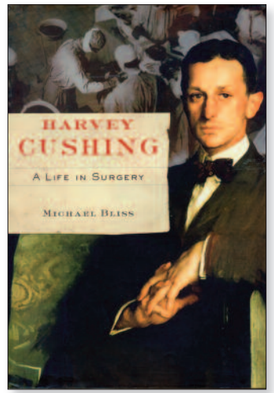
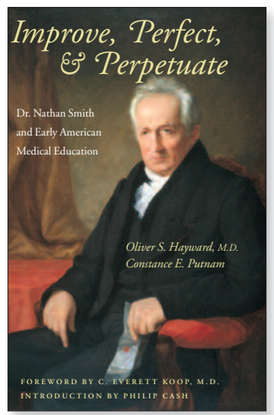
A Diligent Effort

By Lee A. Witters, M.D.

One of the giants of 20th-century medicine—neurosurgeon Harvey Cushing—was bound and determined to pay homage to a seminal American physician who lived a century before him—Dartmouth Medical School founder Nathan Smith. It's a saga filled with historical coincidence.





The covers of the definitive biographies of Cushing and Smith—published in 2005 and 1998, respectively—are eerily similar.

On April 26, 1638—18 years after the *Mayflower*'s departure for the New World—the 350-ton *Diligent* of Ipswich set sail from Gravesend, England. Captained by John Martin, the ship carried 133 passengers. The *Diligent* made landfall on August 10 in Boston, then proceeded immediately to Hingham, Mass., a South Shore town founded just five years earlier. Among the passengers who disembarked and settled there were Matthew Cushing and Henry Smith.

What kind of relationship they had with each other, if any, is not part of recorded history. But the lives of a direct descendant of each—Dr. Harvey Williams Cushing, the father of neurosurgery and a pioneer in endocrinology, and Dr. Nathan Smith, the founder of Dartmouth Medical School—were destined to connect 300 years later. Both Nathan Smith and Harvey Cushing were giants of American medicine in their own time, Smith in the early 19th century and Cushing in the early 20th century. Proof of the confluence of their careers lies in documents in the Dartmouth archives and in a bronze plaque that now adorns a hallway in the Remsen Building at Dartmouth Medical School.

At the unveiling of that plaque on June 17, 1929, Harvey Cushing explained that by the 1700s, the Smith and Cushing families had both moved from Hingham to Rehoboth, Mass. Then they part-

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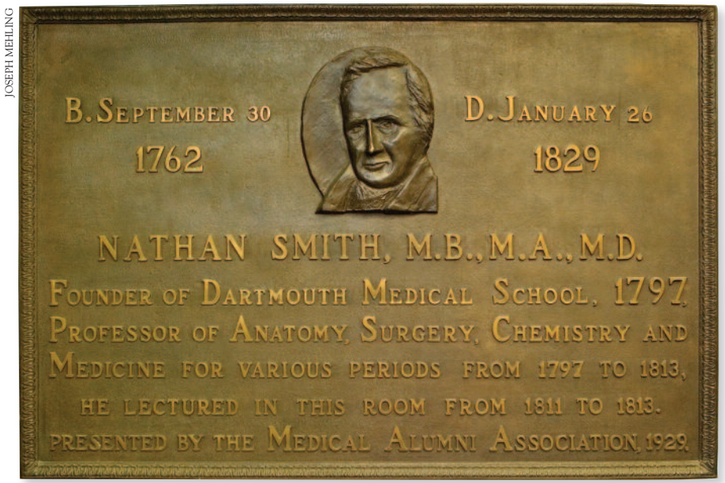
DARTMOUTH ARCHIVES

Nathan Smith dedicated this DMS building in 1811 by giving the first lecture within its walls. Harvey Cushing gave a talk in the same building in 1929, at the dedication of a plaque celebrating Smith, whom Cushing admired greatly. The photograph dates from about 1960, and the building was razed in 1963.

JOSEPH MEHLING



The plaque honoring Smith is pictured on the facing page in its first home—"this room" referred to above. Today the plaque hangs in the third-floor hallway of the Medical School's Remsen Building.

Ezekiel Cushing wrote effusively about his Dartmouth teacher. After leaving Hanover, he compared Nathan Smith's pedagogical skills to those he found in Philadelphia, noting that "Dr. Smith gives infinitely better lectures on surgery" and "more useful ones on the theory and practice of physic."

ed ways for a while. The Cushings, in the person of David Cushing, the first physician in that family, moved to Cheshire, in western Massachusetts, and the Smiths headed for Chester, Vt., in 1772, when Nathan was 10 years old.

Just 37 years later, the paths of Smith and Cushing descendants crossed once again. In 1809, a young medical student named Ezekiel Dodge Cushing appeared in Nathan Smith's anatomy classroom at Dartmouth Medical School, then all of 12 years old. Ezekiel, though not in Harvey Cushing's direct lineage, sprang from the same Hingham Cushings. Through copious correspondence with his family, Ezekiel was an avid chronicler of DMS's early years. One of his letters, for example, includes one of the most vivid surviving descriptions of an 1809 "anatomy riot"—an event sparked by public opposition to the practice of human dissection. (That and subsequent similar events may have been a factor in Nathan Smith's 1813 departure from Dartmouth for Yale, where he was instrumental in founding its medical school.)

Ezekiel Cushing also wrote effusively about his Dartmouth teacher. After leaving Hanover to continue his studies at the University of Pennsylvania, Ezekiel compared Nathan Smith's pedagogical skills to those he found in Philadelphia, noting that "Dr. Smith gives infinitely better lectures on surgery than Dr. [Philip Syng] Physick and certainly more useful ones on the theory and practice of physic than Dr. [Benjamin] Rush." That's high praise indeed, for Rush, notable as a signer of the Declaration of Independence, was a prominent professor of medical theory and clinical practice, while Physick is considered the "father of American surgery."

The ties between the families didn't stop there. David Cushing's son Erastus earned his M.D. in 1824 from the Berkshire Medical Institute, whose president at the time was one Dr. Josiah Goodhue. It was Goodhue—thanks to a chance 1784 encounter with Nathan Smith, then 22 years old—who had fostered Smith's interest in medicine.

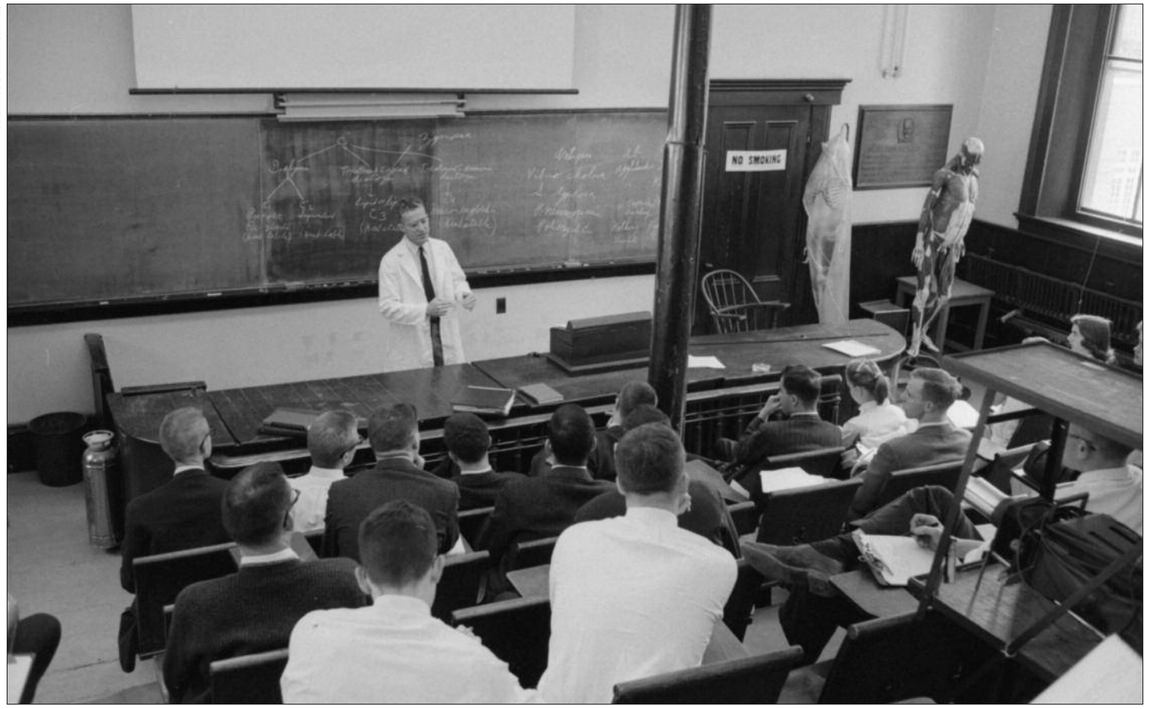
Erastus Cushing and his family moved in 1835 to Cleveland, Ohio. And there, on April 8, 1869, Harvey Williams Cushing was born to Erastus's son, Henry Kirke Cushing, and his wife, Betsey—the last of their 10 children.

Harvey Cushing's remarkable life was detailed by medical historian Michael Bliss in a superb 2005 biography titled *Harvey Cushing, A Life in Surgery*. Cushing entered Yale in 1887 and took the required courses in rhetoric, classics, and mathematics, as well as a few electives—including a course in physiological psychology that introduced him to the mysteries of the mammalian brain. But he concentrated on more than just his studies during college. Bliss notes that "when Harvey later reminisced about not having worked hard at Yale, it was because he chiefly remembered his extracurricular activities." He was a member of the Yale baseball team, and among his teammates was Amos Alonzo Stagg, later a famous football coach and one of the few individuals elected to the College Football Hall of Fame as both a player and a coach. Cushing, too, was an excellent athlete; one newspaper headline read "Cushing's Great Sprinting for a Long Fly Starts 10,000 Persons Cheering."

In fact, it was baseball—a Yale-Dartmouth game—that likely brought Cushing to Hanover, N.H., for the first time. However, as Cushing recounted that visit in a 1928 letter to the 11th President of Dartmouth College, Ernest Martin Hopkins, he confessed to having "very hazy recollections of Hanover and its buildings, for it is many years since I have had the pleasure of being there—not so pleasant either, for if I recall the event correctly, the baseball team of which I was an inconspicuous member got sadly walloped by the sons of Dartmouth. But that was long ago, when I had less reason for an interest in Nathan Smith."

But the story is getting ahead of itself. After graduating from Yale in 1891, Cushing earned his M.D. at Harvard in 1895. He spent a year as a surgical intern at Massachusetts General Hospital and in 1896 was named a resident under Dr. William Halsted, the chief of surgery at Johns Hopkins, and was subsequently put in charge of the surgical wards there. Cushing's time at Hopkins led to close relationships with both Halsted and Dr. William Osler—two of the most famous

DARTMOUTH ARCHIVES



physicians of the time. (In 1922-23, Cushing wrote the definitive biography of Osler, *The Life of Sir William Osler*, which won the Pulitzer Prize for biography in 1926.)

At Hopkins, Cushing "opened the book of surgery in a new place," according to Osler. That new place was the brain. Cushing's interest in brain surgery stemmed from a procedure he developed in 1897 to treat trigeminal neuralgia—a nerve disorder that causes intense pain in the face. His subsequent concentration on brain surgery firmly established him as the "father of neurosurgery"—together with, arguably, Dr. Ernest Sachs of Washington University, who was the father of Dr. Ernest Sachs, Jr., the longtime chief of neurosurgery at Mary Hitchcock Memorial Hospital.

By 1902, Cushing had developed an interest in the pituitary gland. An organ the size of a pea at the base of the brain, it secretes hormones that control numerous bodily functions. Cushing called it the "stowaway gland." He performed his first transsphenoidal removal of a pituitary tumor—through the sphenoid sinus, behind the nose—in 1909. That patient had acromegaly, an overproduction of growth hormone by the pituitary. In 1910, he improved on the technique by using a sublabial approach—entering through the upper lip instead.

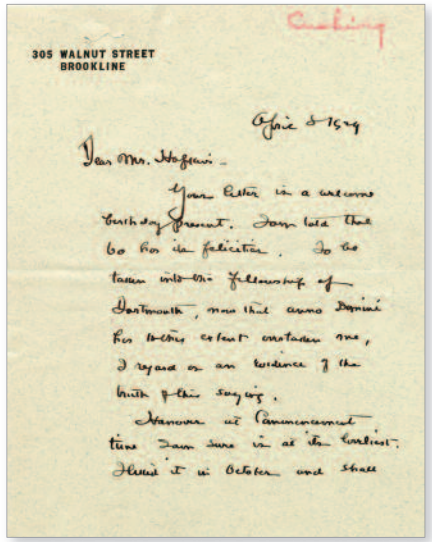
In 1912, Cushing published a book titled *The Pituitary Body and Its Disorders: Clinical States Produced By Disorders Of The Hypophysis Cerebri*, which remains a triumph of American medical literature. It gives case histories of 48 patients with pituitary tumors. Among them was Minnie G., a 23-year-old female with a "syndrome of painful obesity, hypertrichosis [excessive body hair], and amenorrhea [absence of menstruation], with overdevelopment of secondary sexual characteristics accompanying a low grade of hydrocephalus [enlargement of the brain due to an abnormal accumulation of cerebrospinal fluid] and increased cerebral tension." Describing her condition as a "polyglandular syndrome," Cushing speculated that it might be "attributable to disordered pituitary, adrenal, pineal, or ovarian influences."

It was only much later—in 1932—that Cushing concluded, by analogy to other cases, that Minnie G.'s condition had been due to a basophilic pituitary tumor which caused an overproduction of cortisol by the adrenal gland. That was the first description of a condition that is now commonly called "Cushing's disease." Yet ironically, Harvey Cushing never operated on the pituitary gland of a patient with the disease that bears his name. (See pages 58 and 59 for more about Cushing's disease.)

This circa 1960 photograph shows the main lecture hall in the building pictured on page 53. The plaque Cushing lobbied for so diligently is on the wall to the far right.

For a WEB EXTRA with links to PDFs of some of the historical documents mentioned here, plus a complete list of the sources used, see dartmed.dartmouth.edu/winter07/html/diligent_we.php.

BOTH: DARTMOUTH ARCHIVES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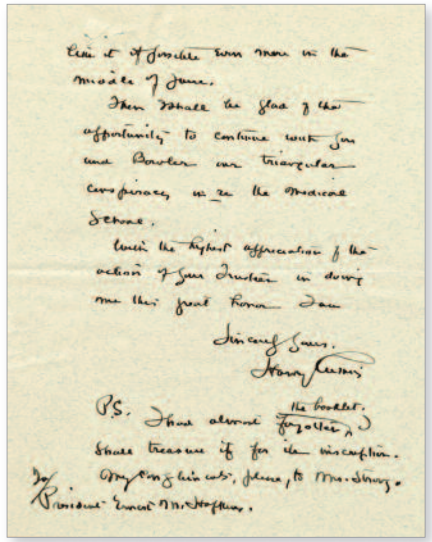


Above is a letter from Cushing to President Hopkins, accepting Dartmouth's offer of an honorary degree. Cushing had spoken at Dartmouth in November 1928.

At his 1928 lecture on careers in medicine, although Cushing said that he "did not set out to make this address center about Nathan Smith," much of the speech is indeed about the "indelible imprint of his personality on this, your beloved Dartmouth."

The same year that he described the case of Minnie G.—1912—Cushing moved from Baltimore to Boston, joining the staff of Peter Bent Brigham Hospital and becoming the Moseley Professor of Surgery at Harvard. He remained there until 1933, when he retired and moved to Yale. He was named the Sterling Professor of Neurosurgery at Yale but never performed surgery, taught a course, or did any research in New Haven.

Nevertheless, Cushing's move there was significant in view of his interest in Nathan Smith, given Smith's role in the founding of the medical school at Yale. Early evidence of Cushing's admiration for Smith can be found in a 1924 address to the Congress on Medical Education, titled "The Clinical Teacher and the Medical Curriculum." In it, Cushing railed against the standard medical curriculum and championed the apprenticeship model that was central to Smith's vision of medical education. "There is much that a present-day medical student might envy in the opportunities offered to a young man of a century ago, apprenticed to such a person, let us say, as Nathan Smith," Cushing stated. "In our present-day schools . . . the Nathan Smiths, if there are any, scarcely know even the names of their many pupils, whom perforce they meet in a classroom so crowded that the elbow-to-elbow method of teaching and learning is no longer possible."

Four years after that talk, Cushing was invited to visit Dartmouth—the place that had given Smith his start in medical education. During the 1928-29 academic year, Dartmouth's Department of Biography (yes, there truly was such a department) offered a course called Representative American Careers. Its aim, according to Ambrose White Vernon, the department's chair, was "to orient students of the senior class in what might be called the realm of vocations." The course included public lectures by individuals of, as Vernon put it, "high eminence in America in their various callings [who] most graciously [came] to Dartmouth to make worthy disciples and to repel unworthy ones."

Cushing was, not surprisingly, the exemplar of medicine. A few weeks before his trip to Hanover, he inquired in a letter to Vernon: "Can you tell me . . . for what purpose Room No. 6, the northeast corner of the first story of Dartmouth Hall, where Nathan Smith first started medical teaching at Dartmouth, is at present utilized and whether there is any marker on the room or building to indicate the historical association? If not, I would like to have my honorarium for the lecture utilized for the purpose."

It was President Hopkins who responded to the question. He wrote back to inform Cushing that the old Dartmouth Hall had burned down in 1904, so there would be "no essential truth to any marker." But Hopkins did express interest in the idea of a "tablet" commemorating Smith and proposed placing it in the building that had housed the Medical School since 1811; Smith himself had overseen construction of the building, which was the first structure in the U.S. built for the purpose of medical education.

On November 20, 1928, Cushing spoke in 103 Dartmouth Hall on "The Ideals, Opportunities, and Difficulties in a Medical Career." An edited version of his remarks was published in 1929 in a monograph titled *The Medical Career*, which was widely distributed to Dartmouth premedical and medical students and to DMS alumni.

Cushing began his talk by expressing the hope "that what I may have to say will produce from among you some good physicians and repel some incapable ones. There is, in reality, little to be said, other than that medicine has become so many-sided that anyone with a good head, a good heart, or skillful hands who is possessed of a spirit of service, who is not afraid of hard work, and who will be satisfied with a modest income, will find ample opportunity for happiness and for the exercise of his talents." He went on to highlight the many careers possible within medicine—physician or surgeon, investigator or health official—in remarks that are as relevant to students of today as they were to those of 1928.

Although Cushing said he "did not set out to make this address center about Nathan Smith," much of the speech is indeed about the "indelible imprint of his personality on this, your beloved Dartmouth." He lauded Smith's contributions to Dartmouth and told an amusing story about an early Dartmouth president, John Wheelock, who attended one of Smith's lectures. Wheelock was "so impressed [by the lecture] that at the ensuing evening prayers in the old chapel he gave thanks as follows: 'O Lord, we thank Thee for the Oxygen Gas; we thank Thee for the Hydrogen Gas; and for all gases. We thank Thee for the Cerebrum; we thank Thee for the Cerebellum; and for the Medulla Oblongata.'"

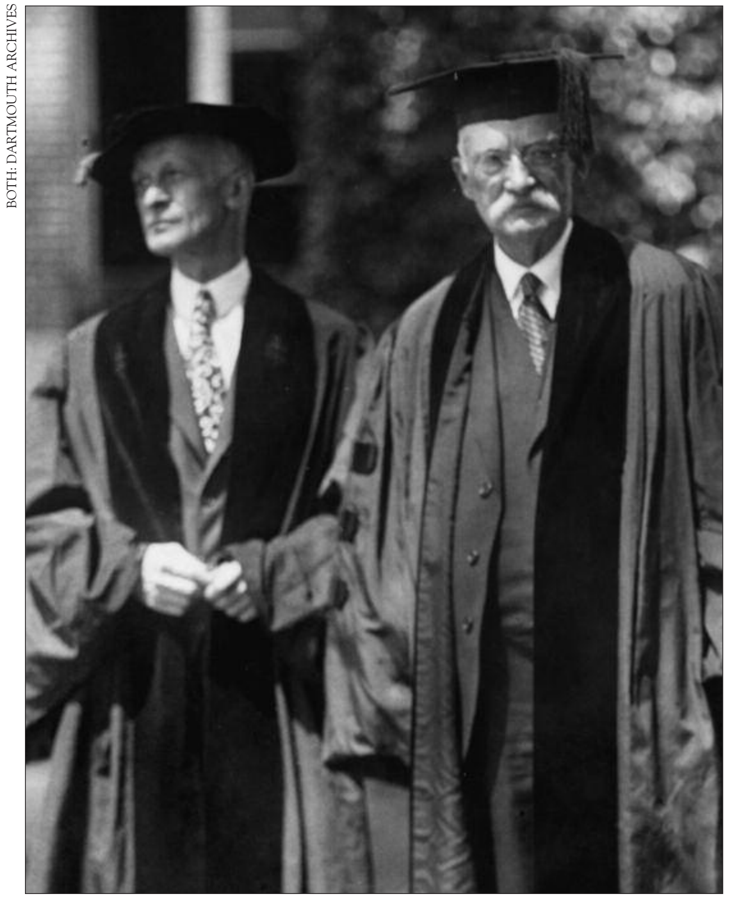
Yet Cushing was also critical of the process of medical education. He explained that Smith's chance meeting with Josiah Goodhue was instrumental to the former's career in medicine. "And," Cushing continued, "I am not at all sure that we nowadays go about our selection of candidates for the profession in the right way, by insisting on an unduly long preparation in the premedical sciences before those aspiring to be doctors are ever brought in contact with patients. It is possibly a good way of selecting those who are likely to become medical scientists, but in the process many who have the natural gifts for medical practice are apt to become sidetracked." Cushing would surely be dismayed by the fact that similar thoughts are heard from present-day premeds, as they struggle through courses in calculus, organic chemistry, and physics.

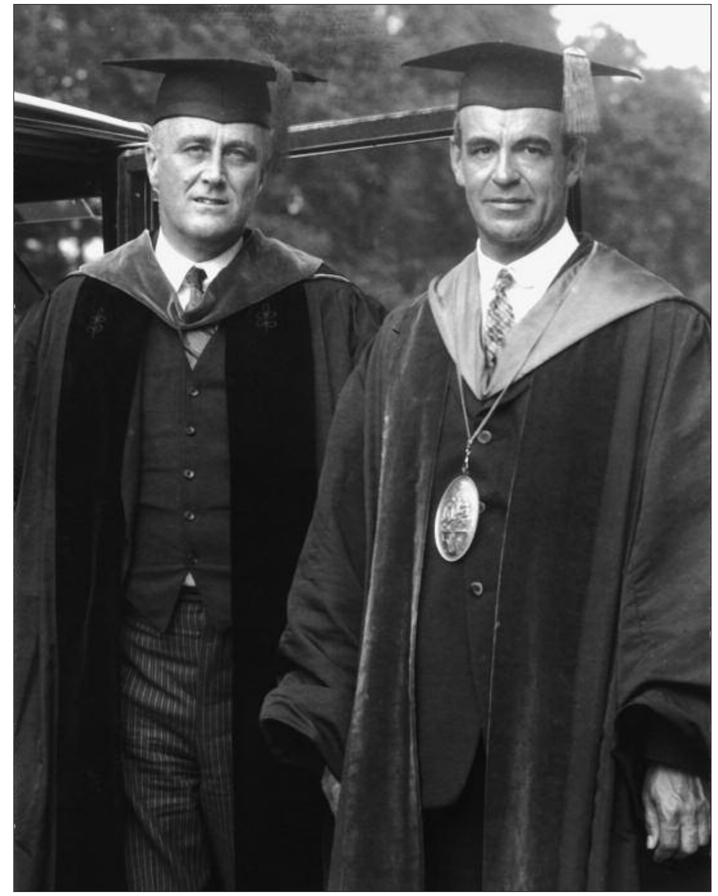
Upon his return to Boston, Cushing wrote Hopkins to thank him for the chance to speak in Hanover. He took the opportunity to express his thoughts about Dartmouth Medical School, which had 14 years previously stopped granting the M.D. That action had been taken in the wake of the 1910 Flexner Report, which charged medical schools with providing more formal clinical education. Because of its remote location, DMS could not provide students with sufficient clinical experience, so in 1914 it had become a two-year, basic science medical school.

"I think you have a perfectly unique opportunity to do a great service to the State of New Hampshire," wrote Cushing, "if you could build up a school which would supply the country, let us say between Concord and Montreal, with its family practitioners and country doctors. . . . You already have a most excellent nucleus, and when I saw that clinical teaching was going on hand in hand with science teaching, I was simply delighted. I would much rather be in a school of that sort than to hold my post at Harvard. So would Nathan Smith if you could call him back."

In the same letter, Cushing returned his honorarium and suggested that a tablet honoring Smith be placed "to come under the eye of the undergrad-

BOTH: DARTMOUTH ARCHIVES





Pictured here at Dartmouth's 1929 Commencement are President Hopkins on the far right and, from the far left, three of that year's honorary-degree recipients—Harvey Cushing; Harry Thayer, a Dartmouth alumnus and the retired president of AT&T; and Franklin Delano Roosevelt, then the governor of New York (this photo is one of only a few pictures taken after FDR's 1921 bout with polio to show him standing without assistance).

LEGACY OF HARVEY CUSHING—PROFILES OF PATIENTS / COURTESY OF YALE UNIVERSITY

Above is a patient with a pituitary tumor (though a different kind than described in the adjacent box) who was treated by Cushing himself in 1919. His notes describe her as a "21-year-old woman [with] coarse hands, large head, and a large, protuberant lower jaw." He used the transsphenoidal approach he pioneered to remove her tumor.

Cushing wanted the plaque "to come under the eye of the undergraduate student [rather] than merely under the eye of those going into medicine, for after all [Nathan Smith] is one of your great figures and should be made much of."

uate student [rather] than merely under the eye of those going into medicine, for after all he is one of your great figures and should be made much of." Cushing even suggested the tablet's wording: "In Room No. 6 in the Northeast corner of the first story of the old Dartmouth Hall, Nathan Smith as Professor of Anatomy, Surgery, Chemistry, and the Theory and Practice of Physic began the teaching of Medicine here November 20, 1797, thereby founding the fourth medical school to be established in this country." (Cushing erred regarding the date, however. The first DMS classes, in 1797, were taught in a private home in Hanover. It was not until 1799 that the Board of Trustees allowed Smith to use Room 6 in Dartmouth Hall.)

Hopkins responded with an endorsement of Cushing's ideas as to both the medical school's future and the placing of a tablet. "I thank you for the expression of your opinion you have given in regard to the Medical School," Hopkins wrote. "It is completely in accordance with my own convictions, and it likewise conforms to my own aspirations for the School. . . . There is no reason in the world why we should not put up a tablet in the northern corridor of Dartmouth Hall with the word of tribute thereupon in appreciation of Nathan Smith which you have suggested."

A tablet honoring Smith was indeed put up only seven months later, though not in the location Cushing suggested. But over 40 years would pass before Dartmouth again offered the M.D. degree. Hopkins expressed his support for revitalizing DMS, including in a letter to the American Medical Association's Council on Medical Education, but the Dartmouth Trustees questioned the use of general funds to support an institution "never contemplated in the original charter of the College." Hopkins's executive assistant, Robert Strong, wrote a letter to Cushing in January 1929 that attests to Hopkins's frustration with the limitations of a two-year school. Strong wrote that Dr. John Bowler, then DMS's dean, planned to give a copy of Cushing's *Medical Career* to every DMS graduate, "as we have not been able to do very much for these men in the way of tying them up with the College, [so] we thought of this as an excellent way of bringing home to them, and particularly to the men who only had a premedical course at Dartmouth, something of the worthwhileness of the school, its fine tradition, and the hopes for its future."

On April 3, 1929, Hopkins himself wrote to Cushing to inform him that the Trustees of Dartmouth College wished to award him an honorary Doctor of Letters at Commencement that June.

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Giving a human face to Cushing's disease

By Kristine Pattin

I encountered Harvey Cushing as neither a doctor nor a medical educator but as the eponym of a disease. My battle with the condition that bears his name probably began five to eight years before I knew I had it—or at least that's how long my doctors hypothesize that the 1.1-centimeter tumor in my pituitary gland had been growing.

In 2004, my primary-care doctor in Massachusetts noticed that I had suspiciously high blood pressure, which did not drop even after I changed my diet and began taking antihypertensive medication. I had a magnetic resonance angiogram and blood tests, but the results were inconclusive. So I began to dig on my own—in journals and online—into what might be causing my symptoms. I finally concluded that Cushing's disease was a plausible explanation. I had heard of it in animals, because I had recently interned in a veterinary research lab, where I was working on the optimization of a cortisol test for diagnostic purposes. I could not believe how accurately all of the disease's common symptoms mirrored changes I'd been noticing in my body and my general well-being.

I had previously attributed these changes to my lifestyle or to genetics, never suspecting that they could be indicative of a serious medical condition. I'd noticed that I was gaining weight in my face and belly, for example, but blamed it on poor eating and partying my senior year in college. I might not have appeared particularly overweight, but for someone who is 5′5″ and normally weighs 110 pounds to gain an oddly distributed 25 pounds within a matter of months was troublesome. More troublesome still was the fact that I didn't lose any weight even after I began a summer job that had me eating well and working out daily. The excess dark hair on my arms and face I thought must be due to my Italian heritage. The anxiety, irritability, and spontaneous emotional rollercoaster rides must, I told myself, be because I'm an overachiever who constantly worries about making the grade.

But even I was unable to come up with an explanation for my loss of scalp hair, suddenly diminished capacity for physical activity, easy bruising, and frequent colds and strep throats.

Pattin is in her fourth year of graduate studies in molecular and cellular biology at Dartmouth Medical School.

In September of 2004, when I began graduate studies in molecular and cellular biology at DMS, I set out to find an endocrinologist. Dr. Lee Witters, a professor of medicine and of biochemistry (and the author of the adjacent feature about Harvey Cushing), put me in touch with Dr. John Turco, an endocrinologist and the director of the Dartmouth College Health Service. Wasting no time, Dr. Turco confirmed that I had a pituitary tumor, and I was officially diagnosed as having Cushing's disease.

That November, I had two transsphenoidal surgeries—a technique pioneered by Cushing. Dr. Benoit Gosselin, a Dartmouth otolaryngologist, skillfully navigated my nasal passages, and Dr. Nathan Simmons, a neurosurgeon, removed my tumor. Or so we thought. But my cortisol levels did not normalize, so I had the same operation a week later in hopes of removing any residual hypersecretory cells. (Coincidentally, I'd witnessed this procedure at a medical forum five years before, though to remove another type of pituitary tumor—one that causes acromegaly, also known as gigantism.)

My recovery from the operations went well, but my cortisol levels still did not normalize. The doctors put me on ketoconazole, a drug that is used as an antifungal as well as to control cortisol levels. This was not a long-term solution but would suffice to manage some of my symptoms until we could investigate other options.

In April of 2005, I was referred for gamma-knife therapy, also known as stereotactic radiosurgery, at the University of Virginia. This procedure focuses multiple beams of radiation on a tumor, delivering an intense dose of radiation safely to a precise area. It's a one-day outpatient procedure, but results are usually not seen until a year to a year and a half later. Patience was the key now. In the meantime, despite being on medication, I continued to experience many symptoms. My leg muscles had atrophied noticeably, and a bone scan revealed osteoporosis in my hip and spine—another long-term effect of the disease. To treat my thinning bones, I was started on daily shots of recombinant human parathyroid hormone.

Certainly this was not the smooth transition to graduate school that I had hoped for, but my natural interest in science and medicine helped me cope with and understand my disease. I dug into the literature about treatments and studies conducted at the molecular level. In our second year of doctoral study, we are required to pass a qualifying exam that includes writing a grant-like proposal on a subject of our choice. Happily, I was able to incorporate an investigation of pituitary tumors into my proposal, making the project valuable personally as well as academically. Each day was a frustrating struggle yet a wonderful learning experience.

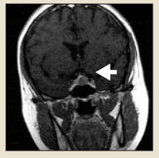
A year and a half after the gamma knife treatment, my cortisol still hadn't dropped to the level we hoped for. Since it is the adrenal glands that are stimulated by the pituitary tumor to produce excess cortisol, their removal was the treatment of last resort. In July of 2006, Dr. William Laycock, a laparoscopic surgeon at Dartmouth, performed a successful bilateral adrenalectomy. For the rest of my life, I'll have to take medication to replace two key hormones produced by the adrenal glands—aldosterone, which regulates the body's balance of salt and water, and cortisol, which fends off infections and aids in coping with stress.

I must remain ever vigilant of my health and adjust my medication when the need arises. Failure to do so could result in an adrenal crisis, which, because of my low cortisol levels, could send me into a coma, seizure, or shock or could even result in death. I wear a medical alert bracelet and have a medical alert sticker on my car, and I also carry emergency cortisol shots in case I should have an adrenal crisis or be unable to take my medication orally.

It has been over a year since my adrenalectomy, and it is amazing, finally, to feel almost normal again. I can climb stairs without stopping, my clothes fit again, I am able to focus and concentrate, I can brush my hair without it falling out all over the place, and I can bump my leg and not develop a giant bruise. My bone density has shown marked improvement as well.

It breaks my heart when I hear of people with Cushing's disease who get depressed, even suicidal, due to the physical changes and hormonal imbalances caused by the disease. I attribute much of my recovery, though it is still ongoing, to my amazing team of doctors at DHMC, with whom I have wonderful interactions; to my efforts to be proactive in understanding the disease and its treatment; and to the strong support I've gotten from family and friends, both at home and at Dartmouth.

I cannot fathom what it must have been like to cope with such a puzzling disease in the years before Harvey Cushing elucidated its origin and advanced its treatment.



That's Pattin above, before her surgery (note the roundness of her face), and below, today. Her tumor is depicted in the preop MRI at left.

JON GILBERT FOX

A Diligent Effort

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Cushing received the letter on his 60th birthday, April 8, and—in the only handwritten letter to Hopkins in all his correspondence for 1928-29—thanks him for the birthday present. "I am told that 60 has its felicities," Cushing wrote to Hopkins. "To be taken into the fellowship of Dartmouth, now that Anno Domini has to this extent overtaken me, I regard as an evidence of the truth of this saying."

On Monday, June 17—the day before Commencement—students, faculty, and Medical School alumni gathered in the lecture hall of the 1811 DMS building to dedicate a tablet honoring Smith. Both the timing and the location were fitting, for 1929 marked the 100th anniversary of Smith's death, and Smith had delivered the very first lecture ever given in the building, probably in that very room. The bronze tablet, featuring a bas-relief portrait of Smith, had been designed by Dr. Colin Campbell Stewart, a professor of physiology at DMS who was legendary among students for his artistic skill at the blackboard.

Cushing gave the main address at the dedication. Though neither of his suggestions—as to wording or location—had been followed, and it is unclear whether his 1928 honorarium went toward the tablet's cost, Cushing's comments about Smith were gracious and reverent: "For a school, for a nation indeed, for a state, for a church, to have some individual that they can in a way use before the world as a symbol of what they would like to have other people think them to be is the greatest good fortune. . . . And so I think, when a school like your own has some person who has been a person of outstanding distinction—to make use of that person for similar purposes as a means of tying together the sympathies and the interests historically and otherwise of a group of people, which graduates represent, is something that always should be sought for. And here we have the gift of this extraordinary man, who stands out as among the greatest of the doctors who have taught and practiced and worked in our country."

Cushing continued in his remarks to lobby forcefully for the revitalization of the Medical School. "Were Nathan Smith to come to earth today; could he be reincarnated here and stand at his own desk strongly, as I stand here feebly and haltingly addressing you, what would he say to us? . . . 'What is the number of your graduates today and where do they go?' And you would say, 'We have no graduates.' And I think Nathan Smith would be very much hurt and surprised, and I think he would go where I am sure he would find very receptive ears; he would go to the president of the College and say, 'Mr. Hopkins, can't you in my memory, or can't you for the worthwhileness of the act, revivify your medical school and have a full four years' course in your school, if for no other purpose than to do what President Wheelock agreed ought to be done—to supply New Hampshire with its doctors?'"

After Cushing's address, Mildred Crosby, granddaughter of Dr. Dixi Crosby (a member of the DMS faculty from 1838 to 1870 and the founder of Hanover's first hospital), unveiled the tablet.

The following day, Cushing was presented with his honorary Doctor of Letters at the 159th Dartmouth Commencement. He was lauded by Hopkins as a "great physician and expert technician, keen in diagnosis of human ills and of proved wisdom in friendly counsel for those seeking physical or social health; richly endowed with the God-given attributes of a sympathetic heart and an understanding mind." Among the other honorary-degree recipients that year were Harry Bates Thayer, an 1879 graduate of Dartmouth College and the retired president of AT&T, and Franklin Delano Roosevelt, then the governor of New York State.

When the 1811 Medical School building was razed in 1963, due to structural unsoundness, the tablet was moved to a hallway on the third floor of DMS's then brand-new Remsen Building. Ironically, had it been installed in the location suggested by Cushing, it might have been destroyed in a 1935 fire that demolished the "new" Dartmouth Hall.

Harvey Cushing's final brush with Nathan Smith's legacy came upon his move to Yale in 1933, just after he attended the presidential inauguration of his newfound friend, Franklin Roosevelt. But who knows—the web of connections between the descendants of Henry Smith and Matthew Cushing may yet play out in still another chapter. ■