized on the West Campus is also of only the finest quality. In fact, Mr. Duke was so concerned with quality that he spent months searching for the perfect stone. After Duke found several he liked, sample walls were erected to determine which would illuminate the most vibrant color and look.[10] The use of such fine materials "is an indication of [the] permanence of construction embodied in this educational plant."[11]

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[10]"Trial Walls to be Constructed to Test Granite for Quality," The Trinity Chronicle" XX, no. 14, p. 1, Duke University Archives.

[11]A. C. Lee, "The Use of Marble in the Buildings of Duke University," Through the Ages (Durham), February 1932, p. 24, Duke University Archives.

A second element that aesthetically unites both the East and West Campus is a concern for human scale. All buildings on both campuses are erected according to such a scale. Behind the massive columns of the Auditorium, Library and Union on the East Campus stand white wooden doors only one floor high; all eight manor houses also contain a single, first floor entrance. This human scale also exists on the West Campus where every entrance to every building is on the first-floor level. Even the entrance to the Davison Building, which is located in the center of a six-story tower, is only a first-floor entrance. In addition to the first-floor entrances, all of the buildings on both campuses are broken down into smaller parts "to minimize bigness."[12] For example, small bays in buildings such as Chemistry, Jarvis, and the Social Sciences help to break up the exterior walls. Even the large residence hall outer walls of the West Campus are broken by several entrances stretched across their facades. Double banded windows on the Union, Library, and other West Campus buildings also serve to "minimize bigness."

Balance is a third element that aesthetically unites the campuses at Duke University. On the East Campus this element is especially obvious where buildings are located directly across from one another as well as the same distance from one another, sidewalks intersect the campus on straight lines and right angles, and each building is the same height as its counterpart across the quadrangle. On the West Campus, amidst all the irregularity in individual buildings as well as groups, balance abounds. "The

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[12] "On the Architecture of Duke University," Duke University Archives, p. 9.

harmony of the whole is the result of balance: the flagstone walks are laid out in parallel lines; the cloisterlike windows of the library are placed opposite the cloister of the union; the small tower on the west side of the Main Quadrangle balances the open pavilion on the east; the wall at the south end of the Main Quadrangle balances the formal balustrade at the north end; the formal balustrade repeats in miniature the rounded arches of the Chemistry Building; Crowell tower balances the towers of the School of Medicine and the tower of the Union balances the tower of the Library."[13] The balance that abounds on both the East and West Campus at Duke is an application of a Beaux-arts principle observed elsewhere in the United States at this time. This element is one that can most obviously be traced to the work of Julian Abele, the specialist in French seventeenth and eighteenth century architecture.

A final element that aesthetically unites both the East and West Campuses is the diversity that counters the harmony in every building. On the East Campus this diversity is most evident in the eight buildings that are variations of the E-shaped English manor house. Although they are all modelled after an English manor house, no two buildings are exactly alike in plan. In addition, the facades of all of these buildings are not exactly the same either; the Carr and Science Buildings, the southernmost of these eight buildings, have different window configurations. The Library and Union, which at first glance look identical, have different window groupings as well as varying window heights. On the West Campus, the element

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[13]William Blackburn, The Architecture of Duke University (Durham: Duke University Press, 1936), pp. 8,9.

of diversity is even more profound. Every detail on every building is different. No two buildings have the same copper drain spout, sculptural detail, doorway, window, or tower. The height of the walls are different in buildings grouped together, the locations of towers is consistently different, and the locations of the entrances always vary. Examples of this variety are found everywhere, such as in the location of the towers at the north and south ends of the quadrangle. The tower on Davison is six stories high, like the tower on Crowell, yet the Davison Tower is centered in the middle of the facade while the Crowell Tower is strictly on the right side of the facade. Another example can be found in the location of the entrances to the Chemistry Building and the Botany and Zoology Building, which are directly across the quadrangle from one another. While the Chemistry Building has just one entrance from the Main Quadrangle and it is located in the center of the facade, the Botany and Zoology Building has two entrances from the Main Quadrangle, one on the north bay as well as one on the south bay.

In addition to being united aesthetically, the two campuses at Duke University are united by function. This functional unity is evidenced in three particular ways. The first way is in the simple fact that both campuses are devoted to learning.

The second way the two campuses are functionally united is in the grouping of buildings, which is manifest in both individual groups as well as the overall campus. Individual buildings are grouped together because of similar function, as is the case with the science buildings on the northern end of the West Campus or the Residence Halls on the northern end of the East Campus. As a whole,

when the two campuses were constructed, the East Campus represented the Women's College at Duke while the West Campus represented the Men's. Although that separation no longer applies, the East and West Campus retain their divisions, this time on a scholastic level. The East Campus is sometimes referred to as the "Freshmen Campus" while the West Campus is more for upperclassmen.[14]

A third way that the two campuses at Duke are united by function is what Thomas Jefferson referred to as the "academical village." An "academical village" refers to educational institutions "as communities in themselves--in effect, as cities in microcosm."[15] This is essentially an English trait that has been transferred to American colleges and universities. At Duke the two separate campuses exist as communities in themselves, but also as one larger educational community separated from the nearby city of Durham by the Duke Forest.

The idea of an "academical village" is modelled on Oxford and Cambridge, where the university is a city in and of itself, a self-contained community. The main feature of the earlier English schools was an enclosed quadrangle or courtyard, based on the tradition of the cloistered monastery. It functioned as a defense mechanism, enabled the land to be utilized to its fullest extent, and gave the school officials greater control over the students and

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[14]Information gathered from interviews with various Duke University students, past and present over the course of the previous year.

[15]Paul V. Turner, Campus An American Planning Tradition (Cambridge: The MIT Press, 1984), p. 3.

environment because it was distinctly separated from town.[16] During the sixteenth century, scholastic quadrangles were sometimes opened on one end, for health and fashion reasons, among others. This is the case at Oxford, where sanitary conditions and fashion encouraged the opening of the enclosed quadrangle. The open-ended quadrangle presented a very different look and opened up the school to the nearby community. Most importantly, however, the open-ended quadrangle reflected the Renaissance notion of planning during this time and the effect of Renaissance ideals. "It created the possibility of focal points and axial organization not inherent in the closed, equilateral cloister."[17]

At Duke, both the idea of a self-contained community and the enclosed and open-ended quadrangles from English Universities are present. Not only do the two campuses each have residential, recreational, and academic buildings that allow them to function as miniature cities, but all elements necessary in the daily life of the student can be found on each campus, including everything from a barbershop and cafeteria to a post office and museum. The West Campus contains the enclosed quadrangles, as evidenced in Davison, Kilgo, Craven and Crowell, while the overall plan of the East Campus, and the north and south groups on the West Campus, are representative of the open-ended quadrangle.

Thus, it has been shown that many elements serve to unite the two architecturally different campuses at Duke University into one successful educational institution. It is important to note that

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[16] Ibid, pp. 10, 12.
[17] Ibid, p. 12.

Trumbauer, Abele, Duke and President Few[18] were able to achieve this unity and a successful campus plan without the aid of a significant body of literature on campus planning. In fact, the first book devoted to campus planning was not even published until 1929. The second was written four years later.

College Architecture in America, written in 1929 by Charles Klauder and Herbert Wise, aimed at introducing the reader to present day practice and theory regarding the architecture and planning of a collegiate institution. A second book, Architectural Planning of the American College by Larson and Palmer, served as "a reference book on the fundamental aspects of college architecture and its relation to the educational program of the college."[19] Each book discusses various aspects of the importance of a campus plan and its relation to the success of the institution from both an academic and aesthetic viewpoint. Using the ideas and concepts of these two twentieth-century authors, this study will now examine the success of the campus plan of Duke University according to campus planning literature.

College Architecture in America laid the foundation for future discussions of college architectural theory and practice. The discussion revolved around controlling factors in the development of an institution and the formation of a general development plan. A general development plan is a "scheme of disposition of present buildings and designated sites for future ones, so conceived as to

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[18]Few's played a role, how major a role is not certain, in the development of the University following the death of James Buchanan Duke in 1925.

[19]Jens Larson and Archie M. Palmer, Architectural Planning of the American College (New York: McGraw-Hill Book Company, Inc., 1933), p. 3.

coordinate all and render them an integrated whole while permitting expansion of any separate unit."[20] It should be conceived first and foremost with respect to order, and second with respect to topography, and architectural style. As will be seen, Duke University is a model campus when applying Klauder and Wise's development factors.

The primary factor in a general development plan is order. At Duke University, the overall parti of the two campuses epitomizes order. For example, both the Main Quadrangles of the East and West Campuses are divided into three groups. On the West Campus the original intent of the grouping was for function. Focusing more closely on the East Campus, order is found in the exactness of measurements, an example being that each building is exactly forty-five feet apart from the next. Order can be further promoted by a limited number of revolving axes. Both Duke campuses revolve around a single, long main axis with a short secondary axis. All of the above factors are testimony to the order on the two campuses in Durham.

A secondary factor for a development plan is topography. A plan should be formal where there is plenty of open land and right angles, and informal where the land is wooded with oblique angles. The formal plan should have limited height restrictions whereas the informal should not. The East Campus represents the formal scheme with the open land, limited height restriction of three stories and buildings symmetrical around a center axis. While the unique layout

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[20]Charles Z. Klauder and Herbert C. Wise, College Architecture in America (New York: Charles Scribner's Sons, 1929), p. 23.

of the West Campus, with the Gothic quadrangle on an irregular ridge in the middle of the Piedmont forest and unlimited height in the buildings, certainly achieves the informal plan effect, the actual layout of the buildings represents Klauder and Wise's ideals for a formal plan. The buildings are carefully placed around a symmetrical quadrangle utilizing right angles, instead of oblique angles. The original plans for the campus did focus on oblique angles and a rambling quadrangle, however, those plans were altered once the actual plot of land was purchased.

The last controlling factor in a general development plan is architectural style. Duke University, both the East and West Campus, excel in this area. While the East Campus Georgian Revival architectural style brings unity and harmony back to the otherwise haphazard campus of the early 1900's, the Collegiate Gothic West Campus architectural style introduces variety and individuality. Although the two campuses are separated by a one and a half mile road, the completely different architectural styles have already been demonstrated as a united whole.

In addition to the above mentioned controlling factors, Klauder and Wise's definition of a general development plan stressed the need for collegiate institutions to build not only for the present but for the future as well. At Duke University this too was considered when the land for Duke University was acquired. Mr. Duke purchased a vast amount of land in 1924 (over 5,700 acres), to be saved for future building use. Today this foresight continues. While the school owns over twelve thousand acres, only two thousand of those acres have been developed. The remainder has been set aside for

future use and to serve as a boundary area between the town and school.

Just four years after College Architecture in America was published, Larson and Palmer wrote Architectural Planning of the American College. Developed out of the Architectural Advisory Board of the Association of American Colleges desire to discuss the guiding principles involved in meeting the architectural needs of the college, this book discusses factors that should be considered when planning a college and the importance of actually having an overall campus plan. Both of these will be discussed in their relation to Duke University's East and West Campus.

There are three factors that need to be considered when choosing an architectural style and planning a college: tradition, physical environment, and social environment. Tradition refers to the traditional style of the locale or of the institution and thus an architectural style should be chosen based on the school's traditions. In 1925, Duke University's tradition was divided into two realms: the East Campus realm which was centered in the architecturally disunited Trinity College and the West Campus realm centered in the new Duke University. Georgian Revival was chosen for the East Campus because it seemed most attractive to the present setting, was one of the two most popular architectural styles for colleges during this time, and was able to architecturally link the remaining buildings with those of the new institution. The second popular style during this time was Collegiate Gothic which James Buchanan Duke chose as the architecture for the West Campus. Mr. Duke's choice of Collegiate Gothic was probably inspired by the colleges of

England as well as the image of age and respect associated with this style. In their discussion of Collegiate Gothic architecture, Larson and Palmer suggest that various phases of Gothic, rather than a single period, be employed throughout the buildings. On the West Campus, various phases of Gothic from the Library with its early medieval inspiration to the Elizabethan facade of the Chemistry Building predominate.

A second factor to consider in the conception of a general development plan is the physical environment of the institution which includes the amount of land to be purchased, and the suitability of the style to the land. This factor was previously discussed as part of Klauder and Wise's controlling factors and is only summarized here. One should purchase plenty of land to be used not only for the architectural beauty of the whole campus but for future growth as well, which James Duke did in 1924. And secondly, the style chosen for the college should be based on the composition of the land, such as Gothic for the irregular terrain of the Piedmont ridge West Campus and Georgian for the regular flat land of the East Campus.

The final factor to consider when planning a college is the school's social environment. Since colleges usually spring up in areas with small communities, such as Durham, the college should become "articulated within the physical and spiritual life of the town . . . [making the college] more inspirational, beautiful and serviceable . . . [to] all concerned."[21] Duke University has become so

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[21] Ibid, p. 28.

well articulated with the town of Durham that today the town is more often referred to as the home to Duke University than anything else.

As evidenced above, both the East and West Campus at Duke University practice Klauder and Wise's as well as Larson and Palmer's suggestions for a general development plan. It is interesting to note, however, that the campuses were built at the same time these books were being published. Thus, it is very likely that literature did not play a significant role in Duke University's initial development. Nonetheless, the Duke University development plan was formulated and successfully carried out.

Conclusion

It is interesting to note that a campus planner today could incorporate the ideas of Trumbauer, Abele, and Duke into their university and have it be as successful as if they had followed the suggestions of the campus planning literature which emerged subsequent to its construction. The same ideas that governed these men still abound in the campus planning literature today. They include respect for scale, materials, style, location, balance, quality, order, and space. It is a true testament to the skill and talents of these three men that they were able to incorporate these ideas at Duke prior to this written body of knowledge.

CHAPTER 6

CONCLUSION

Visitors to Duke University often argue over which campus is more beautiful; some treasure the irregularity and variety of the West Campus while others cherish the academia and order of the East Campus. Regardless of one's preference, most visitor's generally agree that the two campuses at Duke are like something they have neither seen nor experienced before.

Duke University has had a turbulent yet prosperous history, filled with educational, physical and financial crises as well as rewards. From its earliest days as Brown's Schoolhouse and Union Institute, growing enrollment forced several physical changes upon the college. During its years as Normal College and Trinity College, physical changes, financial problems and educational differences influenced the growth of the institution.

Throughout many of these years the Duke family offered financial assistance, thus encouraging the school to grow and flourish. Their profitable business ventures in the tobacco, textile and water power industries enabled them to acquire a large fortune that funded various philanthropic causes. The Duke's humanitarian nature culminated in the $40 million Duke Endowment aimed at helping orphanages, hospitals and educational institutions in North

and South Carolina. The Endowment's largest beneficiary was little Trinity College which had always held a special place in their lives. The Duke's attachment to the school stemmed not only from Trinity's affiliation with the Methodist Church and its location in North Carolina, but from the fact that several family members graduated from the school. Additionally, the Duke's believed that higher education, when used properly, served as a vehicle to help those less fortunate. The Duke family's lengthy association with Trinity prior to the Endowment diminishes many unfounded rumors regarding the supposedly self-aggrandizing donation of Mr. Duke to Trinity College. While the above canvasses Duke University from a historical viewpoint, the school is exceptionally impressive from an architectural point of view.

Duke University as an architectural study presents both the East and West Campuses as splendid examples of both Georgian Revival and Collegiate Gothic architecture. The East Campus with its order and rationale epitomizes the ideals of the Georgian style while the Collegiate Gothic West Campus represents the irregularity and variety so characteristic of that style. The success of Duke University as an architectural unit, however, lies in the talents of its architect and chief designer, Horace Trumbauer and Julian Abele, respectively. These two men employed a variety of techniques in the architecture at Duke giving each campus its own sense of unity and harmony. Examples of these techniques on the East Campus are the use of eight very similar buildings situated on the Main Quadrangle while on the West Campus this unity can be found in buildings grouped by function as well as unity of materials. Utilizing these

and several other methods the Office of Horace Trumbauer with its chief designer, Julian Abele, created an architectural marvel in Durham in the early twentieth century.

The true extent of Julian Abele's role in the architectural firm of Horace Trumbauer has yet to be determined. This is partly due to the destruction of Trumbauer files by fire in the middle of the twentieth century, but also very likely due to the fact that Abele was a black architect working in the predominantly white field of architecture during a time when the races in the United States were segregated both in practice and in the eyes of the law. The importance of Abele can not be overstated, first for his role in the development of Duke University but more importantly for his role as a black architect during the early twentieth century, a period of architectural history with little to no black representation. Despite potential racial complications, Abele successfully worked with his long-time employer Trumbauer to create one of the most architecturally unique college campuses in the United States today.

Both history and architecture at Duke University culminate in a successful campus planning effort. While the two campuses contain many different techniques employed by the architects to make them work as individual campuses, the true success of the design lies in the successful linkage of the two disparate campuses into a cohesive whole. In the overall campus plan the idea's of the architect, designer, and James Buchanan Duke are unified to present one harmonious campus. Not only are many of the ideals of the University manifest in the campus design, but order, as well as

aesthetical and functional unity desirous of any educational institution are achieved in the campus plan at Duke University.

Several of the University ideals as stated by James Buchanan Duke in the Duke Endowment of 1924 are found in the campus plan. Mr. Duke stressed the importance of religion, the "greatest civilizing influence. . ."[1], and thus at the center of the entire campus stands one of the largest Gothic churches on any college campus. He believed that a church in the center of the campus "would be bound to have a profound influence on the spiritual life of the young men and women who . . ."[2] attended Duke University. Mr. Duke also encouraged the "training of preachers, teachers, lawyers, and physicians" in the new Duke University because they "can do the most to uplift mankind. . . ."[3] The new Duke University holds not only one of the most successful collegiate medical schools but also one of the most well respected Divinity Schools in the United States. The Medical School serves as an anchor for the West Campus Quadrangle while the Divinty School buttresses the Chapel, thus providing spiritual as well as physical connections. In addition to these University ideals, aesthetics and function are proclaimed in the campus plan. Aesthetically this can be seen in unity of scale and materials in addition to overall balance and diversity, while functionally this includes grouping of buildings as well as Thomas Jefferson's concept of the "academical village."

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[1]Earl W. Porter, Trinity and Duke 1892-1924: Foundations of Duke University (Durham: Duke University Press, 1964), p. 236.
[2]Ibid.
[3]Ibid.

In the final analysis, this thesis serves two very important roles. First, this study serves as a basis for much needed research on Julian Abele and Horace Trumbauer. These two men from Philadelphia are among the most successful of their time, yet their role in the history of architecture is often overlooked with respect to other men with larger or more famous commissions. As already indicated, Trumbauer and Abele worked on some of the largest and most prestigious commissions during the early twentieth century, including the Free Library of Philadelphia, the Philadelphia Museum of Art, and the two campuses at Duke University. In addition to these projects, Trumbauer, the reputable architect and astute business leader, and Abele, the creative genius and eloquent statesman, constructed many of the most elaborate and fanciful mansions during this time.

Second, this study begs for Duke University to be placed on the National Register of Historic Places. Not only does the University embody many of the requirements for consideration on the Register including age, integrity, and history as well as serving as an excellent example of Collegiate Gothic and Georgian Revival architecture but the social, educational, and economic significance of the University in Durham further support its nomination for this landmark status.[4]

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[4]For more recent information on the history of Duke University there is a wealth of material in the Duke University Archives.

APPENDIX

APPENDIX

SCULPTURAL DETAILS ON WEST CAMPUS BUILDINGS*

LAW BUILDING

In the pediment over the entrance are carved a pair of scales and a judge's wig on top of a book. All represent the law.

CHEMISTRY BUILDING

At the entrance on each side of the three arches are shields symbolic of chemical research (from left to right): a bunsen burner, an apothecary cup, an unbalanced scale, four test tubes, a mortar, and a drip cup.

Above the entrance between the second and third floors are carved two lions rampant holding a blank shield.

Under the bay window at the northeast corner of the building is a grotesque of an alchemist.

THE DAVISON BUILDING

Directly above the main entrance to the School of Medicine is the seal of Duke University and surrounding it are shields symbolic of medicine.

Over the entrance to the School of Medicine at the forth-floor level are the following (left to right):

1. Royal College of Surgeons, Edinburgh
2. School of Medicine of the Medical College of the State of South Carolina
3. University College, Durham, England
4. University of Virginia
5. University College Hospital, London
6. McGill University, Montreal

At the fifth floor level (left to right) are:

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* The list of sculpture on the West Campus buildings is taken from William Blackburn, The Architecture of Duke University (Durham: Duke University Press, 1936).

1. University of Padua
2. Trinity College, Dublin
3. Jefferson Medical College, Philadelphia
4. Royal College of Surgeons, London
5. St. Thomas' Hospital, London

Over the door of the main entrance to the School of Medicine is the seal of Guy's Hospital, London.

Five shields symbolic of medical science appear on each of the two bays to the left and right of the main entrance to the School of Medicine.

CRAVEN QUADRANGLE

Inside the arcade, House X, are six corbels. Four of them are heads of boys symbolic of "Speak no evil," "Hear no evil," "Think no evil," and "See no evil." The other two represent evil, one in the form of an apple, one in the form of a serpent.

Three shields, facing east, appear above the entrance of this quadrangle. In the center is a candle and a book, to the left a lamp, to the right an owl. All illustrate study at night.

CROWELL QUADRANGLE

On Crowell Tower, above the north entrance, are six shields: the seal of Duke University, the seal of the Duke family, the seals of the School of Law, of the School of Medicine, of the School of Religion, and of the Department of Biology, respectively.

In the arcade of this entrance there are five bosses in the ceiling which signify Age teaching Youth.

KILGO QUADRANGLE

On the bay window of the small tower, facing west, are the shields of Emory University, Tulane University of Louisiana, Clemson College, and the College of William and Mary (left to right).

DIVINITY SCHOOL

Over each of the entrances at the third floor level is a decorative panel showing the Cross and the Bible.

Above the main portico is the sailing ship of the church.

LIBRARY

In the window arches facing the main quadrangle are 28 small shields depicting the arts and the sciences. These include shields of an artist's palette, balanced scales, and a candle on a book.

Over the [original] entrance are two grotesques. The one on the left holds a globe, the one on the right holds a book. The two symbolize the reduction of all the world into book form.

UNION

Seals on this building appear in the following order:

Eastern elevation, left to right:

1. University of Geneva
2. University of Louvain
3. University of Oxford
4. University of Cambridge
5. University of Paris
6. Harvard University
7. Yale University
8. Princeton University
9. Dartmouth College
10. University of Pennsylvania

Northern elevation, left to right:

1. University of Virgina
2. University of North Carolina
3. Wofford College
4. Furman University
5. Randolph Macon College
6. Wake Forest College
7. Davidson College
8. Vanderbilt University (facing east)
9. Washington and Lee University (facing east)
10. Emory and Henry College (on turret)
11. University of the South (on turret, facing north)
12. City of Durham
13. State of North Carolina
14. University of Texas (on turret, facing north)

Western elevation:

1. Guilford College (on turret)
2. Columbia University
3. The United States Military Academy
4. Cornell University
5. The Johns Hopkins University
6. University of Chicago
7. University of Wisconsin
8. University of Michigan
9. Leland Stanford University

Southern elevation, on gable:

1. Haverford College (left)
2. Millsaps College (right)

The central entrance, eastern elevation:

Two clasped hands on a large panel signify union. The hands signify union, perhaps of the public and private life, perhaps of the Methodist and Quakers, or perhaps of church and school.

On either side of this panel are two shields: (1) lamp and book; (2) owl and book; (3) Minerva's helmet and book; (4) candle and book. All symbolize education.

Above this entrance stand two figures, Religion and Knowledge, holding a shield on which is carved the seal of Duke University. Six small designs symbolic of learning appear above them.

PAGE AUDITORIUM

Over the entrance are shields representing the four elements; fire, earth, water, and air (left to right).

In the jamb of the entrance are seventeen symbols of the arts, of sports, aviation, radio, photography, and war.

DUKE UNIVERSITY CHAPEL

Above the main portal are three figures of eigthteenth-century Methodist church leaders Thomas Coke, Francis Asbury, and George Whitfield (left to right).

Inside the portals are figures (from Left) of Girolamo Savonarola, Martin Luther, John Wycliffe, John Wesley, and on the right side of the portal Thomas Jefferson, Robert E. Lee, and Sidney Lanier.

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