Harvey Cushing as a book collector, bibliophile, and archivist: the precedence for the genesis of the Brain Tumor Registry

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Influenced by individuals such as his parents, Osler, and Halsted, and by his early medical student experience, Harvey Cushing developed a strong interest in collecting, especially antiquarian medical books. Even today, his collection housed at Yale University is one of the most prestigious in the world. Cushing’s interest in archives is further manifested and reinforced by his establishment of the Cushing Brain Tumor Registry. The following is a review of Cushing’s background not as an eminent clinician and surgeon but as an individual best described as a bibliophile, archivist, and ardent collector of medical paraphernalia. (DOI: 10.3171/2008.7.JNS08511)

KEY WORDS • Harvey Cushing • bibliophile • archives

When I get a little money, I buy books; and if any is left, I buy food and clothes.

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Medical School Experience

Even a perfunctory examination of the photographs, specimens, and records that comprise the Cushing Brain Tumor Registry at Yale University acquaint one, to a great degree, with the character of its creator. The Registry represents the embodiment of Harvey Cushing’s passion for meticulously recording, ordering, reordering, and interpreting information. His sketches and notes document a struggle to discern the difference between inconsistency, irrelevancy, insignificance, and the ever elusive sine qua non. The registry is rivaled only by Cushing’s personal diaries, as he made daily entries in both for many years. From his earliest days, a continual theme in his life was his obsession with observation, innovation, and tireless documentation—principles that permeated all of his endeavors. Additionally, Cushing has been described as the most ardent bibliophile and collector of his day.8

Cushing was born in Cleveland, Ohio, on April 8, 1869, the youngest in a family of 10 children in which medicine had been a long family tradition. Cushing was a mediocre student in his earliest years at Yale University but was eventually stimulated by his work with psychological chemist Russell H. Chittenden. Even from his time at Yale, Cushing showed an impressive propensity to document information in excruciating detail. Diary entries and letters to his family and parents were accompanied by cartoons, diagrams, and drawings. Interestingly, during his 4 years at Yale (1887–1891) only 2 visits to the University Library were recorded.8 However, later in life, he wrote to his mother “I went over to the library to try to look up something for a composition…but got so interested looking at other books and relics that I forgot all about the composition till the librarian rang his bell for closing” (Fig. 1).8

Working as a second-year student in 1893, an unfortunate incident paved the way for Cushing’s first major contribution to medicine. Students routinely administered ether sponge anesthesia to patients during surgical lectures. During one such lecture, while operating with Dr. Charles B. Porter, Cushing’s patient died in front of the entire class. Distraught by the experience, he approached Dr. Porter with the mindset of leaving medicine altogether and working to repay the patient’s family.9 Porter dissuaded Cushing, who immediately set out to work with his close friend and classmate, Amory Codman, on “ether charts,” which were graphic representations of an anesthetized patient’s heart and respiratory rates. The charts were used initially just by Cushing and Codman, who competed to administer the best anesthesia judged by the patient’s postoperative behavior on the ward. To the modern scholar, the idea appears almost sophomoric,
but such charting revolutionized surgery by greatly curtailing complications and deaths due to anesthetic complications. This detailed documentation is perhaps the first sign of Cushing’s archival nature.

Cushing concluded his residency training at the turn of the century. Modlin and Shin eloquently described his situation: “...at the end of his surgical training in 1900, an assessment of his early writings reveals a brilliant young man with somewhat sharp elbows, possessing zeal and commitment, but lacking somewhat in both purity of focus and worldly sophistication.” Osler and Halsted, who recognized the unrefined genius in their shared student, suggested he spend a year in Europe. The mentors arranged for Cushing to come into contact with individuals who would eventually be among the most influential scholars in modern medicine: surgeons Victor Horsley and Theodore Kocher, and physiologists Hugo Kronecker, Angelo Mosso, and Charles Sherrington to name a few.

**European Influence**

Europe bears witness to the fruition of another of Harvey Cushing’s endowments: his nurtured propensity to collect (Figs. 2–6). Before Cushing ever came into contact with Osler, Halsted, or Johns Hopkins Hospital, he had been under the historical tutelage of his father, Henry Kirke Cushing—a great bibliophile in his own right. Interestingly, Cushing was surrounded by books from an early age because his grandfather Erastus Cushing carried books of his father David, the first Cushing physician, in a wagon for the long trip from his home in Massachusetts to the Western Reserve.

During Cushing’s first years at Johns Hopkins, William Osler took the young resident under his wing. Osler fed Cushing’s passion for book collecting and encouraged him on his European pilgrimages to see various medical historical memorabilia. Interestingly, Cushing would go on to become a Pulitzer prize–winning biographer of Osler. Osler introduced Cushing to Vesalius early on, a prelude that would be the center of Cushing’s bibliographic passion for the next 40 years. While in Padua, Cushing sought the amphitheater where Vesalius performed his dissections and searched for William Harvey’s stemma, the student coat of arms traditionally inscribed upon the walls of the universities. The enthusiastic Cushing wrote to his father: “It’s a great sensation to stand up there where Wm. Harvey, Malphigi, and others without end, have crowded elbows to watch the progress of the anatomical re-awakening of the XVI hundreds.” Documented in a letter by Arnold Klebs was the following comment:

“Harvey Cushing also started out with the naïve transatlantic love for ancient lore and he collected like a true bibliophile. The fun of bidding at the sales, the Chief [Osler] pointed out, greatly appealed to his sporting instinct. But very soon he focussed his interests. To him as a surgeon the ‘anatomische Gedanke’ in medicine was of outstanding importance, and that man who first got out a remarkable textbook on this subject, Vesalius,
made an overwhelming appeal... Of course, he was im-
mensely busy in his profession and had little time for
anything else. Still, whenever he could snatch a moment,
he was over his Vesaliana, mostly in bibliographies and
trade catalogues. He had a wonderful flair for the things
worth while to get, and so unique items came to him...
In this field he became expert, very different from Osler
who deliberately remained the amateur.4

This desire for international academia was certainly
also contributed to by Cushing’s mother who was well
versed in French, Latin, and Greek, and gave her children
an early taste for foreign literature via poetry and stories
that she frequently read to them.4

Holman has reminded us that Cushing would often
pay top dollar to antiquarian booksellers without hesita-
tion. In fact, Weil, a London antique bookseller, called
Cushing an avid collector and remembered a book of his
that Cushing desired. Cushing is said to have promised in
exchange for the book, that he would remove Weil’s brain,
dust it, and replace it again. Regarding book collections,
Cushing envisioned a great medical library in which rare
and new books would create “a common meeting ground
where the different streams of knowledge will coalesce”
and a place “where an interest in the history of our great
profession will so flourish as to permeate into all depart-
ments of a much-divided [medical] school.”8

No less telling, and perhaps more influential, was
Cushing’s fascination with the “Hunterian Museum.”
John Hunter, a colorful Scot who years before had trans-
formed surgery into a legitimate science, founded the
field of experimental pathology. His museum, at the Royal
College of Surgeons, represented a collection of > 13,000
specimens of different species in various states of health
and disease. His brother William Hunter, an eminent bib-
liophile, amassed one of the greatest private collections
of medical books in existence. This collection was left to
Glasgow University in his will when he died. Cushing, af-
fected deeply by both archives, returned to the Hunterian
Museum many times while overseas. Cushing himself
amassed a magnificent library of > 7000 titles including
one of the most complete collections of Andreas Vesal-
ius.5 In fact, Cushing owned a first edition copy of Vesal-
ius’ De Humani Corporis Fabrica Libri Septem (On the
Fabric of the Human Body in Seven Books) published in
1543 and given to him by Osler in 1903. Cushing’s book
collection is now housed at Yale University and is one of
the finest in the world. Cushing stated:

“. . . there is only one thing to do with a young man: place
both books and cigarettes in his way and caution him to beware
of them as dangerous habits. He’ll certainly take to one, and
perhaps both. . . This may after all be the right tack—to warn
young people against books. Or at least against book collecting;
for one may easily become enslaved and soon so enveloped by
books that they are on the floor and out in the front hall and in
the dining room till you never can find the volume you want
and feel sure your wife or the children must have taken it from
the place you last put it, when they borrowed your paste pot
and scissors.”7

Cushing completed his time in Europe working with
Charles Sherrington on experiments of cortical localiza-

Fig. 3. Cushing examines a book from his collection in New Haven, Connecticut. Courtesy of the Cushing Brain Tumor Registry at Yale University.

Fig. 4. Cushing’s office in New Haven. A small portion of his book collection can be observed. Courtesy of the Cushing Brain Tumor Registry at Yale University.
tion in monkeys. He prepared for his journey home in August, packing his bags and his beautifully illustrated notes, diaries, and sketchbooks. It appeared that Europe gave to Cushing the clarity of character, talent, and any confidence that he lacked. His already flourishing curiosa felicitas for recording, collecting, and documenting details had been amplified. His 1 year abroad studying with the greatest of scientists both past and present comprised the overture to Cushing’s next 38 years.

The Tumor Registry as the Ultimate Example of Cushing’s Archival Nature

Harvey Cushing’s Brain Tumor Registry is a document that chronicles the foundation for the discipline of Neurological Surgery. It is an immense collection composed of > 2200 patient case studies: human whole-brain specimens, tumor specimens, microscopic slides, notes, journal excerpts, and > 15,000 compelling photographic negatives, and materials dating from as early as 1887 (Fig. 7). The photographic materials illustrate the patients’ clinical findings and have inherent artistic value. The registry reveals Cushing’s surgical odyssey through the human cranium in the early 20th century. The archive survives in its relative entirety, providing the opportunity for historical reevaluation of Cushing’s work and embodies a remarkably complete diary of neurological medicine from its conception.

In 1902, a golf ball–sized piece of brain tissue, or more to the point, the conspicuous absence of a golf ball–sized piece of tissue, provided the definitive catalyst to a series of events ultimately leading to the conception of the Cushing Brain Tumor Registry. Cushing’s opportunities for intracranial tumor surgery were few and far between, and successes were rare. Yet he regularly examined all tissues removed during surgical cases, a habit he learned from both Halsted and Kocher. Following the removal of a “pituitary cyst,” the Johns Hopkins Pathology Department “misplaced” Cushing’s tissue specimen. The young surgeon, prone to fits of anger, which occasionally drew admonition from Dr. Osler, failed to contain his fury. He insisted that from that day on, he would be allowed to personally retain all specimens removed during his operative cases or autopsies and thus the Cushing Brain Tumor Registry was begun. In fact, the stage had been set for the registry’s creation, and even if Johns Hopkins...
Hospital authorities had never misplaced the tissue, it is likely that Cushing would still have demanded to keep his specimens. The event represents a certain psychological investment that Cushing made in his art—he would build an archive that would sustain his school of thought after his death.

In 1938, when Cushing relocated the tumor registry to Yale University, he maintained very specific plans for his library. He insisted that a special building be constructed that could be readily accessible to students and faculty from almost anywhere in the medical school or hospital. Eventually, Dean Winternitz and President Angell agreed to allow Grosvenor Atterbury, an undergraduate classmate and close friend of Cushing, to begin drawing up plans for the structure. Four years of revision went into the plans. However, it soon became obvious that a totally separate structure would be prohibitively expensive. By 1938, there emerged another set of plans that described the Y-shaped building now incorporated into the medical school’s Sterling Hall of Medicine.

With these plans seemingly secure, Cushing set back to work on his Bio-bibliography of Andreas Vesalius, a project that would ultimately contribute to his end. On October 3, 1939, Cushing received word that the Sterling trustees appropriated adequate funds, the Yale Corporation accepted the plans, and work was to begin on the library. Four days later, Dr. Cushing suffered a fatal myocardial infarction precipitated by the lifting of one of the great Vesalian folios to be used in the biography. The biography of Vesalius was thus published posthumously in 1943.

Cushing’s profound friendship with Osler and his exposure to the life and times of the Hunters and Vesalius instilled in him that the preservation of posterity and the transmission of knowledge through great libraries and collections were vital issues of learning. Cushing ended his career as the author of more than 300 scientific articles and 13 books, the recipient of 23 honorary degrees of doctor of laws, doctor of science, and doctor of medicine, and honorary member of more than 60 internationally renowned lectureships. He stated that neurosurgery was 20% science, 75% artistry, and 5% community benefit. Interestingly, it was said of Cushing that his soul as well as his technique of life was essentially that of an artist and that he had “flown higher and sustained his flight more consistently than any of his medical contemporaries.”

Disclaimer
The authors report no conflict of interest concerning the materials or methods used in this study or the findings specified in this paper.

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