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## Yale, Skull and Bones, and the Beginnings of Johns Hopkins

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# Yale, Skull and Bones, and the beginnings of Johns Hopkins

William H. Jarrett II, MD

## YALE IN THE 19TH CENTURY

During the 19th century, Yale College was an academic powerhouse. Having celebrated its centennial in the first year of the new century, the college was transforming itself from a regional New England school whose main function was the education of young men for the Congregational ministry to a dynamic national school whose new function was to train the leaders of the expanding, dynamic America that sprung into being in that century.

Numbered among Yale's graduates were inventors such as Eli Whitney and Samuel F. B. Morse; men of letters such as Noah Webster; statesmen such as John C. Calhoun; scientists such as Benjamin Silliman and J. Willard Gibbs; educators such as Timothy Dwight, future Yale president, and Andrew D. White, founding president of Cornell; and a future president of the United States, William Howard Taft. Yale's reputation was such that it even spawned fictitious Yalies such as Frank Merriwell and Dink Stover. It is worth noting that every name I have mentioned, including the fictitious ones, were members of Yale's famous secret society, Skull and Bones, except for those few who matriculated before Bones was founded in 1832. I will return to this topic shortly.

Yale was good at what it did. The official history of the college puts it this way:

Yale was exasperately and mysteriously successful, and the power of the place remains unmistakable. Yale was organized. Yale inspired a loyalty in its sons that was conspicuous and impressive. Yale men made such records [in their careers] that . . . to rival institutions and academic reformers there was something irritating and disquieting about old Yale College.

One Harvard alumnus was quoted as saying that he intended to send his son to Yale because, "in real life, all the Harvard men are working for Yale men."

In the second half of the 19th century, Yale College produced four men who were to play pivotal roles in creating a new and distinctly American kind of university and in the way medicine was taught in this country:

- *Daniel Coit Gilman*, Yale 1852, the founding president of The Johns Hopkins University and the guiding genius whose ideas and spirit infused the new institution with a thirst for knowledge and new truths acquired via scientific research.
- *William Henry Welch*, Yale 1870, the first appointment by Gilman to the medical faculty of the new university in 1884.

Welch became the unquestioned leader of the scientific revolution that fostered a new approach to medicine in America. For 50 years he held the respect, awe, and admiration of America's medical profession; there has never been another like him.

- *William Stewart Halsted*, Yale 1874, the first professor of surgery in the medical school at Johns Hopkins and regarded as the most important figure in the history of surgery in America.
- *Harvey Williams Cushing*, Yale 1891, Halsted's first resident at Johns Hopkins and acknowledged as the founder of neurosurgery in America.

## YALE'S SECRET SOCIETIES

Running like a golden thread through this story are Yale's secret societies, dominated by the famous Skull and Bones. Both Gilman and Welch belonged to Skull and Bones, while Harvey Cushing was a member of Scroll and Key and may have turned down a tap from Bones. Halsted, despite being football captain and a talented player on the baseball team, was not tapped by either one.

The interested reader will search in vain for any mention of these organizations or their influence because they are, indeed, *secret*. The two leading biographers of Gilman, Fabian Franklin and Abraham Flexner, did not mention Skull and Bones in their text or list it in the index. Alan Chesney, in his monumental history of the early days at Hopkins, didn't mention it either. The biographers of Welch, Halsted, and Cushing pay lip service to the secret societies but quickly rush off to other subjects.

It might be useful to pay some attention to this unnoticed "elephant in the living room," not because I can shed any light on this subject, as I am not privy to their secrets either, but because it says a lot about power and old-boy networks as practiced in

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**About the author:** Dr. Jarrett graduated from The Gilman School in 1950, Yale University in 1954, and The Johns Hopkins University School of Medicine in 1958. The Gilman School was founded in 1897 by a group of Baltimore women, spearheaded by Mrs. Frances King Carey, and was originally called The Country School for Boys. The women sought and received Daniel Coit Gilman's backing and encouragement, and he lent his good name to the enterprise.

the 19th century and indeed up to our own day. There is ample evidence that Gilman, in particular, was a power to be reckoned with in the inner sanctum of Skull and Bones.

What are the secret societies at Yale? What do they do? Who belongs to them, and how do they exercise their power? There has been a recent surge of interest in Skull and Bones in particular because both Presidents Bush have been members. A recent Yale alumna and journalist, Alexandra Robbins, has succeeded in persuading over a hundred Bonesmen to break their vow of silence and speak to her about the society. She has published a book entitled *Secrets of the Tomb: Skull and Bones, The Ivy League, and the Hidden Paths of Power*. In doing so, she experienced harassment and not-so-subtle threats; she related a telephone call from an irate Bonesman who berated her for her work and warned her that “there are a lot of us [Bonesmen] in journalism and political institutions across the country—good luck with your career.”

The secret societies are institutions unique to Yale and are found in no other academic institution either here or abroad. They are privately owned and are not the property of Yale University. There are six “above-ground” secret societies. *Skull and Bones*, founded in 1832, is the oldest and the most important. *Scroll and Key* was founded 10 years later, in 1842, and is second to “Bones” in prestige; in some years, the “better men” will choose Keys over Bones, as apparently happened in Harvey Cushing’s class. The others, of considerably less importance, are *Wolfshead*, *Book and Snake*, *Berzelius*, and *Elihu*.

Each society owns an impressive mausoleum-like “tomb” in which meetings are held each Thursday and Sunday evening (Figure 1). These are massive, very impressive structures, foreboding and bearing an unmistakable message: “Private; keep out.” Although the activities of the society are secret, their existence and membership are not. Rather than being hidden away in some dark recess of the Yale campus, Skull and Bones lies directly across High Street from Yale’s old campus, where 1400 freshmen live, next door to the art gallery on one side and to one of the residential colleges on the other. *Wolfshead* is located on York Street, near two of the residential colleges, the offices of the *Yale Daily News*, and fraternity row. *Book and Snake* is located just a few yards from the freshman commons dining hall. So in the course of a day, hundreds of Yale students will pass by these tombs, all the while wondering what does go on in there.

Each society consists of 15 members of the senior class, a total of 90 members for all six societies—well less than 10% of the class. In the spring, on “tap day,” each society elects 15 members from the junior class as their successors. The names of the new members are published in the *Yale Daily News* and used to be published in the *New York Times*. The annual yearbook carries the names of each member, along with a photograph of the “tomb,” and today one can obtain, over the Internet, the membership roster of Skull and Bones, dating all the way back to 1832.

Who gets “tapped”? Typically, Skull and Bones will elect the football captain and perhaps another star player or two, the editor of the *Yale Daily News*, a Whiffenpoof, a champion swimmer or hockey player, one or two fraternity presidents, and campus leaders of every description. Traditionally, the 15th member tapped by “Bones” is the outstanding man in the class. Sadly, some aspirants to this title over the years have turned down other societies while awaiting the tap that never came.

Skull and Bones has been considered the epitome of the Eastern establishment, the confluence of old money, power, and prestige. The society’s membership roster includes some of America’s most powerful families: the Rockefellers, Vanderbilts, Fords, Phelps, Pillsburys, Walkers, and Whitneys. Yale graduates who were members of Skull and Bones include all three Yale undergraduates who have been elected president of the United States—William Howard Taft, George H. W. Bush, and George W. Bush—as well as David McCullough, William F. Buckley, John F. Kerry, John Hersey, Archibald McLeish, Henry Luce, Averill Harriman, Prescott Bush . . . and the list goes on and on.

What power and influence does Skull and Bones wield? In actuality, Yale over the years has attracted talented and intellectually gifted students to the college, and Skull and Bones has done a good job in identifying these unique individuals and rewarded them with election to the society. Thus, with a single exception, every Yale president from the mid 1800s to 1950, some 100 years, was a member of Skull and Bones. Many important administrative positions, deanships, and faculty posts at Yale were held by Bonesmen, and the governing Yale Corporation was liberally sprinkled with members from Bones and Keys. At times, it could be said that Yale College was a wholly owned subsidiary of Skull and Bones!

In her book, Alexandra Robbins has emphasized the power and influence of the “patriarchs,” the graduate members of the society, over the affairs of Skull and Bones. Thus, when the “knights,” the undergraduate members of Bones, first voted to admit women to the society in 1991, 20 years after women were first admitted to Yale, a number of older patriarchs, led by William F. Buckley Jr., changed the locks on the tomb and suspended operations for a year.

It is difficult to overestimate the subtle influence exercised over the Yale experience by these mysterious entities. Every Yale student, in his own mind, is Skull and Bones potential, so it becomes important not to



**Figure 1.** Buildings of the Yale secret societies. (a) Skull and Bones. (b) Scroll and Key.

offend the “wrong people.” It is tempting to gawk, each Thursday evening, at the sight of 15 somber figures, clad in dark grey flannel, filing into that huge foreboding mausoleum while singing some obscure ancient secret tune; it wouldn’t do to be found there 4 or 5 hours later when they emerge from their secret doings or to stand on the sidewalk and heckle them on their appointed rounds. To do so might invite a blackball. But then again, some couldn’t care less, or so they say. Yale historian Pierson has commented that “the finality and exclusiveness of the choosing [of members] has created an enduring fault line in the Yale brotherhood.”

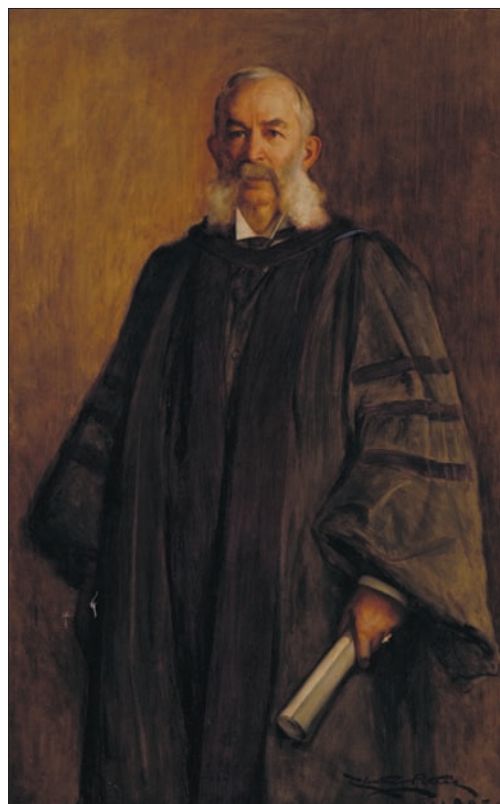
The poem “A Freshman’s Prayer on Thursday Night,” published in the *Harkness Hoot* in 1934, sums up the ambivalence felt by Yale undergraduates towards the societies:

Hear the clumping of their feet  
As they go marching down the street.  
Perhaps some day, if I am good,  
I may be of that brotherhood.  
There is something grand about a club  
So few can join it, there’s the rub.  
And those outside are filled with awe;  
What prompts such awe can have no flaw.  
Oh, Lord, I pray Thee, let me be  
A God in that Society.  
For though I know not what they do  
I greatly want to do it, too.

### DANIEL COIT GILMAN (1831–1909)

Let us now examine the life of Daniel Coit Gilman (*Figure 2*), the founding president of The Johns Hopkins University and a prominent member of Skull and Bones. Gilman was born on July 6, 1831, to William Gilman and Eliza Coit Gilman in Norwich, Connecticut. Through his mother’s family, there were strong ties to Yale and to Skull and Bones. His uncle, James L. Kingsley, was a professor at Yale, and Gilman lived with him while in college. Another uncle, Henry Coit Kingsley, Yale and Bones 1834, was the treasurer of Yale College. A cousin, William L. Kingsley, edited a literary periodical, *The New Englander*, for which Gilman wrote scholarly articles during his faculty years at Yale. William Kingsley was an early member of Scroll and Key, class of 1843, and helped incorporate Scroll and Key in 1860. The Kingsley Trust is the corporate identity of Scroll and Key. Gilman’s older brother, Edward W. Gilman, was also a member of Scroll and Key, class of 1843.

Gilman attended Yale from 1848 to 1852 and was elected to Skull and Bones in 1851. Among his close friends and lifelong colleagues were Timothy Dwight, Yale 1849 and Skull and Bones, later to be Yale’s president, and Andrew D. White, Yale 1853 and Bones, who was the founding president of Cornell. Following graduation, Gilman was undecided on a career, spent some time at Harvard, and eventually traveled to Europe with his friend White as part of a legation to St. Petersburg. Later on, he studied in Berlin during the winter of 1854 to 1855. While abroad, he read widely in the fields of education and the history of learning and of science and became interested



**Figure 2.** Daniel Coit Gilman, the founding president of Johns Hopkins University and the incorporator of Skull and Bones. Reprinted with permission of the Alan Mason Chesney Medical Archives of The Johns Hopkins Medical Institutions.

in the achievements of the great scholars and scientists of the past. Thus was born his lifelong interest in education and the importance of scientific research.

He returned to New Haven and the Yale faculty in 1855 and was to remain there for the next 17 years. He quickly immersed himself in the day-to-day activities of the college and soon became an indispensable man about campus. His first task was that of fundraising for the newly created Sheffield Scientific School at Yale. The leader of that school, Professor Benjamin Silliman, Yale 1837 and Skull and Bones, was part of the family; one of Gilman’s brothers had married Silliman’s daughter. Gilman used his abundant intellect to further the aims of the school, preparing a pamphlet entitled *A Plan for the Complete Organization of a School of Science*. He contributed articles on the scientific schools in Europe and decried the woeful lack of opportunity for those in this country who wished to study science for its own sake. He rapidly became a skillful advocate for education in America.

It was in the role of fundraiser that Gilman’s creativity and insight became manifest with the passage of the Morrill Land Grant Act in 1862. This famous and important bill was “an act donating public land to the states and territories which may provide colleges to the benefit of agriculture and the mechanical arts”—in other words, the “A & M College Act.” Yet Gilman was able to garner every cent of the monies allocated to Connecticut for the benefit of the Sheffield School at Yale, hardly a model of an agricultural and mechanical school! Connecticut’s portion of the A & M funds was too small to create a new school, but the state would



have lost it all had not the Sheffield contracted with the state to provide courses of instruction that fulfilled the requirements of the Morrill Act. White managed to do the same thing for Cornell with the monies allocated to New York State.

Gilman also became, in succession, the assistant librarian and then head librarian for Yale College. The library at that time was woefully inadequate, had relatively few books, and was unheated in the wintertime, hardly a place for serious scholarship. But Gilman persevered and made the best he could of a poor situation, as there were no funds available to remedy the condition. He was appointed school visitor for the New Haven School District and made important changes in the school curriculum. Later, when in Baltimore as The Johns Hopkins president, he served on the local school board as well, and a young H. L. Mencken noted that rather than serving in a figurehead role, he took an active interest and was in essence the “boss” of that board. He also served as secretary of the newly created Connecticut State Board of Education and served on the governing body of the Sheffield Scientific School, where he was also on the teaching faculty.

Such was his growing reputation that he was offered the presidency of the University of Wisconsin, which he declined, and he was being considered, while in his late 30s, as a possible candidate for the Yale presidency, which came open a few years later. In 1861 he married Mary Ketcham, and two daughters were born to this union, Alice (later Mrs. Everett P. Wheeler) and Elizabeth; Mrs. Gilman died in 1869, and her untimely death probably led to his declining the initial offer of the presidency of the University of California in 1870. Later, while in Baltimore, he married Elizabeth Dwight Woolsey in 1877; she survived his death in 1909.

During his tenure at Yale, in 1856, Gilman was instrumental in incorporating Skull and Bones as the Russell Trust Association, which is the society’s legal operating entity. The founder of Skull and Bones, William H. Russell, was named president and Gilman became the treasurer. It should be noted that Gilman was active on the Yale scene during the 4 years when William Henry Welch was a student, 1866 to 1870. Although most biographers of the two men state that they did not know each other prior to Welch’s appointment to the Hopkins medical faculty by Gilman 15 years later, it seems inconceivable to me that this perceptive, knowledgeable individual steeped in the Skull and Bones culture was unaware of Welch’s prominence in the Yale student body and was not actively promulgating Welch’s election to Skull and Bones.

### **Gilman as president of the University of California**

In 1872, at age 41, Gilman left Yale for the presidency of the University of California. This was a new school, chartered in 1868, and Gilman was its second president. The organizational structure left much to be desired, with a board of regents answerable to the California legislature. They tended to regard the university president as an employee rather than as a teammate useful in solving the myriad of problems faced by the new school. There were power struggles both within and without the university, with the ever-present possibility that the legislature could pull the plug on the university at any time. Gilman tack-

led the problems with vigor and displayed previously untapped reservoirs of diplomacy and tact, and the university benefited greatly from his short tenure there. It proved an apt training ground for the challenges he was to face in Baltimore.

During Gilman’s California years (1872–1874), momentous events were occurring in Baltimore, and Gilman’s great friend Andrew D. White kept him apprised of these developments. Johns Hopkins, the wealthy Baltimore merchant who was nearing the end of his life, had come to a fateful decision: he would bequeath his vast fortune to the founding of a university and a hospital that would eventually bear his name. The legal documents creating these two institutions were drawn up in 1867, 6 years before Hopkins’ death. He carefully chose 12 trustees for each institution, nine of whom overlapped, to serve on the hospital and university boards. The hospital board busied itself with the acquisition of the land on which the hospital would eventually be built in 1889, but the university board was necessarily idle until their benefactor’s death, when it would receive its inheritance.

Johns Hopkins died on Christmas Eve, 1873, in his 78th year. Within months of his death, the university board took in earnest their charge of developing a university. They requested advice from three eminent educators: President Eliot of Harvard, President Angell of Michigan, and the ubiquitous President White of Cornell. The advice they received was, in retrospect, rather pedestrian and plebian; what the eminent consultants envisioned for Baltimore was a mini-Harvard, not at all what the trustees were to get under Gilman’s enlightened vision. The consultant’s major service, however, came when each was asked, individually, for suggestions as to the future president of Hopkins. Each one, without consultation with the other, submitted the name of Daniel Coit Gilman.

The trustees wrote to Gilman in California expressing their interest in acquiring his services as president of Johns Hopkins. He replied that he soon planned to resign his position at Berkeley and that he would then be free to negotiate with them. In December 1874, after resigning the presidency of the University of California, Gilman journeyed to Baltimore for an interview with the Hopkins trustees. The following day, he was offered the job and immediately accepted.

No other candidate was even considered for the position, let alone interviewed, and from the beginning the trustees of Johns Hopkins expressed their total confidence in Dr. Gilman. Their trust was to be well rewarded over the next 25 years. For his part, the Hopkins post was a dream come true for an educator. Here was a brand new university, well endowed, with no prior traditions to defy, no vested interests to combat, and no opposition to overcome. To his friend White, Gilman wrote, “Is not this [educational] opportunity without parallel in the history of our country?” It was, indeed, and Gilman was to prove equal to the task, and then some.

### **Gilman at Johns Hopkins, 1875–1901**

In the beginning, The Johns Hopkins University consisted of Daniel Coit Gilman and a board of trustees. There was neither faculty, nor students, nor buildings. Gilman made the decision

**Table. The initial “faculty of philosophy” at Johns Hopkins**

Name	Age	Country of origin	Subject
Basil L. Gildersleeve	46	USA	Greek
J. J. Sylvester	62	England	Mathematics
Henry A. Rowland	28	USA	Physics
Ira Remsen, MD	30	USA	Chemistry
H. Newell Martin, MD	28	England	Biology
Charles D. Morris	49	England	Latin and Greek

to postpone for several years the creation of the medical school called for in Mr. Hopkins’ will. The hospital wasn’t built until 1889, and the medical school opened in 1893. His first task was to create a first-class “faculty of philosophy,” as he called it, and to people it with students of the highest caliber. From the very first, the graduate students far outnumbered the undergraduates, and thus Gilman set about the creation of a totally new type of research-based university in America.

President Gilman went about the job of recruiting faculty for Johns Hopkins by calling on his vast contacts in the world of higher education, both in this country and in Europe. His travels took him to Oxford, Cambridge, Glasgow, London, Paris, Berlin, Heidelberg, Vienna, Frieberg, Leipzig, Munich, and Strasbourg abroad, as well as to the strongholds of education in this country. The result: a sterling collection of scholars who would make any university in the world proud (*Table*).

It was this group of scholars, now largely forgotten, who forged the sterling reputation of the new Johns Hopkins University and within the decade propelled it into the top rank of American schools. It is noteworthy that three of the six were 30 years or younger at the time of their appointment; this pattern would repeat itself 15 years later when the medical faculty was formed. In that instance, all four of the founding doctors were under age 40.

On February 22, 1876, Gilman delivered his inaugural address as president of Johns Hopkins. The date was chosen with care; it was the birthday of the nation’s first president, in the centennial year of the republic. At the time of this address, Gilman had not completed his faculty search and the first students would not appear for another 7 months. In a remarkable address, well worth pondering some 125 years later, Gilman laid out his vision for the new university:

An enduring foundation; a slow development, first local, then regional, then national influence; the liberal promotion of all useful knowledge; the special provision of departments as are elsewhere neglected in this country; a generous affiliation with all other institutions, avoiding interferences and engaging in no rivalry; the encouragement of research; the promotion of young men; and the advancement of individual scholars, who by their excellence will advance the sciences they pursue, and the society where they dwell.

Gilman succeeded beyond his wildest dreams. Gilman was the visionary, the encourager, the seeker of bright students and

faculty with fresh ideas. He encouraged the publication of the research results from the fledgling school, and at his backing the Johns Hopkins Press became the first publication agency of a university. It was established in 1878 to publish the *American Journal of Mathematics*; soon to follow were specialty journals in chemistry, philology, biology, history, and political science, all edited and supported by the Hopkins faculty. He built up the intellectual atmosphere of the school by inviting prominent men of learning to deliver public lectures at Hopkins, a common practice in our day but a bold innovation at the time.

Some measure of his influence and importance in American education can be gleaned from the accolades accorded by his biographers:

Gilman’s greatest achievement, and the one with which his name will always be associated, was the introduction of the idea of a true university to America. It would be difficult, if not impossible, to point to any other instance in which a fundamental advance in the aims of higher education has been so closely identified with the work of one man. —Fabian Franklin

It was Gilman, and Gilman alone, who created the pattern of the modern university which has since been widely adopted in the United States. His concept made original research the distinguishing and central feature of the American university. —Abraham Flexner

On the occasion of the 25th anniversary of Johns Hopkins, Woodrow Wilson, himself a product of the school, had this to say to Professor Gilman:

You were the first to create and organize in America a university in which the discovery and dissemination of new truths were conceded a rank superior to mere instruction. . . . In this, your greatest achievement, you established in America a new and higher university ideal, the education of trained and vigorous young minds through the search for truth under the guidance and with the cooperation of master investigators.

### **Gilman and the medical institutions**

Although Gilman’s greatest fame rests with his presidency of The Johns Hopkins University, he made significant contributions to the formation of The Johns Hopkins Hospital as well. As the date for the opening of the hospital approached, scheduled for May 1889, the trustees had not yet settled on a superintendent for the hospital, and they asked that Gilman temporarily assume that position. He agreed to do so and for a time maintained two offices, one at the hospital where he spent his mornings and a second across town at the university.

In typical Gilman style, he versed himself in the pertinent literature about hospital administration, corresponded with experts in the field both here and abroad, and took it upon himself to visit large successful hospitals and hotels in this country, studying kitchens, linen supply, and the minutiae of laundry facilities. It was Gilman who appointed the principal for the school of nursing and the head nurses for the

various departments. He suggested the publication of reports from the hospital, eventuating in the *Bulletin of The Johns Hopkins Hospital* and *The Johns Hopkins Hospital Reports*. His successor as head of the hospital, Henry Hurd, credited Gilman with establishing a simple but effective system of governance for the medical institutions, consisting of the heads of the various medical departments and the superintendent of the hospital, with President Gilman presiding over the meetings.

Gilman's involvement with the medical school was not perfunctory; it was real, it was vital to success, and it was continuously maintained. Indeed, his efforts constituted Gilman's second great contribution to the educational development of this country. Flexner summed it up as follows:

No other educator, American or foreign, ever wrought such miracles as Gilman performed, first in the faculty of Arts and Sciences, and later in the medical school. Both were eminent from the start; both started a movement which revolutionized graduate education and research; had the university and its medical department never been started, or had they been otherwise started, university education and medical education in America would in all probability never have attained their present eminence.

#### **WILLIAM HENRY WELCH (1850–1934)**

William Henry Welch (*Figure 3*) descended from a distinguished line of physicians in Connecticut. While a student at Yale, he was more interested in a career in teaching the classics than in medicine, but only one faculty position in the classics was available, and it went to an individual who finished ahead of Welch scholastically. On such a slender thread hung the future of American medicine.

Welch was elected to Skull and Bones in 1869–1870. He wrote his father, “The honor is more agreeable to me than any other in college could have been.” Later, in writing to a relative whose son was considering another college, Welch wrote: “If a man has no chance at Bones it makes little difference to him whether he goes to Yale or someplace else, but if he is the right sort of man for Bones, then I say Yale over any other college or university in the world.” I think it is safe to say that Skull and Bones was important to Dr. Welch.

Thwarted at his career choice of the classics, Welch reluctantly turned to medicine and matriculated at the College of Physicians and Surgeons in New York City, graduating in 1875. In April 1876, shortly after his graduation, Welch set out for Europe on a “voyage of exploration that was perhaps the most important ever taken by an American doctor” (Flexner). While abroad, the scales fell from his eyes as he became aware of the great superiority of the European, and especially the German, medical faculties. For the first time, he saw the scientific principles of research and investigation being applied to problems in medicine. By that time, news had gotten out about the new university planned in Baltimore. Welch hoped that this new medical school would be based on the German model, writing, “I believe there are a great number of young men in America



**Figure 3.** William Henry Welch, the founding dean of the Johns Hopkins School of Medicine. Reprinted with permission of the Alan Mason Chesney Medical Archives of The Johns Hopkins Medical Institutions.

who are eager for such opportunities of practical study and investigation . . . which are at present found only in foreign universities.” It was Welch who would provide those opportunities for American students, in America, in the very near future.

Welch immersed himself in the study of histology, pathology, and bacteriology. He had the opportunity to work with the famous physiologist Karl Ludwig in Leipzig and the experimental pathologist Julius Cohnheim in Breslau, working at their side and absorbing the lessons these early experimentalists had to teach. They, in turn, were impressed with their young American colleague.

Upon his return to New York in 1878, Welch sought a venue for employing the skills he had learned abroad, but opportunity was sparse. He eventually found space at Bellevue and immediately began a course in histology and pathology, gradually building a reputation as an emerging medical scientist. At this point, President Gilman engaged John Shaw Billings to travel to New York to observe Welch at work as both teacher and researcher. Billings wrote Gilman, “I think Welch is the best man in the country for the Hopkins.” Gilman had independently contacted Cohnheim in Germany, who also gave Welch his highest recommendation. And so, in 1884, at age 33, William H. Welch was offered the first chair in the new Johns Hopkins School of Medicine.

As was the case with Gilman and the presidency of Johns Hopkins, there is no record of any other candidate being considered for the post. In retrospect, it is safe to say that both choices proved to be spectacular successes. Flexner commented as follows:



For the first time in the history of American medicine, an able and highly trained young man had exchanged a brilliant future in practice for an academic professorship. Thus was the decisive step taken, a step as decisive for medicine as was the choice of Gilman to become president of the university.

#### **WILLIAM STEWART HALSTED (1872–1922)**

Halsted (*Figure 4*) was born to a wealthy New York family. Prior to attending Yale, he spent 6 years at Andover, the famous New England prep school with ties to Skull and Bones. An old Yale adage suggests the following steps in a successful Yale career: “Greenwich born, Andover bred, Fence polished, and Bones tapped.” (The Fence Club is an elite fraternity at Yale.)

At Yale, Halsted was popular with his classmates and a talented athlete, playing on the baseball team and serving as captain of the fledgling football team, and yet he was not tapped for either Bones or Keys. His biographer, William MacCallum, attributed this to “a caustic wit which sometimes left a sting” and suggested that this led several upperclassmen to block his election to the senior societies. His classmates, however, “considered him most deserving of election because of his general popularity, his prominence in athletics and class functions, and the appreciation of his talents by those who knew him well.” MacCallum recounted that Halsted was dis-



**Figure 4.** William Halsted, the first professor of surgery at Johns Hopkins and widely regarded as America's foremost academic surgeon. Reprinted with permission of the Alan Mason Chesney Medical Archives of The Johns Hopkins Medical Institutions.

appointed and embittered by this rejection but suggested that he was not the chief loser!

Although a mediocre student at Yale, Halsted caught fire in medical school at the College of Physicians and Surgeons, secured a coveted internship at Bellevue even before graduation, and became a house physician at New York Hospital. As did so many American medical graduates, he spent time at the great European clinics, returning to New York in 1880, where he rapidly became one of New York's finest surgeons, as well as a popular man about town. But his rapid rise to success was derailed by his inadvertent addiction to cocaine, acquired in the course of self-experimentation on the anaesthetic properties of this drug. It was while in the throes of this addiction that his friend Welch, whom he had met in New York, invited him to come live with him in Baltimore and work in his labs while trying to throw off the addiction. We now know that he failed in this endeavor and that the drug addiction was to be lifelong. What courage it took for both Welch and Gilman to offer him a responsible position in the medical school, first as associate professor of surgery and acting surgeon to the hospital. Later, on Osler's recommendation, he was appointed surgeon-in-chief to the hospital and later professor of surgery in The Johns Hopkins School of Medicine.

One of Halsted's successors in the chair of surgery at Hopkins, Dr. John Cameron, offered a fascinating commentary on Halsted's cocaine addiction. He suggested that had not Halsted suffered his cocaine addiction, he would never have left New York, and the world would have been deprived of Halsted's immense contributions to surgery. Rather, he would have become a popular, socially prominent, extremely successful surgeon in his hometown. As it was, the addiction completely changed his personality, turning him into a reclusive, extremely private man with few close friends and an unpleasant personality. The opportunity to do academic work at Hopkins afforded him the opportunity to channel his energies and his intellect toward teaching and research, resulting in the single most productive and influential career in the history of American surgery.

#### **HARVEY WILLIAMS CUSHING (1869–1939)**

Harvey Cushing (*Figure 5*), like Welch, was born into a family of physicians in Cleveland, Ohio. He attended Yale from 1887 to 1891, where he played on both the freshman and varsity baseball teams, was an excellent student, and was popular with his classmates. After graduating from Yale, he attended Harvard Medical School and spent a year on the staff at Massachusetts General Hospital. In 1896, he received an appointment to Dr. Halsted's service at Johns Hopkins, and he remained in Baltimore until 1912, when he was appointed professor of surgery in the Harvard Medical School and surgeon-in-chief at the new Peter Bent Brigham Hospital. While at Hopkins, he gained renown for his surgical skill and for his work with brain tumors. He also produced an important monograph on disorders of the pituitary gland, which elucidated for the first time the various endocrine abnormalities associated with pituitary dysfunction.





**Figure 5.** Harvey Williams Cushing, Halsted's first resident at Johns Hopkins and the founder of neurosurgery in America. Oil on canvas, by American artist Edmund Tarbell. Reprinted courtesy of Dittrick Medical History Center, Case Western Reserve University.

As one of the leaders of his class at Yale, Cushing knew that he stood an excellent chance of being “tapped” by one of the senior societies. In a letter to his father, he wrote: “I have about made up my mind to go with Scroll and Key if I am a good enough man to get an election, as much the better men are going that way in our class. I think that my chances of going to Bones are better, and that if I should I would perhaps meet better men when I get out of College.” His comments are certainly a backhanded compliment to Skull and Bones; it is uncertain if he turned down

a tap for Bones, but he did join Scroll and Key. And, of course, once he was initiated, all further comments ceased.

## SUMMARY

Four Yale graduates, all extremely talented men, were instrumental in founding The Johns Hopkins University and in guiding the university's medical school in its early years. They, along with others of like talent and high purpose, established that “heritage of excellence” that has nurtured Johns Hopkins for these last 100 years. As undergraduates, three of them achieved election to one of Yale's premier secret societies. We are all in their debt.

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