FOCUS: YALE SCHOOL OF MEDICINE BICENTENNIAL

Harvey Cushing’s Ghosts: Death and Hauntings in Modern Medicine

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The passing of Yale School of Medicine’s 2010 Bicentennial occasions a moment of reflecting on the past, present, and future of medical education and research at Yale and beyond. Last June, a ribbon-cutting ceremony inaugurated the opening of the Cushing Center in the Cushing-Whitney Medical Library. Named after Harvey Cushing, an early 20th-century neurosurgeon and former Yale College alum, the dual education/exhibition space now houses hundreds of gross brain specimens constituting the Cushing Tumor Registry. Originally a personal collection, Cushing donated his numerous medical specimens, photographs, and other medical relics from his deathbed, relinquishing the brains to Yale only under the condition that a suitable space be erected to preserve the many specimens. Some 70 years later and after nearly being destroyed, Cushing’s wish is fully realized: The once desiccated, hidden brains have been painstakingly restored and are now on view in the Cushing Center. The brains express Cushing’s singular and spectral worldview as a surgeon, artist, athlete, soldier, book collector, and historian.

ICONS OF DEATH: THE CUSHING TUMOR REGISTRY

Death haunts the Cushing Brain Tumor Registry. The 400 or so gross specimens at Yale represent a remarkably enigmatic collection of the brains of early 20th-century neurosurgeon Harvey Cushing’s former patients¹ (Figure 1). In their literalness, the brains in vats — some whole, some fragments — seem to clearly declare their significance as illustrations of clinical neuropathology. Their recent rediscovery and restoration have drawn considerable attention to both Cushing and his preserved specimen — and with it a fresh look at the collection’s significance to med-

¹For a more general overview of the collection, see Wahl, Christopher. Gone But Never Forgotten: Renaissance of the Harvey Cushing Brain Tumor Registry [Internet]. 17 Oct. 1999. 4 Jan. 2011. http://www.neurosurgery.org/cybermuseum/tumorregistryhall/wahl.html.
ical education and research at Yale and beyond.²

Cushing’s surgical career marked the ascendency of many elements now recognized as constituting scientific medicine: large hospitals with new technologies like the X-ray, scientific discoveries such as the germ theory of disease, and the related practices of sterile operating rooms and garments.³ In Cushing’s neurosurgical practice, we recognize a medical kindredness with our own (Figure 2).

It is with good reason, then, that the New York Times notes how the brains “exemplify the rise of neurosurgery and the evolution of 20th century American medicine — from slipshod trial-and-error trade to a prominent, highly organized profession” [1]. The systematic order of the Cushing Tumor Registry — its labels, the now irreplaceable jars — stand as a metaphor for the medical modernity wrought by Cushing’s meticulous handiwork in and out of the operating room.

Yet in their material crudity, the brain specimens suggest doubts as to their status as markers of progress. In the overabundance of lifeless, inert flesh, they express what appears

²See for example: Epstein, Randi H. Inside Neurosurgery’s Rise. New York Times [Internet]. 23 Aug. 2010. 4 Jan. 2011. http://www.nytimes.com/2010/08/24/health/24brain.html. On the ribbon-cutting ceremony at the new Cushing Center, see Collins, Sonya. Cushing’s Tumor Registry Opens to the Public. Yale Medicine [Internet]. July 2010. 4 Apr. 2011. http://yalemedicine.yale.edu/ym_online_extra/ym_jul10/reunion.html. See also, Bendici, Ray. Brrrraaiiinnnsss... Connecticut Magazine [Internet]. March 2011. 4 Apr. 2011. http://www.connecticutmag.com/Connecticut-Magazine/March-2011/Brrraaiiinnnsss/.

³For more on Cushing’s life and career in surgery, see the excellent scholarly biography: Bliss, Michael. Harvey Cushing: a Life in Surgery. New York: Oxford University Press, 2005. For a history of scientific medical reform in the early 20th century, see Starr, Paul. The Social Transformation of American Medicine. New York: Basic Books, 1982. p. 145-234. On the emergence of the modern hospital in the early 20th century, see Rosenberg, Charles. The Care of Strangers: The Rise of America’s Hospital System. Baltimore: Johns Hopkins University Press, 1995. On the nature of medical practice in early 20th century New England, see Crenner, Christopher. Private Practice: In the Early Twentieth-Century Medical Office of Richard Cabot. Baltimore: Johns Hopkins University Press, 2005.
to be a clinical failure: Not withstanding scientific research and technological innovation, modern medicine cannot escape the presence of death (Figure 3). Indeed, as Yale Neurosurgeon and Department Chair Dennis Spencer notes, relatively little has changed in the field of neurosurgery from the perspective of the patient: “Everything we’ve done in the last 100 years has changed the progress for malignant brain tumors very little, extending life maybe eight months to two years” [1].

To explain the collection as a triumphal step in the history of medicine, then, though accurate enough, is to risk overlooking the brains’ most salient feature: the physical presence they betray. Resting silently on the bottom of glass jars, the specimens exude a physical density that seems in excess of their labeled contents.

Turner Brooks, an adjunct professor of architecture at Yale, noted this presence when he designed the exhibition space that now houses the Cushing Tumor Registry. The brains appeared to him as ruins, “still, glowing out from the past” [2]. The specimens are similarly described by Dr. Spencer as “beautiful and historic,” invaluable relics akin to a collection of Renaissance art. The most stark admission of the brains’ significance as physical objects, however, comes in imagining their destruction. Terry Dagradi, a photographer who helped bring the Cushing exhibit to life, admits that “the most important thing is that the collection was not thrown away” [3].

As art historian Michael Ann Holly explains, it is the corporeality of art that in part draws us to it. Like an art object, each brain “exists in our own time and space (even in the artificial ambience of a museum), and it beckons us for a corporeal presence by dint of its own physical presence” [4]. In their birth and decay through time, the specimens mirror the natural history of our bodies, their fleshy pulp insistent upon the linkages of embodiment, death, and human experience. The many folds of brain matter express knowledge of an existential nature: that with
each thread of life is woven the looming eventuality of death.

As Dagradi notes, the Cushing Tumor Registry can appear “pretty gruesome and macabre” [5]. Yet for all the correspondences between decaying flesh and mortality, the brains draw their deepest power in the way death does not quite appear (Figure 4). This uncanniness — what I call the ghostliness of the Cushing brains — arises from the specimens themselves. Through listening to the silence and solitude contained in the collection, this essay aims to suggest how this is so.

The uncanny, notes Sigmund Freud, pertains to the province of “what is frightening — to what arouses dread and horror.” It is a quiet fright “often and easily produced when the distinction between imagination and reality is effaced, as when something that we have hitherto regarded as imaginary appears before us in reality” [6]. In their continued existence beyond the lives of both his patients and his own, Cushing’s brains entertain a fantasy of immortality, escaping death as disintegration through the fixative process of preservation. Contained in glass jars that could be found in an early 20th-century kitchen, fluid bathing the specimens transforms death and the body into ghostly presences hermetically sealed from the external world (Figure 5).

The human brains further defer death as they enact new identities as part of a collection. The poet Susan Stewart notes that old things are reborn in the space of the collection, given a “new context, a context standing in a metaphorical, rather than a contiguous, relation to the world of everyday life” [7]. In the way domesticity and death are simultaneously contained in the glass vessels of the collection, the “brains-in-jars” express death as a quiet haunting of everyday life. Like a sudden brush or stirring felt in the dark of night, they constitute the empirical evidence of Cushing’s haunted belief in flesh as an experience whose “sensations transcend our vocabularies” [8]. Making sense of the opacity of the brains in this way — as hauntings of death — is to illuminate the ghostly side of Cushing and his collection.

To say that Harvey Cushing believed in ghosts is not to offer a speculative explanation that draws upon preoccupations with the spectral side of life. It emerges, rather, from a trained historical sensibility to Cushing’s personal and broader cultural contexts (Figure 6). As his biographer Michael Bliss says, “Cushing, of the same generation as Jack McCrae and the men in Flanders field, liked to summon spirits for literary and other purposes and may even have vaguely believed in them” [9].

Wartime experience shaped Cushing in ways deeper than literary or professional interests alone. While serving on the French battlefields of World War I, Cushing suffered a prostrating illness that clinicians have retrospectively diagnosed as Guillame-Barre syndrome. More striking, however, is the way in which Cushing understood the experience of illness in his journal from the war: “The paresthesias are chiefly in soles and palms and I have a vague sense of familiarity with the sensation — as though I had met it somewhere in a dream . . . a feeling, too, as though the plan tar and palmar fascias had shrunk in the wash and were drawn taught” [8].

Throughout his personal and professional life, Cushing sought to illuminate this lived experience of the body: a physical sensation palpable yet difficult to describe,
strange in its dream-like familiarity (Figure 7). If the notion that Cushing’s brains embody death seems obvious, to say that they do so in a ghostly way suggests the slippery nature of reckoning with this fact.

Come to life in early 20th-century America, the key to the preserved brains lies not in evidentiary proof but in the willingness to consider knowledge as something that does not necessarily diminish the mystery of that which it seeks to explain. “It is true,” noted Freud in 1919, “that the statement ‘All men are mortal’ is paraded in text-books of logic as an example of a general proposition; but no human being really grasps it, and our unconscious has as little use now as it ever had for the idea of its own mortality” [10]. Or, as the scientist-philosopher William James noted in 1911 in “The Reality of the Unseen,” “if we look on man’s whole mental life as it exists . . . the part of it of which rationalism can give an account is relatively superficial” [11]. From the vantage point of an early 20th-century neurosurgeon, Cushing also recognized the limits of words to capture the ghostly quality of the brain as he encountered it as a “startling thing” on the operating table: a silent mass insensible to the surgeon’s hand. Two drawings by Cushing ca. 1910 show how this is so.

Figure 6. Cooling motors on Zirlurberg, Sept. 6, 1932. Cushing on the ground, staring off into the sky. Note the photographer’s shadowy presence. Photo courtesy of Cushing/Whitney Medical Library

Figure 7. Harvey Cushing throws a back flip off a Yale building while an undergraduate. Photo courtesy of Cushing/Whitney Medical Library

In the gentle pull of the forceps and the cylindrical cores carefully drilled out of the skull, the instrumental traces of the surgeon’s body visualize Harvey Cushing’s view of the brain (Figure 8). As he once wryly noted to a friend, his knowledge was “purely from the standpoint of an operator who exposes it and handles it and removes things from it” [12]. The primacy of tactile knowing was a recurring subject for Cushing as an artist, as in an
earlier drawing of a sub-cortical cyst around 1907 (Figure 9). The metallic retractor, tucked beneath the skin, carefully exposes deeper layers of bone, dura mater, and brain. In the insistent implication of the surgeon’s hand in figuring knowledge, Cushing shares with the philosopher Maurice Merleau-Ponty an idea of embodiment as itself constituting knowledge: “that it is through my body that I go through the world, and tactile experience occurs ‘ahead’ of me, and is not centered in me. It is not I who touch, it is my body” [13].

In his early operations for brain tumors, Cushing also encountered a physiological landscape of human expression. Through electro-stimulation of the brain, he could approximate the anatomical basis of social gestures: the location of gray matter controlling facial tone and the muscular gestures for smiling or the projective power of the vocal cords. Words map this knowledge, “FACE” following the gentle contours of a main gyrus, followed by further descriptive labels: corner mouth, lower lip, jaw, tongue, brow, palate, fauces, and vocal cords.3 Beneath “vocal cords,” however, is a silencing presence. If the electric control of human expression carries a pleasurable mastery akin to that of a puppeteer or ventriloquist, a spicular mass marked with a black X occasions a remembrance that isolation and death are also the province of flesh. Mirroring the delicate threat of silence, a wispy mustache conceals the man’s lips as if to further emphasize the threat to social connectedness. Taken with Cushing’s obstruction of the ear and drawing the eyes closed, this portrait of the brain — like the brain tumor registry — depicts disease as an almost invisible presence, easily overlooked without the surgeon’s art of observation.

Yet amid all the graphic “reality effects” of the exposed gyrus and sulcus — their careful shading, contrast, and texturing — faint lines figure the brain as an ultimately ghostly presence. While words label and anatomize the brain, the suggestive power of the sketch resists any definitive distinction between what appears to be real and imagined. Rendered in the two dimensional plane of the page is the surreal disjuncture between the brain’s density and a more ghostly presence, windows into Harvey Cushing’s haunted medicine.

4The drawing is likely based on Cushing’s surgical experiences with a patient with a subcortical cystic tumor who could not tolerate anesthesia. Cushing, Harvey, and H.M. Thomas. Removal of a Subcortical Cystic Tumor at a Second-Stage Operation Without Anesthesia. JAMA. 1908;L(11): 847-56.
Silence looms in the material abundance of brain matter and preservative fluid of the Cushing Tumor Registry. In Harvey Cushing’s clinical approach and surgical operations, silence signified the thorough searching out of mundane details and “trifles” representing the ghostly manifestations of neuropathology [14]. It could be a subtle change in the patient’s field of vision or a dim but always present ringing in the ear, a fleeting episode of blurred vision or a passing headache. For Cushing, disease was a ghostly presence, and in this way, his fascination with the brain became manifest in a clinical approach guided by hauntings (Figure 10).

“Haunting,” as the sociologist Avery Gordon notes, “describes how that which appears to be not there is often a seething presence, acting on and often meddling with taken-for-granted realities” [15]. If it seems strange to think of Cushing as practitioner of haunted medicine, consider this: Like detecting a ghost as it slams the door, Cushing diagnosed brain tumors based on symptoms noted by the patient or clinical signs discovered upon physical examination.

Listening well and the stillness of observation constituted two interrelated practices of silence in Cushing’s haunted approach to medicine. It was his conviction that “no instrumental aid to diagnosis can equal in importance a detailed and exact history of the symptoms in the chronological order of their appearance.” In contrast to the X-ray, which in Cushing’s time could capture a single plane of the body for an instant, the dense lived history of the patient contained the excess of detail within which Cushing detected the first signs of clinical pathology. He believed that “this must ever remain our chief reliance, and the ability to elicit a dependable and correct clinical story is an art requiring perhaps even greater experience and skill than the making of a detailed neurological examination” [16]. In this context, understanding the patient’s experience of illness represented an integral part of the physician’s clinical approach.

While there was an instrumental utility to the patient’s history, Cushing attended to his patient’s illness out of a deeper respect and recognition of the frailty of human bodies. In his operating room, he was haunted by the tragedies of modern life: “the fireman with a bad burn, by the comatose victim of...
an automobile accident, by the child with a foreign body in its bronchus.” At any particular moment, it seemed, life could be thrown awry by personal circumstance, accident, or the unimaginable. “These and countless other emergencies,” he wrote, “will continue to occur in spite of all precautions till the end of time, let alone those far more numerous and equally unavoidable disorders with which the path of life is strewn” [17]. Cushing’s modernity was one haunted by the quiet, smoldering presence of death.

To Cushing, it was an issue of central importance and consideration for the medical profession, further strengthened as he endured illness, death, and trauma as a surgeon in World War I. Stationed near the front line in Passchendaele, France, Cushing experienced the unfathomable toll of war from the operating table and out in the fields where he buried his fellow soldiers (Figure 11). Honoring his patients was sometimes all that could be done, a painful salve to mend the violent touch of death. It was a particularly “sad, muddy, and gruesome quest” [18] when he visited the grave of Revere Osler, a close friend, fellow soldier, and among the many patients that Cushing silently mourned in the duration of his life.

At the end of the war, Cushing reunited with Osler’s father, Sir William Osler, at his home in Oxford, England. A kindred spirit but also a remarkable and revered mentor, the elder Osler lent him a copy of Walt Whitman’s Memoranda During the War as Cushing coped with the “tragic days of August 1914.” He found solace in the lines of Whitman, recording for himself the acknowledgement that “the marrow of tragedy is concentrated in the hospitals.” For Cushing, whether silence partook of honoring the dead or being fully present to his patients, it constituted a way of being in the world in midst of the marrow of tragedy. Or, as he noted in reflecting upon his experiences as a surgeon, “when something is so colossal as to tran-
scend comprehension one must reduce it to the simple terms of familiar things” [19].

MODERNITY AND THE ART OF FAILING

Acknowledging modern medicine’s failings in the face of death did not signify a terminal end or acquiescence for Harvey Cushing (Figure 12). The Tumor Registry, as a collection, represents a positive attempt to make new meanings out of encounters with illness. They confront us with a question not unlike the one Lisa Diedrich suggests is possible when we accept failure and uncertainty in medicine: to consider how we can fail well in the face of loss. The brains seem to ask, “What happens when we acknowledge medicine’s fallibility, mystery, and uncertainty rather than try to maintain the myth that medicine is all-knowing and all-powerful?” ⁵ For Cushing, this acknowledgement informed his emphasis on history taking and physical examination — a willingness to attend to the clinical hauntings of the everyday. His embrace of a ghostly practice of medicine — a practice of silence, vigilant observation, and listening — allowed him to create intimate, empathetic relationships with many of his patients.

As Burt Wolbach, a former patient noted, the effect of all this was that Cushing himself could appear as a ghostly figure:

“When I came to the operating table you were not a very clear figure to me. You were kindly, more human than the god that the Peter Bent Staff seemed to think you, and undoubtedly clever. But to the abnormally acute perceptions of the patient on the table you were very different. In fact there were three of you. There was the doctor . . . there was a very worthy human . . . but the important you was the voice that at times spoke to me. It was most startlingly difficult from the casual you. It was so completely laden with sympathy and understanding that the memory thereof is ineffaceable . . . if the time had come for [the] Fates to cut the threat it was very good to go with such a voice in one’s ear” [20].

Cushing and his patients experienced an inter-personal relationship that deepened as a result of acknowledging and confronting death. As Mr. Wolbach’s experience suggests, attending to both well was an important element of Cushing’s humanistic doctoring. Hauntings and ghosts, with their liminal associations in the world of both living and dead, may have served as an apt metaphor — if not more — for the ways in which Cushing cared for his patients. Yet in his insistence on representing brains with brains, he sought out a medium more expressive than text or image alone to preserve and express the ghostlier side of medicine — the way death and modernity haunt the clinician (Figure 13).

As former Yale surgeon and author Richard Selzer suggests, we should consider flesh as a

⁵To ask such a question is the first step in pursuing an “ethics of failing,” a way of “being at a loss yet exploring various routes.” On the importance of an ethics of failing in medicine, see Diedrich, Lisa. Treatments: Language, Politics, and the Culture of Illness. Minneapolis: University of Minnesota Press; 2007. p. 115-60.
very particular visual medium: “If one were to cut out a heart, a lobe of the liver, a single convolution of the brain, and paste it to a page, it would speak with more eloquence than all the words of Balzac.” In its literalness, the brain would contain “no literary style, no mass of erudition or history,” yet it would offer something more: “in its very shape and feel would tell all the frailty and strength, the despair and nobility of man” [21]. As other mortal spaces and practices like dissection and post-mortem examination slowly fall out of favor, the brains represent an important and unique way of engaging students and practitioners with clinical experiences Cushing encountered on a workaday basis.6

If the strangeness of the brains illuminate the ways in which death and the body haunt us, Cushing’s ghostly medicine suggests that not all hauntings are frightening. While the uncanniness of a living person often stems from a feeling “that his intentions to harm us are going to be carried out with the help of special powers” [22], Cushing reminds us that ghosts are not always an unwelcome terror. With a knowing touch, Harvey Cushing could inflict both violence and understanding, but he remained nonetheless “laden with sympathy” (Figure 14). Cushing’s clinical approach thus illuminates the way ghosts and hauntings provide a way to tack between objective and subjective points of view — both integral parts of what made Cushing an exceptional surgeon.

In the end, there is no definitive way to prove whether Cushing believed in ghosts or whether the brains are indeed haunted by death. Yet to leave open that possibility illuminates the ways death and hauntings constituted the lived experience of early 20th century modern American life; to understand Cushing and his brains in ghostly terms is thus also an act of recovery and empathy. Through an openness to hauntings in medicine, we can learn to practice a kind of medicine that is of neither patient nor doctor alone, but one residing in the shared body of human experience. By attending to illness and death as ghosts, we are better able to understand and reckon with the fears and experiences of our patients and in turn made aware of the way our own bodies are worn down in the service of healing another.

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6For more on medical education as it relates to death and dying, see Nuland, Sherwin. How We Die: Reflections on Life’s Final Chapter. New York: Vintage; 1995; and Gawande, Atul. Complications: A Surgeon’s Notes on an Imperfect Science. New York: Picador; 2003. For a related overview of perceived ills of present day medical education and the role of the medical humanities see Charon, Rita. Narrative Medicine: A Model for Empathy, Reflection, Profession, and Trust. JAMA. 1997;286(9(15)): 1897-902. For an interdisciplinary, scholarly treatment of the limits of medical education and practice in the 21st century, see Diedrich, Lisa. Treatments.
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