
by

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Abstract

This dissertation is an exploration of the ways in which American and Canadian neurosurgeons fashioned their professional identity in the formative period of the specialty’s history. Part I argues that an ethos of elitism and exclusionism structured the cultural landscape of the specialty and was reflected in the membership policy of the Society of Neurological Surgeons and the Harvey Cushing Society, which screened for certain moral and professional values. The meetings of the societies opened with surgical performances designed to encourage particular technical practices, to negotiate and standardize procedures, and to demonstrate the prowess of the neurosurgeon. In theatrical performances at these meetings the neurosurgeons also created a distinctive type of masculinity, which was inflected with a feminine resonance.

Part II outlines the extraordinary professional success of the neurosurgeons in the 1930s and 1940s when they assumed leadership of neurological institutes. Wilder Penfield’s effort to build such an institute in Montreal led him to challenge the authority of clinical neurologists by claiming therapeutic superiority and by engineering a public debate about the future of these related specialties. Jurisdictional disputes between neurosurgeons and neurologists played out in animated rhetorical performances at the meetings of professional societies and illustrate the
divergent ways in which these specialists envisioned medical specialization. Neurosurgeons cleaved neurology along therapeutic lines, while neurologists, attempting to regain conditions lost to neurosurgeons and psychiatrists, sought authority over all organic and functional disorders.

*Part III* charts the neurosurgeons’ growing authority in popular culture. Although popular representations testify to an increasing glamorization of brain surgeons over the first half of the twentieth century, these narratives reveal culturally contingent tensions. The ideal cure for brain tumors was portrayed as medical, not surgical, while the public expressed an ambivalent reaction to the violence to both body and mind that brain surgery appeared to threaten.
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Chapter 1
Introduction: That “Small Group of Bold and Adventurous Pioneers”

“There is a natural aristocracy among men. The grounds of this are virtue and talents.” […] An elitist membership of a profession can offer precisely what human society wants, that is, if society wants excellence rather than mediocrity or even competence.”

W. Eugene Stern, Presidential Address, The Society of Neurological Surgeons, 1977

“In the past ours has been in many ways a favored field of medicine, guarded by its mystique and prestige from many of the assaults directed against the [medical] profession at large.”

Henry G. Schwartz, Presidential Address, American Association of Neurological Surgeons, 1968

In his 1948 Presidential Address to the Harvey Cushing Society, the neurosurgeon Cobb Pilcher reflected on the brief history of his specialty:

“In a review published in 1937, I stated, ‘Neurosurgery is still a youth among the medical and surgical specialties.’ Today, eleven years later and sixteen

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years after the founding of this Society, it may be appropriate once again to take stock of the position of this youth and to take thought for his future. For our precocious youngster, flexing his technical muscles, increasing his store of knowledge and sometimes rudely thrusting aside his less fortunate cousins, has attained the stature of manhood.”

That, in Pilcher’s estimation, neurosurgery could develop from youth to maturity in only eleven years is a measure of the dizzying speed with which the early neurosurgeons experienced the changes that transformed their specialty in the first half of the twentieth century. Pilcher’s assessment captures a professional ethos that was co-produced with the technical and institutional changes to which he was referring. This *esprit de corps* was a reflection of the collective identity of a handful of men who practiced surgery of the nervous system, who described their specialty and their professional self by appealing to a common pattern of metaphors, and who attempted to shape the social landscape of the specialty by subscribing to a shared set of technical norms and moral values.

1 The Scope of This Study

Among the multitude of medical specialties that became institutionalized in the first half of the twentieth century, neurosurgery distinguished itself by attaining extraordinary professional prominence, cultural authority, and economic success in a relatively short period of time. My dissertation reconstructs the remarkable rise of this specialty by focusing on the neurosurgeons’ efforts to build a shared community and to fashion a distinct identity. This dissertation is thus an exploration of the ways in which North American neurosurgeons imagined, fashioned,
experienced, and performed their professional identity and of the consequences that this particular identity had on the trajectory of this medical specialty in the first half of the twentieth century. The study covers the formative period in the history of the specialty, starting just before the establishment of the first professional society for surgeons interested in the nervous system and ending in the aftermath of the Second World War when neurosurgery was universally acknowledged as being firmly rooted in the medical landscape, following the institutionalization of a specialist board, a more or less standardized training program, an official neurosurgical journal, and several neurosurgical specialist societies.

This thirty-year period was a liminal, uncertain, and provisional space in which neurosurgeons contended with multiple professional and institutional challenges and opportunities and in which they constituted for themselves a distinctive professional space governed by common ways of practice, as well as a social landscape governed by normative behaviors and values. I will show that while the first generation of American neurosurgeons saw themselves as having a more or less fixed identity as surgeons primarily, the professional identity of the second and third generation of neurosurgeons in the interwar period was much more fluid and fractured. This identity was subject to continuous negotiation among neurosurgeons and also between neurosurgeons and other related medical specialists such as clinical neurologists, and it was strongly informed by local conditions and individual professional goals.

The members of the first generation of surgeons who mostly limited their surgery to the nervous system, most notably among them Harvey Cushing, were not certain that neurosurgery would continue to constitute a distinct medical specialty; these surgeons had strong ties to general surgery and thus saw neurosurgery as eventually returning to the broad purview of the general surgeon. The second generation, on the other hand – men such as Wilder Penfield, Paul Bucy,
and Tracy Putnam – saw neurosurgery through a very encompassing lens, calling themselves neurologists as well, a position which, as I will show in Chapter 5, was contested by clinical neurologists and which engendered protracted professional debates in the pages of professional journals and at the meetings of specialist societies. By mid twentieth century this transitional period in the history of the specialty was mostly over. Neurosurgeons such as Cobb Pilcher articulated a clear view of neurosurgery as a strong, fully established specialty, independent from both neurology and from general surgery and with pretensions to neither of these medical domains. In the second half of the twentieth century, neurosurgery grew into just this kind of separate and autonomous medical specialty.

At midcentury, the second and third generation of North American neurosurgeons (and sometimes their European counterparts as well) recounted the recent history of their specialty as a classic American tale of adventure and conquest. The work of early neurosurgeons was deemed a “courageous struggle,” and the men themselves were “bold and adventurous pioneers” doing a “ceaseless battle with hemorrhage, the constant threat of the dreaded cerebral fungus” and other such technical difficulties. Those “pioneers” “preached the gospel […] that neurosurgeons should be capable of making their own diagnoses by familiarizing themselves with the essentials of neurology.” The neurologists, whose “dictatorial attitude [and] assumption of the surgeon’s ignorance” was duly rejected, were the neurosurgeons’ sometimes comical foil, another obstacle successfully overcome in the treacherous terra incognita they had had to negotiate. The most

\[\text{4 Ibid.}\]
\[\text{5 Ibid.}\]
\[\text{6 Ibid.}\]
\[\text{7 Gilbert Horrax, “Some of Harvey's Cushing's Contributions to Neurological Surgery,” Journal of Neurosurgery 1, no. 1 (1944): 20.}\]
celebrated of these early pioneers, Harvey Cushing, was described as a quintessential Anglo-American citizen; he possessed “the inherent sanity of New England Puritanism crossed with the pioneering spirit of the West, and all leveled out to produce what Galsworthy called ‘the soul of balance.’”

The story of neurosurgery was the all-American story, a story modulated by a nationalist pride which translated into a celebration of the ingenious practicality and the audacity of Americans. As the neurosurgeon Wilder Penfield put it, “[t]oday, from 1900 to now, we see the evolution of the technique of the surgery of the nervous system, chiefly in the United States. It is a familiar pattern: basic science in Europe, applied science here; basic atomic research in Europe, the “atom bomb” here.” One of Penfield’s generation of neurosurgeons, the Canadian Frank Turnbull, pointedly called his biography *Operating on the Frontier*.

Neurosurgeons borrowed such nationalistic narratives from the ambient discourse, from the culture of medicine and from their contemporary culture at large. In addition to narratives, they sometimes appealed to what historian Steven Shapin has called repertoires: “stable packages of attributions and evaluations” used to describe or prescribe the attributes, the conduct, and ways of being of certain kinds of individuals. A gentleman in seventeenth century England, for instance, would have had access to several sets of such repertoires in order to fashion himself as a gentleman.

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8 Daniel C. Elkin, “Remembrance of Things Past,” *Journal of Neurosurgery* 6, no. 5 (1949): 409. In this time period, the British surgeon Victor Horsley was given the credit of being a founding father, but Cushing was always credited with having greatly surpassed Horsley’s contributions.


gentleman and to be recognized as such. Historian Christopher Lawrence has applied this concept of repertoires specifically to surgeons and physicians and has shown how at different moments over the past several centuries they drew upon sets of characteristic corporeal and mental qualities in order to define their professional identity and to garner authority. Lawrence has written that in the nineteenth and early twentieth century, American surgeons frequently compared themselves to frontiersmen and they presented “themselves as the embodiment of heroism and manliness.” As Elizabeth Johns has shown, nineteenth-century American surgeons appropriated aspects of the self-presentation of their French counterparts who were depicting themselves throughout the century as exemplars of Enlightenment values – democratic and heroic. Advances in surgery were seen at the time as a prominent example of American progress and dominance in the world. For the 1876 Centennial exhibition held in Philadelphia, an exhibition whose purpose was to showcase excellence and progress in America, the painter Thomas Eakins chose to submit a painting that enthroned a surgeon as the embodiment of Philadelphia’s celebrated medical establishment.

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While drawing on wider cultural narratives and repertoires available at the time, the neurosurgeons’ fashioning of their own professional identity was ultimately configured in new and interesting ways. Thus, despite the frequently articulated democratic ideal, an undercurrent of elitism and a marked exclusionary attitude came to dominate the social landscape of this specialty and, as I will show in Chapters 2 and 3, deeply informed the neurosurgeons’ sense of their professional self. Furthermore, the neurosurgeons’ identity was gender-inflected in a surprising manner; a strong but nuanced masculinity informed their experience of specialist identity, a masculinity occasionally circumscribed by traditionally feminine traits. Pilcher’s personification of neurosurgery as a brash young man, flexing his technical muscles, elbowing aside his colleagues (chiefly neurologists and psychiatrists), was counterbalanced by a frequent description of the delicate, embroidery-like procedure of brain surgery and the theatrical, “prima-donna” persona of the brain surgeon.

Thus, the story of neurosurgery contributes to the historical scholarship on the culture of twentieth century surgery by showing how, although surgery in general was portrayed as democratic, heroic, and masculine and although neurosurgery was at times ascribed these same characteristics, in practice this surgical specialty complicated the ideal of democracy, while the masculinity of neurosurgeons accommodated quintessentially female characteristics – without seeming to compromise the erotic manliness of these surgeons in popular culture, as I will show in Chapter 6. An elite, uniquely masculine specialty which had become successful in a very short period of time as a result of the neurosurgeons’ hard work, delicate technical ability, and sheer audacity – this was a central narrative that informed the neurosurgeons’ perception of their professional self in the middle of the twentieth century.
2 Performance and the Professional Self

The broad argument of the dissertation is that the neurosurgeons of the first half of the twentieth century – these self-proclaimed men of strong opinions and turbulent characters16 – appealed to particular cultural repertoires and technologies of the self to create and express an elitist, exclusionist, and uniquely gender-inflected collective ethos. This identity was cultivated in three different kinds of elaborate performances: a technical performance in the operating room, a rhetorical performance during the meetings of specialist societies, and a theatrical performance on stage in plays produced as entertainment during these professional gatherings.

I use the term “technical” or “surgical performance” to capture the neurosurgeons’ work in the operating theatre, where certain behaviors, technologies, and routines became sanctioned (for instance, what was known as “the Cushing ritual” which, as I will describe in more detail in Chapter 2, implied in part a slow surgery with a particular effort to minimize blood loss and a very delicate and conservative handling of healthy tissue), while others were discouraged. What makes these operations actual performances is the fact that they took place in the context of the meetings of professional societies in front of an audience made up of carefully selected peers, a fact that allowed for discussion, negotiation, and the establishment of communal norms which formed the basis of a shared professional identity.

16 Reminiscing about the founders of the Society of Neurological Surgeons, Turnbull described his colleague Alfred Adson, a brain surgeon who practiced at the Mayo Clinic, as a “man of strong opinions who could be a gentle and gracious host or an explosive tyrant at times that were not predictable.” Adson, in Turnbull’s narrative, seemed to typify the strong personalities of most of the early neurosurgeons, and Turnbull singled out only one man as the exception that confirmed the rule: “[Mixter’s] personality provided a striking contrast to the turbulent characters of the majority of the neurosurgical pioneers in the United States.” Frank Turnbull, “As It Was in the Beginning; an Essay to Commemorate the Fiftieth Anniversary of the Founding of the Society of Neurological Surgeons, March 1970,” in The Society of Neurological Surgeons: Diamond Jubilee, ed. Eben Alexander (Winston-Salem, NC: Hunter Publishing Company, 1984), 5.
Meanwhile, the meetings of professional societies also set the stage for what I call “rhetorical performances” – polemics on the state of the broad field of neurology-psychiatry-neurosurgery in which the speakers defined the scope of their practice, advocated for specific policies, and policed the purlieus of their specialties. Rhetorical performances became particularly important in the interwar period when the boundaries of these related medical specialties began to shift as a result of the neurosurgeons’ particular kind of self-fashioning.

I call the third type of performance a “theatrical performance.” This was a humorous, often ribald, monologue during the banquet dinner of the annual meeting of the specialist societies, or, even more spectacularly, an actual complex play complete with a script, costumes, and music. The themes of these theatrical performances echoed current and pressing professional concerns and allowed the doctors to engage in or to defuse professional tensions and disputes by means of humor and laughter. These performances thus deserve to be a critical feature in a discussion of professional identity.

I will show that these three types of performances, while different in character, were nevertheless linked by a shared rhetoric, by similar linguistic conventions, and by a unifying specialty-building objective. It can be useful to think of these performances as a kind of technology of the self – a versatile resource that allowed neurosurgeons to borrow from attendant cultural repertoires, to negotiate norms and values, to set criteria for inclusion and exclusion, to fashion a successful professional self at a time when their collective identity was in a formative period, fluid and uncertain. These performances, which always involved a professional audience, continuously shaped the neurosurgeons’ professional identity in the decades before the mid twentieth century.
As I will explain further in Chapter 2, in thinking about these performances, I found useful both Michel Foucault’s notion of technology of the self as well as the interesting ways in which this notion has been recently applied by historians of science. In the course of examining the human sciences ("economics, biology, psychiatry, medicine, and penology"), Foucault has written about the "specific techniques that human beings use to understand themselves," calling "technologies of the self" those techniques that allow individuals to act upon their bodies or their minds in order to bring about a particular kind of transformation.\(^{17}\) Writing or contemplation in a particular historical context constituted for Foucault such technologies of the self. Historians of science have drawn on this insight to show that in a specific historical context different kinds of scientific selves were constituted by different practices such as “training the senses in scientific observation, keeping lab notebooks, drawing specimens, habitually monitoring one’s own beliefs and hypotheses, quieting the will, and channeling the attention.”\(^{18}\) The three kinds of performances that I have described above can be seen as a similar kind of technology, as a set of different practices that allowed neurosurgeons to achieve and maintain, to structure and re-structure a distinct professional identity.

I use the terms \textit{professional self}, \textit{persona}, \textit{professional identity}, and \textit{specialist identity} more or less interchangeably. A protracted disquisition on the different nuances of each term is beyond the scope of this dissertation. John Burnham has noted that after several decades of work on professionalization, historians have discovered that “there was no one definition of profession

\(^{17}\) Michel Foucault et al., \textit{Technologies of the Self: A Seminar with Michel Foucault} (Amherst: University of Massachusetts Press, 1988), 18.

and professionalism, even at a given time [because] circumstances elicit a variety of ways in which to understand professional functioning […]”19 The same can be said of professional identity and the professional self. Burnham has argued that a new focus on “the theme of a community of physicians” can be more productive and can help “avoid the static implications of older sociological definitions of profession.”20 The idea of community allows the historian to illuminate the ways in which professional identity manifested though shared professional values.

Like many historians, I consider the self, including the professional self, to be an entity that needs to be historicized, an entity that is continuously fashioned and refashioned in different contexts and through different practices and strategies. Historians of medicine and science have often shown that the creation of personal and professional identity is a kind of bricolage. For instance, historian Stephen Jacyna has illustrated the ways in which one important modern British neurologist, Henry Head, drew upon various cultural resources including a particular aesthetic sensibility to fashion both a private and a professional self.21 “[P]ersonal identity,” Steven Shapin has observed,

“is constructed out of materials at hand. The stuff out of which identity can be made is presented by the local culture. Cultures vary in their repertoires for recognizing roles, in their distribution of value to different sorts of activity, in their acknowledgement of difference conceptions of selfhood, and in the

20 Ibid., 180.
legitimacy they accord to conceptions of motive. This means that the biographer of a historical individual (or one belonging to another contemporaneous culture) can treat the creation and presentation of personal identity within a general historicist framework. What materials were available in this culture for making identity? What vocabularies of motive and purpose were present for warranting behavior and rendering comprehensible as behavior of a certain kind? What roles preexisted against the background of which individual presentations might be understood and evaluated?²²

By closely looking at the practices and the language associated with the production of the neurosurgeons’ professional identity, and the manner in which this identity changed over the first few generations of men (and they were, indeed, all men) who practiced brain surgery, I uncover and explain the cultural repertoires, the narratives, and the strategies and negotiations that underlined this bricolage and that allowed brain surgeons both to claim and to make sense of their place in the economy of medical specialties in the first half of the twentieth century.

This focus on the making of meaning, on the way in which neurosurgeons made sense of their identity and their professional world comes from the specific historical perspective of cultural history. As historian Mary Fissell has written in a persuasive article, part literature review and part appeal for a particular research agenda, since the 1980s some historians of medicine, drawing at times from insights from cultural anthropology and sociology, have began to focus on the ways in which historical characters engaged in the process of making meaning “of their lives,

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of the natural world, of social relations, of their bodies.”

These historians have emphasized the instability of concepts and categories (such as gender and class, for instance), which are constantly made and remade, and have paid particular attention to rhetoric and narratives. Historians of surgery as well have called for an examination of the “culture of surgery […] the beliefs, the values, and the society of the surgeon” in order to better understand the production of surgical knowledge and the development of medical authority, as historian Gert Brieger has written.

Apart from starting to address from a cultural perspective the gap in the literature on the history of neurosurgery and neurology, topics in the history of twentieth century North American medicine that have received very little attention from historians, this study hopes to contribute more broadly to the understanding of medical identity and medical specialization. Theoretically, my approach is consonant with what John Burnham has called “empirical eclecticism.”

While firmly anchoring my narrative in empirical evidence gathered from six archives, I draw on several theoretical constructs to articulate the complex and unstable meaning of professional identity. As mentioned, I find useful the notion of cultural repertoires, Foucault’s concept of technologies of the self and the ways in which historians of science have put the concept of techniques, including bodily techniques, to work in explaining the production of specific

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scientific selves,\textsuperscript{26} as well as the idea of self-fashioning and the work it does in explaining identity and authority in a particular context.\textsuperscript{27}

In addition, I take into account John Harley Warner’s exhortation to historians to consider the performative character of medicine. In an eloquent meditation on the place of grand narratives in the history of medicine and on the strategies that historians can adopt to tell the story of the cultural authority of medicine, Warner has written:

“Growing attention to relationships between performance and identity, along with an awareness of how investigating historically the performative character of medicine demands a focus on actors and audiences alike, is another promising tack [for historians of medicine]. More than this, I would insist that historians need to seriously interrogate the epistemological, aesthetic, political, and moral preferences that informed choices about medical identity that may have enhanced the profession’s cultural authority, but must not be reduced to marketplace maneuvers alone.”\textsuperscript{28}

The concept of performance has been useful in understanding the way identity is shaped and reshaped in different contexts and presented to different audiences for the purposes of gaining


\textsuperscript{27} Such as, for example, the role of the court in Biagioli’s classic work on Galileo’s self-fashioning: Mario Biagioli, \textit{Galileo, Courtier: The Practice of Science in the Culture of Absolutism} (Chicago: University of Chicago Press, 1993).

authority. As historian Iwan Rhys Morus has observed, “the language of performance […] provides useful analytic tools for historians of science because it focuses our attention on the bodies of practitioners, their embodied practices, and their presentation of self to different audiences. It provides a new approach to understanding the politics of knowledge production and dissemination.” Furthermore, a focus on performance can also be profitable if the historical actors themselves used this term to make sense of their world. Scholar Michael Wintroub has shown in a very recent *Isis* issue devoted to the concept of performance that “[t]hough perhaps new to the historiography of science, performance has been at the center of debates about morality, truth, and trustworthiness since at least the sixteenth century.” By untangling the different ways in which the term performance was applied in a specific historical context, the historian can thus recapture the universe of meaning that people of the past assembled in various circumstances. As I will show, the neurosurgeons of the first half of the twentieth century employed this concept in interesting ways, for instance describing their work in strikingly performative terms.

Although scholars from a range of other disciplines have used the concept of performance in very different ways depending on the specific question they addressed or the cultural material

29 Iwan Rhys Morus, “Placing Performance,” *Isis* 101, no. 4 (2010): 775. These historians have drawn on sociologist Erving Goffman’s dramaturgical model, which sought to illuminate social interactions by appealing to the language of the theatre (character, actor, front stage, back stage, role-distancing, etc.) and making the crucial point that the self was not a fixed entity, but was rather a product of a particular performance. See Erving Goffman, *The Presentation of Self in Everyday Life*, A Pelican Book (Harmondsworth: Penguin, 1959), ———, *Frame Analysis: An Essay on the Organization of Experience* (Cambridge, Mass.: Harvard University Press, 1974), esp. 124-55.

available to them, “performance” has so far mostly appealed to historians of science writing about the early modern period through to the nineteenth century. In the early 1980s, historian Simon Schaffer began to look at eighteenth century natural philosophy from the point of view of “scientific production as performance (with its concomitant attention to the audience for science),” showing how natural philosophy was performed through public lectures and experiments, the “repertoire of wonders” growing though the century. Other historians followed suit, Victorian scholars for instance concluding that “[s]pectacle was an important part of the constitution of natural philosophy and the identity of its practitioners,” and also that “the technologies through which such spectacles were enacted changed the ways in which the Victorians apprehended their world.” At the same time, however, historians have highlighted the often problematic nature of these performances, which on the one hand could be useful in garnering for natural philosophers the authority of speaking for nature, but on the other hand, “mischief would arise if philosophers succumbed to the temptation simply to bedazzle their


32 Trevor Pinch has recently made a plea to historians of technology to consider the usefulness of Goffman’s sociological work on “performing the self” and his dramaturgical model of the presentation of self. Pinch Trevor, “The Invisible Technologies of Goffman's Sociology from the Merry-Go-Round to the Internet,” Technology and Culture 51, no. 2 (2010).


audiences, without truly enlightening them; or if audiences could not tell the difference between the performances of a philosopher and those of a conjuror.”

Twentieth century historians have not used the concept of performance – or, for that matter, self-fashioning – as much, although these concepts can be profitably applied to twentieth-century historical material. Medicine, and surgery in particular, may lend itself easily to a discussion of spectacle and performance, especially in light of the central place of medical dissection and its long history of spectacle.

Historians John Harley Warner and James M. Edmonson have addressed the fascinating practice of late nineteenth and early twentieth century medical students who posed for photographs with the bodies they dissected, and who sometimes used these pictures as postcards, turning their work into a public spectacle. The staging of these “tableaux” functioned as a “boast about collective emotional achievement” and “a display of collective identity,” and they illuminate the particular aesthetic grounding of modern medicine. A particular – modern – aesthetics found expression in other forms of medical display. Historian Thomas Schlich has shown how in the context of the Viennese modernism of the early twentieth century, the Austrian surgeon Lorenz


Böhler created not only a modern “rationalized” fracture treatment, but also developed a style of photographing his naked patients collectively performing certain movements, as if on an assembly line, a similar style to that of the “contemporary chorus line of showgirls” popular in Vienna at the time.\(^{40}\)

Thus, a cultural approach to the history of medicine and the literature on performance and self-fashioning have directed the way in which I read and interpreted my archival sources. Nevertheless, while inspired by this literature, I focus on the relationship between performance, identity, and authority as it pertains specifically to the culture of neurosurgery. The term “performance” is, as this brief review of the literature shows, highly elastic. To make it do useful historical work, I use this term in a highly circumscribed sense, a sense dictated by the archival material that I have found. To understand the neurosurgeons’ persona in this time period, I argue, and to begin to explain the cultural and professional authority and success that these specialists came to enjoy, it is useful to consider the three different kinds of performances – technical, rhetorical, theatrical – that allowed these surgeons to appeal to specific techniques, narratives, rhetoric, and cultural repertoires in order to instantiate an elitist and exclusionist ethos and to craft a unique masculinity.

3 A General Outline of the Dissertation

Following this introductory chapter, the dissertation is divided into three broad parts. The first part (Chapters 2 and 3) describes the founding of the first two neurosurgical societies – the Society of Neurological Surgeons (SNS), established in 1920, and the Harvey Cushing Society (HCS), established in 1932. Drawing on the rich correspondence between the members of these

societies, as well as on personal diaries and the minutes and programs of the annual meetings, I show that from the very beginning the neurosurgeons’ social enterprise of building a community showed signs of privileging values such as elitism and exclusion. Although I explain how particular technical norms and surgical procedures were enlisted for this purpose, an extensive exploration of the production of neurosurgical knowledge and of specific neurosurgical techniques during this time period is beyond the scope of this dissertation and will be addressed in a future study. Since this dissertation centers on professional identity and on the ways in which it was conceived and experienced, I focus on the function that technical skills and values had in shaping processes such as those of inclusion and exclusion from the community.

The aim of the founding members of the neurosurgical societies, chiefly Harvey Cushing and Ernest Sachs for the SNS and William van Wagenen, Glenwood Spurling, Eustace Semmes, and Temple Fay for the HCS, was not to open the door to all surgeons interested in performing surgery on the nervous system, but rather to bring together a select group of academic surgeons whose professional and moral qualities were deemed to be distinctly “superior.” Arguments about who should be included and who should be excluded dominated nearly each annual meeting of the societies. I show that only certain kinds of epistemic and therapeutic neurosurgical endeavors were sanctioned, and those surgeons who did not conform were marginalized. For example, William Sharpe, a self-proclaimed neurosurgeon practicing in New York was not invited to join the SNS because his project of treating many spastic paralysis cases surgically was seen as too ambitious, and also, even more importantly, because he seemed to court the media with exceedingly optimistic claims about neurosurgical cures, conduct which was perceived to be morally suspicious.
The meetings of the specialist societies constituted the forum in which these moral attributes were put on display. The meetings opened with the host neurosurgeon performing a series of surgeries in the operating theatre in front of a select group of professional colleagues. I argue that these surgical performances were designed equally to encourage particular technical practices, to negotiate and standardize surgical procedures, and to demonstrate the prowess of the neurosurgeon. The host bore the important responsibility of “putting on a good show” and finding a fascinating “case” to share with his guests. The meetings of professional societies were constitutive of the professional self in one other respect: it is here that the neurosurgeons created a highly distinctive type of masculinity as part of their professional identity. While surgery was embraced as a quintessentially masculine specialty, brain surgery was inflected with a feminine resonance, being often called a “delicate performance” and likened to embroidery. In the theatrical performances put on by members of professional societies such as the American Neurological Association, the neurosurgeon often played the role of the “prima donna,” a role that embodied this delicate tension between masculinity, authority, and femininity.

The second part of the dissertation (Chapters 4 and 5) outlines the extraordinary professional success of the neurosurgeons in the 1930s and 1940s, a time period in which they assumed leadership of neurology departments and institutes, to the chagrin of many clinical neurologists. I start with Wilder Penfield’s sustained effort to build a neurological institute in Montreal. Penfield lobbied the Rockefeller Foundation for funding by employing a particular rhetorical strategy. He challenged the authority of clinical neurologists by claiming therapeutic superiority, effectively using therapy as the legitimizing principle of medical authority at a critical time when such an argument resonated powerfully. In addition, working behind the scenes, Penfield engineered a public debate in a prominent medical journal in order to stimulate the kind of review of the field that the Rockefeller Foundation had suggested was needed before supporting Penfield’s
enterprise. The jurisdictional disputes between neurosurgeons and clinical neurologists that emerged in this debate illustrate the essentially different way in which they envisioned medical specialization. Neurosurgeons anchored specialization in therapy, cleaving neurology along various therapeutic lines. In response, the neurologists made the case for neurology’s authority over all disorders of the nervous system, both organic and functional.

Chapter 5 traces the effect of the neurosurgeons’ rhetoric on the identity of clinical neurologists. I show that initially the neurologists retaliated by pointing out that neurosurgeons were not equipped to deal with the large variety of neurological conditions and were too quick to take radical action. Over the course of the second quarter of the twentieth century, clinical neurologists tried to reassert authority over contested neurological conditions. For example, the American Neurological Association reaffirmed an interest in functional disorders and voiced support for a joint board of neurology and psychiatry. By the 1940s, however, as neurosurgeons assumed leadership positions in the elite neurological centers, the neurologists’ discourse shifted to a derogation of surgical therapy and an explicit rejection of the neurosurgeons’ claims that clinical neurology was therapeutically sterile. Careful analysis, study and diagnosis were juxtaposed to urgent intervention; “dreaming” – that is, the deep reflection and sustained inquiry that supposedly characterized neurologists – was privileged over “action,” purportedly the domain of the neurosurgeon.

I argue that metaphors like these have to be understood in the larger context of cultural repertoires. In rousing rhetorical performances at the meetings of specialist societies neurologists appealed to particular sets of characteristics to define their professional identity in opposition to their neurosurgeon colleagues. Referring often to the divergent historical roots of medicine and surgery by alluding to butchery, the neurologists tried to diffuse the challenge of therapeutic
superiority leveled by the neurosurgeons. By the 1950s it became clear that the neurosurgeons’ rhetoric had left a significant mark on the way in which a new generation of clinical neurologists imagined the history of their specialty. Declaring that neurologists of the past had not been interested in therapeutics, these younger neurologists saw themselves as part of a renaissance of neurology that involved a primary emphasis on therapy.

The third part of my dissertation (Chapter 6) charts the neurosurgeons’ growing cultural authority in the North American press, fiction, theatre, film, and the visual arts, as well as in the correspondence readers sent to newspapers and magazines. Although popular representations in the interwar period testify to an increasing glamorization of brain surgeons, I argue that these narratives reveal clear and culturally contingent tensions. The public persona of the neurosurgeon was fashioned at a critical time, during the 1920s and the Great Depression, and this persona mirrors the wider social issues of the period.

On the one hand, neurosurgery was seen as so elite and so masculine that it became an emblematic example in women’s fight for gender equality. But on the other hand this dominant narrative inspired other, less celebratory counter-narratives. Points of resistance were exemplified by the fact that the ideal cure for brain tumors was portrayed as medical, not surgical, by the public’s ambivalent reaction to the inescapably graphic nature of surgery, and by the complex portrayal of heroes as often flawed and in need of redemption, a common motif of the Depression Era.

4 “Special Specialists and Therefore Elite”

Although my dissertation covers the period leading up to the mid twentieth century, it may also shed some light on an interesting contemporary phenomenon: today the neurosurgeon commands the highest admiration from the public, and the specialty of neurosurgery is perceived to be at the
top of the medical hierarchy not only by laypeople, but by the medical profession as well. Expressions such as “it’s not brain surgery” and “it doesn’t take a neurosurgeon to figure this out” testify to the cultural capital that neurosurgeons have acquired in the past century. The history of neurosurgery in the formative period of the specialty – the first half of the twentieth century – offers an interesting perspective on this contemporary reality and suggests the possibility that there are indeed some elements of continuity in the self-fashioning and self-representation of North American neurosurgeons. Neurosurgery was formed as an elite specialty and became increasingly motivated by an exclusionist ethos, an ethos that might have played a part in setting this specialty apart from others while giving it an aura of exclusivity.

In 1997, a member of the third generation of neurosurgeons who started to practice in the 1940s, J. Lawrence Pool, appealed to this very history to argue that his specialty was a special and elite one. He wrote:

“I regard neurosurgery as an elite specialty. Ever since medical school days, in 1930, most of the neurosurgeons who were my teachers, and later my colleagues and fellow practitioners, were not only skillful in the operating room but extremely well versed in all the sub-specialties associated with our profession. Moreover, most of them also had broad extra-curricular interests such as music, literature, history and art,

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41 Susan W. Hinze, “Gender and the Body of Medicine or at Least Some Body Parts: (Re)Constructing the Prestige Hierarchy of Medical Specialties,” *The Sociological Quarterly* 40, no. 2 (1999).

42 Christopher Lawrence, noting one such expression in popular culture, writes that “[b]y the twentieth century, neurosurgeons had plundered the physicians’ repertoire [as men of great intellect] so successfully that they could be regarded as the embodiment of penetrating intellect.” Lawrence, “Medical Minds, Surgical Bodies,” 189-91. Lawrence also notes that “[a]s dealing with living brains confers on these specialists especially well-developed intellectual powers merits further investigation” (note 84, p. 191).
making them special specialists and therefore elite. The second reason for thinking neurosurgery as an elite branch of medicine is because it deals principally with the brain which is the master control organ of the body and is the organ presenting the greatest challenges to the understanding of its many, many functions – more functions than those of all the other organs of the body added together.”

For Pool, the elite status of the neurosurgeons rested on their special technical ability, on the breadth of their training, on their humanistic and literary endeavors, and on the complexity of the brain itself. The rest of this dissertation is an exploration of the historical roots of this elite status and, more broadly, of the specialist identity and professional organization of North American neurosurgeons in the period between the end of the First World War and the mid twentieth century.

5 A Note on Historical Sources

Apart from published primary sources, this dissertation is based on archival material from six archives (a complete list can be found in the bibliography section). The records of the first two specialist neurosurgical societies (the Society of Neurological Surgeons and the Harvey Cushing Society), as well as the records of the American Neurological Association (ANA), allow the historian an unprecedented access to the culture of these medical specialists. Apart from the minutes, reports, and programs of the annual meetings, the photographs and text of the plays put on by neurologists and neurosurgeons at the meetings of the ANA are a unique and fascinating

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cultural source. The broader published literature on medical societies both in this time period and earlier is, as far as I am aware, completely silent on such entertainment practices, and it is not clear whether neurologists, neurosurgeons, and psychiatrists were the only medical specialists engaged in such professional theatre.

In addition, I have had access to the voluminous private correspondence between many of these neurosurgeons and neurologists not only through the records of the specialist societies, but also through the Wilder Penfield collection at McGill University, the Harvey Cushing and John Fulton Collections at Yale University, and the Rockefeller Archives. I have also consulted select entries from Wilder Penfield’s diary, as well as the diary of John Fulton, who, although not a neurosurgeon himself, was part of the second neurosurgical society, conducted an extensive correspondence with neurosurgeons, and was involved in the founding of the first North American neurosurgical journal.

For the last chapter on popular representations of neurosurgery and neurosurgeons, I have done an extensive search of magazines and newspapers available for the period before the mid twentieth century (some of these sources were digitized, some were not). The sheer number of these sources underscores the visibility of neurosurgery in popular culture. Some of these sources offer a unique window into the attitudes of the public though the printed letters from the readers that some magazines published, as well as indirectly by recording individuals’ reaction to neurosurgery. In addition to published fiction and nonfiction and an unpublished novel from the archives of the Montreal Neurological Institute, I have used the comprehensive database of the American Film Institute, a catalogue that includes detailed plot summaries of Hollywood films from the turn of the twentieth century to the present.
PART I

NEUROSURGICAL SOCIETIES
Chapter 2
“A Tedious and Dull Show:” Surgical Performance and the Moral Economy of Neurosurgery

1 A Public Spectacle at the New York Academy of Medicine

In 1914, a scandalous event took place at the New York Academy of Medicine at a joint meeting of the New York Neurological Society and the Academy’s Section of Neurology and Psychiatry. The members of these two medical societies walked into the meeting room to find a display of fifteen glass jars, “each containing the brain of a [young] patient who had died following [a brain] operation.” A number of children who had survived the surgical procedure had also been assembled and put on display. One newspaper recounted that “the children paraded down the centre aisle of the meeting room,” and another described how one four year old girl who had never been able to walk before her recent brain operation, “was able to toddle though the hall, led by the surgeon.”

The surgeon was William Sharpe from the New York Polyclinic medical school and hospital and the children were his patients, who, as The New York Times explained, “had all been subject to

44 The exact date is unclear. In his autobiography, Sharpe recorded the day as November 9, 1915, but reports in the press date from March 17, 1914 (The New York Times), April 18, 1914 (The Clinton Mirror), November 10, 1915 (The Pittsburgh Press), and November 30, 1915 (The Bryant Times). It is possible, though unlikely, that there were two presentations in the same venue, one in the spring of 1914 and one in the winter of 1915.
47 “Cures Paralysis by Knife,” The Clinton Mirror, April 18 1914.
[muscle] spasms and had been partly or wholly retarded in their mental growth. Sharpe was demonstrating the transformative effect of brain surgery for select cases of spastic paralysis, a condition which, in a preliminary report in 1913 in the *Journal of the American Medical Association*, Sharpe and a colleague had described as frequently resulting from

“a lesion of the brain occurring before birth, during birth or shortly after birth. It is characterized by more or less complete paralysis of the part affected, and is associated with a stiffness or plasticity depending on the extent of the involvement of the pyramidal tract […] In a large percentage of cases as the child grows older, not only do the spasticity and its resulting contractures increase, but also the mentality of the child becomes impaired, and this mental impairment continues until the child may be considered a defective, or still further an imbecile, and only too frequently an idiot.”

Sharpe was arguing that, years after the initial injury, some of these children exhibited increased intracranial pressure and that these patients’ symptoms could be alleviated by a surgical procedure called subtemporal decompression which diminished this elevated tension. His presentation at the New York Academy of Medicine was his attempt to present a series of case studies in which this procedure appeared to have benefited the patients.

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48 “Brain Operation as Paralysis Cure,” np.
Newspapers later reported that the doctors who attended the meeting stood on chairs in order to get a better view of the unfolding medical spectacle and that “[t]he pride of the little ones, as they showed how they were able to move once useless limbs, brought smiles to the medical men.”

One particular patient, a twelve-year-old boy, gave a riveting performance. A newspaper account described how “[t]he boy was stripped, and then on a mat he went through practically all the contortions of a wrestler, bending his body backward, forward, sideways, twisting his trunk, raising his arms, flexing his legs and rising from the mat by the use only of his leg muscles.”

Before surgery, the audience was told, this boy had been “a helpless paralytic, [and after the operation] had been taught by Dr. Bess M. Mensendieck to use one muscle after another until he had finally got almost as much control over himself as a professional athlete.” The performance of this young patient, who had been transformed from a helpless paralytic to a virtual professional athlete, constituted a dramatic spectacle that evidently appealed to the newspapers.

The day after Sharpe’s presentation at the New York Academy of Medicine, and in the months that followed, newspapers throughout the US recounted the event under dramatic headlines – “Brain Surgery Cures Twelve,” “Brain Operation as Paralysis Cure,” “Cures Paralysis by Knife,” “Brain Surgery Gives Parents Their Children,” – that exaggerated Sharpe’s somewhat more modest claims that “[w]e do not assert that the improvement in all of our cases will be a

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51 “Cures Paralysis by Knife,” np.
52 “Brain Operation Cures Twelve,” np.
53 Ibid., This performance was also reported in “Brain Surgery Gives Parents Their Children,” *The Pittsburgh Press*, November 10 1915, 1.
permanent one”\textsuperscript{54} and that “[n]aturally, we do not believe that all cases of spastic paralysis should have a cranial decompression.”\textsuperscript{55} In his autobiography, Sharpe recounted that the day after his talk, and following the publicity that his presentation had engendered, he was immediately called in at the New York Academy of Medicine to face the Board of Censors.\textsuperscript{56}

The problem was not that Sharpe’s surgical intervention was controversial. After his talk, some doctors did dismiss the patients’ improvements as more imagined than real, or argued that if these improvements did exist, they would prove to be only temporary.\textsuperscript{57} In his autobiography Sharpe related that “a barrage of criticism was hurled” at him that day.\textsuperscript{58} For instance, one

“neurologist commented that he placed no credence whatever on the parents’ statements of improvement following the operation – they were merely hoping and praying. […] Another was disappointed at seeing an apparently capable young surgeon, trained under the brilliant Dr. Cushing, ‘wasting his time’ upon such hopeless cases […]. A well-known obstetrician of the city was shocked that in this modern age any reputable doctor would ‘malign the obstetrical profession by blaming it for these tragic conditions.’”\textsuperscript{59}

\textsuperscript{55} Ibid.: 1983.
\textsuperscript{59} Ibid., 107.
Sharpe claimed that not all doctors had been critical that day; according to him there had been defenders as well. The well-known neurologist Dr. Bernard Sachs (the uncle of the neurological surgeon Ernest Sachs, who, as I will show, objected to Sharpe’s inclusion in the first neurosurgical society) rose to his defense, calling him “indeed courageous to enter this field of endeavor,” and pledging to refer his own patients to Sharpe, a promise which, according to Sharpe, he kept.  

Such disagreement among doctors was not unusual. Sharpe defended himself by claiming that he was not motivated by a financial incentive since he had not received a fee for any of the surgeries, and by revealing that in order to guard against a potential false perception of improvement, he had used the motion picture camera to capture his patients’ “spastic gait” before and after the operation. He later published several stills from these movies in his 1920 voluminous book on the *Diagnosis and Treatment of Brain Injuries* (see Figure 1).  

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60 Ibid., 109.
61 “Brain Operation as Paralysis Cure,” np.
Figure 1 Stills from a motion picture of a spastic paralysis patient who had undergone a left temporal decompression. William Sharpe, *Diagnosis and Treatment of Brain Injuries with and without a Fracture of the Skull*, Philadelphia: J.B. Lippincott Company, 1920, p. 662. The original caption reads: “The patient at five years of age and three years after the operation of left subtemporal decompression and drainage for the condition of a supracortical hemorrhage at birth associated with a depressed fracture of the left parieto-squamous area; the resulting right spastic hemiplegia has disappeared while the convulsive seizures have not returned since the operation.”
Furthermore, as I have mentioned, Sharpe and a colleague had already published in 1913 preliminary results in the prestigious *Journal of the American Medical Association*, and the imbroglia at the Academy did not preclude them from publishing a more thorough follow-up report in the same journal in 1915. The surgical procedure itself – the temporal or subtemporal decompression – was routinely used by the existing handful of surgeons who attempted brain surgery for other conditions that involved increased intracranial tension – surgeons such as, for example, Harvey Cushing from whom Sharpe had in fact learned the technique.

The real problem, and the reason why Sharpe was called in to face the Board of Censors at the New York Academy of Medicine, was Sharpe’s dramatic performance, and worst of all, the fact that it had become public. The Academy was embarrassed to have been at the centre of such sensationalist coverage and accused Sharpe of deliberately staging the publicity, an accusation which he staunchly denied. He was rebuked during the meeting with the Board, but he was not formally punished. He continued to give papers at the Academy and at medical societies in New York City, and, according to him, the Academy later made him a Life Fellow. But Sharpe’s flair for the dramatic did carry a steep professional price. Sharpe was excluded from an emerging community of brain surgeons, a community which slowly throughout the 1920s and the 1930s began to set the official agenda for neurosurgery in the United States and Canada and dictated the official history of this medical specialty.

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63 William Sharpe and Benjamin Farrell, “A New Operative Treatment for Selected Cases of Cerebral Spastic Paralysis,” *Journal of the American Medical Association* 64, no. 6 (1915).

64 For example, on June 2, 1925 at the meeting of the New York Neurological Society, Sharpe presented a paper entitled “End Results in Neuro-Surgery.” Records of the New York Neurological Society, 1874-1935, New York Academy of Medicine Archives and Manuscripts.

Sharpe developed strong professional ties with South American doctors in the 1920s and 1930s.

Sharpe was written out of this official history – both in terms of his therapeutic procedure for spastic paralysis and in terms of his own professional persona as a brain surgeon. For instance, in 1988, a prominent American neurosurgeon, Eben Alexander, came across Sharpe’s 1952 autobiography pointedly entitled *Brain Surgeon*, and in a review of this book for the journal

> Figure 2 Caricature of William Sharpe in the South American journal *Medica* 1925, 5(8).[^1]

Neurosurgery, Alexander marveled: “[h]ow can a neurosurgeon who trained at Harvard and Johns Hopkins and studied under Cushing and Elsberg, who practiced in New York City during most of the first half of the twentieth century, and who was the author of three books be virtually unknown to the present generation of neurosurgeons?”67 As I will show, the answer lies in the marginalization of Sharpe – and others like him – by a group of academic surgeons who came together to form the first neurosurgical specialist societies in the 1920s and 1930s.

2 Introduction to Part I (Chapters 2 and 3)

In this chapter, I will trace the development of the first neurosurgical society established in 1920 – the Society of Neurological Surgeons (SNS), a society that excluded several surgeons who practiced neurological surgery despite the fact that they were among only few American surgeons who were devoting most of their practice to surgery of the nervous system. The following chapter, Chapter 3, will cover the establishment, twelve years later, of the second neurosurgical society, the Harvey Cushing Society (HCS). In tracing the development of the societies, these two chapters will reconstruct the culture of neurosurgery in the first half of the twentieth century and will explain how a particular professional self – elite, self-controlled, uniquely masculine – was fashioned and refashioned in this time period. The relevance of this study is twofold: first, it illustrates how medical practice developed in conjunction with a specific professional identity, and secondly, it recovers the universe of meaning that these neurosurgeons, drawing upon specific techniques of the self and echoing wider cultural repertoires, manufactured in order to make sense of both their surgical practice and their medical identity.

Drawing in part on the rich correspondence between the members of these societies, as well as on personal diaries and the minutes and programs of the annual meetings, I argue that from the very beginning the neurosurgeons’ social enterprise of building a profession showed signs of what would later become a well defined ethos of exclusionism and elitism. The aim of the founding members, chiefly Harvey Cushing and Ernest Sachs for the SNS and William van Wagenen, Glenwood Spurling, Eustace Semmes, and Temple Fay for the HCS, was not to open the door to all surgeons interested in performing surgery on the nervous system, but rather to bring together a select group of men whose professional and moral qualities were deemed to be distinctly superior. In the 1920s, this elitism meant in part that academic surgeons whose surgical epistemology was rooted in the experimental laboratory were chosen over those surgeons who worked at overcrowded city hospitals and who did not engage in experimental animal research. In addition, over the course of the 1920s and 1930s, the exclusionary practices of both societies translated into protracted and extremely frequent arguments about who should be included and who should be excluded from membership. Potential members were scrutinized in terms of their education, ability, professional standing, and moral qualities. The function of the societies, then, was to create a moral economy of the specialty and to enforce moral and professional standards at a time when these standards were not yet codified in any other way, such as for example through standardized training or specialist boards, which were founded later, starting in the 1940s also with the societies’ involvement.\textsuperscript{68} Moreover, the societies constituted a forum in which professional norms were agreed upon in the first place.

\textsuperscript{68} Historians of science have used the term “moral economy,” if in slightly different ways, to refer to a system of emotionally laden values and sensibilities that underwrote scientific practices and conduct. See Lorraine Daston, “The Moral Economy of Science,” Osiris 10 (1995), Shapin, A Social History of Truth: Civility and Science in Seventeenth-Century England.
It is in these societies that neurosurgeons cultivated their identity in different but related kinds of performances – among them a technical performance in the operating theatre in front of visiting colleagues and a theatrical performance on stage in plays produced as entertainment during the meetings of specialist societies. These elaborate performances acted as a technique of the self that structured the particular professional persona of the neurosurgeon in this time period. The neurosurgeons’ work in the operating room, as well as the process of articulating their identity and exerting professional authority were experienced and described by these men, as well as in the popular culture of the time, in strikingly similar performative terms.

At the same time, however, the concept of performance could and did carry a negative connotation, especially for the first generation of brain surgeons. Historians who have written about the role of scientific performances in the development of early modern science have also identified similar critiques and have stressed that “[p]erformances are, after all often (if not always) ambiguous […] [and] the performative qualities of experimental natural philosophy were often used by their enemies to attack the integrity of practitioners’ claims about nature. […] This meant (and means) that scientific performances require careful management.”

For the neurosurgeons of the 1920s, performance could imply artifice, sensationalism, and acting. For Cushing and Sachs, surgical performances had to be managed carefully by being kept within the community of surgeons and not shared with the public though newspaper stories and reports. Those who, like Sharpe, engaged in flashy performances either in the operating room or on the public stage were seen to suffer from a historically specific kind of moral failing. These flashy

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performances constituted a moral failing because they involved conduct that was judged to be inappropriate, unethical, and unworthy of a neurosurgeon. Later generations, however, lost this anxiety to some extent, and their identity and surgical practice reflected this change. I will end Chapter 3 by gesturing toward future research that will show that in some cases second and third generation neurosurgeons enlisted their patients to play an active role in the operating room: in essence they made their patients perform, in a way perhaps not too dissimilar to the manner in which Sharpe made his spastic paralysis patients perform at the New York Academy of Medicine in 1914.

3 Organizing a “Neuro-Surgical Interurban Club”

On December 30, 1919, Harvey Cushing drafted a statement, which he intended to send to a number of North American surgeons, communicating the suggestion “made by a number of persons whose primary interest lies in the surgery of the nervous system, that a Neuro-Surgical Interurban Club be established.” He expressed the impetus behind such a venture as a hope “that in this way those interested in this special field might be brought together for an exchange of opinion and with the hope of more rapidly advancing the subject.” Cushing wanted to know if his correspondents approved “of the establishment of such a club, and would you be willing to become one of its founders?”

Cushing first sent a draft of this statement to Ernest Sachs, with whom he had previously talked about the possibility of organizing such a club. Sachs had spent a year in London with the surgeon Victor Horsley, and upon his return to the United States, he had taken up a position in

70 Harvey Cushing, Statement, Collection Society of Neurological Surgeons, Box SNS 1920–1935, folder 1919, Dorothy Carpenter Medical Archives, Wake Forest University.

In his letter to Sachs, Cushing reiterated his desire “to include only those who are doing little else than neuro-surgery,” but he admitted that “this perhaps would be hardly possible or wise, at the present time. I am conscious of the fact that the general surgeon who is interested primarily in neuro-surgical technique does not talk our language, but it may be necessary to have him included.”\footnote{Cushing to Sachs, December 30, 1919, Collection Society of Neurological Surgeons 1920–1935, folder 1919, Dorothy Carpenter Medical Archives, Wake Forest University.} An issue that would become a prominent concern for the members of the society in the coming years – that of limiting membership – was echoed in this first letter. Cushing suggested that “it possibly would be best to limit the membership for the first few years until we can get around the circuit, to the towns mentioned,” and he included a list of potential members – thirteen surgeons who practiced in seven American cities. Four of these names – Mixter and Horrax from Boston, Sharpe from New York, and Bailey from Chicago – were followed by question marks.

In his response, Sachs agreed with Cushing that “if we could get only neuro-surgeons, it would be desirable,” but, he quipped, “you and I, I think, are the only ones who are doing that exclusively, and though I should like your company, I don’t know whether I would be too monotonous for you!”\footnote{Sachs to Cushing, January 6, 1920, Collection Society of Neurological Surgeons, Box SNS 1920–1935, folder 1919, Dorothy Carpenter Medical Archives, Wake Forest University.} It was certainly not the case that the two of them were the only surgeons who had limited their surgical work to the nervous system, but Sachs was expressing here a more
subtle opinion along with a particular kind of elitism. He was suggesting that he and Cushing alone deserved the title of “neuro-surgeons.” Having trained with Victor Horsley, both in the operating room and in the experimental laboratory, Sachs considered himself the only other accomplished and properly trained academic neurosurgeon, that is, Cushing’s equal and the only such equal in North America. Evaluating the list of names that Cushing had suggested, Sachs confessed that he did not

“know anything about Mixter. […]. Horrax I think certainly ought to be included. I question very much whether we ought to include Sharpe. […] I would be in favor of substituting Alfred Taylor who has done considerable work in this line though from the point of view of a general surgeon.” […] I suppose you think it desirable only to have surgeons in this group. The only one not a surgeon whom I could think of who would be splendid would be Sid Schwab, but I guess we had better confine ourselves to surgeons.”

This scrutiny of potential members, and the preoccupation with limiting membership would set the stage for similar but eventually much more contentious arguments and exclusionary practices in the coming years. By the time Cushing responded to Sachs’ letter, he too had somewhat changed his mind about the club, deciding to further restrict its membership: “I […] would go a step further and only take a very few men for the first meeting: Elsberg, Frazier, Bagley, Dandy, Dean Lewis, and Adson with ourselves as a starter. That will make a sufficient number of pioneer

74 Sachs detailed his laboratory work and scientific training with Horsley in Ernest Sachs, Fifty Years of Neurosurgery: A Personal Story (New York: Vantage Press, 1958).
members, and we can add the others more safely later on. I can invite Mixter and Horrax to help out in the meeting here though not as members.”

This exchange of letters between two men who, despite the fact that other American surgeons also practiced brain surgery, nevertheless considered themselves the only neurological surgeons in the United States, shows the extent to which these surgeons engaged in a process of exclusion. The aim was not to open the door to as many surgeons who were either performing or who were interested in performing surgery on the nervous system, but rather these men desired to put together a select group of surgeons whose moral and professional qualities were deemed to be appropriate. Both Cushing and Sachs seemed aware of the historical weight of their role as “pioneer members” of such a select club, Cushing going as far as suggesting that Mixter and Horrax were not worthy of such a title, despite the fact that they were good enough to help out during the first meeting and good enough to officially join the club following this first historic meeting.

In addition, this elitist ethos is evident from the fact that Cushing and Sachs chose academically-oriented surgeons like Alfred Taylor, who was on the faculty of the Cornell Medical College and practiced at the New York Neurological Institute, or Dean Lewis, who was a well respected surgeon and anatomist at the University of Chicago, and who actually resigned two years later probably because his interests were not as narrow.

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77 “Dr. Dean Lewis’s resignation was accepted with great regret and the secretary was instructed to write him a letter to that effect.” Minutes of the Fifth Meeting, Neurological Institute, New York City, April 28
4 The Exclusion of William Sharpe

The exclusion of William Sharpe in particular illustrates the kind of moral values upon which the Society of Neurological Surgeons was built and suggests that a certain kind of elitism motivated the society’s development. Sharpe had been one of the first men to train in neurosurgery with Cushing at the Hunterian Laboratory at Johns Hopkins. After Harvard medical school, which he paid for by tutoring his fellow students, Sharpe completed a six-month internship with Cushing and subsequently became interested in brain surgery. In 1911, he returned to Hopkins as Cushing’s assistant resident after a two-year surgical internship at the Roosevelt Hospital in New York City. But after less than a year, Harvard’s President, who had known Sharpe from his undergraduate and medical school days when he had impressed the faculty with his popularity and success as a tutor, offered him an appointment as the first professor of surgery at the newly established Harvard Medical School of China in Shanghai. Sharpe was interested in this proposal of going to China, but, according to his recollections, Cushing expressed disapproval of such a plan. Sharpe wrote in his 1952 autobiography that “Cushing said I would be ‘throwing myself away’ as far as my development in neurosurgery was concerned. Besides, the lack of rigid asepsis, inadequate hospital facilities, and other unfavorable conditions in China would prove an insuperable barrier to competent surgical work, and as a result my surgical discipline would rapidly deteriorate.”78

Despite Cushing’s explicit disapproval, Sharpe accepted the position and arrived in Shanghai at the beginning of 1912. He spent an adventurous year in China, gaining considerable fame by treating the head injury of the President’s son. When Sharpe returned to New York, he obtained a job as the night resident in a private hospital, and then managed to get appointed as a clinical assistant at the New York Neurological Institute. A year later he joined the New York Polyclinic Medical School and Hospital, where, as Sharpe later claimed, “after several weeks’ observation of my operative works in neurosurgical cases on his service [the head of the Department of Surgery] Dr. Wyeth had the governing board assign me all ambulance cases of brain, spinal-cord, and peripheral-nerve injuries, and permitted me, besides, to organize a neurosurgical clinic in the dispensary.”

Sharpe considered himself a specialist in neurological surgery. His 1920 voluminous book entitled *Diagnosis and Treatment of Brain Injuries, with and without a Fracture of the Skull* listed his professional title as “professor of neurologic surgery” and “consulting neurologic surgeon.” The book’s purpose was to “be of service to the general practitioner and to the general surgeon, and in the cases of brain injuries in newborn babies and children to the obstetrician and to the pediatrician.”

Published by a well-known publisher that specialized in medical books, J. B. Lippincott Company, *Diagnosis and Treatment of Brain Injuries* was meant to be a practical text, richly illustrated (the book boasts of containing 232 illustrations), and detailing the hundreds of case studies that Sharpe had treated between 1913 and 1918. Sharpe declared as his primary aim a desire to combat what he considered to be very common but dangerous practices in medicine and to convince general surgeons to adopt a few routine procedures, such as checking

79 Ibid., 99.
80———, *Diagnosis and Treatment of Brain Injuries, with and without a Fracture of the Skull*, v.
their patients’ intracranial pressure if certain clinical signs were present. For example, he wrote that in cases where skull fractures were accompanied by the presence of blood in the cerebrospinal fluid

“the treatment by one extreme group [of doctors] is the expectant palliative one – no cranial operation under any circumstances, even when associated with a high intracranial pressure; whereas the other extreme group would advocate a cranial operation merely because a fracture of the skull and the presence of blood in the cerebrospinal fluid indicated a serious intracranial condition, whether there was an increased pressure or not. These two extremes views should be modified until it is definitely recognized that the degree of intracranial pressure, as ascertained by the ophthalmoscopic and spinal manometric examinations, together with the general condition of the patient, is the chief and deciding factor in the method of treatment of these patients.”

Throughout the book Sharpe insisted that “the measurement of the pressure at lumbar puncture, therefore, is of the greatest importance, and it should be performed in each patient as early as possible after the signs of initial shock have disappeared.” He included pictures of various necessary instruments, including the apparatus – the Spinal Mercurial Manometer (see Figure 3) – that had to be used for this procedure and which was certainly not an instrument commonly in use at the time by general surgeons, as well as pictures of other necessary instruments necessary for brain surgery.

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81 Ibid., 45.
82 Ibid.
In his book, Sharpe repeatedly insisted on the need for checking intracranial pressure and performing temporal decompressions in order to alleviate the serious consequences that elevated intracranial pressure could have over time. Temporal (or subtemporal) decompressions, which he had learned from Cushing, consisted of removing a wide area of the bone in the temporal or subtemporal region of the brain to allow the brain to swell thus avoiding its compression (see Figure 4). This procedure was considered to be a useful palliative measure in cases where the tumor was inoperable or could not be found, because the patient’s symptoms were often alleviated following this procedure.

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83 Cushing himself was not the first to devise this operation. He gives credit to other neurologists and surgeons, including Alfred Sänger of Hamburg. Harvey Cushing, “The Special Field of Neurological Surgery,” *Bulletin of the Johns Hopkins Hospital* 16 (1905): 79.
Figure 4 Sharpe’s illustration of the subtemporal decompression, Diagnosis and Treatment of Brain Injuries, with and without a Fracture of the Skull (1920), p. 90

Thus, the techniques that Sharpe emphasized in his textbook were in line with Cushing’s own practice. Furthermore, Sharpe’s project of educating general surgeons in the rudiments of brain surgery was one that Cushing himself had thought important. In a 1920 paper in which he reflected on recent developments and achievements in neurological surgery, Cushing outlined the most common procedures, including subtemporal decompression, and noted his observation that general surgeons had not yet mastered this operation.\textsuperscript{84} He lamented in a footnote that “I would have felt ere this [sic] that the principles of a subtemporal decompression were so well

understood that it was a safe measure in the hands of every general surgeon, but we still see so many sorry results of so-called decompression operations with bone flaps elevated in the region of the temporal attachment and often on the left side, that the happy time does not seem to have come as yet.”

By the early twentieth century, few textbooks devoted in any significant degree to neurosurgery had been published. Most were European contributions such as volumes written or edited by the French surgeon Antony Chipault and the Italian Antonio D’Antona, as well as chapters in several larger books devoted more generally to surgery. In North America, Cushing contributed a chapter to W. W. Keen’s 1908 edited volume *Surgery: Its Principles and Practice*, a chapter that was reprinted in 1917, during the First World War, in a *Manual of Neuro-Surgery* edited by T. H. Weisenburgh. This book was intended primarily as a “comprehensive one-volume book of reference for students in the Army neuro-surgical schools in Philadelphia, New York, Chicago, and St. Louis, and for medical officers, in this country and overseas, who may be delegated to care for patients with neuro-surgical conditions.” This volume would not have been readily

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85 Harvey Cushing, “The Special Field of Neurological Surgery after Another Interval,” *Archives of Neurology and Psychiatry* 4, no. 6 (1920): 609, n. 5.


available to all general surgeons, because, as the editor noted in the introduction, “this volume will not be offered for sale, its distribution being limited to the officers in the Medical Corps of the Army and to libraries receiving Government literature.”

Thus, Sharpe’s manual for neurosurgery directed at general surgeons and emphasizing the common types of surgeries such as temporal decompressions would have definitely filled a niche, given the paucity of such literature. What would have been perhaps a more complicated issue was Sharpe’s particular interest in “intracranial hemorrhage, occurring in newborn babies as the result usually of difficult labor with and without the use of instruments,” which he argued had “been very much overlooked and its treatment neglected in the past, and it is only within the last five years that the chronic conditions, resulting from these intracranial hemorrhages, in the form of cerebral spastic paralysis, mental retardation and emotional instability with and without the serious complication of epilepsy, have been more commonly recognized.” The particular neurosurgical procedure that dealt with this condition took up a proportionally large part of Sharpe’s book – a third of the entire volume – and he appeared to be particularly zealous in promoting it.

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90 The copy available at the University of Toronto appears well used. There is a card at the back of the book that contains the names of those who have checked it out of the library; the book was borrowed regularly from the early 1920s to the late 1950s (there are 16 names and dates on this card). In comparison, the book Diagnosis and Treatment of Surgical Diseases of the Spinal Cord and Its Membranes published in 1916 by Charles Elsberg, one of the members of the Society of Neurological Surgeons, was checked out three times in 1917, and then only once in 1933, 1938 and 1950 (plus one more time in a year that is illegibly written on the card), for a combined number of 7 times. Elsberg’s book seems to show significantly less wear and tear than Sharpe’s book.

91 Sharpe, Diagnosis and Treatment of Brain Injuries, with and without a Fracture of the Skull, vi.
The fact that intracranial hemorrhages sometimes occurred in newborns and the fact that this problem could be addressed surgically had been previously highlighted. In 1905, Cushing had published a paper that presented preliminary conclusions based on four cases of infants who had suffered severe intracranial bleeding during labor.\footnote{Harvey Cushing, “Concerning Surgical Intervention for the Intracranial Hemorrhages of the New-Born,” American Journal of Medical Sciences 130 (1905).} He had suggested lumbar puncture as a technique for diagnosis along with other clinical signs, including the status of the fontanelle, which would have indicated an increased intracranial pressure.\footnote{In his book, rather than giving credit for specific contributions, Sharpe tended to gesture to Cushing’s work in a general way: “The field of neurological surgery has so broadened during the past fifteen years as the result of the pioneer work of Horsley, von Eiselsberg, and Krause, and in this country of Cushing, that a number of neurological conditions that were formerly considered hopeless are now amenable to improvement at least, and in some early cases even a cure may be expected.” Sharpe, Diagnosis and Treatment of Brain Injuries, with and without a Fracture of the Skull, 108.}

The difficulty – and resistance on the part of doctors – of subjecting children to brain surgery was acknowledged by Cushing himself, who admitted that his remarks on the topic of surgical intervention in the case of the cerebral palsies of children in a 1905 paper resulted in “so many inquiries and led to so many friendly comments – not always of approval, it must be said – that I have been persuaded to amplify the original paragraphs.”\footnote{Cushing, “Concerning Surgical Intervention for the Intracranial Hemorrhages of the New-Born,” 563.} In this follow-up paper, Cushing addressed these critics and argued that “the procedure itself, though delicate in performance, need not entail serious consequences” for these young patients.\footnote{——, “The Special Field of Neurological Surgery,” 82.}

However, despite the fact that, as I have shown above, Cushing and Sharpe had engaged in very similar therapeutic endeavors and operated within a similar medical and scientific paradigm, there were, nevertheless, subtle and ultimately crucial differences between the two surgeons.
Cushing believed that surgical interventions in cases where infants suffered from the meningeal hemorrhage that was supposed to be the cause of birth palsies were warranted precisely because of the “absolute hopelessness of any form of therapy in these late stages – other than tenotomies to relieve the spastic contractures, or the surgical attempts to check epileptic seizures.”

Sharpe, on the other hand, was advocating surgery as a therapeutic imperative not only in these early stages, immediately after birth, but also at the later stages, after the children had grown up. His surgical approach to spastic paralysis was very bold and radical, while Cushing seemed to reserve surgical intervention only for very desperate, acute cases, thus demonstrating a much more conservative approach.

Furthermore, whereas Cushing devoted himself to tumor-surgery as a primary neurosurgical endeavor, Sharpe placed an entirely different emphasis in his work, arguing that “[i]f neurological surgery consisted chiefly of the removal of brain tumors, it would indeed be a most discouraging field of endeavor. Tumors of the brain are not only malignant in the vast majority of cases, but the diagnosis and accurate localization of cerebral tumors are often so delayed that the patients are frequently impaired even after a surgically successful removal of the tumor.”

Instead, Sharpe seemed most passionate about extolling the benefits of subtemporal decompressions in a variety of conditions that he saw related to high intracranial pressure. Some of these conditions were more complex and more controversial in the medical community at large.

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97 Sharpe, Diagnosis and Treatment of Brain Injuries, with and without a Fracture of the Skull, 110.
Sharpe’s more radical approach was a stark departure from Cushing’s conservatism. Cushing was generally cautious in endorsing intervention. He often pointed to possible complications of even long-established practices such as lumbar puncture, which, he claimed, could be fatal in cases of cerebellar tumors. He was mostly opposed to a new diagnostic procedure based on X-rays devised in 1919 by Walter Dandy, a former student, citing the fact that it could lead to fatalities. Cushing had been insisting for years that brain surgery was a “finicky,” “difficult,” “ticklish performance,” that carried considerable risks and had to be done conservatively: carefully, with minimal blood loss and little if any trespassing into healthy tissue. Sharpe, on the other hand, appeared significantly more bold and eager to push boundaries.

Another difference can be seen in the surgeons’ engagement with the medical literature available at the time. Comparing Cushing’s chapter in Weisenburg’s 1917 edited volume to Sharpe’s book, it is quite evident that Cushing appealed to the medical literature more often, citing numerous authors and describing in detail specific case studies. His classification of skull fractures, for example, delved at length into the physics governing the creation of such fractures. Sharpe, on the other hand, cited few contemporary studies. When he did cite, he tended to favor classic research from the nineteenth century, and he preferred to gesture to his own “experience in hospitals of Boston and New York City, where the expectant palliative treatment was adhered to.

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98 Cushing, “The Special Field of Neurological Surgery after Another Interval,” 626.
99 On this issue, and more generally on Cushing’s relationship to Dandy, a surgeon who, like Sharpe, was much more radical and bold in his surgical approach, see Michael Bliss, Harvey Cushing: A Life in Surgery (New York: Oxford University Press, 2005), 370-82. The crucial difference between Dandy and Sharpe was Dandy’s academic appointment at Johns Hopkins; nevertheless Cushing and Dandy had a very strained professional relationship.
100 Cushing’s latest biographer, Michael Bliss, has emphasized at length Cushing’s conservatism. Ibid., esp. 456-57. On Cushing’s conservative technique, see also Aaron A. Cohen-Gadol and Dennis D. Spencer, The Legacy of Harvey Cushing: Profiles of Patient Care (Rolling Meadows, IL: Thieme: American Association of Neurosurgeons, 2007), esp. 194-99.
in ‘fractures of the base’ and then later at the Johns Hopkins Hospital, where selected patients having a high intracranial pressure were operated upon comparatively early, strongly impressed me with the superiority of the latter treatment.”

Instead of referring to well established practices, such as Victor Horsley’s classic use of bone wax to stop bleeding of the skull, for example, Sharpe mentioned the recipe for bone wax that his brother, Norman Sharpe, also a self-described neurosurgeon, had devised – white wax, almond oil, and salicylic acid. Sharpe was not an academic surgeon, and nowhere was this fact more clear than in his relationship to experimental work, a practice which defined the elite academic surgeons of the early twentieth century.

Historians of surgery have shown that, especially as it was practiced by the elite surgeons, the surgery of the end of the nineteenth century and beginning of the twentieth had strong ties to the laboratory, coinciding with the rise of experimental medicine. Historian Thomas Schlich, for instance, has illuminated this relationship between surgical intervention and knowledge production by showing how “transplanting living tissue served not only to repair the body’s surface but also as an experimental method for studying biological processes.” As surgery became “a scientific research discipline at the university,” elite surgeons such as Theodor Kocher emphasized repeatedly that “only scientific respectability guaranteed the status of the field and its practitioners,” thus anchoring surgical epistemology in experimental physiology.

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101 Sharpe, *Diagnosis and Treatment of Brain Injuries, with and without a Fracture of the Skull*, 73.


104 Ibid.
and animal experimentation.\textsuperscript{105} The surgeons who practiced this “scientifically oriented university medicine,” as Schlich has called it, constituted the elite class of surgeons at the turn of the twentieth century.

Cushing was very much part of this elite tradition. During his European Wanderjahr (1900-1901) he trained with Kocher, in whose laboratory in Berne he studied experimentally the relationship between blood pressure and intracranial pressure.\textsuperscript{106} Upon his return to the United States, Cushing continued his experimental work on animals at the Hunterian laboratory at Johns Hopkins, arguing that “I personally feel that for the development of surgical technic no place is comparable to the experimental laboratory, and I feel that every young surgeon should begin to acquire his operative training in a series of operations on the lower animals.”\textsuperscript{107} Cushing felt that only such an experimental setting could allow surgeons-in-training to safely practice their surgical technique, while also having “the double advantage of giving them a sufficient laboratory experience to enable them subsequently to pursue to the only place [sic] where they are likely to be solved some of the many problems which arise.”\textsuperscript{108}

William Sharpe – as well as other surgeons who restricted their practice to the nervous system but who were never considered for SNS membership, such as Norman Sharpe and Karl Ney – did not belong to this elite group of physicians whose surgical epistemology was inextricably tied to

\textsuperscript{105} Interestingly, as Schlich demonstrates, “[r]esearch that did not come out of university medicine and did not meet its scientific standards was not recognized by the proponents of this type of medicine,” and he gives the example of testicle transplantation as it was practiced by a surgeon outside this university medicine tradition. Ibid., 154.


\textsuperscript{107} Cushing, “The Special Field of Neurological Surgery after Another Interval,” 611-12, note 8.

\textsuperscript{108} Ibid.
experimental laboratory work. But apart from these differences in surgical and experimental approaches and the depth of engagement with the medical literature – differences which surely appeared all too obvious to Cushing and Sachs in the early 1920s – Sharpe was seen to have committed a far more serious professional sin when his New York Academy of Medicine presentation ended up in the newspapers. Sharpe had “exhibited” and “paraded” the children, he filmed them and made them perform their newly acquired, or at least much refined, bodily and mental skills. This performance was particularly appealing to newspapers, but the neurosurgeons who came together in the early 1920s for the purpose of creating a professional community did not sanction this kind of public spectacle. As I will show later in this chapter and the next, performance as a technique for constituting a particular professional self was an important element in the neurosurgeons’ communal endeavor, but it is clear from this example that not all kinds of performances were sanctioned: certain rules of technical, professional, and moral conduct governed the neurosurgeons’ performances in the operating room and in the public arena alike. Performances had to be managed; they were put on for a select professional audience and not for the public at large.

Indeed, Sharpe appeared to have a penchant for the dramatic, and the spectacle at the Academy of Medicine was not the only time when newspapers publicized his cases. One of his patients, case 127 in his 1920 book *Diagnosis and Treatment of Brain Injuries*, was a former patient of Cushing’s, a young man for whom Cushing had performed a “right osteoplastic exploration” to alleviate the seizures from which he was suffering. In April 1917, the patient began to exhibit new symptoms – troubling “emotional deficiencies” – and he was referred to Sharpe. The 23 year old college student had become less affectionate, showed “a marked tendency to steal and burn

109 Sharpe, *Diagnosis and Treatment of Brain Injuries, with and without a Fracture of the Skull*, 505.
articles both of value and then again trifles. [...] He had periods of ‘wanderlust,’ when he would make trips to no purpose – merely because he was restless and could not remain quiet.”

Eventually, he got into serious trouble when he burnt down the chemical laboratory at the University of Virginia at Charlottesville, and he landed in jail, the police accusing him also of stealing the platinum in the lab and then selling it for profit.

This young man, Dabney Crenshaw, was the son of a rich industrialist in the South, and Sharpe was called to testify about a possible relationship between the young man’s brain condition and his criminal behavior. The case was widely publicized in the press, and Sharpe’s involvement was frequently invoked. Sharpe claimed that the man could benefit from a second surgery, and he recounted in his autobiography that “the State hesitantly gave permission for the operation, despite the vigorous objection of the attorney general.” On April 4, 1917 he performed the operation in Richmond, Virginia and found “a markedly increased intracranial pressure.” He also found evidence of “supracortical hemorrhage, which had probably occurred at birth.” Following the surgery, Sharpe claimed that the patient’s symptoms greatly improved. His affection toward his relatives apparently returned, and he no longer reported the desire to steal and commit crimes.

After the surgery, in the fall of 1917, Crenshaw faced a trial by jury in Charlottesville. The attorney general charged in court that “the defense couldn’t find a reputable surgeon in Virginia

111 See for instance “S. Dabney Crenshaw in Serious Condition after an Operation,” The Daily Star, April 18 1917, “Experts for Crenshaw; Dr. Sharpe Testifies Student's Brain Was Diseased; Now on Road to Recovery; Pressure on Brain Held to Have Driven Accused to Theft and Arson,” The Sun, November 10 1917, “Crenshaw Experts Finish,” The Free Lance, May 31 1919.
or in the entire South to perform this unnecessary operation. They had to go North, they had to go
to New York, in order to find a man who would open this defendant’s head in the hope that he
might escape the penalty of the law. I am confident you gentlemen of the jury will not be
influenced by such nonsense.”  

The result was a hung jury, followed by two additional hung juries after another two trials. Having reached an impasse, the judge and the lawyers agreed to
send the defendant to a mental hospital for a year and reassess his case at the end of that time. A
year later, the young man was released on parole and, according to Sharpe, he became a model
citizen.

Thus, by taking on controversial cases and testifying for his patients in such high profile trials,
Sharpe had a history of placing himself in the public sphere, exhibiting the kind of conduct which
elitist academic surgeons like Cushing and Sachs deemed inappropriate. Furthermore, socially
and politically as well, Sharpe was espousing values very different from those of Cushing, who
was a strong conservative. Sharpe expressed irreverence toward religion and social class, and
he was interested in civil rights. In 1914 he met a black man, John L. Hurst (see Figure 5),
who became one of his closest friends and whom he considered his “teacher.” Sharpe confessed
that he gained from Hurst “more off-the-beaten-track, common-sense, useful bits of knowledge
than from any other man, not only because he is a master at farming, stock-raising, and outdoor
life, but because he is a philosopher.” In 1920 Sharpe bought land in North Carolina and made

113 Ibid., 127.
114 Cushing’s biographer notes that Cushing was traditional, conservative, and a “lifelong Republican,”
although despite this, he apparently came to admire Franklin Delano Roosevelt. One of Cushing’s
Sharpe recounts several instances in which he objected to racist incidents.
116 Ibid., 202.
Hurst the manager of the property, a decision which immediately led to the anger of white men in
the area who denounced Hurst’s position, arguing that “a white man must be boss here in the
South.” Despite threats to his property, Sharpe refused to fire Hurst, and in 1950 he donated
this land to the North Carolina Teachers Association exclusively for the use of black Americans.

Figure 5 William Sharpe and his good friend John L. Hurst, North Carolina State Parks
Archives

In his 1919 letter to Sachs in which he outlined a list of possible candidates for a neurosurgical
club, Cushing had put a question mark next to Sharpe’s name. Aware of the fact that Sharpe’s

117 Ibid., 204.

practice was devoted exclusively to brain surgery, Cushing had at least entertained the idea of
inviting Sharpe to be one of the founding members of the first neurosurgery specialist society.
Sachs’s dismissive reaction to Sharpe in his January 6th letter to Cushing probably had at its root
either one of the two major incidents that I described above – the spectacle that Sharpe put on at
the New York Academy of Medicine or the well publicized trial of the felon on whom he
performed brain surgery. Sachs wrote to Cushing: “I question very much whether we ought to
include Sharpe. I know he is only doing neuro-surgical work, but it seems to me he is “persona
non grata” in most groups. I am taking the liberty of enclosing an item which appeared in
Pierson’s [sic] Magazine several years ago and which I have kept for just such an occasion.”
Sachs had clearly been struck enough by the article in Pearson’s Magazine – a politics, arts, and
literature magazine published in New York between 1899 and 1925 – to keep it for several years.

Despite Sachs’ claim that Sharpe was a “persona non grata” in most groups, historical evidence
points to the fact that Sharpe was involved in a variety of medical communities and he practiced
very successfully within mainstream medicine. He and his brother Norman were members of the
New York Neurological Society and the Section of Neurology and Psychiatry of the New York
Academy of Medicine. In 1920, Sharpe founded the Pan-American Medical Association, an

119 The article in Pearson’s Magazine to which Sachs referred in his letter to Cushing was not in the
archives, and I was not able to locate it elsewhere. Most likely Sachs was alluding to the incident at the
Academy of Medicine in 1914 or 1915.
120 Sachs to Cushing, January 6, 1920, Collection Society of Neurological Surgeons, Box SNS 1920–1935,
folder 1919, Dorothy Carpenter Medical Archives, Wake Forest University.
121 For example, they are listed as members of the New York Neurological Society in 1927 (the total
membership in 1927 was 146), New York Neurological Society Records, 1874-1935, Rare Book Room,
New York Academy of Medicine. William had been an active member of New York Academy of
Medicine Section of Neurology and Psychiatry the since 1914 and his brother since 1915. On the June 2nd
1925 meeting of the New York Neurological Society, William Sharpe presented a paper entitled: “End
Results in Neuro-Surgery.”
organization which sought to establish professional ties between North American doctors and Latin American doctors. In 1919 he went on a tour of Latin America, where he presented papers and performed surgery at the most important medical centers, and he returned for another visit in 1930, when along with four other surgeons whom the media dubbed the “five flying surgeons,” he bore “messages of practice and procedure to physicians in 11 Central and South American countries.” Similarly, in the mid 1930s he was invited by the Soviet government to travel to the USSR and give papers on cerebral spastic paralysis in several major cities. Sharpe recounted his adventures in the USSR, as well as a short sojourn in Germany, in a chapter in his autobiography succinctly entitled “I meet Hitler and Stalin.”

Sharpe was never included in any of the neurosurgical groups, and when the American Board of Neurological Surgery was established in 1940, he was either denied certification, or, more likely, he never sought it. His name is not on the list of certified neurosurgeons in the 1940s. Sharpe would have been 57 years old in 1940, so perhaps he was not practicing anymore (although from his autobiography he seems to have been very busy practicing in the 1930s, and Cushing, for example, retired in his sixties). Thus, despite the fact that he practiced well within mainstream medicine and achieved recognition both nationally and internationally, Sharpe was not seen as morally worthy of belonging to the elite group of neurological surgeons that Cushing and Sachs were trying to organize in the early 1920s. He was not an academic surgeon with interests in

123 “Flying Doctors Turn Homeward after Air Trip,” *Sarasota Herald-Tribune*, February 6 1930.
124 ———, *Brain Surgeon: The Autobiography of William Sharpe*, 170-79. He indeed claimed to have met both Hitler and Stalin.
laboratory experiments, he espoused values that were at odds with those of elite surgeons, and, most dammingly, he appeared too eager to engage in flashy performances in the public arena.

5 “A Surgical Conscience:” The Ethical Imperative of the Twentieth-Century Surgeon

The concern with the moral character of the neurosurgeons, which prompted the close scrutiny to which Sachs and Cushing subjected Sharpe, occurred in a particular cultural milieu. In the first decades of the twentieth century, some surgeons expressed an especially urgent need to differentiate their practice from other surgeons of whose practice they disapproved. The American College of Surgeons (ACS) had been established in 1913 in an attempt to standardize surgical practice and to marginalize surgeons who were performing unnecessary procedures.126 The College’s presidential addresses in the years leading up to the second decade of the twentieth century explicitly and repeatedly stated these aims and demonstrated a serious preoccupation with the task of assessing the importance of the moral character of surgeons.

In his 1919 presidential address, the surgeon William Mayo declared that

“in the adoption of standards or requirements for admission into the American College of Surgeons, character should be first considered. The dishonest, conscienceless man who has surgical skill is most dangerous in any community. Unnecessary operations, even when performed with a high order of technical

ability, are the bane of present-day surgery, but, owing largely to the American College of Surgeons, such practices are markedly on the wane."\textsuperscript{127}

The ACS saw itself from the beginning as fulfilling the important task of being a moral arbiter, formally requiring for example that its fellows not engage in fee-splitting.\textsuperscript{128} By 1924, Charles Mayo was able to note the decline of this practice, declaring in his presidential address that “the sale and purchase of patients, through division of fees, are carried on by but a few of the profession, but one of the aims of the College is to smoke these offenders out into the open.”\textsuperscript{129}

The following year, president Rudolph Matas even more clearly defined the College’s role as that of “an ethical and educational organization with its main features cast for a moral and humanitarian purpose.”\textsuperscript{130} Matas decried the surgeon who brought disrepute to surgery – no longer “the ordinary gross, vulgar, ignorant and grotesque quack who was so familiar in past generations […]” but rather a “more subtle type of quack […] because they live in the fold and are not easy to recognize as they are disguised in our own garb.”\textsuperscript{131} These surgeons, motivated by money or “insanely ambitious for reputation and prestige as marvelous operators, allow their vanity and their reason to out-strip their morals” by performing unnecessary surgery. According to Matas, the College made sure its Fellows were worthy of “public recognition and trust, as

\begin{quote}
\textsuperscript{131} Ibid.: 73.
\end{quote}
surgeons” through the “endeavor to standardize the surgeon and the hospital” and the effort “to stimulate the cultivation of a surgical conscience.” The reason why this surgical conscience was a crucial attribute for a surgeon, Matas contended, was because

“When a man has neither conscience nor character he cannot be a good man, and if he is not a good man he cannot be a good surgeon. And no matter how skillfully he may take out appendices, gall bladders, resect stomachs, do hernias, and other fine jobs in surgery, we don’t want him, and he need not apply for Fellowship in the American College of Surgeons.”

Thus, this preoccupation with the importance of character defined the organizational efforts of the ACS in the first decades of the twentieth century. This preoccupation was underscored by repeated calls for making admission to the College more difficult: a 1924 petition, for instance, requested “that a change by made in the methods of examining candidates so that more rigid tests could be made as to the character, training and intelligence” and “that the candidates rejected because of defects in or lack of character be not considered again for at least three, and preferably, five years.”

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132 Ibid.: 77.
133 Ibid.: 78. Italics in the original.
134 Petition presented by Dean D. Lewis for the Society of Clinical Surgery, June 12, 1924, printed in Loyal Davis, Fellowship of Surgeons: A History of the American College of Surgeons (Springfield, Ill.: Thomas, 1960), 492.
A concern with character and morality in the medical community was certainly not new at the beginning of the twentieth century, but it took on a particular historical instantiation. As historian Christopher Lawrence has shown, for an elite group of British physicians in the second half of the nineteenth century, “only the gentleman, broadly educated, and soundly read in the classics, could be equipped for the practice of medicine. The equation almost ran: perfect gentlemen alone made great clinicians.”135 These physicians believed that “‘character’ might matter as much in medicine as it did in the Church.”136 Character, in this instance, was linked to a particular kind of gentlemanly culture.137

Across the Atlantic, as historian John Harley Warner has shown, an ideal of science in the medicine of the second half of the nineteenth century reordered the professional identity of doctors and “bound together questions of medical epistemology with those of integrity”138 and the moral legitimacy of science. An increasing emphasis on science produced anxiety over the proper role of the physician’s exercise of judgment and the gentlemanly values that informed the

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136 Ibid.: 507.
interactions with his patients, which previously in the century had been considered the touchstone of authority and therapeutic effectiveness. This disagreement found expression in a battle in the 1880s to change the AMA code of ethics. The physicians who challenged the code, and especially its clause prohibiting doctors from consulting with unorthodox physicians, believed that an allegiance to science had rendered the code obsolete. Science now constituted “the best guarantee of technically and morally right conduct.”

This historically contingent relationship between ethics, character and medical practice found a particular expression among the first generation of American neurosurgeons, who were in some cases deeply involved with the ACS and both reflected and attempted to shape its organizational concerns. One of these concerns was focused on ethics and the relationship between surgeons and the lay press.

Cushing was elected president of the College in 1922, and although at first he rejected the appointment, he eventually relented. According to his most recent biographer, historian Michael Bliss, one of Cushing’s objections had been precisely the fact that the press was allowed to cover the surgical clinics that were part of the Congress meetings. In a letter explaining why he initially turned down the appointment, Cushing wrote to the founder of the College, Franklin Martin that “[o]ne of the very great, if not the greatest, evil that I see in connection with the College is its publicity, and at the time of the meetings what I regard the exploitation of patients on the part of many members of the College as a part of this publicity. It was to me the greatest

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140 Davis, Fellowship of Surgeons: A History of the American College of Surgeons, 246.
141 Bliss, Harvey Cushing: A Life in Surgery, 384-85. For Cushing’s dislike of publicity in general, see Ibid, 450-453.
evil of the original Congress of Surgeons, as great an evil, indeed as that of fee-splitting.”

Cushing’s position reflected not only a concern for the patients, however. He noted that although the publications of the clinics were censored when the Congress had met in Boston, “the papers were full […] of reports which were damaging to the profession as a whole and to individual members of the profession. I was myself victimized […] some years ago, after giving a simple clinic.”

In his presidential address to the Clinical Congress, Cushing chose to emphasize his concerns on this theme, noting that because “surgery has become the chief therapeutic resource of the profession,” it lent itself to “commercializing opportunities and temptations.” He declared that “an objectionable degree of publicity has been a distinct evil of former meetings of the Congress,” and he drew a direct parallel between the moral qualities of a surgeon, his surgical ability, and his desire for publicity: “As a rule, the better the surgeon the more unassuming he is and the more he abhors seeing reference to his work in the lay press. Certainly the College cannot wish to foster the mere spectacularization of surgery, so prevalent in days gone by.”

Surgery as public spectacle has a long history, its roots traceable to the anatomical theatre and the public anatomy lessons of the sixteenth century. In the second half of the nineteenth century

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142 Cushing to Martin, November 1921, quoted in Davis, Fellowship of Surgeons: A History of the American College of Surgeons, 246-47.
143 Ibid.
144 Harvey Cushing, “Surgical End-Results in General with a Case of Cavernous Haemangioma of the Skull in Particular,” Surgery, Gynecology and Obstetrics 36, no. 3 (1923): 303.
145 Ibid.: 304.
grand amphitheatres with ample seating for both students and visitors were still being built, but a change occurred in the early twentieth century when, gradually, surgical operating rooms became smaller and were not designed to accommodate a large number of spectators. Cushing was thus advocating just this kind of movement away from large audiences (especially public ones), but as I will show shortly, a different kind of audience continued to be important during certain surgical performances: a small, very select audience of hand-picked professional colleagues.

For Cushing, the engagement of surgeons with the press, and thus with the public domain, seemed to evoke the public spectacle of surgery’s historical past, as well as the specter of quackery. Quacks had long been distinguished by their practice of peddling their wares in newspapers, and in an attempt to distance them from the medical profession, the AMA rules of conduct prohibited direct advertising:

“It is incompatible with honorable standing in the profession to resort to public advertisements or private cards inviting the attention of persons affected with particular diseases; to promise radical cures; to publish cases or operations in the daily prints, or to suffer such publications to be made; to invite laymen

dissections and theatre plays in early modern London and the deep connections between these two different types of public spectacle see Hillary M. Nunn, Staging Anatomies: Dissection and Spectacle in Early Stuart Tragedy, Literary and Scientific Cultures of Early Modernity (Aldershot: Ashgate, 2005).

On the history of the surgical amphitheatre see Owen Harding Wangensteen and Sarah D. Wangensteen, The Rise of Surgery: From Empiric Craft to Scientific Discipline (Minneapolis: University of Minnesota Press, 1978), 453-73, Anmarie Adams and Thomas Schlich, “Design for Control: Surgery, Science, and Space at the Royal Victoria Hospital, Montreal, 1893-1956,” Medical History 50, no. 3 (2006). Wangensteen and Wangensteen argue that with the demise of the elaborate amphitheatres of the earlier era, at the turn of the twentieth century “[t]he very foundations of the actor-role of the surgeon were badly shaken as advances in microbiology dictated abandonment of his gladiatorlike personification” (p. 456). As I will show in more detail shortly, far from disappearing, this actor-role merely took on a new form, and the concept of the operation as performance continued to inform the surgeon’s identity.
(other than relatives who may desire to be at hand) to be present at operations; to boast of cures and remedies; to adduce certificates of skill and success, or to employ any of the other methods of charlatans.”

However, the American College of Surgeons found itself in a more complicated position, since one of its mandates was to educate the public. In fact, the AMA attacked the College for its involvement with the public and sought to punish in some cases very prominent surgeons who were seen as being “publicity seekers.” Loyal Davis, a neurosurgeon who wrote the history of the ACS, noted that “[John B.] Murphy of Chicago and Deaver of Philadelphia, both with strong, forceful personalities and a flair for the dramatic, were called ‘publicity seekers.’ They were stimulating, experienced teachers and their clinics were the most popular.” Murphy, who had been a past president of the AMA, was in fact disciplined by the AMA’s Judicial Council in 1916, apparently for advertising.

In addition, involvement with the press was deemed dangerous because it could sometimes lead to other kinds of public spectacles that could damage a doctor’s reputation. Historian Regina Morantz-Sanchez has recounted the story of Dr. Dixon Jones, a female gynecological surgeon who in 1892 sued a Brooklyn newspaper for libel after it printed a series of sensationalistic and lurid stories portraying her as “as an ambitious and unscrupulous social climber, a knife-happy, over eager, and irresponsible practitioner who forced unnecessary operations on unsuspecting women and used the specimens gleaned from their bodies to advance her reputation in diagnosis.

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148 “Principles of Medical Ethics,” (American Medical Association, 1903).
150 Ibid.
and treatment.”¹⁵² When, after spending the next two years clearing her name, Dixon Jones sued the newspaper for libel, some of her medical colleagues were disturbed not because they “believed the accusations” but because she appeared willing “to risk making herself a public spectacle.”¹⁵³ In a biographical sketch of Dixon Jones written in the 1920s by a member of the Johns Hopkins Medical School, she was praised for her intellectual drive but considering her misadventures with the press she was judged to be “peculiar in person, flashy, and tawdry in appearance.”¹⁵⁴

Although the “spectacularization of surgery” that Cushing bemoaned may have fallen several degrees short of blatant advertising or lurid courtroom drama, engagement with the press was nevertheless seen as a sign of moral failure by both Cushing, as well as by Sachs who was the first to object to William Sharpe based on the publicity the latter had received and his apparent predilection for flashy public performances. This moral anxiety over the spectacularization of surgery applied in two related arenas: the public one, which consisted of the popular press, and the medical one, which consisted of the operating room.

The neurosurgeons’ concern with the character of the skillful but ambitious surgeon of questionable character found a particular expression in a disapproval of spectacular, flashy performances in the operating room. Cushing articulated this stance most clearly in a 1920 address to the Cleveland Academy of Medicine, in which he sought to explain the principles of brain surgery to a general medical audience. He argued that the most dangerous surgeons were

¹⁵³ Ibid., 10.
not those with mediocre skill – the “somewhat awkward craftsmen” – but rather those “whose operative technic exceeds their judgment as to when it should be put to use.”

Cushing envisioned the operation as a theatrical performance:

“The patient, unfortunately, though he pays admission, has not the privilege of viewing the performance, else he might like to see his appendix removed with a flourish, and to applause. His active interest begins when the curtain falls and he is then apt to find himself more comfortable if the audience thought it a tedious and dull show.”

In this address to a general medical audience, Cushing elaborated on the theme of the surgeon as a performer, craftsman and artist, by offering a subtle critique of the efficiency movement. Although he had worked with Ernest Codman, the most vocal proponent of the efficacy movement in surgery, and although he was committed to some of the practices Codman was advocating, such as keeping detailed records of his patients, Cushing nevertheless saw surgery as an art and criticized the attempt to streamline it the name of speed and efficiency. Bemoaning the fact that “[i]n the manufacturing arts […] subdivision of labor has developed to such an

\[\text{\textsuperscript{155}}\] Cushing, “The Special Field of Neurological Surgery after Another Interval,” 612.

\[\text{\textsuperscript{156}}\] Ibid.

\[\text{\textsuperscript{157}}\] It was not just Cushing who used metaphors of performance – alluding to art or sport – to describe his work and the work or other neurosurgeons in the operating room. His students and even his biographers often employed such metaphors as well when describing Cushing’s work. See, Bliss, Harvey Cushing: A Life in Surgery, 421-24.

extent that no workman makes a completed object,” Cushing believed that “[t]here is something of this tendency in surgery today. Ten or more goiters or hernias treated, or appendixes removed, in a morning is not an uncommon record, but none of them is completed in a thorough-going sense by one person […] This, I do not believe, leads either to real satisfaction in one’s professional work or to the greatest excellence in its quality.” 159

Historians have shown that at the beginning of the twentieth century many doctors and especially many surgeons began to emphasize the importance of standardized techniques and “organized their work according to the ideals of rationality and efficiency.” 160 Cushing himself had been part of this movement, introducing to American physicians the Riva-Rocci pneumatic cuff for measuring blood pressure, and arguing in a 1903 paper in the Boston Medical and Surgical Journal that “[i]t by no means behooves us to disparage the value of an educated touch as a means of estimating vascular qualities, but the tactile and muscular sense, no matter how well trained, must give way to some method more precise, especially when serial observations for purposes of demonstrating alterations taking place from day to day, hour to hour, moment to moment are demanded.” 161

Nevertheless, not unlike many elite British physicians of the same period, Cushing was resisting a complete embrace of the rhetoric of rationality and efficiency, emphasizing instead the art and

the craftsmanship of surgery and affirming an elitist status based on these humanistic values.162

This was yet another way in which the brain surgeons of the twentieth century could distance themselves from general and all other surgeons whose efficient and rationalized work made them appear to be brethrens of the assembly-line worker.163

More crucially, in Cushing’s vision the best brain surgeon had to aspire to put on “a tedious and dull show” in the operating room, a slow and careful performance whose aim was to lead to the best result for the patient rather than to a quick and dazzling show that nourished the surgeon’s vanity. Thus for Cushing, the surgeon’s work – an alchemy of character, knowledge, skill, and performance – had this crucial moral dimension that rested on the character of the surgeon, who had to refrain from spectacular performances both in the operating room and on the public stage as well.

In this time period the meetings of specialist societies were the primary sites for the creation of a professional identity precisely because they constituted the forum in which these crucial moral attributes were first screened and where the specific technical and moral values that defined this

162 Christopher Lawrence has charted a similar phenomenon in Britain where “between about 1850 and the Great War, many senior British physicians, particularly those with hospital posts in London, employed a vocabulary which routinely invoked science as the foundation of medicine but which prescribed for science a limited role in clinical practice. […] [T]hese physicians invoked an epistemology of individual experience.” Lawrence, “Incommunicable Knowledge: Science, Technology and the Clinical Art in Britain 1850-1914,” 504-05. As Cushing’s case illustrates, a similar tension was expressed by some American surgeons. Among elite British clinicians this rhetoric continued in the interwar period, the clinicians “add[ing] denunciations of mechanization and standardization to their holist repertoire.” Christopher Lawrence, “Still Incommunicable: Clinical Holists and Medical Knowledge in Interwar Britain,” in Greater Than the Parts: Holism in Biomedicine, 1920-1950, ed. Christopher Lawrence and George Weisz (New York: Oxford University Press, 1998), 94.

163 As I will show in Chapter 4, these humanistic values also included literary pursuits and constituted another marker for elitism and another resource for inclusion in and exclusion from the community. Cushing, Sachs and many other brain surgeons of subsequent generations such as Wilder Penfield wrote novels and various kinds of nonfiction. Cushing won the Pulitzer Prize in 1926 for his biography of the famous physician William Osler. Harvey Cushing, The Life of Sir William Osler (Oxford: The Clarendon Press, 1925).
best kind of brain surgery were articulated and shared communally. These moral requirements were underwritten by a code of ethics that was not formalized, but which the neurosurgeons enforced though exclusion. Sharpe, because he lacked the “proper” character of the neurosurgeon, was excluded from the Society of Neurological Surgeons.

Apart from Sharpe, a few other such self-described brain surgeons ended up practicing at the margins of established neurosurgery: William Sharpe’s brother Norman Sharpe who worked as “attending neurosurgeon” in New York at St. Mark’s Hospital and the Hospital for the Ruptured and Crippled, as well as Karl Winfield Ney who was part of the American Medical Corps in World War I and later worked at the Homeopathic Hospital in New York. Ney’s work on epilepsy in particular was well covered by the press, and he even became the star of several articles that popularized brain surgery in the 1930s (see Figure 6), as I will describe in more detail in Chapter 6. By excluding these surgeons who had clearly restricted their practice to neurological surgery and who considered themselves brain surgeons, but who practiced at non-elite city hospitals, and by choosing instead academic surgeons, who in some cases had much broader interests than neurosurgery, the founders of the SNS were articulating a particular elitism that, as I will show, became even more pronounced over the following decades.


166 Frederic Damrau, “Operations on Human Brain Mark a Big Advance in Modern Surgery,” Popular Science, May 1933, ————, “Hobbies of Great Surgeons Aid in Life-Saving Marvels,” Popular Science 1933, “This Is a Brain Operation,” Life, November 30 1936. Ney was mentioned particularly in respect to epilepsy, a condition for which he had devised a particular surgical procedure.
Fig. 6 Karl Ney operating on an epileptic patient, "Operations on Human Brain" by Frederic Damrau, *Popular Science*, May 1933, pp. 24-25

7 The Society of Neurological Surgeons

Cushing and Sachs, privileging academic surgeons and excluding those whose conduct was not deemed appropriate, eventually vetted nine surgeons, and they all met on March 19, 1920 in Boston at the Peter Bent Brigham Hospital where Cushing worked. The doctors who were present were: Cushing, Charles Frazier from Philadelphia, Dean Lewis from Chicago, Ernest Sachs, Alfred Adson from Rochester, Minnesota, Edward Towne from San Francisco, Samuel Harvey from New Haven, Gilbert Horrax from Boston, Charles Dowman from Atlanta, Charles Bagley from Baltimore, and Jason Mixter from Boston. Sachs noted in the minutes of this first meeting that
“[o]n the evening of March nineteenth, at seven o’clock, ten of us met at the Tavern Club, – Dr. Frazier had to leave earlier, – and after a very excellent and exquisite dinner, the plans of organization were discussed. It was decided to ask the following men to join this society: Edward W. Archibald, Montreal, Canada, Claude C. Coleman, Richmond, Virginia, Emil Goetsch, Brooklyn, NY, Allen B. Kanavel, Chicago, Harry H. Kerr, Washington DC, Howard C. Naffzinger, San Francisco, California, and Alfred Taylore [sic], New York, NY. Dr. Cushing was elected president and Dr. Sachs, secretary and treasurer.”

The fact that these men came together to share medical work they were collectively interested in certainly did not constitute a unique impetus, as the many medical societies that existed during this time period attest. Furthermore, it was common for surgeons in the late nineteenth and early twentieth centuries to travel to watch other surgeons operate. Other medical specialists whose work involved manipulating technology or learning specific manual skills that could be difficult to learn only from books and journal articles, such as anaesthetics for instance, also established travelling clubs in the first few decades of the twentieth century. Cushing himself had been involved in setting this trend. He, along with the American surgeons A. J. Ochsner and W. J. Mayo, had started a surgical traveling club (the Society of Clinical Surgery) in 1903, after

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167 Minutes of the First Meeting of the Society of Neurological Surgeons, Peter Bent Brigham Hospital, Boston MA, March 19 and 20, 1920, Collection Society of Neurological Surgeons 1920–1935, folder 1920-1921, Dorothy Carpenter Medical Archives, Wake Forest University.


attending the Thirteenth International Medical Congress in 1900 in Paris, where they found the paper presentations difficult to follow and the operative clinic of the French surgeon Eugène-Louis Doyen outrageously inadequate, but nevertheless more bearable than the spoken presentations. Although more work needs to be done to understand the history, the culture, and the function of these travel clubs and surgical societies, it is clear that their existence represents in part an acknowledgement on the part of early twentieth-century surgeons that, as historian Sally Wilde has put it in her analysis of traveling urologists in the 1930s, “not everything necessary for the successful performance of a procedure could be specified in a written text.”

Cushing’s and Sachs’ plan to establish a society for neurosurgeons was a reflection of this wider trend in the culture of early twentieth century surgery, and it also embodied in part an expression of these surgeons’ belief in the importance of tacit knowledge in surgical training and practice.

Surgical clinics were thus the main focus of the meetings of the Society of Neurological Surgeons. The first meeting of the society, and all the subsequent meetings at least until midcentury, opened with the host neurosurgeon performing a series of surgeries in the operating theatre while the guests gathered to watch the performance. These performances, followed by extensive discussions, were designed equally to negotiate particular norms, to standardize surgical procedures, and to demonstrate the prowess of the neurosurgeon. In the second meeting, for example, Cushing demonstrated a technique he was experimenting with: a transsphenoidal sella decompression. The secretary noted that “[f]ollowing the operation the merits of the

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171 Wilde, “See One, Do One, Modify One: Prostate Surgery in the 1930s,” 363.
The society’s meetings often constituted the venue for the display of such experimental procedures. During the second meeting there was a heated debate about the proper technique and the merits of ventriculography, a new diagnostic procedure based on X-rays, and at the June 1931 meeting in Richmond, Virginia, C.C. Coleman performed a surgical procedure he had devised for Meniere’s Disease in which the eight cranial nerve was cut. In the latter case, the secretary reported that “three out of the four operated cases gave extremely satisfactory results and one quite satisfactory.”

The discussions following the surgical demonstrations allowed the neurosurgeons to create a common repertoire of therapeutic procedures as well as to standardize these procedures. In the third meeting, following an operation in the neurosurgery clinic of the University Hospital in Philadelphia, Francis Grant led the surgeons into a discussion about atypical trigeminal neuralgia and the “standardization of technic of alcohol injections.” At the same meeting, there were demonstrations followed by a long debate about treating brain tumors with radium:

“A free discussion followed these very interesting demonstrations. The consensus of opinion seemed to be that as yet nothing positive could be stated.

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172 Program of the Society of Neurological Surgeons Second Meeting, Peter Bent Brigham Hospital, November 26th and 27th, 1920, box SNS 1920-1935, folder Meeting 1920, Dorothy Carpenter Medical Archives, Wake Forest University. Transsphenoidal refers to a surgical approach through the nose as opposed to an approach through the skull.

173 This procedure was devised by Walter Dandy, who declined the invitation to join the SNS because of frictions with Cushing, as I mentioned earlier.

174 Minutes of the 23rd Meeting of the Society of Neurosurgical Surgeons, June 5 and 6, 1931, box Minutes 1919-1955, Dorothy Carpenter Medical Archives, Wake Forest University.

175 Program of the Society of Neurological Surgeons Third Meeting, Philadelphia, June 3rd and 4th, 1921, box SNS 1920-1935, folder Meeting 1921, Dorothy Carpenter Medical Archives, Wake Forest University.
as to the effect of radium on brain tumors. What makes conclusions particularly difficult is the fact that most of the cases have had a decompression operation combined with the treatment and consequently it is extremely difficult to tell how much the relief of symptoms may be attributed to the decompression and how much to the radium therapy.”

These demonstrations and discussions also gave the neurosurgeons the opportunity to consult collectively in difficult cases and to reach a solution together. Thus in one meeting, the men saw a “[d]emonstration of a child with typical cerebellar symptoms with a great enlargement over the right temporal region. The bone was so thin over this that it could be readily compressed by the finger. Diagnosis in this case was discussed. Considerable light was thrown on the case when Dowman demonstrated a homonymous hemianopsia.”

Cushing had noted that “[t]hey are ticklish performances, these operations for tumor, and demand not only a rigorous regard for detail, such as the patient’s position on the table and the choice of anesthetic […] but also a thorough knowledge of the diverse tricks of controlling hemorrhage from scalp, meninges and brain.” These “tricks” were traded and negotiated in the professional meetings that set the stage for technical performances. It was here that certain routines, technical values and procedures, technologies, habits of mind and body became sanctioned while others were discouraged.

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176 Program of the Society of Neurological Surgeons Third Meeting, Philadelphia, June 3rd and 4th, 1921, box SNS 1920-1935, folder Meeting 1921, Dorothy Carpenter Medical Archives, Wake Forest University.

177 Program of the Society of Neurological Surgeons Third Meeting, Philadelphia, June 3rd and 4th, 1921, box SNS 1920-1935, folder Meeting 1921, Dorothy Carpenter Medical Archives, Wake Forest University.

Historians of surgery drawing on Foucault have emphasized the technologies of control that came into play in the operating room toward the end of the nineteenth century. The architecture of surgical theatres changed as surgeons demanded more control over the environment as well as the body of the patient through technologies such as anesthesia or asepsis. But there was also another type of control that historians of surgery have not emphasized— the surgeon’s control over his own body and his own craftsmanship, as well as the role this control played in the formation of a collective surgical identity. The surgical performances that neurosurgeons put on for each other fulfilled this crucial role by legitimating particular communal habits of the body. The body of the surgeon was itself a tool—sometimes quite literally scooping up a tumor or controlling bleeding by applying pressure (see Figure 6). The techniques that the neurosurgeon employed to perform a particular surgical procedure—such as the aforementioned transsphenoidal approach to the pituitary—were displayed communally in these professional meetings and were subject to discussion and negotiation. As a result, the surgical performances in the operating theatre in which a surgeon showcased his skill and method in front of his professional guests constituted a technology through which communal habits of the body were


181 Cushing preferred a more refined technique and was known to frown on Dandy’s custom of using his fingers to scoop up a tumor—see, Bliss, Harvey Cushing: A Life in Surgery, 374. Either way, the body of the surgeon had to be disciplined to follow a particular set of techniques.
instilled. These performances were thus a strategy that allowed the neurosurgeon to both fashion a particular professional identity and to share it with the community.


Michel Foucault has written about the technologies that individuals use to make sense of themselves and toward the end of his career, he elaborated on the idea of certain “technologies of the self, which permit individuals to effect by their own means or with the help of others a certain

\[182\] Unlike historians of surgery, historians of science have emphasized the important role that bodily discipline – asceticism, celibacy, exercise – have played in the self-fashioning of scientists. The literature is especially voluminous for early modern science. See, Lawrence and Shapin, *Science Incarnate: Historical Embodiments of Natural Knowledge*, Golinski, “The Care of the Self and the Birth of Masculine Science,” .
number of operations on their bodies and souls, thoughts, conduct, and way of being, so as to transform themselves in order to attain a certain state of happiness, purity, wisdom, perfection, or immortality.”¹⁸³ Writing, introspection, confession constituted such technologies that, as Foucault as well as other scholars such as Nikolas Rose have emphasized, “are always practiced under the actual or imagined authority of some system of truth and of some authoritative individual, whether this be theological and priestly, psychological and therapeutic, or disciplinary and tutelary.”¹⁸⁴

For early twentieth-century neurosurgeons, this transformation of the self had the goal not of happiness or immortality – as it did for the individuals Foucault used as an example in the context of Greco-Roman philosophy and of Christian spirituality in the late Roman Empire – but of the attainment of a certain professional role as a specialized surgeon. The bodily techniques used over the course of the surgical performance in front of a professional audience that had the authority to judge this performance were crucial tools in the staging of a professional self. It can thus be useful to think of the neurosurgeons’ technical performances as a similar kind of technology of the self – a technology that helped the neurosurgeon effect a change on the individual self in such a way as to help align him to a community. Historians have emphasized both the importance of shared cultural practices (and spaces) in the creation of a collective identity,¹⁸⁵ as well as the fact that personal identity cannot be made without the cooperation of others. As Steven Shapin has succinctly put it, “[i]dentity at once belongs to an individual and to

¹⁸³ Foucault et al., Technologies of the Self: A Seminar with Michel Foucault, 18.
¹⁸⁵ See the example of collecting and museums in the early modern period: Paula Findlen, Possessing Nature: Museums, Collecting, and Scientific Culture in Early Modern Italy (Berkeley: University of California Press, 1994), 97-150; 293-345.
the collectivities of which that individual is a part.”

The early neurosurgeons’ performance in front of a select, previously vetted audience was a means through which these men affirmed interest in a shared practice and sought to align their self to that of the entire specialist group. This technical performance in the operating room can thus be envisioned as a technology that at the same time helped constitute a collective professional self.

In the early twentieth century, these communally sanctioned surgical techniques were underwritten by moral values such as self-control. During the first meeting of the society, Sachs, who had been elected secretary, noted in the records of the proceedings that “Saturday morning Dr. Cushing started a temporal lobe case which we had seen the day before. The anesthetic was taken badly, so he removed fluid from the hernia, but then postponed the operation, not thinking it wise to go on.” In the 1940s, reminiscing about this meeting, Sachs noted that Cushing’s decision not to operate “was a hard decision to make, but it made a profound impression upon me and, I am sure, upon the others. It seemed to me to show superlative judgment and self-control.”

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187 As I have mentioned in Chapter 1, Daston and Galison similarly make use of Foucault’s notion of technologies of the self to investigate the different kinds of scientific selves that are created by different ways of observing nature. Daston and Galison, Objectivity, 199. Other historians of science have explored the way particular practices such as commonplacing in the eighteenth century functioned as such techniques that “tailored habits of thinking, construed new domains of knowledge, and fulfilled social demands.” Dacome, “Noting the Mind: Commonplace Books and the Pursuit of the Self in Eighteenth-Century Britain,” 625.
188 Record of the Proceedings at The First Regular Meeting of The Society of Neurological Surgeons, Peter Bent Brigham Hospital, Boston, MA, March nineteenth and twentieth, 1920, Collection Society of Neurological Surgeons 1920–1935, folder 1920-1921, Dorothy Carpenter Medical Archives, Wake Forest University.
Self-control meant the ability of the surgeon to suppress his emotions as well as his impulses, and it could be observed most clearly in action in the operating room. Reflecting on the establishment of the specialty board that began to certify neurosurgeons in the 1940s, Sachs made explicit the importance that early neurosurgeons attached both to self-control and to the ability of the community to watch the prospective member in order to determine if the surgeon possessed this crucial attribute:

“The problem of how best to conduct the examination has caused a good deal of discussion. Until recently, the entire test was oral. This has always seemed to me very desirable, because hearing a candidate, and observing his way of dealing with a problem, gave me a reasonably good idea of his ability to cope with a given situation. On the other hand, some men become speechless in an oral examination; yet is this not in itself significant? One wonders how such a man would react when faced with an emergency at the operating table. Of course, any examination could give an erroneous impression of the candidate’s real ability, so in the early days, when there was some question about a man, a member of the Board was sent to visit him and observe him at his work. I remember one instance when I had such an assignment, and as a result of what I had observed was obliged to report unfavorably. The candidate was then informed that before he could be granted a diploma by the Board he would have to correct certain features in his work that had been deemed unsatisfactory.”

190 Sachs, Fifty Years of Neurosurgery: A Personal Story, 118.
This emphasis on self-control translated into a particular kind of neurosurgical practice – conservative, careful, painstaking, slow, fastidious, tedious, dull – all descriptors that the first generation of neurosurgeons used to characterize their “technic.”\footnote{This kind of surgery, its proponents argued, was different from the quick, bloody surgery of the end of the nineteenth century. In 1933 Cushing actually wrote to Sachs to ask him whether he had ever seen Victor Horsley, the British surgeon with whom Sachs had trained, turn down a bone flap. “I have an idea,” Cushing wrote, “that he was too impetuous for this sort of fiddling, painstaking work which today we are so accustomed to do.” Cushing to Sachs, quoted in John F. Fulton, \textit{Harvey Cushing, a Biography} (Springfield, Ill.: C.C. Thomas, 1946), 257. Even in the early twentieth century, outside the US, many surgeons who performed brain surgery did not engage in this slow, fastidious ritual. In 1928 in a series of letters to the neurosurgeon Wilder Penfield, William Cone described, sometimes incredulously, the brain operations he observed in London. “I have seen Sargent operate. He turned down a frontal bone flap, explored a pituitary cyst, filled the cavity with muscle and closed the flap all in forty minutes. And he spent a great deal of time joking about [Percival] Bailey’s characteristic American arrogance and Cushing’s silver clips as he did it. It took him as long to prepare a silver clip as it did to do one operation. He surely works rapidly. The rest I saw was equally bad.” Cone to Penfield, May 17, 1928, C/D 15-1, Penfield Papers, Osler Library, McGill University.} It translated also into a quiet performance – speech during surgery was strictly suppressed in Cushing’s operating room.\footnote{Wangensteen and Wangensteen, \textit{The Rise of Surgery: From Empiric Craft to Scientific Discipline}, 470.} A former resident described the routine pantomime in the surgical theatre: “Cushing’s operating room was a silent place. He used a set of hand signals to indicate the instrument he wanted, the thumb and forefinger pinched for a scalpel, an open palm with a twist of the wrist for the needle holder, rapid motion of two fingers for scissors, and so forth.”\footnote{Richard U. Light, “Remembering Harvey Cushing: The Closing Years,” \textit{Surgical Neurology} 37, no. 2 (1992): 149.}

This kind of slow, careful surgery did not originate with Cushing himself, nor was it limited to neurosurgery. William Stewart Halsted, under whom Cushing trained, was a proponent of this kind of surgery in the late nineteenth century, and the entire Johns Hopkins school of surgery relied on this approach.\footnote{Fulton, \textit{Harvey Cushing, a Biography}, 110-60.} In addition, some European surgeons (especially in continental Europe) had adopted similar practices. When Halsted visited the Swiss surgeon Theodor Kocher...
in Berne in 1899, he was pleased to remark on the similarities between their techniques.195 Such slow, exacting practices had been made possible by new technologies such as anaesthesia and asepsis, as well as by other smaller technological innovations – in the case of neurosurgery, Cushing’s silver clips, which allowed the surgeon to stem excessive blood loss, and the charting of blood pressure and pulse during the surgical procedure, which constituted a way of monitoring intracranial pressure.

Nevertheless, despite the fact that many of these techniques were practiced more widely by elite surgeons from the end of the nineteenth century, an attention to detail, a slow meticulous surgery, an intolerance of both blood loss and the sacrifice of healthy tissue along with certain prescribed steps taken to open and close the skull became known as “the Cushing ritual,” or as one of his students called it “the fastidious ritual of the Cushing school.”196 As Cushing put it in 1920, “I have emphasized before, and must emphasize again, that there is no field of surgery in which fastidiousness is more essential to success.”197 Furthermore, as I have suggested, the surgeon’s techniques, defined as they were by these moral values, stood apart from medical knowledge and aligned the surgeon with true artistic performers: “Perfection in the conduct of his therapeutic measures is as essential for a surgeon as is the technic of laying on colors for an artist or for producing sound for a musician. One may have abundant knowledge of art or music or medicine

195 Bliss, Harvey Cushing: A Life in Surgery, 139. Shortly afterward, Cushing saw Kocher operate, but he was not impressed.

196 Fulton, Harvey Cushing, a Biography, 257. These terms were frequently used to describe these early neurosurgeons’ technique. One of the second-generation neurosurgeons, Frank Turnbull, described Horrax’s qualities: “No one surpassed Horrax in his mastery of the meticulous, time-consuming, and brilliant surgical technique that ensures first-grade neurological surgery.” Turnbull, “As It Was in the Beginning; an Essay to Commemorate the Fiftieth Anniversary of the Founding of the Society of Neurological Surgeons, March 1970,” 5.

197 Cushing, “The Special Field of Neurological Surgery after Another Interval,” 611.
and yet be a poor performer. In surgery a proper technic is by no means the only element of success, but it is an important one.”\textsuperscript{198}

The meetings of the first neurosurgical specialist society – held twice a year, in the spring and winter, until 1933, and once a year thereafter – constituted the forum in which these technical and moral values were shared: watching an “artist” at work made visible this technic in a way that medical knowledge from books could not.\textsuperscript{199} The surgical clinics in which the guests could watch the technique of the host were supplemented by discussions about various surgical approaches and problems. The case studies under discussion were usually written up by the secretary and were shared with all members, as were annual compilations of publications on neurosurgical subjects.

The moral scrutiny to which possible candidates had been subjected when Cushing and Sachs first organized the society continued to define the society’s culture. Furthermore, limiting membership, despite the very small number of surgeons who were performing neurological surgery at the time, was a perennial concern. As early as the second meeting, the secretary of the society noted in the minutes that “also decided there was to be a committee on admissions. Membership of the Society was to be limited.”\textsuperscript{200} A few meetings later, the question of guests was also debated, and it was decided that in this case as well the number had to be limited: “the

\textsuperscript{198} Ibid.: 607.

\textsuperscript{199} Much work remains to be done on the role and culture of medical societies in the United States. In the British context, see Jacqueline Jenkinson, “The Role of Medical Societies in the Rise of the Scottish Medical Profession 1730-1939,” \textit{Social History of Medicine} 4, no. 2 (1991).

\textsuperscript{200} Minutes of the Second Meeting of the Society of Neurological Surgeons, Peter Bent Brigham Hospital, Boston MA, Nov. 26 and 27, 1920, Collection Society of Neurological Surgeons 1920–1935, folder 1920-1921, Dorothy Carpenter Medical Archives, Wake Forest University.
question of bringing guests to the society was then discussed and the consensus of opinion was that there would be no more than five guests at a single meeting.”

The members drafted a constitution soon after the society’s inception, declaring its dual purpose:

“1. The development of the field of neurological surgery

2. The education of the medical profession and particularly the surgeons in the idea that neurological surgery requires a special training in addition to that of the general surgeon.”

The SNS members of the 1920s certainly felt that even the best general surgeons lacked the knowledge and expertise to understand what the neurosurgeons were really doing. In 1926, referring to the Chicago general surgeon who had founded the journal *Surgery, Gynecology, and Obstetrics*, Cushing asked the neurosurgeon Tracy Putnam about a talk they had to give together to an audience of general surgeons: “What are you planning to give Franklin H. Martin & Company? We are down together. Don’t you think a verbatim report of the giant dog with a few lantern slides would do the business. It is a simple matter – one these bloomin’ surgeons can understand. Anything more complicated would be over their heads.”

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201 Minutes of the Fourth Meeting of the Society of Neurological Surgeons, Mayo Clinic, Rochester MN, Nov. 4 and 5, 1921, Collection Society of Neurological Surgeons 1920–1935, folder 1920-1921, Dorothy Carpenter Medical Archives, Wake Forest University.


203 Cushing to Putnam, October 26, 1926, Harvey Cushing Papers, Reel 44, 0044, Yale University Library.
The SNS constitution also laid out specific qualifications for membership. In 1922, a certain “Dr. Goetsch’s name was dropped in accordance with Article III of the Constitution,” which stated that “Members shall have devoted special study to some phase of surgery of the nervous system and shall have demonstrated this by some of their publications.” At the same meeting it was decided that the SNS should have a maximum of 25 members.

In 1926, when with the election of Wilder Penfield, the society reached its maximum membership as dictated by the constitution – 25 – the members of the society debated whether to increase membership or whether “more radical actions should be taken on the delinquent members.” In the end “Cushing then proposed that the membership be increased to 26, which was unanimously adopted.” This vacancy was immediately filled, however, by Loyal Davis, a surgeon from Chicago. It was not until the following year that the constitution was amended and maximum membership was increased to 30. In 1929 the membership was enlarged again, being capped at 45.

By the late 1920s the issue of admission had become very contentious. In the ten years since the SNS had been founded, a new generation of neurosurgeons, many of whom had trained at least briefly with Cushing and the other SNS founding members, were clamoring for admission into the only existing neurosurgical specialist society. Many SNS members, on the other hand, were refusing admission to new members. This ethos of exclusivity meant that names of candidates were constantly brought up, and for various reasons were carried over to the next year, and then

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204 Minutes of the Fifth Meeting of the Society of Neurological Surgeons, Collection Society of Neurological Surgeons, box SNS 1920–1935, folder 1922, Dorothy Carpenter Medical Archives, Wake Forest University.

the next, and the next. Eustace Semmes, for instance, who had briefly trained with Cushing and was practicing neurosurgery in Memphis, was discussed in the early 1920s, and ten years later he had not yet been elected. In a letter to Francis Grant, another member of the society Loyal Davis measured up two possible candidates and expressed his opinion that “[William P.] Van Wagenen and [Roy Glenwood] Spurling’s surgical ability should be proven over a longer period of time,” even though VanWagenen was at that point a professor of neurosurgery at the University of Rochester and Spurling had been in charge of the neurosurgical service at the Louisville General Hospital for a number of years.

By the end of the decade, a committee was appointed to formally review the process of election of new members and to issue a pronouncement on a future course of action. Penfield described in a letter to Grant, who could not attend the meeting in the summer of 1929, that had he come he “would have got some order of the chaotic evidence of dislike of the established method of election.”

At the meeting held in Baltimore and Washington DC in the summer of 1930, this admissions committee filed an official report which stated the committee’s unanimous opinion that “in order to further and preserve the ideals on which the Society was founded – membership should only be granted to those who have had a thorough training in general surgery and in neurology and have attained a position in neurological surgery which is deserving the reward of election to membership.” The Committee decided that limiting membership and a focus on prestige as a determining factor of eligibility were necessary. “In order to further the progress of Neurological

\[206\] Davis to Grant, January 15, 1932, Collection Society of Neurological Surgeons, box SNS 1920-1935, folder 1932.

\[207\] Penfield to Grant, 2 April 1930, Collection Society of Neurological Surgeons 1920–1935, folder 1930, box SNS 1920–1935, Dorothy Carpenter Medical Archives, Wake Forest University.
Surgery in America,” the Committee argued “the Society should not become too large and that, therefore, it should be the policy of the Society that candidates for admission to its membership should have attained a certain position in our field – not as assistant but as individual workers.”

This report was discussed by the members who were present at the meeting, some of whom “felt that the Society should be enlarged by the admission of younger men, [while] others approved of the report.” However, in the end “the report was accepted as an outline of the future policy of the Society with regard to the election of members.” To accent their resolve, the society debated the seven candidates who had been proposed for admission, and elected a single one – William Cone who had recently left New York to take up a position in surgery at the Royal Victoria Hospital in Montreal.

The flurry of letters between the members of the society just prior to this election shows again how closely they scrutinized potential members. Jason Mixter, who was in charge of neurosurgery at the Massachusetts General Hospital, wrote to Grant that “I am distinctly uncertain about Klemme, Masson, Spurling and Van Wagenen. If you feel that any of these last four should be shown definite consideration at this time, let me know and I will add them to my own list of three.” Grant replied that “I favor Cone, Spurling and Semmes. Learmonth is

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bound to get in eventually and I think it might be good for his soul to wait awhile. Klemme, frankly, I do not like. Masson I do not think has had enough experience and Van Wagenen might also wait.”

A few days later, Mixter wrote to Grant that “I have had letters from the other members of this committee and our friend Fay seems to be urged for this next vacancy – I am going to hold the papers for a few days until I can talk to Gil […]. I think it is very important to weigh these various names with great care as we don’t want to make any mistake.”

Mixter was using the word “friend” sarcastically. Mixter and Grant along with Davis were very much opposed to granting Fay admission. “As far as Fay is concerned,” Grant wrote to Mixter, “I frankly dislike him, both personally and professionally.” Their objection rested on a negative evaluation of Fay’s character, and, remarkably, they faulted Fay for the same failings that Sharpe was once seen to suffer from:

“I think we have exactly the same reason for not taking him in as the Founders of the Society of Neurological Surgeons had for not including Dr. William Sharpe of New York in their membership. Fay and Sharpe to my way of thinking are about on a par. However, if he does come up and I am the only man who objects to him I certainly won’t make an attempt to keep him out. I have some reason to believe however, that when you men visited him that day,
he had brought back a lot of cases again and that you were given the impression that he had a larger service than was actually the case. I am telling you this confidentially and don’t want it repeated, but I have that on fairly good authority.”

For Grant, pretense and overstatement as a moral failure applied to the character of both Sharpe and Fay. Davis’ objection to Fay also rested on moral grounds.

Fay had trained in Philadelphia with Frazier and the neurologist William Spiller at the same time that Grant was also in training with Frazier. Fay was often criticized for the severe therapeutic measures that he endorsed or experimented with. For example, in the 1920s he advocated long term and drastic dehydration as a means of controlling intracranial pressure, as well as a treatment for epilepsy. In the 1930s he began to work on cancer and developed the theory that cancerous growths could be treated by hypothermia. In the late 1930s, he would eventually proceed with a controversial “hibernation” experiment in which he induced whole-body hypothermia in terminal cancer patients. For this procedure, he reported a mortality rate of 11%, which many in the medical community found unacceptable.

In 1933, at a meeting of the society, Davis spoke up forcefully against Fay when his name was put forward as a possible candidate. After Davis’ speech, Fay received 14 favorable votes and 5


unfavorable ones, but his name was marked with an asterisk (as were two others, Klemme and Masson): “very definite opinions against this man were expressed.”

Davis’ judgment of Fay’s character had been determined by a series of events that took place over a few months in 1930 and 1931. Fay had been a reviewer for a paper written by the Seattle doctor George Swift and submitted to the journal *Surgery, Gynecology and Obstetrics*, a journal for which Davis was an assistant editor. On December 30, 1930, Fay’s assessment was sent to Swift and later forwarded to Davis. One of Fay’s suggestions for Swift had been not to include “a sort of ‘confession’ on the part of the author regarding two cases of post-operative hemorrhage,” for which Swift had claimed personal responsibility though faulty technique. Fay thought that “the space devoted to personal explanations had no place in the paper as a whole, and in my opinion should be omitted so long as the mortality was properly placed in its column and the post-operative complications given a proper analysis under contra-indications or warnings.”

Swift’s paper concerned a surgical procedure – decompression – which he argued was recommended for about 20% of patients suffering from idiopathic epilepsy, chiefly those who presented with anomalous venous sinuses. He argued that the “anomalous development of the venous dural sinuses is an important factor in epilepsy,” and that a decompression could either cure or improve the symptoms. He did caution that “the only complication that may arise during the course of this operation is postoperative haemorrhage. This can be avoided by careful

217 Correspondence 1930-1938, box SNS History Reports of the historian E. Alexander, Dorothy Carpenter Medical Archives, Wake Forest University.

218 Fay to Davis, November 1, 1933, Box SNS 1920-1935, folder 1933, Dorothy Carpenter Medical Archives, Wake Forest University.

attention to all vessels at the time of operation.”²²⁰ He himself had not been careful with several patients, who died of haemorrhage a few days following the surgery.²²¹

Davis had been outraged at Fay’s assessment, which in his opinion amounted to an unethical suggestion to present the death of Swift’s patients as having nothing to do with Swift’s surgical mistake. Davis requested that Swift’s data be clearly labeled for what it was. When Fay’s name came up for election in the society, as it had for several previous years, Davis not only voted against him, but shared his grievances in great detail with the entire society. Fay was not elected to membership, and a few months later he found out about Davis’ speech and wrote a very angry letter to him, calling his objections “unsubstantiated and groundless.”²²² Fay justified himself by arguing that “[m]y warning to Dr. Swift about exposing himself to unjust criticism by his enemies, because of two personal errors in technic that he chose to describe in detail on page sixteen, was a friendly one.” He read Davis’ persecution as a vindication of his warning to Swift:

“My warning regarding enemies and the extremes to which they will go in such personal matters is vividly illustrated by this very incident! That you should bring up, after three years have elapsed, such a disgraceful display of unfounded misinterpretation is almost absurd. That you did not present the letter at the time you made your charges so that the members of the Society

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²²⁰ Swift, “Epilepsy,” 579.

²²¹ Some neurosurgeons were not impressed at all with this article. Upon publication, Grant wrote in a letter to Davis that “I […] noticed that you pulled [Swift’s] teeth a little bit making him publish his results which do not impress me as being particularly spectacular.” Grant to Davis, March 4, 1932, Collection Society of Neurological Surgeons 1920–1935, folder 1932, box SNS 1920–1935, Dorothy Carpenter Medical Archives, Wake Forest University.

²²² Fay to Davis, November 1, 1933, Box SNS 1920-1935, folder 1933, Dorothy Carpenter Medical Archives, Wake Forest University.
could clearly judge the careful analytical tone of the entire letter, is almost unbelievable. That you as an editor of *Surgery, Gynecology and Obstetrics* should have permitted this correspondence to be read and judged by Dr. Grant, my open enemy, […] is beyond my comprehension. […] I cannot believe that you would stoop to such an unsportsmanlike and unprofessional act, and insist upon receiving personal confirmation from you of the matter, before placing the entire situation in the hands of those who are entitled to know the full truth and all of the details.”

In his response, Davis made it clear that “there were several negative votes recorded in expressions sent to the Committee before the meeting and therefore, if you assume that my vote alone could have kept you out, or was the only negative expression, you are quite wrong.” Davis admitted that his “negative vote was based upon your statements to Swift advising him not to report his operative mortality and results and to let his enemies dig for his results. I feel that in reporting scientific results a man’s enemies should not enter into the matter and that the entire story should be told.” He noted that the editorial board of the journal “did not accept or publish Dr. Swift’s article until he had included all of his results and had presented the entire story to its readers.”

Davis thought that the two of them should settle this dispute privately by talking about it, essentially asking Fay to come to a gentlemen’s agreement: if Fay could persuade Davis that his intention had not been to obscure the data and Swift’s error, then Davis could be persuaded to let

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223 Fay to Davis, November 1, 1933, Box SNS 1920-1935, folder 1933, Dorothy Carpenter Medical Archives, Wake Forest University.

224 Davis to Fay, November 6, 1933, Box SNS 1920-1935, folder 1933, Dorothy Carpenter Medical Archives, Wake Forest University.
go of his objections. In the days that followed, Davis wrote to Grant, “Fay and I have exchanged
many letters and, as I told him in my first one if he assured me he had unfortunately said
something which he did not mean I would be very glad to inform the society of that fact. I will do
that at the first meeting. In other words, I will tell the Society that Fay and I have settled the
matter between ourselves and that he has assured me that my interpretation of what he said was
not what he really meant. The matter has been settled and dropped between Fay and me and I
think the best thing to do is to forget the whole matter.”\textsuperscript{225} However, despite this supposed
resolution, Fay was not elected to membership until 1939.

When in the late 1920s and early 1930s the members of the society came under pressure to open
membership to a younger contingent of neurosurgeons, apart from moral concerns such as in the
case described above, an argument was made about the inadequacy of these younger men’s
education. In discussing three of these candidates – Masson, Semmes, and Glen Spurling – Davis
wrote:

“I do not feel that their fundamental training has been of the right character. I
am one of the ones who feel that the society should be kept small and limited to
men who have proven some degree of ability. In other words, I feel that it
should be a reward. Certainly something should be done to keep the group of
neurological surgeons under control or, like everything else in this country, we
will have more [neurosurgeons] than we know what to do with.”\textsuperscript{226}

\begin{footnotesize}
\begin{itemize}
\item[\textsuperscript{225}] Davis to Grant, December 4, 1933, Box SNS 1920-1935, folder 1933, Dorothy Carpenter Medical
Archives, Wake Forest University.
\item[\textsuperscript{226}] Davis to Grant, March 23, 1931, Collection Society of Neurological Surgeons 1920–1935, folder 1931,
box SNS 1920–1935, Dorothy Carpenter Medical Archives, Wake Forest University.
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Most of the members agreed with this policy of keeping the society small and elite. Grant wrote to Davis that he was “quite in accord with your feeling that the Society should be kept small. We certainly have the cream of the Neuro-surgeons and I do not think we need to be hasty in bring [sic] in new men.”

Thus, at the June 1931 meeting, four candidates were considered for election – Van Wagenen, Spurling, Semmes and James Learmonth, and only the latter was elected.

Figure 8 Members of the Society of Neurological Surgeons in 1932, © American Association of Neurological Surgeons Archives, Rolling Meadows, IL, reproduced with permission


Learmonth resigned in 1933, after returning, the previous year, to his native Scotland.

Also available at http://www.neurosurgery.org/cybermuseum/journal/23.html. This site is maintained by the AANS.
As I will show in the next chapter, a frustration with this ethos of exclusivity led a newer generation of neurosurgeons to form its own society, to the dismay of some of the members of the SNS. The exclusivity that dominated the SNS’ admissions policy was predicated upon a belief that membership was a reward rather than an invitation to contribute to the field of neurological surgery or a fellowship of surgeons interested in the same kind of specialized surgery. Moral values – such as those governing a surgeon’s performance in the public domain (such as in Sharpe’s case) or with the treatment of surgical mistakes (as in Fay’s case) – defined the process of selection.

The correspondence between members and the very frequent discussions on the topic of membership that took place at the meetings of the society show that in the absence of formalized standards, such as standardized education programs and board certification, the members of the SNS took it upon themselves to construct and enforce a moral and professional code, thereby shaping a collective identity based on an ethos of elitism and exclusionism. This ethos came to dominate the neurosurgeon’s identity to such an extent that, at least at first, the younger men who rebelled against their older colleagues became equally defined by it, as I will show in the next chapter.
Chapter 3
“A Clannish Affair:” Neurosurgical Societies, the Ethos of Exclusionism, and Theatrical Performances of Professional Identity

“The artist may express his thoughts and his emotions though the deftness of his hands; the scientist, by experimental methods, brings forth the children of his brain; by his acts the humanitarian evidences the greatness of his heart. To each of us, as a surgeon, belongs the great privilege of membership in the profession in which, as in no other, are combined all of these qualities of head and heart and hand.”

H. C. Naffzinger, 1939

In late 1931, rumors began to circulate among the members of the Society of Neurological Surgeons (SNS) that unaffiliated – usually younger – neurosurgeons, frustrated by the SNS’s exclusivity, were talking about forming their own society. In this chapter, I am going to recount the events surrounding the formation of the second neurosurgical society, and I will outline the strategies that the founders employed to gain legitimacy. A close reading of the reactions and negotiations between the neurosurgeons illuminates the contentious relationship between the two societies, as well as the importance that neurosurgeons placed on belonging to a specialist society. Such affiliation appeared to be an important vehicle for affirming a professional identity. The second part of the chapter looks at the culture that flourished in these societies, as well as in other societies to which the neurosurgeons belonged in this time period, and shows how a certain kind of masculinity was fashioned in this time period in plays produced as entertainment. Thus, the culture of the specialist societies contributed to the fashioning of a professional self both

though the surgical performances that the doctors put on for each other and though the theatrical productions that animated the entertainment portion of the meetings of these societies.

1 Rumors about the Establishment of a New Specialist Society

The news that some younger unaffiliated neurosurgeons were thinking of founding their own professional society prompted a flurry of letters between the members of the SNS, some of whom changed their minds about the society’s draconian membership policy and began to lobby for admitting a higher number of new members. Grant wrote to Kenneth McKenzie, a Canadian neurosurgeon working in Toronto, that the creation of this new society

“would be a great pity. If they do [establish the society], it will mean that there will be competition for new members between the two societies. This may split the neurosurgeons into two different camps. I think the Society of Neurological Surgeons has been sufficiently conservative in the past about taking in new men, and although I don’t think that we ought to be bullied into taking in these men simply to prevent the formation of another group, nevertheless, my feeling is that they are all ripe for admission and that we ought to recognize this fact.”

Grant, who had previously been complacent in the society’s policy of exclusivity, began to write to many members seeking to sway their opinion. To Penfield he expressed his opinion that “we ought to bestir ourselves a little bit and take in a number of the younger men. The limits of the

membership have been changed from thirty to forty-five and with Dowman’s death and
Cushing’s retirement that gives us plenty of room for new blood.”

He suggested taking in Spurling, VanWagenen, Gardner of the Crile Clinic, Putnam and David Munro, Davidoff, Shugrue, Jones and Fay. To Davis, Grant wrote that these men were “worthy of serious consideration [because] all possess the qualifications of access to clinical material plus an undiluted interest in neurosurgery.”

Grant was eager to reassure those correspondents from whom he intuited some possible resistance that “at the present time we have the best of the neurosurgeons with us and if we go a little slowly and keep our standards high, I think that membership in this Society is still going to be highly desirable no matter how many junior groups are formed. But I feel, nevertheless, that we had better snatch one or two of these younger men if only to make their companions envious.”

The responses to Grant’s campaign were wide-ranging. Alfred Adson from the Mayo Clinic agreed with Grant, suggesting that five or six of the promising new neurosurgeons should be elected at the next meeting. However other influential members, such as Loyal Davis, continued to advocate for a small and selective society, faulting again the young men’s training as inadequate. Echoing, as I will show in Chapter 4, similar arguments made by many clinical neurologists, Davis mocked the younger surgeon who started out as “a house officer at Brigham Hospital, then perhaps serves a year as Cushing’s assistant resident, and then he is a neurological

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surgeon.” These men’s training in general surgery, neurology, physiology and pathology left much to be desired, in Davis’ opinion. They were not worthy of inclusion in the SNS, whose membership “should carry with it the stamp of approval which has required a certain amount of training. A standard, if you please.” Davis maintained that “I am not selfish in this view, because I felt when I was elected that I should have been asked to demonstrate my wares before the Society before being admitted to membership.” He was quick to add, however, that he did indeed demonstrate his ability “as soon as it was possible after admission, although I had had a rather long training in anatomical neurology, general surgery, clinical neurology, and finally, the work in Boston.”

On the other hand, some members such as Gilbert Horrax expressed a little regret for the society’s previous policy of exclusivity: “I do believe,” he wrote to Grant, “we should have been broader in our policy of taking more men in during the past few years, but that is neither here nor there and cannot now be helped.” Others were visibly upset about the rumors about the new society. Mixter recounted in a letter to Grant that Charles Bagley, who practiced neurosurgery at the University of Maryland and was the SNS president that year “blew into my office most unexpectedly” and that he was “all upset about this question of another neurosurgical society, and feels that we immediately ought to expand largely and try to take in these men.” Mixter, on the other hand, disagreed: “Even if we are a bit exclusive, it won’t do any particular harm,” he wrote, although he did suggest that he was willing to go along with an increase in membership.


Ultimately, most SNS members were not at all eager to substantially change the exclusionist policy of the society. In summing up his campaign to change the status quo, Grant wrote to Bagley that “[w]hat correspondence I have had with other members of the Society makes me feel that we may have trouble in taking in more than three or four men. There seems to be a very definite feeling that we can afford to go slowly and only take men that we really feel to be eligible.”

In March 1932, when it became clear that the new society was definitely going to be organized, Grant noted “that the general feeling of the [old] Society has changed somewhat […]. I believe that only the men who are unanimously selected by the Elective Committee will have much chance for election.” He therefore suggested that the Committee “put up a unified front on three or [four] names [sic].” He suggested Van Wagenen, Putnam, Davidoff and Jones, since all “are all doing neurosurgery and are interested in neuro-pathology and neuro-physiology.” In addition he also felt that “on the basis of access to clinical material, Spurling, Gardner, Fay and Munro should be elected.

The most serious worry that these events produced was a concern with the apparent division of opinion within the society and with an uncertainty over what Cushing’s role had been in this affair. As Bagley put it in a letter to Grant,

“I tried to talk to Dr. Cushing about it [the new Society] but of course did not get very far. He said he felt our group was too large and that a junior society

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was necessary and before long there would be another group junior to this. He has apparently made the decision for our Society and I suppose to keep peace in the family this is the attitude for us to take. Personally I am very sorry that we are to have two distinct groups. […] I should like very much to be able to meet you in Pittsburgh with a view to discussing both the matter of the Spring meeting and the new Society with Adson. I really believe it would be worth our time to do it if we are to sanction the action of Dr. Cushing. I think we ought to be solid in it and avoid any possible division of opinion in our own group.”

The surgeons speculated that “Doctor Cushing probably does know [about the membership of the new society], but, as you know, he doesn’t say much.” This led to considerable frustration on the part of some neurosurgeons. Cushing was retiring that year, and the members of the SNS were planning to honor him at their spring meeting. Cushing was not being forthcoming with his desires regarding that meeting (for example, some SNS members were expressing frustration with Cushing’s reaction to the guest list), and he was keeping quiet about the new society, leading some SNS members to bitterly complain that “if Dr. Cushing is to have his own ideas in our Spring Meeting and if in addition is going to make it difficult for us with the junior Society that it would be rather hard for us to get up much enthusiasm for any honor our Society can do him.”

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242 Bagley to Grant, February 1, 1932, Collection Society of Neurological Surgeons 1920–1935, folder 1932, box SNS 1920–1935, Dorothy Carpenter Medical Archives, Wake Forest University.
When it became clear that the new society would have its inaugural meeting before the SNS could hold its own meeting, and thus before the SNS could decide whom to elect to membership, most members resolved to preserve their dignity and maintain the policy of electing only one or two members. Adson articulated this position most clearly in a letter to Bagley: “the wisest thing to do is to let them hold their meeting without making any compromises. If we choose, we can elect two or three men but I believe it would look rather foolish to rush in and take a number of their men at this time.”

In June 1932 the SNS elected Van Wagenen and Spurling, two of the younger neurosurgeons, who, as I will show shortly, were part of the group that took a leadership role in the establishment of the newer society. At the same meeting, a committee was entrusted with the task of revising the SNS’ by-laws. “Dr. Percival Bailey [the chairman of this committee also made up of Mixter, Penfield, Naffzinger Stookey and Grant] then drew up the following outline which formed the Society’s opinion of the proper training for a Neurosurgeon and the qualifications demanded by the Society for election.

“1. Graduation from a Class A medical school or its equivalent and one year’s internship in a recognized hospital.

2. Three years of preliminary advanced training, for example one year of general surgery, one year of neurology, and one year in some fundamental medical science.

3. Three years of neurological surgery either as assistant in a neurosurgical clinic or independently.

4. Evidence in the form of published work of ability to contribute independently to advancement in the field of neurological surgery. \(^{244}\)

This report aimed to clarify the unarticulated standards that had made the SNS so exclusionist and so stringent in their judgment of candidates, but even as stated here the requirements appeared rather loose and subject to interpretation, a fact that resulted in many more arguments about membership over the course of the 1930s and 1940s, as the minutes of the society’s meetings demonstrate.

The formation of the second society’s impact on the SNS was evident the following year, when all the members – six in number – who were discussed and proposed by the Committee on Admissions were also elected to membership – an evidently unprecedented number. \(^{245}\) But in the long run, the concern and the disagreements among members on the issue of membership continued mostly unabated. In 1934, Coleman noted that “I feel convinced that there is no agreement among the members as to what should constitute the qualifications of the candidates […]. I think it would be a good idea to take this matter up again at the next meeting […].” \(^{246}\) At this meeting the secretary recorded in the minutes that “[c]onsiderable discussion then took place as to the question of election of new members. A motion to amend the By-Laws so that members

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\(^{244}\) Minutes of the 25th Meeting of the Society of Neurosurgical Surgeons, June 2-4, 1932, box Minutes 1919-1955, Dorothy Carpenter Medical Archives, Wake Forest University.

\(^{245}\) Minutes of the Twenty-sixth Meeting of the Society of Neurological Surgeons, June 9th and 10th, 1933, box SNS 1920-1935, folder 1933, Dorothy Carpenter Medical Archives, Wake Forest University.

\(^{246}\) Coleman to Grant, April 20, 1934, Box SNS 1920-1935, Folder 27th Meeting, June 8-9, 1934 Minutes (Ann Arbor MI), Dorothy Carpenter Medical Archives, Wake Forest University.
could be elected if voted on favorably by three-fourths of those present at the annual meeting was made. This motion was lost.”

As late as 1940, the secretary noted that following yet another discussion about membership policy, “it was decided to keep the membership limited.” In 1944, another prolonged discussion ensued, in which many members disagreed with a proposed increase in membership, and some frustration was expressed about the fact that the society did not lay down “rules of membership [and] take anyone in who can meet the requirements and to whom there are no objections on moral grounds.” The arguments about membership continued throughout the 1940s. In a contentious meeting in 1949, in which the discussion was so “complicated and detailed” that the “handicapped secretary, unversed in shorthand and court recording” could simply not record it. Remarkably, five candidates were brought up during this meeting and were voted on by secret ballot, and not one candidate was agreed upon. The secretary noted that this failure was “a disturbing one, [and] some opinions were expressed as to the feeling that this was a ‘death warrant’ for the Society, others felt it was an index to the need of a new method for the selection of members.”

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247 Minutes of the 27th Meeting of the Society of Neurosurgical Surgeons, June 8 and 9, 1934, box Minutes 1919-1955, Dorothy Carpenter Medical Archives, Wake Forest University.
248 Letter to SNS members from W. McK. Craig, December 10, 1944, SNS Minutes 1919-1955, folder 1940, Dorothy Carpenter Medical Archives, Wake Forest University.
249 SNS business meeting, October 20, 1944, SNS Minutes 1919-1955, folder 1944, Dorothy Carpenter Medical Archives, Wake Forest University.
250 SNS Fortieth Meeting, June 10-11, 1949, Box Minutes 1919-1955, folder 1949, Dorothy Carpenter Medical Archives, Wake Forest University.
251 SNS Fortieth Meeting, June 10-11, 1949, Box Minutes 1919-1955, folder 1949, Dorothy Carpenter Medical Archives, Wake Forest University.
This 1949 meeting in particular was, if not unusual, at least particularly memorable for its negative tone. In 1953 another concerted effort to change membership policy was made, and the secretary recorded that “[m]ost of the present members would like to forget some of the unproductive squabbles over member elections – particularly the one in Baltimore in 1949. There has been a tendency for a member to urge the election of his pupils – at times – without a thorough search and comparative study of all the talent in this country and Canada.”

Thus the enduring stringent admission policy that the first neurosurgical society embraced in the first decade of its existence created a particular cultural landscape characterized by values such as exclusionism and elitism. Membership was seen as a reward and stringent qualifications for inclusion in the society were judged as necessary. Influential members of the society felt that in the absence of other institutionalized ways to police the profession, the SNS had to be the principal arbiter. As I have mentioned in the previous chapter, Davis was very clear on this issue, arguing forcefully that “[c]ertainly something should be done to keep the group of neurological surgeons under control or, like everything else in this country, we will have more [neurosurgeons] than we know what to do with.” At the same time, membership in a specialist society was seen by all practicing neurosurgeons – SNS members as well as those who aspired to be – as conferring a necessary professional imprimatur. Thus the identity of the neurosurgeon in the first half of the twentieth century rested in part on his inclusion in such a professional group.

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252 SNS Minutes of the 1953 meeting, Box 1919-1955 (misfiled in) folder 1947, Dorothy Carpenter Medical Archives, Wake Forest University.
“Independently, Fearlessly, and without a Feeling of Rancour:” The Founding of The Harvey Cushing Society

In the late 1920s, a new generation of young neurosurgeons, who in many cases had trained with Cushing or other first generation neurosurgeons, were laboring under this exact expectation, the expectation of being elected to membership in the SNS. William P. Van Wagenen was one such surgeon. Van Wagenen had obtained an MD from Harvard in 1922 and had trained with Cushing before accepting a position as the Chief of Neurosurgery at the University of Rochester in Rochester, New York, in 1928. In the summer of 1930, Van Wagenen wrote to Roy Glenwood Spurling, a fellow Harvard MD who was in charge of neurosurgery at the Louisville General Hospital in Kentucky:

“I had a letter from [Percival] Bailey after the last Neurosurgical Meeting. His comment was that there was a good deal of discussion about taking in new members. He felt practically certain that I would be taken in at least within the next year for the discussion that took place. If we are not taken in within the next year, I personally would be much in favor of going to Boston and talking with Dr. Cushing about starting another neurosurgical society. I think Dr.

253 This section draws on the correspondence between William Van Wagenen and the members of the society as it was preserved by Van Wagenen, who sent it to John Fulton at Yale University (it was then relocated to the AANS archives in Rolling Meadows, IL). While this correspondence is voluminous, it is not intact. Van Wagenen wrote to Fulton, who had solicited the documents for the purpose of preserving the history of the society, “I am not including every bit of correspondence. There are some things in these letters that might be better not become general knowledge, such as comments of one person about another.” Van Wagenen to Fulton, April 21, 1933, “Notes on the History of the Founding of the Harvey Cushing Society,” v. 2, AANS Archives.
Cushing would be glad to foster any such move and might not be a bad one to start with.”

Van Wagenen and Spurling were not elected within the following year, as they had hoped, despite the fact that they had participated as guests in many of the meetings of the SNS. Thus, in the summer of 1931, Spurling resurrected an idea that a few younger neurosurgeons had been whispering about – forming another professional society. He took some pains to reassure Van Wagenen that this idea appealed to him not because of his “desire for membership in the present neuro-surgical society, because, as a matter of fact, I […] have every reason to expect that eventually I will be elected to membership.” Yet despite this assurance, Spurling cautioned that

“I think any preliminary plans that we might have should be kept absolutely secret, because if we decide to go ahead with this thing, we want to be able to approach these desirable men before the society of neurological surgeons had an opportunity to counteract the move. I am not sure but what [sic] they would be relieved to have another society formed, inasmuch as it is probably very embarrassing to them not to be able to take in men who have the proper qualities to belong.”

Thus, despite Spurling’s attempt to appear nonchalant about the project of establishing another society, the fact that he suggested these plans be kept “absolutely secret” points to his belief that

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254 Van Wagenen to Spurling, August 18, 1930, Collection of letters between Van Wagenen, Spurling, Semmes and Fay bound together under the title “Notes on the History of the Founding of the Harvey Cushing Society,” The American Association of Neurological Surgeons Archives (AANS Archives).

such a move would undoubtedly be seen in a highly politicized light – as a commentary on the practices of exclusion of the older society and as an attempt to undermine the authority of that august group.

By Spurling’s count, there were some “twenty men who are doing neuro-surgery exclusively and are doing a good job of it,” men who were not part of the older society and would not soon be, given the SNS’ policy. Spurling included a list of 16 names in his letter to Van Wagenen, and unlike Van Wagenen, who had suggested the previous year to seek Cushing’s blessing before undertaking the formation of a new society, Spurling had a diametrically-opposed opinion: “I think if Dandy were properly approached, he would probably be willing to back up such a move. After all, he would be a great asset in the organization.”

Walter Dandy, a former student of Cushing’s, had a difficult relationship with his mentor, a relationship based on rivalry, disagreement, and priority disputes. Dandy had refused to join the SNS in 1920 when Sachs and Cushing had asked him to be a founding member.

Van Wagenen and Spurling began by writing to several unaffiliated neurosurgeons, and the responses they received varied from very enthusiastic to cautious. Semmes, from the University of Tennessee, was in the former camp, praising the initiative and suggesting that this

256 Spurling to Van Wagenen, June 24, 1931, “Notes on the History of the Founding of the Harvey Cushing Society,” AANS Archives.

257 The relationship between Dandy and Cushing is described in detail in Bliss, Harvey Cushing: A Life in Surgery, Ch. 11.

258 Some of this correspondence was reviewed in Frank P. Smith, “Archival Correspondence Regarding the Origin of the Harvey Cushing Society: The American Association of Neurological Surgeons,” Journal of Neurosurgery 81 (1994).
new society should not “necessarily exclude members of the old” one. Specifically, he had in mind Dowman “who has been actively interested in enlarging the old society so as to include some of us” and Adson “who is in favor of forming another group.”

Temple Fay was also an enthusiastic supporter from the very beginning, writing to Spurling a long letter in which he suggested that he himself had talked to others about such an enterprise. Fay outlined at length his opinions about this new society. As I have described in Chapter 2, Fay’s relationship with several members of the SNS had been particularly acrimonious, and his negative feelings toward the old society were clearly articulated in his letter:

“I am distinctly of the feeling that if this society is organized, certain fundamental principles should be established, to avoid some of the difficulties encountered in the older society. I would far rather see a group of younger men organized to meet regularly, in a round table discussion of problems confronting the neurosurgeon, with a definite program assigned, similar to that carried on in the Association for Research in Nervous and Mental Diseases, than to gather each year at some clinic to see the host, “strut his stuff”, to the envy and unfair criticism of those attending the meeting.”

Fay felt particularly strongly about the surgical clinics, which were also referred to as “wet clinics,” in which the host “strutted his stuff.” He proposed an alternative, arguing that the


meetings of the new society should reflect the changing times: “inasmuch as the training which
all of us has received is fundamentally the same, the emphasis formerly placed on technic was
one of the principal reasons for the neurosurgical meetings.” The younger neurosurgeons, on the
other hand, had different needs, in Fay’s opinion. They struggled with the “investigation and
advancement in the fields of neurosurgery, with the fundamental needs of establishing methods
of early diagnosis and postoperative treatment, directly toward the protection of the patient, and a
decrease in mortality. Such a program could be undertaken with a “clinic” as the minor factor.”

Fay was especially critical of the idea of the younger group being “fostered” by members of the
SNS with the purpose of eventually being included in the older society. He felt that this would be
“unfair to the younger group, and would only tend to promote ill feeling, and permit personalities
and political interests to disrupt this program.” He was suggesting a radical break with the
traditions of the older neurosurgeons, insisting that “[i]f such a younger group is to be organized,
let them do so independently, fearlessly, and without a feeling of rancour [sic] toward the older
group, as there is no doubt about the fact that the difficulties confronting the older group have
been mainly due to their type of meeting, and the small possibilities for entertainment by means
of neurosurgical clinics, etc.”

However, not everyone responded to the suggestion of organizing a new society with quite the
enthusiasm and the grand plans of Fay and Semmes. Van Wagenen’ and Spurling’s idea was to
first convene a small group of men – essentially the two of them and Semmes, Fay and Tracy
Putnam – who could meet in the early fall of 1931 to discuss how to proceed. In the summer, as
the first four men where busily exchanging letters, Tracy Putnam was away in Europe, and could
not answer Spurling’s letter. When Putnam returned to Boston on September 25th, he
immediately sent Spurling a cautious reply. The idea of organizing a new society “seems to grow more complicated the more I think it over,” he cautioned.

Putnam did not doubt that “it would be lots of fun to form a group […] but I wonder if the time is ripe to launch a new organization which can scarcely help being a rival of the old in appearance if not it fact.” He confessed that “I may say quite candidly that if I had to choose between the two, I should prefer the recognized and established one, and I wonder if that is not true of many other prospective members.” He then defended the practices of the older society and expressed his belief that most members of the younger group would eventually be elected to membership. Furthermore, he expressed some reticence about “one member of the projected committee,”—most certainly Fay—“whose methods I disapprove of much as I like him personally, and I should rather not have him in on the ground floor.”

Putnam’s reticence evidently surprised Spurling, whose first reaction was to write Van Wagenen and ask about postponing the first organizational meeting, which had been scheduled for October 10th. He wondered whether they had made a mistake in including Fay, and he worried that if “half of the men we invite have the same attitude that Tracy has, obviously, a new organization would be a flop.” He suggested that the only other way out would be “for the old society to sponsor a junior group,” a possibility that Fay had so passionately argued against.


Spurling then tried to allay Putnam’s fears by assuring him that Fay had been unfairly treated by Frazier and Grant who “lose no opportunities to condemn his work.” Spurling claimed that he had talked to “disinterested parties” about this feud and that he had been assured that “the blame is about fifty fifty.” He admitted that Fay was “undoubtedly a reactionary spirit in neurosurgery,” but he took the position that “I think we need men like that, even though we may not wholly agree with them.”

More importantly, Spurling reassured Putman that the impetus behind organizing the new society was “wholly unselfish and in no way […] related to pique at not being elected to the older society.” According to him, he was more concerned about the twenty or thirty men who were practicing neurosurgery at the time and who would not have the chance of even attending the meeting of a specialist neurosurgical society. Nevertheless, Spurling did accuse the older society for being “quite a clannish affair in that the satelite [sic] of two or three different clinics have been rushed in ahead of other men with longer experience and with clinics of their own.” To shore up some authority in the matter, he revealed that Adson, a senior member of the other society, had approached both himself and Semmes with the idea of forming another society. Adson himself had complained that “the older group were not doing the proper thing by the younger men, and offered in any way to assist in the organization” of a new society.

In an effort to persuade Putnam, Spurling shared another rumor. Apparently a few years previously, Wilder Penfield had been “in the process of forming an organization like the one we have had in mind when he was elected to the older society; then, of course, he dropped it.” Spurling found Penfield’s behavior regrettable and unhelpful, reasoning that “if we follow the

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same course as Pennfield [sic], the principles for which we start it will continue to be defeated.”

In fact, Spurling openly declared his willingness to sacrifice membership in the older society if need be, “in order to further the needs of neurosurgery” by forming the new society.

While Spurling seemed very concerned with Putnam’s wary position, Van Wagenen had a more measured response, suggesting that they indeed ought not to postpone their meeting and to proceed without Putnam. “I think he is unduly influenced by the older men – Grant – and possibly Cushing,” Van Wagenen wrote, “and also considers his prospects in Boston would be better if he were in the older Society than in ours. Apparently he has been assured an early membership in the old Society and I doubt if he would come in whether Fay were on the list or not.”

He wondered whether, for Putnam, Fay was just a pretext to withdraw from the group. Although he admitted that he did not know Fay well, Van Wagenen believed that Fay “would work for the society far more diligently and harder than P.[utnam] and so far as rating goes he stands head and shoulders above P. at present – in local and national standing.” His suggestion was to go ahead with the meeting in order to “get out invitations to the society before the next meeting of the neurosurgical group.” Time was of the essence because the older group, Van Wagenen believed, “may try to pick off a few ahead of us if we do not get moving. I agree with you entirely that the old crowd has been clannish and that admitting 2-3 new men would not solve any problem for those not included.”

On October 10th 1931, VanWagenen, Spurling, Semmes, and Fay met at The Raleigh in Washington DC to discuss their plans for a new professional society. The record of the meeting shows that their plans for membership had changed somewhat. Although the idea was at first to bring together young neurosurgeons who were not affiliated with the SNS, the list of 36 potential members that the four founding members recorded in their first meeting spanned several closely related medical specialties (see Figure 9). The record of the meeting specified that the society’s purpose was “the study and advancement and correlation of subjects relating to organic neurology, such subjects being, neuro-surgery, medical neurology as practiced today, neuro-physiology, neuro-pathology and roentgenology.”

In a further effort to differentiate it from the previous society, the men decided that “membership in general should be a fairly wide one and that as time goes on younger men might gain admission to the society either by invitation of the society or thru [sic] the filing of application which of course would be acted upon by an executive committee.”

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266 Record of the meeting on October 10, 1931, “Notes on the History of the Founding of the Harvey Cushing Society,” AANS Archives.
In light of Putnam’s reaction and Spurling’s fear that this reaction would prove to be representative of the community, the four neurosurgeons must have discussed various strategies to make this new society viable. In the records of the meeting, Van Wagenen wrote that “in order that there could not be any confusion of the aims of this society with that of the existing neuro-surgical society, it was thot [sic] advisable to consult with Dr. Cushing who is the founder of the present neuro-surgical society and with Dr. Coleman who is the president of that society this year.” Spurling was entrusted with the task of talking to Coleman, while Van Wagenen took on
the mission of talking to Cushing. Furthermore, although he himself never trained with Cushing, or had any professional connections with him, Fay suggested that the society’s name include a reference to Cushing.\textsuperscript{267}

Thus, as an effort to differentiate this society from the old one, as well as a strategy to make the new society appear non-threatening, the four founding members initially decided to get Cushing and Coleman’s blessing, to open the society to related medical and scientific specialties, and to opt for wider membership.

The critical importance of Van Wagenen’s meeting with Cushing was acknowledged by Semmes, who wrote to Van Wagenen to offer “congratulations on the success of your mission.”\textsuperscript{268} The mission was to convince Cushing of the necessity of a new society. Van Wagenen reported in a letter to Spurling that after driving to Boston he had the chance of seeing Cushing for about an hour, and that “he was very much in favor of the idea presented to him.” Cushing also claimed that he himself had felt that “for a number of years that the old society had become too gastronomically inclined to be of much use,” possibly suggesting that the society had become a tightly knit social group more interested in social events than scientific ones.\textsuperscript{269}

Spurling’s mission was also successful. He reported that Coleman too was supportive of the plan to form another society, and that he only appeared concerned about potential “hard feelings” that

\begin{footnotes}
\item[	extsuperscript{268}] Semmes to Van Wagenen, October 28, 1931, “Notes on the History of the Founding of the Harvey Cushing Society,” AANS Archives.
\item[	extsuperscript{269}] Van Wagenen to Spurling, October 15, 1931, “Notes on the History of the Founding of the Harvey Cushing Society,” AANS Archives.
\end{footnotes}
could “destroy the efficiency of both organizations”\textsuperscript{270} if, for instance, members of the new society would be precluded from joining the old, and vice versa. Spurling had assured him that this would not be the case, and in return received the assurance that Van Wagenen and himself would be elected to SNS membership in the near future. Despite his earlier assurances to Coleman that there were no hard feelings, Spurling remarked that he “was not sure whether he would accept their invitation or not.” Spurling also noted that news about the new society “has leaked out among the older group” and he suggested to Van Wagenen to act quickly to organize their first meeting and put together a program: “of course,” he emphasized, “the first program has to be an excellent one.”

Over the next month, Van Wagenen sent out letters to young neurosurgeons across the country. Although the idea had been to include clinical neurologists and experimentalists as well, the initial batch of letters targeted only young neurosurgeons. The letters specified that the society would be primarily interested in “the correlation of the various subjects going into organic neurology,”\textsuperscript{271} although it suggested that “it so happens that most of the men in this society will be people interested in neuro-surgery.” This casual remark was intended to diffuse any fears that this new society was convened as a response to the older society’s policies or that the new society would in any way compete with the old one. This aim was fully articulated in the letters sent to those who had intimate details of the older society’s policies or who had closer relationships with the members of the older societies – such as, for instance, those neurosurgeons who worked in close proximity to Cushing. To Frank Inghram who practiced at the Children’s Hospital in

\textsuperscript{270} Spurling to Van Wagenen, October 17, 1931, “Notes on the History of the Founding of the Harvey Cushing Society,” AANS Archives.

\textsuperscript{271} Van Wagenen to Freemont-Smith, October 24, 1931, “Notes on the History of the Founding of the Harvey Cushing Society,” AANS Archives.
Boston, Van Wagenen wrote that “[t]his society is not in any sense formed in competition to the present neuro-surgical society.”272 He also assured Inghram that Cushing and Coleman were supportive of such an enterprise. Spurling clearly articulated the need for such a strategy, calling Cushing’s blessing and his invitation to hold their first meeting at his clinic “the greatest boon of all.”273

This strategy was successful in some cases and quite unsuccessful in others. Tracy Putnam, who had been so apprehensive to join the men at first, now wrote back with relief that “your committee has done a swell job in formulating a program for the new society, which answers all of my objections.”274 The New York neurosurgeon Leo Davidoff replied in a similar vein that in the past he had not understood “that the members of the [old] Neuro-Surgical Society were acquainted with the plan, or that they approved of it.”275 Now, however, “in light of their approval,” Davidoff agreed that “the scheme is an excellent one.” Likewise, Cyril Courville, who practiced at the Los Angeles County General Hospital, welcomed the formation of a society in which it would be possible “to discuss general neurology and neurological problems [because this] would widen its scope beyond that of the usual neurosurgical clinic as is held by the neurosurgical society [i.e. the SNS].”276

272 Van Wagenen to Inghram, October 24, 1931, “Notes on the History of the Founding of the Harvey Cushing Society,” AANS Archives.
This strategy for gaining legitimacy did not work, however, for other neurosurgeons. Under the influence of Percival Bailey, P. C. Bucy, who had trained with him in Chicago, declined the invitation to join the new society on the grounds that “the organization which you and the other men have proposed is exceedingly wide in its scope and as a result of this will of necessity compete with the already existing groups in the field.” Bucy was probably referring to large and inclusive organizations such as the American Neurological Association.

Bailey himself wrote a long letter in reply to Van Wagenen’s invitation to participate in the new society, expressing his own dissatisfaction with the older society because its members had not been “quite fair in the men that they have taken in lately,” and because they “had decided to restrict its membership and to take in no other men.” But while he thought that this situation merited the development of another “club” for the younger men in neurosurgery, he feared that “such an ambitious society as you are planning including neurosurgery, medical neurology, neuropathology, neurophysiology, etc. I do not believe will be successful. Your interests will be too varied and you will have to compete with already existing organizations which are now too numerous.” This position was rather ironic, given the fact that, as I will explain in more detail in Chapter 4, Bailey was himself interested in all of the above disciplines and had been in charge, periodically, of Cushing’s registry of brain tumors.

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Van Wagenen swiftly reassured Bailey that he had “gotten the wrong impressions of the aims of this society.” Most importantly, Van Wagenen’s reaction illustrates just how much the idea to have a society open to other medical specialties had been a strategy to differentiate from the old neurosurgical society in order to appear not to compete with it rather than a real desire for creating an inclusive organization. Van Wagenen emphasized that “90% or more of the members are interested in neuro-surgery and we are asking in a few men from other fields more in an advisory capacity than otherwise.”

The strategy had backfired somewhat, since many of the letters that Van Wagenen received in reply to his invitation clearly showed that young neurosurgeons were getting the wrong idea about the new society. One wrote that “I am particularly interested [in the society] because it is limited to neurological surgery and organic neurology, for the reason that psychiatry and organic neurology are too widely divergent fields to be included in the scope of one society.” The reference to psychiatry suggested that the correspondent thought of this new society as an organization along the lines of the American Neurological Association, but better in the sense that psychiatry was not included.

In addition, Spurling wrote to Van Wagenen that the members of the SNS were equally dismissive of this idea of an inclusive society of many specialties and disciplines: “Adson was rather of the same opinion as Bailey about inviting those other than neurosurgeons to take part in the organization. […] Sachs is one of the diehards and wants to keep everything within his own

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280 Gardner to Van Wagenen, November 9, 1931, “Notes on the History of the Founding of the Harvey Cushing Society,” AANS Archives.
grasp.” Spurling wondered whether Van Wagenen thought “it might be a good plan to have our first meeting before including the non-surgical members? I am not sure which is best.”

Van Wagenen and Spurling moved quickly to correct this new problem by replying to those who had expressed interest that “I am afraid the circular sent you may have been a little vague. Practically all of the men in the society are interested in neuro-surgery and there have been a few others asked to come in more as consultants from other fields than otherwise.” It was a difficult position to negotiate for the founders of the new society: on the one hand they had to distance themselves from the older society but on the other they had to still appeal to the young neurosurgeons’ interests and assure them that the new society would be a forum calibrated precisely to the purpose of sustaining and lending legitimacy to the unique specialist identity of the neurosurgeon.

Another strategy that the founding members used in order to both legitimize and to justify the need for a new society was to involve this society in an ambitious project: the creation and maintenance of a national brain tumor registry. From the very beginning, even before sending letters of inquiry to all potential members, Van Wagenen looked into the possibility of such an endeavor. He discussed it with Cushing, when he met with him in October, but Cushing “rather questioned the advisability of forming a library for filing of brain tumors. However, he was not


definitely against this but thought tumors were too numerous to make it worth while. In other words, it looked like too big a project I assumed.”

Van Wagenen wrote to Cushing again on November 10th, pleading that he “give the matter of a central registry for brain tumors another thought.” The need for such a registry, Van Wagenen argued, arose out of the fact that most of the young neurosurgeons practicing all over the United States did “not have adequate laboratory facilities for the ultimate study of their material.” If a central registry was established, these men could send their material to solicit the opinion of the more experienced neurosurgeons. In addition, such a registry would have a great scientific value, Van Wagenen believed, because it could lead to “a better idea of the biological characteristics of some of these tumors.”

There was a precedent for such an endeavor. A national bone sarcoma registry had been established by the Boston surgeon and advocate of surgical standardization Ernest Codman in 1921. Van Wagenen sent Codman a letter of inquiry about costs and other such details. Codman replied that “the real obstacle” was not the cost (about $10,000 over five years), but rather “the inertia of the men who treat the cases.” Van Wagenen was hoping to get the necessary money from the Rockefeller Foundation; he had received some encouragement from

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George Whipple who was on the foundation’s Board of Trustees. But before approaching the foundation, Van Wagenen needed to secure a physical space for the registry and to find someone who could be in charge. He first thought of Percival Bailey at the University of Chicago.

Van Wagenen asked Bailey if he would allow such a project “to be centered in your laboratory?” Bailey had been in charge of pathology at Cushing’s clinic in the past, and he had worked extensively with Cushing on the classification of brain tumors. Bailey, however, responded that he did not have the time to take on a “new burden of this kind.” Undeterred, Van Wagenen had a small epiphany. He wrote to Spurling: “Why in the world didn’t we think about having Louise Eisenhardt in on this society? […] I am writing the Chief again today asking him if he would not consider having the registry there with Dr. Eisenhardt in charge. I think it would be an ideal place for it and she would be a very excellent person to have interested.” Louise Eisenhardt had been Cushing’s pathologist for many years. She first started working for Cushing in 1915 as his secretary, but after receiving a medical degree from Tufts University, she came to help him extensively with his work on pathology, while also keeping a thorough record of his surgical cases.

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291 Van Wagenen to Spurling, not dated [probably November 10, 1931], “Notes on the History of the Founding of the Harvey Cushing Society,” AANS Archives.

292 On Eisenhardt, see William J. German, “Dr. Louise Eisenhardt,” Journal of Neurosurgery 26, no. 3 (1967), Bliss, Harvey Cushing: A Life in Surgery.
Van Wagenen indeed wrote to Cushing to ask whether Eisenhardt “would be at all interested in being a secretary of such a registry,” and Cushing replied favorably, agreeing that Eisenhardt “would be just the person to conduct such a registry if it can be brought about,” and appearing impressed that Van Wagenen’s had secured Whipple’s support, which he deemed “equivalent to getting it done.” Cushing’s reaction and the fact that Eisenhardt was both interested and was allowed by Cushing to accept working on such a project were two major achievements that lent considerable legitimacy to the establishment of the society. Having obtained Cushing’s approval, Van Wagenen wrote to Eisenhardt, and she replied that she was “delighted to be a member of this new society” and that she would be very interested in the tumor registry.

Another young neurosurgeon, Cyril Courville, who had trained at the Los Angeles County Hospital, wrote to Van Wagenen to inform him that he had in fact established such a tumor registry himself, though on a smaller scale, in Southern California. “At the present time,” Courville explained, “the registry contains records of about 225 brain tumors [...].” Although he stressed the great amount of time and resources necessary, Courville was very enthusiastic about this project, especially if the project were limited to “gliomas or certain types of tumors” or if responsibility and work were divided “among several people who might have a special interest in some type of tumor” such as “peculiar forms of meningiomas,” which had not yet been

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294 Cushing to Van Wagenen, November 11, 1931, “Notes on the History of the Founding of the Harvey Cushing Society,” AANS Archives.
described. In a follow-up letter, he gave a very detailed description of the necessary equipment, and he stressed the importance of the cooperation of the doctors who submitted specimens, because they had to follow a protocol and include particular kinds of information, from x-rays to lab findings and notes on the operation itself. Courville had even devised a “scheme for getting a reconstruction of the shape and extent of the tumor onto paper” (see Figure 10).²⁹⁷

Figure 10 Courville’s patient chart showing the location of the tumor (to be included with the tumor in the registry), Van Wagenen, Notes on the History of the Founding of the Harvey Cushing Society,” v.1, accession no. 17019, © American Association of Neurological Surgeons Archives, Rolling Meadows, IL, reproduced with permission

Almost immediately, however, this ambitious project ran into difficulties. Cushing thought that an annual sum of $10,000 was needed to fund the registry, a remark which prompted an astonished Van Wagenen to write to Spurling: “Apparently the old boy has gotten the ideas of grandeur. […] [The sum] is nothing short of crazy.”298 In a similar letter to Courville, Van Wagenen revealed that the Rockefeller Foundation “had suggested $3,000 for a yearly

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298 Van Wagenen to Spurling, November 25, 1931, Notes on the History of the Founding of the Harvey Cushing Society,” AANS Archives.
Spurling was indeed dismayed by the sum quoted by Cushing, regretting that Van Wagenen had not taken charge of the registry himself, rather than involving Cushing.

On December 15, Van Wagenen wrote to Alan Gregg at the Rockefeller Foundation, explaining the aims of the new society of neurological surgeons and the fact that the young men desired to sponsor a tumor registry. He suggested that a “relatively small” sum of $5,000 would be necessary to finance the project, and he mentioned that either Louise Esenhardt or Cyril Courville could be in charge of it. The Rockefeller Foundation, however, pleaded a lack of funds and told Van Wagenen that for the time being (at the height of the Great Depression) it would be impossible for them to offer any financial help.

This effectively ended the new society’s involvement with a tumor registry as a bid to gain legitimacy. Cushing’s own collection, which he started at Johns Hopkins following an incident in which the hospital misplaced one of his specimens, had a peripatetic life, moving first to Boston, and after Cushing’s retirement to New Haven. In the late 1930s, Cushing and Bailey agreed to move the registry to Chicago, but shortly thereafter Cushing died, and a donation from a rich Cleaveland industrialist kept the collection at Yale.

By the end of November, Van Wagenen and Spurling had written and received replies from all the neurosurgeons they wanted to include in their society, and they considered themselves

299 Van Wagenen to Courville, November 27, 1931, Notes on the History of the Founding of the Harvey Cushing Society,” AANS Archives.

300 Van Wagenen to Gregg, December 15, 1931, Notes on the History of the Founding of the Harvey Cushing Society,” v. 1, AANS Archives.


satisfied with the overall response. Bailey and his student Bucy had been the only prominent hold-outs, but Van Wagenen eventually managed to convince Bailey, who in turn gave his permission for Bucy to be part of the society. Bailey seemed to view this new society as one intended only for young neurosurgeons: “I do not believe,” he wrote to Van Wagenen, “that [the society] would be strengthened by the inclusion of the list of older men which you submitted, provided that these older men would really take an interest which I do not believe possible. John Fulton has too many irons in the fire; Freeman, Spiegel, Louis Weed, Ebaugh and Sosman certainly would not have any serious interest in your organization.”

Van Wagenen ignored Bailey’s unsolicited advice, and he started writing to others – neurologists like Walter Freeman (who would, in a few years, become the ardent proponent of leucotomies for mental illness; he politely declined, citing lack of time), experimental neurologists like John Fulton from Yale (who gladly accepted), and radiologists like Merrill Sosman (who also accepted, despite Bailey’s claim that he would not be interested). Very soon however, so many names were continuously being suggested for possible inclusion that Van Wagenen cautioned the other founders of the society that they had better wait until after the first meeting to consider additional individuals.

Tracy Putnam was put in charge of the first meeting’s program, since he was located in Boston. Since Cushing had invited the new society to meet at his hospital, Spurling hoped that Putnam would “persuade the Chief to furnish the first day’s program. We should all, of course, like to see

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him in action again." Despite voicing some frustration with slow progress, Putnam happily reported in January 1932 that “I think your plan for a meeting here in May is bully and you can be sure that we will all do the best we can to put on a show for you.” He had written to Cushing asking for just that “some kind of an operative show […] [and] some kind of a show Friday evening for the Boston Neurological Society […].”

Spurling further thought that the program should not only be solid, as far as the quality of the papers was concerned, but also, more importantly, somewhat provocative:

“Gardner presented a very interesting paper […] in St. Louis on Encephalography in the Presence of Increased Intracranial Pressure. He has done about fifty cases with choked discs without a fatality. While I do not approve of this method, I think it would be desirable to have him present it in order to stimulate discussion. Also, I think Fay’s work on Dehydration would be desirable from the same point of view.”

Both Gardner and Fay were asked to give these papers at the meeting, but both declined: Gardner could not attend the meeting at all, while Fay pleaded that he was busy with putting together the by-laws and constitution of the society. As a consequence, while the program was deemed a success, it was less controversial and stimulating than the planning committee had initially hoped

307 Putnam to Cushing, April 14, 1932, Harvey Cushing Papers, Reel 44, 0061, Yale University Library.
it would be. As I will explain shortly, this attitude of encouraging experimental and controversial ideas, methods, and procedures was commonplace for the second and third generation of neurosurgeons and constituted a departure from the conservative approach of the previous generation.

The first meeting of the as of yet unnamed second neurosurgical society was held on May 6 and 7, 1932, at Cushing’s clinic at the Peter Bent Brigham Hospital. The minutes record the presence of twenty members: Bucy, Davidoff, Eisenhardt, Fay, Fremont-Smith, Fulton, Ingraham, Kahn, Klemme, Lyerly, Oldberg, Putnam, Schreiber, Semmes, Sosman, Spiegel, Spurling, Teachenor, Van Wagenen and Warren. Several other doctors who had accepted the invitation to be part of the society, could not come, some of them specifically invoking the economic depression that was sweeping the United States at that time.309

On the first day of the meeting, Cushing put on an operative clinic, performing “a transventricular removal of an astroblastoma of the third ventricle” (see Figure 12).310 “It was a beautiful piece of surgery to watch,” Van Wagenen enthused in a letter to a doctor who could not attend the meeting. John Fulton recorded in his diary that

“Dr. Cushing received [the members of the new society] this morning at ten o’clock, and he said that he felt like an obstetrician bringing a new and protesting offspring into existence. He welcomed it warmly, nevertheless,

309 See for example, Flothow to Van Wagenen, April 27, 1932, “Notes on the History of the Founding of the Harvey Cushing Society,” v. 2, AANS Archives.
asking it only to remember that in ten year’s time another group would be coming along which would look upon the present one as senile and antiquated. […] He then operated in the large amphitheatre before the whole group, exposing a third-ventricle tumor through a transcortical incision, and removed a large part of it. I have never seen him operate with greater ease and sureness. It seems to me that his technique has progressed even during the last year, and Dick Meagher insists that he has been doing things in the last few months that he would never have dreamed of doing a year ago. His physical health seems excellent and his spirits never better.”

312 John Fulton Diary, Vol. 5, May 6, 1932, John Fulton Collection, Cushing/Whitney Medical Library, Yale University.
The “show” that Cushing “put on,” as Putnam had phrased it, was followed by another one in the evening, when Cushing also put on a demonstration at the meeting of the Boston Society of Psychiatry and Neurology, where he presented 18 patients who had undergone various operative procedures over the previous two weeks, including the patient he had operated on in the morning. According to Fulton, this patient was “calmly and coolly brought into the amphitheatre. A case of

313 Also available at http://www.neurosurgery.org/cybermuseum/journal/25.html. This site is maintained by the AANS.
the day before was sitting up, and the case of two days previously, an old friend of mine, Mrs. Glolau, who had come over from Vienna, was sitting up knitting in a wheel chair, 48 hours after a pituitary adenoma had been removed by the transfrontal route.” Fulton noted in evident awe that “five years ago such a thing would have been undreamed of. […] I came away from the clinic feeling that at all costs his miraculous activity must continue as long as he is spared strength to make it possible.”314 The program also contained research papers, such as that presented by Fulton on the cortical representation of the tail in primates, which, as Fulton noted in his diary, “apparently afforded a good deal of amusement to the Society.”315

During the executive session, Van Wagenen and Spurling were elected president and vice-president, respectively, and Putnam was appointed secretary and treasurer. The as of yet unnamed society was finally named, by unanimous vote, the Harvey Cushing Society, and Fay presented the by-laws and the constitution which he had written. In the by-laws, he had included a paragraph stipulating that membership had to be limited to a particular number (which was left blank on the draft), and also that the members “shall consist of the outstanding representatives of their branches [neurosurgery, neurology, roentgenology, neuropathology, neuro-ophthalmology, and neuro-otology] in the following proportions” – the proportions also being left blank.316 In addition, the Constitution set out the name of the new society and its objective: “to promote the advancement of organic neurology though research in the [above mentioned] fields.” It also stipulated Harvey Cushing’s official role and title: patron of the society.

314 John Fulton Diary, Vol. 5, May 6, 1932, John Fulton Collection, Cushing/Whitney Medical Library, Yale University.
315 John Fulton Diary, Vol. 5, May 7, 1932, John Fulton Collection, Cushing/Whitney Medical Library, Yale University.
3 The Return to the Status Quo

The new society, which in the mind of at least some of its founding members was initially imagined as very different from the older society, ended up being quite similar in a number of important ways. First, the founding members envisioned a society wide in scope; Van Wagenen had written to a potential member that the society’s “membership in time will probably be fairly large.” Less than a year later, the members of the Harvey Cushing Society were setting limits to membership. In the aftermath of the first annual meeting one member wrote that he was “opposed to enlarging the membership at all at present until the present group gets shapened [sic] down a little and used to each other.”

Another member, a radiologist, complained to a friend who had suggested a young surgeon for inclusion in the society: “The membership of the Society is limited to thirty-five and the number allotted to the neurosurgical group had already been filled. […] These neurosurgeons aim to make this a very select and snooty organization – I suppose the reaction to a similar attitude on the part of the older crowd.” The ethos of exclusionism and elitism that had animated the first society seemed to have pervaded the entire cultural landscape of neurosurgery.

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318 Putnam to Van Wagenen, May 18, 1932, “Notes on the History of the Founding of the Harvey Cushing Society,” v. 2, AANS Archives. Similarly, Van Wagenen wrote when another name came up that “My own feeling at present is that we have enough non-neurosurgical men in the society.” Van Wagenen to Spurling, May 16, 1932, “Notes on the History of the Founding of the Harvey Cushing Society,” v. 2, AANS Archives.

Secondly, these younger neurosurgeons engaged in a close scrutiny of potential members, just as their seniors had, and they placed equal emphasis on the men’s moral qualities. “It seems to me,” Van Wagenen wrote early on, that the society

“might better be confined to those who are doing a fair amount of work and who have got definite places in clinics, etc. Such people as Munro of Boston, I am sure are not anybody we want in such a society. He never goes to meetings anywhere, never reads anything except dime novels, never does any investigation and holds his position by political pull only. Williams is another one here in town who is a wealthy dilettante who has no ideas except fairly old antiquated ones and would be nothing but a detriment to the society from the start. It seems to me that it would be well to avoid members who would in no wise be eligible for the other society should they increase their membership.”³²⁰

The gold standard, in other words, was still represented by the older society, despite the fact that the younger neurosurgeons had initially rebelled against such exclusionist practices.

Thirdly, the younger neurosurgeons realized that they needed the support of some of the older neurosurgeons in founding a new society. Not only did they ask for Cushing’s blessing, but they held their first meeting at Cushing’s clinic, because, as Van Wagenen confessed in a letter to a colleague, “[w]e all felt it was an extremely diplomatic move to start off there.”³²¹ In addition,


the younger men also chose “honorary members:” Cushing, Frasier, Dandy and Ellsberg, and – most extraordinary of all – they named the society in Cushing’s honor. Before the actual meeting, Van Wagenen had worried about this decision: “I am wondering if we are making a mistake in calling this thing the Cushing Society? There is going to be quite an element that will hesitate and actually balk at this. I think Adson’s suggestion of American Society of Neurological Research is a good one.” Spurling responded that he “rather liked Adson’s name,” but he also thought that “there would be no objection to naming it the Cushing Society, inasmuch as the Chief is retiring this year.” Spurling was wrong, to some extent. Some young neurosurgeons did object to both the name and to the extent to which this new society seemed to be enshrining Cushing as an authoritative touchstone.

A. J. McLean, who had trained with Cushing, had initially been very enthusiastic about joining the new society, but once he realized the extent of Cushing’s involvement, he demanded that his name “be dropped from the register; if it has not irrevocably been recorded as in absentia at the first meeting, I hope that the declaration of intention may be ignored, thruout [sic].” In a handwritten note attached to this formal letter, McLean who had a private practice in Portland, Oregon and was on the faculty of the Oregon Medical School, elaborated: “I hate to say ‘I told you so had [illegible] also probably unsure whether present arrangements constitute a regrettable

322 Van Wagenen to Spurling, December 5, 1931, “Notes on the History of the Founding of the Harvey Cushing Society,” AANS Archives.
state but you know my real reasons; among other things let me say I hate even a suspicion of taint of sycophancy.”

Fourthly, the format of the annual meetings continued to be similar to the older society’s, despite the fact that some of the founding members, like Fay, had specifically denounced the operative clinics which the members of the SNS allegedly used as a platform for “strutting their stuff.”

Apart from operations, questions were raised about having a banquet dinner similar to that of the SNS, whose members were known to get quite drunk at those dinners. “I would do almost anything to prevent there being a general drunk or anything approaching it,” Van Wagenen wrote to Putnam who was putting together the program for the first meeting. “I have no objections at all to people wanting a drink but some of the dinners that have been given at meetings of the other neuro-surgical society have I think worked to their detriment.”

Van Wagenen responded: “For God’s sake use words that I can understand: I had to go and look up this word ‘sycophancy.’ I think that if I had a chance at you over a little bathtub gin and what-not I could prove to you that there are more ways of getting over offense than ramming one’s head thru it. In the first place you can’t afford very well to be without contacts in some similar society and I have reason to believe that the older society will not take in any younger members for a long long time. […] And in the second place we can not afford not to have you with us. Cushing never did any more to you than he has done to me and lots of others but I think some of us have known how to handle the old boy a little bit better than you have, and consequently have gotten more out of him. I am going there this summer for a months stay […] but expect to be on the lookout for things that may crop up a la Cushing style.” Van Wagenen to McLean, May 23, 1932, “Notes on the History of the Founding of the Harvey Cushing Society,” v. 2, AANS Archives. McLean never joined either the Harvey Cushing Society or the Society of Neurological Surgeons.

Their plans for surgical demonstrations of the second annual meeting of the HCS were as follows: “Dr. Jelsma will probably do a cervico-dorsal sympathectomy, and I [Spurling] am going to do a second-stage olfactory groove endothelioma.” But they also put on, as Fay had wanted, a round table discussion on the cerebro-spinal fluid. Spurling to Van Wagenen, April 1, 1933, “Notes on the History of the Founding of the Harvey Cushing Society,” v. 2, AANS Archives.

Van Wagenen to Putnam, April 11, 1932, “Notes on the History of the Founding of the Harvey Cushing Society,” v. 2, AANS Archives. Putnam responded that “[w]e all feel that it really is too inhospitable to provide no dinner at all and we are planning to arrange to have a separate room to dine in at Longwood Towers. Each member can pay for his own dinner, I may say, and since we shall all be going to a show in the evening [put on by Cushing at the Boston Neurological Society], I think there will be
Both “wet clinics” and festive dinners continued to be part of the annual meeting of the HCS in the 1930s. The second annual meeting in Louisville, Kentucky, included several wet clinics, and Fulton referred in his diary to other such operative clinics throughout the 1930s. Thus, membership restriction, a close scrutiny of potential members, a seemingly obsequious reverence toward some of the older neurosurgeons, as well as the format of the annual meetings made the new society appear as anything but a dramatic departure from the old one. The ethos of exclusivity that had driven the policies of the SNS continued to characterize the policies of the HCS as well. As I have described above, the various and changing strategies that the founding members of the HCS had employed in order to seek legitimacy for the new society had eventually resulted in the preservation of many aspects of the status quo.

4 An Ethos of Exclusivity: The Abundance of Neurosurgical Societies in the First Half of the twentieth Century

A year after the formation of the new society, as the younger neurosurgeons were contemplating their second annual meeting, Van Wagenen somewhat changed his opinion about limiting membership, arguing that an increase in membership would be acceptable, given that only two-

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328 It seems that eventually these surgical clinics became less common at the HCS meetings. In 1937, the members of the SNS were polled about whether wet clinics should continue. The results indicated that “most of the men [were] feeling that our Society has always differed from other Societies in that we consider it a privilege to visit the Clinic of the host and observe more or less informally the work in his Clinic.” Craig to Naffziger, November 8, 1937, box Society of Neurological Surgeons 1936-1950, folder 1937, Dorothy Carpenter Medical Archives, Wake Forest University.

little temptation to linger over it unduly.” Putnam to Van Wagenen, April 18, 1932, “Notes on the History of the Founding of the Harvey Cushing Society,” v. 2, AANS Archives.
thirds of members would be expected to attend any given meeting. 329 This opinion met with resistance: other members, like Tracy Putnam, were not at all eager to increase membership.

The second meeting of the society nearly did not happen, as the economic situation in the United States worsened and some members wrote to tell Van Wagenen that they could not afford to attend. This turn of events caused some anxiety: “If the Society were older and a little more firmly established,” wrote Ingraham, “the omission of a meeting would probably be relatively unimportant, but as things stand it seems to me much wiser to carry on as well as possible.” 330 Spurling also believed that if the meeting was postponed, “the morale of the group will be greatly depressed.” 331

One other turn of events threatened the second annual meeting and implicitly the very existence of the HCS. As I have mentioned, both Van Wagenen and Spurling were elected to membership in the SNS, once the older neurosurgeons realized that the younger men were successful in establishing a new society. In December 1931, Spurling had run into some of the older neurosurgeons, and after talking to them he informed Van Wagenen that “I think we have the older boys slightly worried.” 332 A few months later, Van Wagenen was able to confirm this himself: “I saw Stookey in Buffalo yesterday,” he informed Putnam, “and he seems to have quite a grouched on over this group of young upstarts but I personally don’t give much of a damn

whether he has or not." However, with the election of Spurling and Van Wagenen into the older society, Spurling especially began to worry that the SNS would actively begin to also court the other young neurosurgeons, thereby making the newly formed HCS utterly irrelevant. In February 1933, he raised an ominous warning:

“I guess you realize by now what the older crowd are up to. When I answered Davis’ inquiries about new members, I specifically stated that I thought it would be inadvisable for them to try to take any of the younger men available at this time, because it would give the decided impression of a direct effort on their part to kill the interest in the Harvey Cushing Society. I did not tell him that in so many words, but I am sure he understood what I meant. I think it will be up to you and me to look after the interest of this younger group, and I do not believe it is the correct policy to try to take them all into the older Society at this time.”

In a sense, Spurling was displaying the kind of paternalistic attitude that the older neurosurgeons had by disregarding the best interest of individual members or their wishes. Van Wagenen on the other hand decided to involve the entire society in this decision, and he sent a circular asking the HCS members whether they desired “amalgamating the two groups into one.” He expressed regret over the fact that he had recently joined the older society, which he claimed he only did in order “to make a gesture of friendliness toward their society rather than feeling any particular

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need of them.” 335 He warned the members of the new society that “[s]uch a consolidation if it should occur would undoubtedly mean giving up our entire program of procedure. It would also mean giving up the association with the non-surgical members, etc. the policies of the society would undoubtedly be in the hands of the older group for a considerable number of years to come.” 336

For a short while the very existence and future of the HCS stood in the balance. Then the members’ responses started to come in. Although not everyone agreed, most members believed that there existed a definite place for both societies and that they should exist separately and in harmony. One neurosurgeon articulated very clearly the benefit that the HCS provided for him: “I was much impressed with the character of the members of the Harvey Cushing Society and the whole hearted friendship which existed. I feel that the scientific information gained by such an association is sometimes secondary to the personal contact and friendships gained in these associations.” 337 In the wake of these responses, Van Wagenen concluded that “we ought to keep our society intact and pretty much free from the other one.” 338

Thus, the second meeting, although it came close to not happening, did take place in Louisville, Kentucky, in April, 1933. The membership of the HCS was eventually increased to 50, but not before protracted discussions took place. John Fulton noted in his diary that during the fourth

338 Van Wagenen to Teachenor, April 1, 1933, “Notes on the History of the Founding of the Harvey Cushing Society,” v. 2, AANS Archives.
annual meeting held in New Haven in May 1935 (see Figure 13), “we had quite a time deciding whether or not to increase membership, how new members should be elected, etc., etc. Some seventeen guests had been brought to this meeting and I suppose all of them expected to be elected members and as there were only a few more that could be elected by constitution, we finally decided not to elect anyone and to defer elections until next year. I proposed that the club be increased to fifty.”

Figure 13 Harvey Cushing Society Meeting in New Haven, 1935, © Cushing/Whitney Library, Yale University, reproduced with permission

Thus, very soon, the new society began to run into precisely the kinds of problems that the older society had confronted. The number of neurosurgeons in the United States and Canada was growing rapidly, and many of the newest neurosurgeons found themselves without professional affiliation.

In fact, in the first half of the twentieth century, not counting small, local societies, five different neurosurgical societies gradually became part of the national scene as a direct result of the stringent membership policies of the SNS and HCS. In 1938, the American Academy of Neurological Surgeons was established; in 1948, other young neurosurgeons who could not become affiliated with the existing societies created the Neurosurgical Society of America; and finally the Congress of Neurological Surgeons was founded in 1951 by nine neurosurgeons who sent out letters to about 50 potential members, assuring them, as the founders of the HCS once did, that the new society was not meant to be competition to the already established societies.\textsuperscript{340}

The Society of Neurological Surgeons, and especially the Harvey Cushing Society remained, however, the most important of these societies, from a political point of view. Both of these societies were involved in organizing the neurosurgery certification board. The first formal proposal was made by the SNS in 1936, and much more definite plans began to be made in conjunction with the HCS in 1939.\textsuperscript{341} The Board of Neurological Surgery was established in 1940, and in 1944, the first specialty journal – the \textit{Journal of Neurosurgery} – was published.


\textsuperscript{341} Box Minutes 1919-1955, folder 1936, Dorothy Carpenter Medical Archives, Wake Forest University.
under the HCS’ auspices at Yale, with Fulton’s financial backing and under the editorship of Louise Eisenhardt.\(^\text{342}\)

In the 1940s, attempts were made to bring these neurosurgical societies into some kind of closer collaboration. On March 19, 1949, Adson, Frank Mayfield (who had been trained by Spurling in Louisville, and who practiced in Cincinnati),\(^\text{343}\) Joseph Evans (who also practiced in Cincinnati), Spurling, and Percival Bailey met secretly to discuss “the various proposals that have been put forward for creating an overall national society.”\(^\text{344}\) Although these five neurosurgeons were united in the belief that a national organization was desirable, they could not agree on a concrete plan until Bailey made some suggestions that “caught everybody’s fancy.” A long discussion followed, and the five men put together an eight-point plan that called for the merging of the two major neurosurgical societies – the SNS and the HCS – and the creation of a new society with the unwieldy name The Society of Neurological Surgeons founded by Harvey Cushing and with a membership restricted to diplomats of the American Board of Neurological Surgery. The proposal called for those HCS members who were not neurosurgeons to become “associate” rather than active members, as well as for the formation of a junior membership based on a model

\(^\text{342}\) German, “Dr. Louise Eisenhardt,” . This journal remained the only neurosurgical journal until 1973, when the journal Surgical Neurology was established and appropriated the following year by the Congress of Neurological Surgeons as its official journal. In 1975, following friction between the Congress and the editorial board of the journal, the ties between the journal and the Congress were cut, and a new journal, Neurosurgery, was established in 1977. See R. H. Wilkins, “Birth of a Journal: The Origin and Early Years of Neurosurgery,” Neurosurgery 10, no. 6 Pt 2 (1982).

\(^\text{343}\) Alexander, ed. The Society of Neurological Surgeons: Diamond Jubilee, 209.

\(^\text{344}\) Spurling to Cobb, March 21, 1949, John Fulton Correspondence, Group 1246, Series I, Box 162, Folder 2325, Yale University Archives.
initiated by the American College of Surgeons in order to “encourage young men” interested in neurosurgery.\textsuperscript{345}

It appears that the five neurosurgeons expected this proposal to meet with some resistance from the community, and especially from the non-surgical members of the HCS. Bailey took the step of writing a defensive letter to perhaps the most prominent such person – John Fulton – to inform him of this proposal and to caution him not to stand against it. Bailey claimed that he had “been very much perturbed by the multiplication of neurosurgical societies in the country. […] I have been anxious that a national neurosurgical society be formed, but all of the societies seem very reluctant (like the sovereign nations of the world) to lose their sovereignty in an overall organization.”\textsuperscript{346} Bailey wanted Fulton to lend support to this plan – a plan that he revealed had been put together by members of the SNS, HCS and the Academy of Neurological Surgeons, although he kept the names of these men secret.\textsuperscript{347}

Fulton responded that he “had heard one or two rumors of what was on foot, but I had not taken them seriously because the Harvey Cushing Society is already the national society of neurosurgery.”\textsuperscript{348} Fulton’s letter alludes to the extraordinary reversal of fortunes that happened in just a decade, as the HCS surpassed the political influence wielded by the SNS: “you will certainly recall that all the members of the senior society were invited to join the H.C. Society since we decided seven or eight years ago to become a national institution.” Fulton was not in favor of this amalgamation, since he saw it as a simple change of name: the HCS was, as far as he

\textsuperscript{345} Ibid.
\textsuperscript{346} Bailey to Fulton, April 4, 1949, Manuscripts and Archives, Yale University.
\textsuperscript{347} Bailey to Fulton, April 13, 1949, Manuscripts and Archives, Yale University.
\textsuperscript{348} Fulton to Bailey, April 7, 1949, Manuscripts and Archives, Yale University, emphasis in the original.
was concerned, already the national representative of the specialty of neurosurgery. He warned Bailey that “[t]here may be some who favor this move, but from what I know of the temper of the Society, I must warn you that there will be others who will not share this [i.e. Bailey’s] view […] there is a strong esprit de corps among its [i.e. HCS] members, and there will be very few of them who will favor abandoning our individuality and much else that we stand for and have accomplished.” Fulton ended his letter on a very strong note:

“I shall close by making one slightly personal observation, which you must face squarely, and I hope you will take it kindly. It is this: I don’t really think that you are in a strong position to sway opinion in the H.C. Society, for you opposed its foundation in 1932; you tried to persuade Bucy and possibly others not to join; you sent in your resignation when we founded the Journal in 1944, and over a period of ten or twelve years you have done nothing positive to foster our interests as we naturally anticipated you would.”

Bailey disputed some of these accusations, along with Fulton’s assertion that the HCS was a national organization. He admitted that he opposed the formation of the HCS, but maintained that his actions at the time and ever since were motivated by his “desire to prevent the fragmentation of the neurosurgical world which has since occurred.” He also explained his resignation from the HCS:

“I sent in my resignation when you founded the Journal in 1944 because I thought that such a journal should represent the entire neurosurgical world and

349 Fulton to Bailey, April 7, 1949, Manuscripts and Archives, Yale University, emphasis in the original.
350 Bailey to Fulton, April 13, 1949, Fulton Correspondence, Manuscripts and Archives, Yale University.
had been trying to induce the older neurosurgical society to foster such a publication, and also a handbook of neurosurgery, without success. I resigned from the Harvey Cushing Society, not because the Journal was founded, but because of the way in which it was done, and I still think it a bad thing for neurosurgery that it be dominated from New Haven."  

Despite Bailey’s strong support, this proposal, as Fulton intuited, seems to have failed. Although the Harvey Cushing Society continued to assert its political power, it was only in the mid 1960s that the HCS began to incorporate members from the other societies on its Board of Directors, thus assuming a leadership role and officially becoming the national representative organization for neurosurgery in North America (a representative of the Canadian Neurosurgical Society, which had been established in 1965, joined the Board of Directors in 1967). In 1967, the HCS changed its name to the American Association of Neurological Surgeons. In 1942, two years after the establishment of the Board of Neurological Surgery, the HCS had decided to restrict its membership to board-certified neurosurgeons only.  

The large number of neurosurgical societies in the first half of the twentieth century, and each society’s insistence upon its individuality as well as the members’ pride in what they saw as the society’s collective achievements, is an indication of the extent to which the ethos of elitism and the policy of exclusion, which had been present since the inception of the SNS, continued to dominate the cultural landscape of this medical specialty. This ethos underwrote the particular

351 Bailey to Fulton, April 13, 1949, Fulton Correspondence, Manuscripts and Archives, Yale University, emphasis in the original.

professional identity of the neurosurgeon in this time period, an identity which also found expression in the surgical and theatrical performances that took place during the meetings of the professional societies.

5  “Expert Showmanship:” Surgical and Theatrical Performances

Surgical performances continued to be part of the annual meetings of the HCS, just as they had been part of the old society. Fulton, who served as the HCS’s president in 1934, noted in his private diary that the 1936 meeting, held in Rochester, Minnesota started with a series of surgeries that were “extraordinarily well staged, an example of expert showmanship. […] Adson sectioned the splanchnic nerve of a patient suffering from hypertension and Craig uncovered a most formidable arterio-venous aneurism of the cerebral hemisphere of a woman.”

In fact, this new generation of neurosurgeons embraced both the surgical performances they put on for one another and a different kind of performance as well, one that was also constitutive of their professional self. Since these productions, which were organized as part of the entertainment part of the society’s meeting, incorporated elements of entertainment, of the burlesque, and even the masquerade, they can be called theatrical performances. The president of the Harvey Cushing Society would traditionally entertain by putting on a humorous performance during the banquet dinner. For instance, Fulton noted in his diary that at the 1936 meeting, Merrill Sosman, who was known for his expertise in X-ray technology, “presided most

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353 May 15, 1936, Fulton diary, Cushing/Whitney Library, Yale University.
divertingly” by reading a monologue entitled ‘The Roentgenologists and the Endocrine Orchestra,’ which, according to Fulton was “amusing, ribald but extremely good.”

Figure 14 The entertainment part of the annual meeting of the Harvey Cushing Society in 1933 in Louisville, KY, from John Fulton’s diary, © Cushing/Whitney Library, Yale University, reproduced with permission

As I will explain as well in the next two chapters, in this time period theatrical performances were also part of the meetings of another specialist society to which many of the neurosurgeons belonged: the American Neurological Association. Here too these productions ranged from short,

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354 May 15, 1936, Fulton diary, Cushing Library, Yale University. Fulton claimed that “Louise Eisenhardt enjoyed it especially.”
amusing, solo performances to very complex plays complete with a script, costumes, and music. In one such performance, the neurosurgeon (the New York based Leo Davidoff, in fake beard, front row) dressed up in Roman garb, while four neurologists (in the back row) made up the Chorus of the Vestal Virgins (see Figure 15).

Figure 15 Neurological Society Annual Show, Harvard Club, June 1934, © American Neurological Association Collection in the Dorothy Carpenter Archives, Wake Forest University, reproduced with permission

The texts of many of these plays and monologues have not been preserved. No hint of such theatrical performances appears anywhere in the published proceedings of the meetings of the
societies, but fortunately, we also get glimpses of these productions in the diaries of some of the doctors who participated. In his diary, John Fulton described this particular meeting as

“indeed quite an occasion. If one could imagine Wilder Penfield and Professor Adolph Mayer in Hula-hula skirts, Jalliffe in a Little Boy Blue costume, and Adrian looking like an Indian chief and one hundred and fifty others more or less similarly attired for a very festive meal followed by a bawdy but very clever play featuring the vestal virgins (each one a distinguished neurologist and appropriately costumed), it is possible to imagine what kind of evening we had. […] The New York neurologists do know how to entertain.”

The plays are significant because they constituted a strategy that allowed these specialists to define their professional identity, often in opposition to the identity of related medical specialists. Fulton noted that the banquet dinner of the 1936 meeting of the ANA was “an amusing affair presided over by Ramsey Hunt. Stanley Cobb, Tracy Putnam, Sandy MacPherson and Huston Merritt had arranged a ribald play at the expense of psychoanalysis and a series of most amusing ballads were projected on the wall over the stage for the audience to sing. They went on singing until midnight and later, and the bitterest enemies in the association ended the warmest friends.”

These bawdy, ribald, humorous plays became such a mainstay at the meetings of the specialist societies that when the entertainment did not live up to expectations, the doctors complained.

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355 June 5, 1934, Fulton diary, Cushing/Whitney Library, Yale University. Fulton noted that when told about this, Cushing reminisced about “one of the early same dinners he attended some thirty years ago, Dr Keen of Philadelphia, then aged nearly eighty, stamped down the center table dressed as Bacchus.”

356 June 1, 1936, Fulton diary, Cushing/Whitney Library, Yale University.
Fulton described one meeting in Montreal where the annual dinner “was an extraordinarily dry and decorous affair much to the consternation of the Association. Apparently Wilder Penfield and [the Montreal neurologist] Colin Russel have joined the purity league. I had to leave just as the play was starting in which [the British neurologist Francis] Walshe and I were impersonated before the gates of Heaven discussing the premotor areas (Walshe has just started a controversy in *Brain*). Apparently, there were other take offs in the play and I am sorry to have missed it.”  

These plays are thus constitutive of a professional self in at least two different ways. First, they are used as a stage upon which the doctors perform – literally – their professional identity. As I will show in more detail in Part II of the dissertation (Chapters 4 and 5), the content of the plays mirrored the professional disagreements and the definitions of professional identity that these specialists ascribed to themselves and to each other at a critical time when the boundaries between these specialties were particularly contentious. The content of the plays was sometimes designed both to train a magnifying glass on uncomfortable professional frictions and to diffuse them through laughter.

Secondly, these plays are constitutive of a professional self by producing and reproducing a particular kind of masculinity. These theatrical performances almost always had a ribald dimension (an adjective that Fulton used again and again over the years to describe the performances), and when they did not, as I mentioned above, the doctors complained about “the purity league.” Thus, the seal that appears on the text of one play resembled the seal of the ANA, with the important exception that the brain had morphed into a male organ (see Figure 16). The members of this society celebrated masculinity by inscribing it visually upon the organ their

357 June 4, 1935, Fulton diary, Cushing/Whitney Library, Yale University.
medical specialties shared – the brain. In a time period in which intellect was a masculine-coded ability, this visual strategy was instantly recognizable as representing a display of cultural authority.

Figure 16 “From the Appian Way to Wienersnitzel, A Tragedy,” American Neurological Association Annual Meeting, 1934 (Memorabilia) (left); the official seal of the American Neurological Association (right), © American Neurological Association Collection in the Dorothy Carpenter Archives, Wake Forest University, reproduced with permission

358 Scholar Davidow Hirshbein has shown that in the 1920s “the logic of rejuvenation [and organotherapy] was rooted in early twentieth-century struggles to map out what appeared to be essential qualities of masculinity and femininity (such as men’s intellectual powers and women’s domestic talents) onto specific organs.” Laura Davidow Hirshbein, “Sex, Masculinity, and Aging in the 1920s,” Journal of the History of Sexuality 9, no. 3 (2000): 278. In this time period masculinity was associated with energy, sexual prowess, fitness for work, a firm gait, strength, courage. See Schlich, The Origins of Organ Transplantation: Surgery and Laboratory Science, 1880-1930, 110-15.
Feminist historians in particular have long explored how medical knowledge shaped, reinforced, or lent authority to traditional gender roles, but as historian Michael Brown has observed, “fewer [scholars] have considered how formulations of gender informed the culture of medicine itself.” In particular, more work needs to be done on expressions of masculinity in twentieth century medicine. The North American medical specialists who shared an interest in the nervous system and who put on these plays seemed particularly committed to the project of constructing a culture of masculinity. One entertainment program noted that there were requirements for admission to the play – “A Very strange Interlude Entitled Hark the Herald Angels Sing” – namely “[a] few steins of beer below the belt; a thick skin and a pair of shock absorbers. No one admitted sober” (see Figure 17). These traits were certainly, at the time, coded masculine: the (excessive) beer-drinking accented by the specification of “below the belt,” as well as the “thick skin” suggestive of the masculine capacity to withstand criticism and maintain emotional self-control.

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360 Michael Brown, ““Like a Devoted Army”: Medicine, Heroic Masculinity, and the Military Paradigm in Victorian Britain,” *The Journal of British Studies* 49, no. 3 (2010): 593. Brown has shown that British doctors of the mid nineteenth century “invoked and elaborated visions of masculinity framed by war, heroism, and self-sacrifice” partly in order to “appropriate the ‘symbolic capital’ of martial heroism and intrepid masculinity.” Brown, “”Like a Devoted Army”: Medicine, Heroic Masculinity, and the Military Paradigm in Victorian Britain,” 594, 621.

361 Excessive expressions of emotion and an inability to control one’s emotions had been coded feminine in the period between the end of the nineteenth century and the mid twentieth century, as the large literature on hysteria and shell shock has emphasized. See for instance, Mark S. Micale, *Hysterical Men: The Hidden History of Male Nervous Illness* (Cambridge, Mass.: Harvard University Press, 2008), Mark Humphries, “War's Long Shadow: Masculinity, Medicine, and the Gendered Politics of Trauma, 1914-1939,” *The Canadian Historical Review* 91, no. 3 (2010).
Figure 17 “The Pinophyllistic Club presents A Very strange Interlude Entitled Hark the Herald Angels Sing,” American Neurological Association Annual Meeting, June 4, 1935 (Memorabilia), © American Neurological Association Collection in the Dorothy Carpenter Archives, Wake Forest University, reproduced with permission

The masculinity put on display in these theatrical productions was, in a sense, produced and shared among neurologists and neurosurgeons (and psychiatrists), 362 as these performances

362 It is a fascinating question whether other medical specialist societies embraced these kinds of performances as the neurologists, neurosurgeons and psychiatrists did. As far as I am aware, no historical scholarship exists on this topic. In a somewhat related vein, historians John Harley Warner and James M. Edmonson have shown that medical students used to stage performances – and photograph themselves –
occurred not only at the meetings of neurosurgical societies, but also at the meetings of the ANA. For the neurosurgeons, this masculinity was inflected in a specific and unique way by a feminine resonance. The brain operation was often described, both by the neurosurgeons themselves and in popular culture (as I will explain in much more detail in Part III of this dissertation), as a “delicate performance,” a painstaking, fastidious craft. Neurosurgery was likened to embroidery. As one of Cushing’s residents phrased it, Cushing’s technique “lifted neurosurgery up from the rough butchery of the nineteenth century to the painstaking embroidery of the twentieth [...]” The American journalist John Gunther described Tracy Putnam, the New York neurosurgeon who operated on Gunther’s son as “the most delicately fastidious expert in the field I have ever met.” The word “delicate” was gendered in this time period; it evoked feminine dispositions and attributes (in the early twentieth century a pregnant woman was referred to as being “in a delicate condition”) and could refer directly to effeminacy. The Hungarian memoirist Frigyes with the cadavers that they dissected. Warner and Edmonson, *Dissection: Photographs of a Rite of Passage in American Medicine, 1880-1930*. This phenomenon was not unique to the neurosurgeons of the first half of the twentieth century. As historian Christopher Lawrence has observed, in the nineteenth century as surgeons successfully portrayed themselves as gentlemen, “[t]he price of delicacy was effeminacy. [...] Although, in general, qualities usually specified as feminine were designated as inappropriate in a surgeon, and although they were increasingly employed to stigmatize genteel aspirations, they could also be invoked to counter the ascribed coarseness of surgeons.” Lawrence, “Medical Minds, Surgical Bodies,” 193.


Karinthy, who wrote a book based on his own experience undergoing brain surgery in Stockholm, made the connection between the neurosurgeons’ work and femininity even more explicit, recalling how “[o]n a document in the clinic, I happened to observe [the neurosurgeon’s] signature. I could not read it, but in trying to make out the letters I remarked that his handwriting looked like a woman’s. At once I added, ‘I should expect it to. Such work needs a woman’s touch.’”

In his memoir Karinthy described his experience in the operating theatre – and other areas of the hospital, such as the X-ray room – by appealing to tropes relating to acting, performance, theatre: “I was in the X-ray room. There were so many curtains, hangings and transverse beams attached to the ceiling that it looked like the back stage of a theatre.”

“The knight himself,” he wrote of the neurosurgeon in a dream-like sequence in another chapter, “in armour and white cloak, had not yet appeared on the stage.” Karinthy also often likened the work of the brain surgeon to traditionally feminine labor, such as sewing and cooking. “At that very moment, in all probability,” Karinthy narrated his conscious experience on the operating table,


367 Frigyes Karinthy, A Journey Round My Skull (London: Faber and Faber, 1939), 199. Karinthy’s surgeon was the Swedish Herbert Olivecrona, who had strong professional ties with American neurosurgeons. He spent the year 1919 at the Hunterian Laboratory at Johns Hopkins, where Cushing was also working, but he did not formally train with Cushing in neurosurgery. Cushing did offer him a position as resident, but Olivecrona had to decline due to financial reasons. Lars Granholm and Dan Epstein, “Herbert Olivecrona,” in Neurosurgical Giants: Feet of Clay and Iron, ed. Paul C. Bucy (New York: Elsevier, 1985).

368 Karinthy, A Journey Round My Skull, 217.

369 Ibid., 161. In this dizzying dream/fantasy sequence, he portrays himself as an anxious actor in the same play.
“they were opening the cerebral membrane. That was quite a straightforward job – just a little slit and an application of forceps here and there, like a dressmaker fitting clips on her material. By a logical, yet unexpected process, I thought of Cushing’s operation in the amateur film. Yes, that had been a nice, clean piece of work. I remembered saying, ‘It looks like the kitchen of a luxury hotel, with the chef in his white coat cleaning a sheep’s brains to make croquettes of them.’”370

Not just the patients, but also the doctors themselves invested the identity of the neurosurgeon with typically feminine qualities. In some of the theatrical performances the doctors put on at the meetings of specialist societies described earlier, the neurosurgeon was given the role of the “prima donna:” literally “first lady,” the leading singer in an opera company. In one spoof, a character was named “Dr. Harvey Pushing – prima donna,” a term that coded at once the neurosurgeons’ theatricality, their elitist ethos (the leading “first lady” being at the top of the hierarchy), and the appropriated feminine characteristics (see Figure 18). Reminiscing, in the 1940s, about the early meetings of the SNS, Sachs commented that “[n]ot all meetings went perfectly smoothly – as was to be expected when so many prima donnas were assembled in one room!”371 Prima donna was a term that in the interwar period was coded feminine, also carrying

370 Ibid., 222-23.
connotations of self-importance, high standing, theatricality, and a temperamental attitude that
evoked the supposed emotional liability of women.\textsuperscript{372}

Similarly, some of the criticism that was directed toward neurosurgeons at times traded on this
vision of the neurosurgeon as a prima donna. During a series of letters in which Penfield, who
some saw as having a flair for performance and drama, exchanged clever insults with a British
neurologist who had criticized his work on the functional organization of the brain, the
neurologist wrote that “I just have no experience of emotionalism like this in a man of your
age.”\textsuperscript{373} He accused Penfield of acting like “a film star reading an unfavorable press notice, and
scolded him that “unless you learn not to wear your heart on your sleeve, you will embarrass
everybody.”

Figure 18 “The Pinophyllistic Club presents A Very strange Interlude,” American
Neurological Association Annual Meeting, June 4, 1935 (Memorabilia), © American
Neurological Association Collection in the Dorothy Carpenter Archives, Wake Forest
University, reproduced with permission

This masculinity acquired, at times, a seductive dimension. In the above program, another
neurosurgeon who was spoofed alongside Cushing, was christened Racy Rutnam – Cerebral
Cystoscopist (Tracy Putnam was the name of the actual neurosurgeon), the word racy carrying

\textsuperscript{372} Prima donna, n. and adj. Oxford English Dictionary, Third edition, June 2007; online version June
An entry for this word was first included in \textit{New English Dictionary}, 1908.

\textsuperscript{373} Walshe to Penfield January 20, 1959, Correspondence Francis Walshe, C/D 20, P 142 Wilder Penfield
Fonds, Osler Library of the History of Medicine, McGill University.
the same connotations at the time as it does today (see Figure 18). Furthermore, the use of the term “cystoscopist” was employed in order to humorously devalue the brain surgeon’s work: brain surgery, it was implied, amounted to no more than the technical unsophistication of an endoscopy of the urinary bladder.

Perhaps in a less direct fashion, but equally suggestive of eroticism, in 1934, when Penfield founded his neurological institute in Montreal, he commissioned from France a copy of a famous late nineteenth century sculpture – Louis Ernest Barrias’ *Nature Unveiling Herself Before Science* (see Figure 19). Penfield used this sculpture as a visual and rhetorical strategy to align himself with a tradition of scientific research that – as historians of science have demonstrated – portrayed nature as a passive, submissive female figure revealing her secrets under the sustained gaze of the male scientist and doctor. The neurosurgeons commanded this seductive masculinity both in popular culture, as I will explain in more detail in Chapter 6, and in the professional culture of the specialist societies. The program of the 1949 annual meeting of the SNS depicted a “neurosurgical reverie:” a neurosurgeon’s sensory projection area in the brain was drawn in the shape of a naked woman (see Figure 20).

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374 For an analysis of the complex and often ambiguous and contradictory meanings reflected in Barrias’ sculpture, see Jordanova, *Sexual Visions: Images of Gender in Science and Medicine between the Eighteenth and Twentieth Centuries*, 87-97.

375 For example, in a popular interwar-period novel, which presented a fictional account of a group of medical students studying at Johns Hopkins, the following gossip was shared by the students: “‘Ben, did you hear about Rigman and the nurse?’ Pug asked. ‘No. What?’ The first year students sat forward and waited. Rigman, the brain surgeon, was only a name to them, but he was a name about whom the least fragment of information was worth gleaning. Pug continued, ‘He was operating on a patient the other day, before a full gallery, too, and said to a nurse who was assisting, ‘Resist me! Resist me!’ He wanted her to steady the patient’s head, you see, but she answered quietly, ‘Doctor, I can’t,’ and everybody doubled up.’ The boys howled and Miss Susie said daintily, ‘I think that was dreadful!’” Augusta Tucker, *Miss Susie Slagle’s* (New York: Harper, 1939), 309-10.
Figure 19 *Nature Unveiling Herself Before Science*, Montreal Neurological Institute Lobby (author’s photograph)
Thus the theatrical performances – the plays the doctors put on at the meetings of specialist societies – were constitutive to the neurosurgeons’ professional self in two ways: first, the meetings literally provided a stage upon which the doctors performed their professional identity by embodying a theatrical role in elaborate masquerades; they sang and danced while alluding to professional issues and concerns. Secondly, the plays produced and reproduced a certain kind of masculinity. At times the persona of the neurosurgeon was seductive and erotic, but also, often,
the neurosurgeon’s character was invested with feminine attributes. He was delicate, fastidious, emotional, temperamental and special and elitist like a prima donna: the neurosurgeon’s was a unique masculinity inflected in interesting ways by a feminine undertone.

6 “Putting on a Show:” Concluding Remarks to Part I (Chapters 2 and 3)

Delicate and painstaking and fastidious though they were all seen to be, the younger generation of neurosurgeons differed somewhat from the first generation, which established the first neurosurgical society in 1920, as described in Chapter 2. Younger neurosurgeons did not seem to express quite as much anxiety about the personality of the surgeon who engaged in flashy performances, both in the public arena and in the operating room, the way Cushing and Sachs had expressed vis-à-vis Sharpe. Anxiety over media involvement became less pronounced; in fact, in the 1950s and 1960s it was not unusual for other doctors and scientists to resort to public performances that almost appeared to have been “scripted by Hollywood.”

Penfield himself become famous for elaborate performances that in some cases enlisted the cooperation of the patient as well. Penfield’s Montreal Procedure for epilepsy involved the direct stimulation of the brain with an electrode, which elicited a particular physical or mental reaction from the patient. In the early 1950s, the Canadian Broadcasting Corporation made a documentary showing both this procedure in the operating room, as well as a conversation in Penfield’s office.

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between the patient and the doctor. In the documentary, the patient was put on display and made to perform in two contexts – first in the operating room, but also in front of the camera. In the operating room, when the surgeon had stimulated a certain part of the temporal lobe, the patient heard music. In his office, a few years later, Penfield asked the female patient to sing, to reenact the performance that had taken place the operating room. Since this time period is beyond the scope of this dissertation, I am gesturing here to work I would like to do in the future, that is, to consider the role that the patient played in the work of this younger generation of neurosurgeons. Nevertheless, it is clear that by the mid-century, the culture of brain surgery had changed, being now much more accommodating to these kinds of performances, probably in part the result of a new relationship between medicine and the media. Unlike Sharpe, whose “parading” of patients had been deemed unacceptable conduct, Penfield was able to put his patients on public display.

Furthermore, the second and third generation neurosurgeons had enlarged their therapeutic repertoire quite dramatically. They were operating on more complicated and on much more numerous disorders, and they were attempting new and experimental procedures on, among other disorders, idiopathic epilepsy, hydrocephalus, hypertension, Parkinson’s Disease and

377 This new relationship will be the subject of my next project, which will look at a particular scientific controversy in the mid twentieth century, a controversy which involved Wilder Penfield’s model of the functional organization of the brain and its relationship to consciousness and the mind. During this controversy, as a means of reclaiming a loss of epistemic authority, Penfield enlisted the media as an important ally.

378 For instance van Wagenen devised a procedure consisting in the surgical division of the corpus callosum “in an effort to limit the spread of a convulsive wave to one half of the cerebrum.” William P. van Wagenen and Yorke R. Herren, “Surgical Division of Commissural Pathways in the Corpus Callosum; Relation to Spread of an Epileptic Attack,” *Archives of Neurology and Psychiatry* 44, no. 4 (1940): 741.

379 Leo M. Davidoff, “Treatment of Hydrocephalus; Historical Review and Description of a New Method,” *Archives of Surgery* 18, no. 4 (1929). Walter Dandy also worked extensively on this condition.
other movement disorders, Raynaud’s Disease and a wide array of conditions producing intractable pain, including “pain of unknown etiology associated with neurosis.”

Encouraged by experimentalists such as Fulton, from the mid 1930s second and third generation neurosurgeons also began to tackle mental disorders by performing psychosurgery. Spurling, for instance wrote to Fulton in 1937 that the head of the psychiatry department at the University of Louisville where he worked was eager to try Freeman and Watts’ procedure for psychoses, but Spurling wanted Fulton’s opinion “before I get mixed up in it.” Spurling lamented that

“I suppose I have had the same experience that every other neurosurgeon has had since Freeman’s report. I am literally being besieged by families of

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380 In 1941, the neurosurgeon Edgar Kahn noted that “[d]uring the past seven years about 700 patients have been subjected to bilateral, supradiaphragmatic splanchnic section at the University Hospital” in Ann Arbor, Michigan, and he declared that “[i]t is more than ever our opinion that surgery has more to offer real hypertensives than any other form of treatment generally available at this particular moment.” Edgar A. Kahn, “A Critique of the Surgical Treatment of Hypertension,” *Annals of Surgery* 113, no. 6 (1941): 1073. The first such operation had been devised by Peet in the early 1930s. See also Ward Wilson Woods, “The Surgical Treatment of Hypertension: Preliminary Report of Comparison of Mortality Following Operation with That of a Medically Treated Control Series (Wagener-Keith) Tentative Correlation of Results with Recent Experimental Work,” *Annals of Surgery* 113, no. 6 (1941).


384 Spurling to Fulton, January 5, 1937, John Fulton Correspondence, Yale University Archives.
psychopathic patients to do this wonderful operation. My reaction has been that Freeman and Watts have done sufficient cases to get at least an inkling of the merits of the procedure and that nothing more should be done until those cases have been observed over a period of a year or more. Perhaps this attitude is an indication of my advancing years. At any rate I do not want to get mixed up in this matter without complete considerations of its merits. I would appreciate a note from you about your reaction to the whole business.”

Fulton sent Spurling a very encouraging letter, expressing his confidence that “anyone with courage would be well advised to make a careful study of the whole problem starting out on a few carefully selected cases,” although he did admit that “I am always a little apprehensive for fear that Watts or someone else will one day get a bad hemorrhage through the use of [the two burr holes] approach.” Encouraged by Fulton’s response, Spurling began immediately to plan a series of experimental procedures on State Hospital patients suffering from psychoses, confessing to Fulton that “I am highly appreciative of your advice regarding the lobotomy business. I must acknowledge I would not have quite had the courage to tackle it without a word from you.” Although pleased to have played such an important role, Fulton joked that “I am afraid I shall have a good deal to answer for to St. Peter if you are all going to do the Moniz

385 Spurling to Fulton, January 5, 1937, John Fulton Correspondence, Yale University Archives.
386 Fulton to Spurling, January 8, 1937, John Fulton Correspondence, Yale University Archives.
387 Spurling to Fulton, January 16, 1937, John Fulton Correspondence, Yale University Archives.
operation because I think there is something in it.” Indeed, Fulton persuaded not just Spurling but many other neurosurgeons of the importance of psychosurgery.  

Furthermore, even when they were not performing psychosurgery, the second and third generation of neurosurgeons had an approach to the brain that was more radical and experimental. The neurosurgeons were more likely to sacrifice healthy tissue and to remove larger areas of the brain. Penfield was famous for his more radical surgeries, electing, for instance, to operate on his sister because he feared Cushing would be less aggressive if he performed the operation. When the journalist John Gunther sought Penfield for a second opinion after Putnam operated on his son, Johnny Gunther, Penfield, characteristically, concluded that Johnny needed a subsequent operation, and that the neurosurgeon ought to do “a whopping big job” [...] to risk everything by the most drastic possible operative procedure.”  

As Part I (Chapters 2 and 3) of the dissertation has argued, the establishment of the first two neurosurgical societies shows the extent to which, although the first and subsequent generations of neurosurgeons differed in their approaches, the ethos of exclusionism and elitism was preserved and came to inform, in a broad fashion, the professional identity of neurosurgeons in the first half of the twentieth century. In the second decade of the century, Cushing and Sachs carefully scrutinized potential members for the Society of Neurological Surgeons, rejecting

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388 Fulton to Spurling, January 20, 1937, John Fulton Correspondence, Yale University Archives.


390 See for example van Wagenen’s work on the surgical division of the corpus callosum, van Wagenen and Herren, “Surgical Division of Commissural Pathways in the Corpus Callosum; Relation to Spread of an Epileptic Attack,” as well as the experimental work by Fay mentioned above.


392 Gunther, Death Be Not Proud; a Memoir, 106.
Sharpe for having engaged in flashy public performances and for having courted media attention. Sharpe had been trained by Cushing himself and thus possessed, in theory, a “proper” medical education. His conduct, however, was judged to be unworthy.

Apart from Sharpe, there clearly existed other surgeons who had limited their practice to neurological surgery, the most visible of whom, in terms of publications, were Sharpe’s brother Norman Sharpe and Karl Ney, both of whom practiced in New York. None of these men, however, were academic surgeons whose work (and surgical epistemology) was deeply rooted, as it was for the elite surgeons, in laboratory experimentation. Cushing and Sachs were interested in creating a very exclusive, small and elitist specialist society, choosing instead academic surgeons such as Dean Lewis, whose interests were much broader than neurological surgery. Their choice is clear in light of their aim: more than just desiring to bring together a group of men interested in a particular kind of surgery, Cushing and Sachs wanted to shape the moral landscape of the emerging medical specialty and to dictate the kind of conduct that was permissible of a neurosurgeon both in the operating room and on the public stage at large.

This exclusionism and elitism informed the SNS’s policy toward membership over the next decade of its existence. The close scrutiny of potential members and the extraordinary reluctance to elect new members led to the frustration of a new generation of neurosurgeons, several of whom decided to establish their own society. As I have shown in this chapter, these men employed several strategies in order to lend legitimacy to their new society: despite an initial desire to distance themselves from the older society, they ended up seeking Cushing’s approval and explicitly assuring potential members that the new society was not meant to be competition for the old one. Furthermore, they attempted to involve this society in the creation and maintenance of a national brain tumor registry, a project that eventually failed. These strategies,
however, while they did work to establish legitimacy, backfired in interesting ways. While some potential members were won over by Cushing’s endorsement, others were disappointed by what they considered to be a return to the status quo. The format of the annual meetings as well came to reflect that of the SNS much more than the younger neurosurgeons initially imagined, and the ethos of elitism and exclusionism informed the HCS as much as it did the older society, leading invariably to the formation of three other neurosurgical societies in the two decades before midcentury.

In the first half of the twentieth century, the meetings of these two specialist neurosurgical societies were important for staging a critical encounter between, on the one hand, the members and their guests and on the other the host neurosurgeon who was charged with performing a series of surgeries in the operating theatre. I have argued that these technical performances in the operating theatre were designed equally to encourage particular norms, to standardize surgical procedures, and to demonstrate the prowess of the neurosurgeon. The host bore the important responsibility of “putting on a good show” and finding a fascinating “case study” to share with
his guests.”393 In their descriptions of their work, these surgeons gestured to “the drama of the operating room.”394

At the same time, while different in character, the theatrical performances that occurred in these meetings, whether they were humorous monologues or more elaborately staged plays, employed the same linguistic technology. The language, expressions, and metaphors that described the costumed antics of the doctors on stage was strikingly similar to the language used to characterize the wet clinics held for the benefit of the entire neurosurgical community. More importantly, both of these different types of performance contributed to a unifying specialty-building objective. They constituted techniques of the self that allowed neurosurgeons to both echo and shape attendant cultural repertoires to fashion a successful, elite, exclusionist, uniquely masculine professional self.

Once in the 1920s, Cushing had thanked a guest who had come to give a demonstration at the medical school by writing to him that “I only regret that the entire student body had not been there, ten deep, to hear you. Medicine, alas, now-a-days is a circus of many rings and the students

393 For example, as Putnam put it, “Dr. Cushing has consented to put on some operations Friday morning and some kind of a show for the Boston Neurological Society Friday evening […]” Putnam to Van Wagenen, April 18, 1932, “Notes on the History of the Founding of the Harvey Cushing Society,” v. 2, AANS Archives. Fulton described in his diary the spectacle that sometimes these meetings became. For instance, at a 1935 meeting of the Society of British Neurological Surgeons, “[o]ur decerebellate dog, Bimbo, played the part of the circus clown, much to the amusement of the members of the Society. Danny-Brown and Sir Charles [Sherrington] read their paper last and showed their monkey. Sir Charles had arranged a rope passing to the ceiling of the lecture theatre with an apple at the top of it. The monkey made for the rope and the apple rather before expectations and it was a grand sight seeing Sir Charles hanging on to the monkey’s tail as it was trying to ascend.” John Fulton diary, November 22, 1935, Cushing/Whitney Medical Library, Yale University.

394 Light, “Remembering Harvey Cushing: The Closing Years,” 148. Light, a former Cushing resident, used this phrase in the context of Cushing’s retirement, when “he tried to replace the drama of the operating room with the tedium of writing.”
may be captured by a trapeze act while something really important is going on in another tent."^395

Cushing was expressing the kind of distrust of flashy performances which, as I have argued, had its source in a particular anxiety about the character of the early twentieth century surgeon, and which translated into a conservative surgery. For the younger neurosurgeons, such as Wilder Penfield for instance, performance and spectacle did not carry quite as heavy of a moral burden. As Fulton told it, Penfield wore his hula skirt proudly during the entertainment part of the meetings of professional societies and he was often eager to share his work with the newspapers. But more importantly, as I will show in the next part of the dissertation, Penfield’s generation of neurosurgeons, often in the pursuit of particular professional goals, fashioned a much more sophisticated and fluid specialist identity.

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PART II

NEUROSURGERY AND RELATED MEDICAL SPECIALTIES
Chapter 4 396

“Would you think it impertinent of me to break a lance with you over [your] views on the neurosurgeon?”, 397 wrote the British neurologist Francis Walshe in 1931 to Wilder Penfield, who had recently argued in a published article that neurosurgeons were poised to supersede clinical neurologists by virtue of the therapy they proffered. In his letter, Walshe recounted that,

“I had the opportunity of seeing a few years ago in America (not in [Cushing’s] Boston, let it be said) the way this admirable notion of the surgeon-neurologist actually works. The exponent in question had but one diagnosis – tumour, and one treatment – ventriculography (as many times as he saw fit) followed by exploratory craniectomy. If the unhappy patient happened to have paralysis agitans or epilepsy, that was his misfortune. If he had a vast glioma filling one hemisphere, then the hemisphere came out. I must admit that it was so skillfully removed that the wretched victim of this surgical ecstasy survived – a bedridden, demented hemiplegic with a head like three-quarters of a water melon, draped with a sagging scalp. Nevertheless, he continued to breathe, eat, make noises, and wet his bed for many months longer than life would have been possible had he not

396 A modified version of this chapter and the one following has been published as Delia Gavrus, “Men of Dreams and Men of Action: Neurologists, Neurosurgeons, and the Performance of Professional Identity, 1920-1950,” Bulletin of the History of Medicine 85, no. 1 (2011), Copyright © Delia Gavrus. Adapted with permission by The Johns Hopkins University Press.

397 Walshe to Penfield, January 6, 1931, Correspondence Francis Walshe, C/D 20, P 142, Wilder Penfield Fonds, Osler Library of the History of Medicine, McGill University.
been mutilated, and he was therefore a neurosurgical success. If men were lizards
and could re-grow the fragments removed by the surgeon, then such ‘therapy’
might be justified.”

In his response to Walshe’s letter, Penfield countercharged that American neurosurgeons who
went to London’s Queens Square Hospital to learn neurology encountered “consistent scorn for
the surgery across the water.” He attacked the very raison d’être of clinical neurology,
prophesying that: “[t]he farther neurology divorces itself from therapy, the more certain will be
the disappearance of this specialty.”

As this correspondence suggests, starting in the second quarter of the twentieth century, second-
generation neurosurgeons and clinical neurologists engaged in a fierce exchange, contesting the
scope of their specialties and the extent to which claims to therapy justified the increasing status
of neurosurgeons. In private letters, in the pages of professional journals, in the meetings of
medical societies, in their appeal to funding bodies, these specialists sought to negotiate the
boundaries of their respective practices, to conceptualize the scope of medical specialties in
general, and to articulate a distinctive professional identity at a time when stringent standardized
qualifications had not yet been put in place systematically, but were rather enforced to some
extent though the admission to specialist societies, as I have shown in the previous chapters.

398 Walshe to Penfield, January 6, 1931, Correspondence Francis Walshe, C/D 20, P 142, Wilder Penfield
Fonds, Osler Library of the History of Medicine, McGill University. Walshe was probably referring to the
patients of the neurosurgeon Walter Dandy who practiced at Johns Hopkins. Walshe had been invited to
spend a period of time in the 1920s in Baltimore, and he would have had the opportunity to see Dandy’s
patients.

399 Penfield to Walshe, January 20, 1931, Correspondence Francis Walshe, C/D 20, P 142, Wilder Penfield
Fonds, Osler Library of the History of Medicine, McGill University.

400 Penfield to Walshe, January 20, 1931, Correspondence Francis Walshe, C/D 20, P 142, Wilder Penfield
Fonds, Osler Library of the History of Medicine, McGill University.
Archival records reveal that behind the scenes, Penfield was instrumental in galvanizing and formalizing this debate by convincing the editor of the *Archives of Neurology and Psychiatry* to solicit a series of articles on the state of the field – a “collective examination of conscience,” as one neurologist called it.

1 **Rhetorical Performances and the Articulation of Professional Identity: Introduction to Part II (Chapters 4 and 5)**

In this chapter, I explore in depth this previously unexamined debate, situating it in the professional context of interwar medicine and analyzing it in light of the professional identity these medical specialists were fashioning. The institution-building enterprise that Penfield engaged in restructured the landscape of neurosurgery and neurology and altered the professional discourse between these related medical specialists. It also left a mark on the ways in which neurologists and neurosurgeons experienced, imagined, and expressed their professional identity for decades to come. In the next chapter I will analyze the impact of the neurosurgeons’ challenge and of their rhetoric of therapeutic superiority on the neurologists’ own sense of professional identity.

The roots of the debate between clinical neurologists and neurosurgeons can be traced to the aftermath of the First World War, when clinical neurology gradually came under attack from three groups: the psychiatrists, the experimental neurologists, and, most importantly for the focus of this dissertation, the neurosurgeons. Following the first generation of neurosurgeons who,

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402 The case of psychiatry will be considered in more depth in the future. Much work remains to be done on the history of twentieth-century North American neurology, as Ellen Dwyer has pointed out: Ellen
as I have shown in Chapter 2, established neurosurgery as a solid medical practice in the 1920s, but in the absence of stringent standardized qualifications such as those imposed by specialist boards and medical curricula, second and third-generation neurosurgeons began to articulate a fluid identity, assuming the mantle of neurology when it suited their professional interest. With an ambitious professional goal in mind – the creation of a neurological institute – Penfield challenged the authority of clinical neurologists by claiming therapeutic superiority, effectively using therapy as the legitimizing principle of medical authority at a critical time when such an argument resonated powerfully, especially with funding agencies. Initially, the neurologists retaliated by pointing out that neurosurgeons were not equipped to deal with the large variety of neurological conditions and were too quick to take radical action. But by the 1950s it became clear that the neurosurgeons’ rhetoric had left a significant mark on the way a new generation of neurologists imagined the history of their specialty. Declaring that neurologists of the past had not been interested in therapeutics, these younger neurologists saw themselves as part of a renaissance of neurology that involved a primary emphasis on therapy.

The conflict between these related medical domains reveals the contested nature of the process of specialization, the jurisdictional debates that it engendered, as well as the fluidity of specialist identity in the interwar period in North America. The second and third generation of neurosurgeons believed therapy to be the critical organizing principle of specialization, while the clinical neurologists, arguing that both organic and functional disorders ought to belong to neurology, based specialization on a focus on the nervous system broadly defined. This disagreement had serious institutional and economic ramifications, determining, for instance, who could lead neurological departments and institutes across North America. The neurologists’ strategies in responding to their colleagues’ challenge echo such practical concerns. As I will show, the policies of the American Neurological Association in the period leading up to the establishment of a specialist board reveal the ways in which neurologists sought to maintain or regain control over contested professional interests.

While anchoring the debate between neurosurgeons and neurologists in these social and institutional considerations, I pay particular attention to the way the doctors experienced and articulated their identity. Their rhetoric – that is, the arguments, the language, and the stories employed by neurologists and neurosurgeons – is equally important in understanding this professional debate. Scholars have shown that medical identity is negotiated through various cultural practices, such as aesthetic choices, public displays and iconography, and rhetoric –

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the practice of using argument and language, orally and in writing, toward a certain persuasive end. Historians have long explored the cultural work that physicians’ rhetoric performs, observing, as David Harley has, that by attending to rhetoric we can better understand the circumstances of persuasion that legitimate new disciplines, knowledge, and identity. For example, in the nineteenth century, a rhetorical appeal to science was one tool in physicians’ quest for professional authority, while in the Renaissance, a commitment to rhetoric and oratory served the significant function of aligning the medical profession with other important Renaissance humanist disciplines. Rhetoric, as Nancy Siraisi has argued in the Renaissance context, “cannot be simply dismissed as peripheral to [medicine’s] ‘real’ enterprise, whether that enterprise is conceived as primarily professional, scientific, philosophical, or healing.” On the contrary, rhetoric, as a strategy, often allowed doctors to appeal to particular stories and metaphors that resonated in a broader cultural milieu and thus helped confer cultural authority.

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Furthermore, the importance of professional discourse is further underscored by recent scholarship, which links it not only to medical authority and identity, but also to therapeutic practice and knowledge-production.\(^{410}\)

This enterprise of articulating a professional identity and claiming authority occurred in written texts, but also in an oral context. As historian Michael Sappol has shown, doctors sometimes engaged in social performances by telling narratives based on shared experiences, such as anatomical dissections and grave robbing in the early nineteenth century, which allowed them to claim affiliation to a particular professional group and, implicitly, to medical authority.\(^{411}\)

Similarly, I argue, the self-fashioning of neurologists and neurosurgeons had a distinct performative dimension, and the language they used was calibrated specifically for this purpose.\(^{412}\)

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\(^{410}\) Mical Raz, “Between the Ego and the Icepick: Psychosurgery, Psychoanalysis, and Psychiatric Discourse,” *Bulletin of the History of Medicine* 82, no. 2 (2008), Daston and Galison, *Objectivity*. Daston and Galison argue that the epistemic virtues that at any given time scientists use to define their identity are also intimately related to knowledge production.

\(^{411}\) Michael Sappol, “The Odd Case of Charles Knowlton: Anatomical Performance, Medical Narrative, and Identity in Antebellum America,” *Bulletin of the History of Medicine* 83, no. 3 (2009): esp. p. 494. The concept of performance and its relation to identity has been used in different ways by scholars in different fields – for some classic studies see, Judith Butler, *Gender Trouble: Feminism and the Subversion of Identity*, Thinking Gender. (New York: Routledge, 1990), Goffman, *The Presentation of Self in Everyday Life*. While this body of work has shaped to an extent my perspective on the professional self as unstable, as being made and remade in different contexts, when I talk specifically about performance I use the term as I have defined it, rather than relying on these scholars’ exact definitions.

\(^{412}\) The literature on self-fashioning is voluminous. For the classic studies see Stephen Greenblatt, *Renaissance Self-Fashioning: From More to Shakespeare* (Chicago: University of Chicago Press, 1980) and Biagioli, *Galileo, Courtier: The Practice of Science in the Culture of Absolutism*. 
In the 1930s and 1940s, the doctors argued about the boundaries of their disciplines and the characteristics of their identity in speeches followed by animated discussions at the meetings of specialist societies – regional, national, and international. The text of the speeches and, often, a summary of the ensuing dialogue were published in trade journals, but it is significant that these exchanges were first played out as performances in front of an audience. This oral genesis provides insight into the manner in which the doctors’ rhetoric worked to persuade by means of entertainment while creating and perpetuating particular narratives of professional identity. The use of recurring tropes – metaphors, hyperbole, anecdotes, humor, a particular reading of history – inspired a sense of shared identity at a time when this identity was fluid and contested. For example, the attempt to invoke a fundamental difference in temperament between physicians and surgeons by locating the neurologist’s supposedly reflective nature in a historical past in which physicians were characterized as contemplative learned gentlemen, while simultaneously dismissing the neurosurgeon as an unthoughtful man of action, allowed neurologists to frame a response to the neurosurgeons’ challenge of therapeutic superiority. This was a rhetorical strategy deployed in rousing speeches to which the professional audience could respond and even contribute communally. The practices associated with this communal work can be labeled “rhetorical performances.”

The performative nature of these public engagements is even more arresting when read against the theatrical performances that often took place on stage at the end of a day filled with professional presentations, as Chapter 3 has already intimated. The same linguistic conventions used in polemics about the scope of neurology were also echoed in the humorous, often ribald plays enacted by members of the American Neurological Association, or the monologues and entertaining presidential speeches of the Society of Neurological Surgeons and the Harvey Cushing Society. The blurring of the line between entertainment and serious debate that
proceeded in both directions during these meetings illustrates the central role played by rhetoric, and by the performances in which this particular rhetoric was deployed, in the fashioning of a shared specialist identity.

2  “Therapy Determines the Care of Patients:” The Purpose of a Medical Specialty

In March 1928, Wilder Penfield, who had worked most recently as a surgeon and neurologist at the Presbyterian Hospital, sailed to Germany to study with Otfrid Foerster, a neurologist who had started operating on the brain during the First World War. Partly funded by the Rockefeller Foundation, Penfield was interested in observing Foerster’s surgical technique for epilepsy, but also, more ambitiously, in assessing the state of neurology in continental Europe for the foundation’s benefit. To this end, he went on a tour of European neurological clinics and departments, and he wrote a detailed report outlining their clinical organization, research, and therapy.

Although the report was supposed to be confidential, Penfield circulated it liberally within his professional circle in an attempt to rally support among his colleagues, especially those who were in a position to make administrative decisions, for a radical reimagining of the medical landscape. For instance, he wrote to Milton C. Winternitz, the dean of the Yale School of Medicine, that “my last copy [of the Rockefeller Report] had been loaned to someone and it took a little while to get it back; hence the delay [in sending it to Winernitz].”

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414 Penfield to Winternitz, April 10, 1929, Correspondence, C/G 28-29 W, P 142, Wilder Penfield Fonds, Osler Library of the History of Medicine, McGill University.
Tumors, trigeminal neuralgia, trauma, and palliative measures such as subtemporal decompressions had been the de-facto arsenal of brain surgery since the first generation of neurosurgeons began to practice at the beginning of the twentieth century. As I have shown in Chapter 3 Penfield, like many second and third generation of neurosurgeons was a prominent advocate of expanding neurosurgery’s purview to include other neurological conditions such as hydrocephalus and epilepsy. In 1929 he wrote to John Fulton to persuade him to show interest in epilepsy:

“All that we have seen epileptic seizures of the vegetative nervous system, it seems to me surely that there is something higher than the centers which you describe. I am very anxious to stimulate electrically, under local anesthesia, the region of the foramen of Monroe to see if we cannot reproduce vegetative epilepsy. I wish it were possible for you to stay in this country a few months and undertake the problem with me. It seems to me that epilepsy in general is easily the most important and most tempting problem in neurology, and you could bring a very important physiological point of view to bear on it if you should get interested in it.”

Penfield also believed that neurology and neurosurgery ought to be housed in the same space within the hospital. He confessed to his mother that the foundation “asked me for something but don’t expect so exhaustive a [report]. It is the least I can do for their sending me and it may also

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415 Penfield to Fulton, July 16, 1929, John Fulton Correspondence, Manuscripts and Archives, Yale University Library.
serve an ulterior motive.” Penfield’s ulterior motive was his desire to secure financial support to build an institution that embodied his specific vision for the future of the specialty, an institution that would allow him to be in charge of both neurology and neurosurgery. Prior to his European sabbatical, he had just been hired by the Royal Victoria Hospital and, knowing that he enjoyed strong local support, had high hopes to effect that kind of change in Montreal.

In the Rockefeller report Penfield used a particular kind of rhetoric to set up what would become, over the following four years, a protracted attempt to persuade the foundation to invest in his vision. His central argument concerned the therapeutic superiority of neurosurgery over a supposedly ineffective clinical neurology. According to Penfield, contemporary clinical neurology was floundering in a crisis in part because other medical specialties had been steadily taking over the treatment of traditionally neurological disorders – cerebrospinal meningitis was now being treated by the internist, polio and syphilis by the serologist, spastic paralysis by the orthopedic surgeon. “It is chiefly those diseases for which adequate therapy is lacking which are left undisputed in the province of Neurology,” Penfield concluded, and therefore, “[i]n the presence of this partial dismemberment of neurology during the past thirty years it is perhaps not surprising to find so few centers of neurological thought in Europe.”

Therapy was thus singled out as a central theme in the report. If neurology continued to be closely allied with general medicine and neurosurgery with general surgery, he expected “the disappearance of neurology on the principle that therapy determines the care of patients.

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416 Penfield to his mother, 26 August 1928, Extracts from WGP Correspondence 1927-1928, C/G 4-1/4, P 142 Wilder Penfield Fonds, Osler Library of the History of Medicine, McGill University.

Medicine will then call in two consultants, the psychiatrist and the neurosurgeon who, paradoxically, will have become neurologist as well." Penfield was suggesting that this desirable conflation of neurosurgery and clinical neurology would produce a more sophisticated neurosurgeon: “The combined neurologist and neurosurgeon, because he is capable of administering the therapy will also naturally have the organic neurological cases under his care.” Medical authority, Penfield was essentially arguing, should be conferred by the doctor’s ability to perform a successful therapeutic intervention, not by providing a successful diagnosis and outlining the correct prognosis, for example.

The first decades of the twentieth century saw the introduction of what were perceived to be spectacular pharmaceutical therapies, from Salvarsan for syphilis to insulin for diabetes, as well as increasingly publicized surgical interventions. Meanwhile, a community of American therapeutic reformers began to coalesce around a common goal that emphasized the necessity of a close scrutiny and evaluation of new medical products based on laboratory experimentation. Surgery occupied a privileged position in the medical marketplace, being closely identified with this scientific experimentalist ethos and sharing with experimental science many “control

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418 Ibid.: 19.
419 Ibid.: 18-19.
422 Lawrence, “Democratic, Divine, and Heroic: The History and Historiography of Surgery,”
In North America especially, surgeons thrived in hospitals newly restructured in the era of the efficiency movement, and in turn shaped new hospital practices such as record keeping and technology use. Neurosurgery, as I have shown in the previous chapters, was part and parcel of this new era.

It is in this climate of therapeutic headiness that Penfield’s claim to therapeutic superiority and the ensuing recasting of neurologists’ identity must be situated. Penfield’s seemingly universal vision for the transformation of neurosurgery and neurology was, at the same time, rooted in his specific circumstances. He was a doctor whose specialist education was pieced together, in early-twentieth century fashion – a medical degree from Johns Hopkins, a surgical internship in Boston, a stint as a Rhodes Scholar in C. S. Sherrington’s neurophysiology lab, some neurological training at Queen Square, a few months in Pio del Rio-Hortega’s neurohistology lab in Madrid.

This eclectic apprenticeship, coupled with the nonexistence of specialist boards, allowed him to practice as both neurologist and neurosurgeon. Indeed, Penfield was offered, and declined, a position in neurology at Johns Hopkins in 1922.

Although historians often talk about these medical specialists in the 1920s and 1930s as though their professional identities were self-evident and immutable, the extraordinary range of backgrounds and ideological commitments of

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423 Schlich, “Surgery, Science and Modernity: Operating Rooms and Laboratories as Spaces of Control,”

424 Howell, Technology in the Hospital: Transforming Patient Care in the Early Twentieth Century.

425 Penfield, No Man Alone: A Neurosurgeon's Life, 75.
these doctors suggests otherwise. Often, as Penfield’s case shows, these doctors’ self-fashioning took place in the context of a specific professional goal or local circumstance.

The report to the Rockefeller Foundation serves as an excellent example of this self-fashioning; Penfield presented himself as the embodiment of a new kind of neurosurgeon who could claim authority over clinical neurology as well. Historian John Harley Warner has shown that therapy is powerfully linked to professional identity: in the nineteenth century, changes in therapeutic thinking necessitated a reevaluation of physicians’ authority and identity. In the context of early twentieth century therapeutic reform, Penfield’s rhetoric of therapeutic superiority as justification for the emergence of a new identity for neurosurgeons was a compelling discursive tool. His arguments had a dramatic impact on the professional discourse of neurologists and neurosurgeons in the following decades.

3 “The Scope of Neurology:” A Neurosurgeon’s Challenge

The year following Penfield’s report to the Rockefeller Foundation marked Cushing’s sixtieth birthday, and a special volume of the Archives of Surgery was published in his honor. Penfield chose this significant occasion to present his ideas to a larger audience. His argument somewhat less strident, Penfield nevertheless contended that new medical advances “demand[ed] a

426 In the British context prior to the 1930s, Stephen Casper has argued for the fluidity of professional identity of physicians who belonged to neurological societies, partly owing to a pervasive generalist medical culture which prompted these doctors to identify themselves as general practitioners. Stephen T. Casper, “The Idioms of Practice: British Neurology, 1880–1960” (PhD Thesis: University College London, 2007), 161.

reconsideration of the scope of neurology.” Neurology, in his view, was too encompassing: “[I]n neurology, perhaps more than in any other branch of medicine, the sine qua non of advance is specialized study. This specialty, however, is often so subdivided that it ceases to be a specialty at all.” On one hand there were research divisions such as neurophysiology that contributed to knowledge about the nervous system, and on the other hand there were clinical sciences such as neurosurgery and psychiatry, which applied scientific knowledge through therapy. Between the two stood the clinical neurologist who “may never have learned the possibility of either science.” The neurosurgeon enjoyed a privileged position, in Penfield’s opinion, not only because he could administer therapy, but also because he had “become by experience, a neurologist.”

Cushing responded to Penfield’s views in a handwritten note on April 16th, 1929, noting that he was “flabbergasted by the Birthday Volume to which you have contributed such an interesting and timely article.” However, he proceeded to offer a subtle but thoroughly critical appraisal of

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429 Ibid. This argument may have seemed nothing short of ironic to those who were trying – and often failing – to establish neurology as an autonomous department in medical schools by arguing that it was specialized enough to stand on its own apart from general medicine. For an example in the North American context, see Stephen T. Casper, “Atlantic Conjunctures in Anglo-American Neurology: Lewis H. Weed and Johns Hopkins Neurology, 1917-1942,” Bulletin of the History of Medicine 82, no. 3 (2008). An additional reason why the Hopkins endeavor failed is provided by Penfield, who himself had declined a neurology position there, and who commented on neurosurgeon Walter Dandy’s refusal to cooperate with Weed’s efforts. Penfield, No Man Alone: A Neurosurgeon’s Life, 75. For the failure at the University of Chicago to create a wide-ranging interdisciplinary program in “neurobiology” under the leadership of neurologists, see Bonnie Ellen Blustein, “Percival Bailey and Neurology at the University of Chicago, 1928-1939,” Bulletin of the History of Medicine 66, no. 1 (1992).

430 Penfield, “The Scope of Neurology,” 1337, my emphasis.
431 Cushing to Penfield, April 16, 1929, Harvey Cushing Papers, Reel 43, Yale University.
Penfield’s views, both appearing to defer to a new generation of neurosurgeons – “What can be accomplished in your generation to make a new order of neurologist remains for fellows like you and Bailey, who have had an all-round training, to demonstrate” – but also expressing skepticism toward Penfield’s strongly stated opinion. “We may be setting the standard too high, too comprehensive,” Cushing wrote, and then proceeded to explain that while it was worth striving for such a standard, it could perhaps not be attained:

“It takes a long time to make a good clinical neurologist even one of the old school, of the Spillar [sic] type for e.g.: but to expect that the Spillars [sic] of the future should also be surgical handicraftsmen is almost too much, unless we can stretch the ‘expecting’ over the life of a Methuselah. The length of time it would take for a proper grounding in neuropathology, psychiatry, neurophysiology, etc plus surgery except for the occasional genius [sic] is prohibative [sic]. The art is long and the life short. And the measure of the life is that of the surgeon who begins to see the end at the stage when he receives Birthday Volumes. How long shall we say – 15 years of preparation and 15 years as head of a neurological clinic? Still when we have got it properly fixed there perhaps will be an arrangement whereby the neurosurgeon can continue in the clinic and laboratory without personally “surging” – that part of the work being done by younger hands.”

Cushing ended on a reconciliatory tone, confessing his hope “that the people in Chicago will see the light insofar as to make [Percival] Bailey ‘Head’ of a neurological department. And perhaps

433 Cushing to Penfield, April 16, 1929, Reel 43, Harvey Cushing Papers, Yale University.
they will have the good sense to do the same for you at McGill.” While praising Penfield for what he had already accomplished, Cushing wrote that he was “proud to have had you write as though you were a ‘pupil,’” and yet he offered resistance to Penfield’s posturing as a Cushing pupil: “You are wholly self-made. The beastly war prevented my seeing much of you while you were here; but if I remotely roused your interest in neurosurgery it gives me great satisfaction to know of it.”

Cushing’s assessment of Penfield’s refashioning of the neurosurgeon as a neurologist, was a delicate blend of praise and disagreement that also betrayed a generational difference. Penfield, the upstart young neurosurgeon, represented himself as Cushing’s pupil in an attempt, also echoed by other young neurosurgeons at this time as I will show in Chapter 7, to assert the proper professional pedigree. Penfield’s response to Cushing’s letter displays a humility topos: “I appreciate so much your letter about my poor contribution to your book. I realise that I have much less right to consider myself a pupil of yours than some of the others, in point of duration of service, but in spirit I hope that I may be considered a pupil on an equal footing with the others.”

Penfield’s deliberately provocative tone in the article published in the *Archives of Surgery* was calibrated to spark a debate, and the first colleague to rise to the challenge was Francis Walshe, who, as I have illustrated at the beginning of this chapter, upon reading Penfield’s paper privately engaged him in a lively epistolary conversation. Walshe belonged to that generation of British neurologists who had generalist sympathies, who embraced a holistic neurology, and who viewed excessive specialization with suspicion and concern. He emphasized the neurologist’s need to be

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434 Penfield to Cushing, May 8, 1929, Harvey Cushing Papers, Reel 43, Yale University.
first and foremost a general practitioner able to take into account all of the patient’s potential medical problems.\textsuperscript{435}

Walshe’s objections centered on the fact that “nine-tenths of neurology is concerned with other maladies than intracranial or spinal tumour,”\textsuperscript{436} and on his belief that young neurosurgeons did not have enough neurological, or for that matter, neurosurgical training. He deplored the character of young neurosurgeons, who expected “with no preliminary training to spring Minerva-like from the head of Cushing, full-armed and with nothing to learn, after a single year’s gestation.”\textsuperscript{437} Penfield, in Walshe’s assessment, was guilty of “encouraging the budding neurosurgeon to think that there is a short cut to knowledge and efficiency, by which he can dodge that sound clinical training in neurology without which no neurosurgeon can be better than a man who works under guidance, or a butcher.”\textsuperscript{438}

The Penfield-Walshe correspondence is emblematic of the kind of rhetoric that was traded between neurologists and neurosurgeons in the interwar period. Calling the patient “a victim of surgical ecstasy” or prophesying, as Penfield did, the disappearance of clinical neurology underscores the central role that metaphors and hyperbole played in this contentious discourse between doctors who had been trained in classics and who were steeped in a deeply humanistic medicine, inspired by the example of William Osler and Charles Sherrington.


\textsuperscript{436} Walshe to Penfield, 6 January 1931, Correspondence Francis Walshe, C/D 20, P 142, Wilder Penfield Fonds, Osler Library of the History of Medicine, McGill University.

\textsuperscript{437} Ibid.

\textsuperscript{438} Ibid.
As historians of medicine have shown, during the Renaissance, “medicine was also a humanistic discipline […]; that is, it both fostered and provided ample scope for the development among learned physicians of interests characteristic of humanistic culture in general: rhetoric, history, biography, fascination with remote peoples and places, and antiquarianism.” Over the course of the following centuries, although the culture of medicine changed, this interest in humanistic endeavors endured in different forms, often signaling an aspiration to a particular elitist status.

The celebrated nineteenth-century physician William Osler was an accomplished writer and humanist; Sherrington was a published poet and wrote the biography of the sixteenth-century physician Jean Fernel; Cushing himself won the Pulitzer Prize in 1926 for his biography of Osler, and he was an avid collector of rare historical books – in fact, he eventually died from a heart attack that occurred while he was lifting a heavy Vesalius folio. Walshe and Penfield were very much steeped in this humanistic and antiquarian tradition in medicine, and their lengthy epistolary conversation with its complex metaphors and rhetoric can be read in this cultural context. Walshe as well eventually came to write essays for a general educated audience, while Penfield enjoyed a second literary career, publishing biographies and novels, including one about Hippocrates.

This interest in humanism and the emphasis on the importance of a humanistic education for doctors was thus also part of the repertoire of self fashioning that was available to neurologists and neurosurgeons in the first half of the twentieth century. Since physicians such as Osler, who


was seen to have been accomplished in both the art and science of medicine as well as in the humanities, were widely celebrated by contemporary doctors, these humanistic aspirations constituted a marker of elitism, a resource for drawing lines of inclusion and exclusion, and a discursive practice that allowed the doctors to claim authority. As I have mentioned in Chapter 1, the neurosurgeon J. Lawrence Pool, who was part of the third generation of neurosurgeons who began their practice in the 1940s, attributed neurosurgery’s elitist status as a specialty to the fact that “most of the neurosurgeons who were my teachers […] were not only skillful in the operating room but extremely well versed in all the sub-specialties associated with our profession […] [and] also had broad extra-curricular interests such as music, literature, history, and art, making them special specialists and therefore elite.”

This type of discourse around the importance of humanism in medicine was related to the claims made by Cushing and others, as I have shown in Chapter 2, that brain surgery could not be practiced in a fully standardized, fully mechanized and rationalized way. There was an element of artisanship and individual skill to brain surgery, Cushing had argued. Surgery was an art as well as a science. Some scholars have argued that these kinds of arguments and the emphasis on humanism in medicine, which recur frequently in different contexts over the course of the nineteenth and twentieth centuries, served a particular social goal, such as that of reaffirming authority, sustaining the status quo in medical practice, and helping “to defend established power

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relationships” in cases where some doctors’ autonomy was threatened by certain innovations in medical practice, for instance.\textsuperscript{442}

For neurosurgeons and neurologists in the 1930s, an engagement with rhetoric and oratory and an appeal to humanism constituted such resources for displaying authority. Walshe and Penfield’s rhetoric was thus part of their broader medical identity in the interwar period, and they took obvious delight in their verbal sparring. This rhetorical exchange, which would be soon formalized in polemics on the state of the field presented during the meetings of professional societies, started out in this private correspondence. “You must excuse the garrulity of an Irishman […] who states his case rather more strongly than he really holds it. I shall not mind if you reply that I am a fox without a tail, or a reactionary dotard,” wrote Walshe humorously and in mock self-deprecation.\textsuperscript{443} Overstatement served as rhetorical flourish, but the particular choice of such overwrought metaphors was nevertheless significant. Walshe’s metaphor of surgery as butchery was a common trope in these discussions, as I will show, and constituted an invocation of the supposedly unbridgeable and historic gulf between physicians and surgeons.\textsuperscript{444}


\textsuperscript{443} Walshe to Penfield, 6 January 1931, Correspondence Francis Walshe, C/D 20, P 142, Wilder Penfield Fonds, Osler Library of the History of Medicine, McGill University.

\textsuperscript{444} The importance that many of these doctors ascribed to rhetoric and oratory is underscored by the fact that many of them engaged in humanistic enterprises. John Fulton, for instance, in his diary often commented on the importance of good oratory for doctors. On October 14, 1927, he noted that he had gone to the “opening exercises of Vanderbilt Hall, the new dormitories of the Medical School. The exercises were very entertaining. After a series of unutterably boring introductory speeches, rife with wearisome platitudes about the moral excellence of modern youth, Dr. George Vincent was called upon and electrified the whole audience with a flood of magnificent oratory which was sparkling and amusing and engaged one’s attention for about forty minutes. […] I am not sure how much one carries away from one of Dr. Vincent’s addresses, but while they are going on, one is vastly amused, which after all is saying a great deal for any one’s speech made on a perfunctory and rather stupid occasion. New Englanders seem
Walshe’s most important argument was his rebuttal to Penfield’s belief that a neurosurgeon became by experience a neurologist. “Unless a man takes out his clinical neurological training before he embarks on neurosurgery, he will never do so,” he insisted, offering the example of Norman Dott, an American-trained British neurosurgeon who had recently written in the *Edinburgh Medical Journal* that a brain lesion was easy to diagnose, headache being its prominent symptom. Walshe bristled at the young neurosurgeon’s facile grasp of such a complex neurological condition: “could more concentrated error or nonsense be crammed into two sentences?”

In his response to Walshe, Penfield argued that neurologists were biased against neurosurgeons, and he lamented “the attitude which is taken in Boston, Baltimore, and Queens Square […] that neurosurgery means tumor surgery. Tumor surgery is hardly half of what neurosurgery should cover and it is the least encouraging and least stimulating half.” In Montreal, Penfield had successfully lobbied for the creation of a combined Department of Neurology and Neurosurgery. He had sent a detailed plan of the organization of such a clinic to Edward Archibald even before to be quite inarticulate, they have little idea of how to run a meeting and make dismal after-dinner speeches. The Dean of the Medical School believes that no one should ever make an after-dinner speech, but rather sit in silence in communion with one’s neighbor. There seems to lurk in his heart the puritan notion that no one should ever be amused, at least he frowned heavily at every amusing remark that Vincent uttered as if it were not becoming to so serious an occasion as the dedication of the new dormitories.”

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445 Walshe to Penfield, January 6, 1931, Correspondence Francis Walshe, C/D 20, P 142, Wilder Penfield Fonds, Osler Library of the History of Medicine, McGill University.

446 Walshe to Penfield, February 3, 1931, Correspondence Francis Walshe, C/D 20, P 142, Wilder Penfield Fonds, Osler Library of the History of Medicine, McGill University.

447 Penfield to Walshe, January 20, 1931, Correspondence Francis Walshe, C/D 20, P 142, Wilder Penfield Fonds, Osler Library of the History of Medicine, McGill University.
accepting the position, going as far as to stipulate that the chief of surgery may not interfere with the organization of the clinic without his consent.\textsuperscript{448}

But Penfield’s ambitions ran deeper. In 1929, on the heels of his European report, he approached the Rockefeller Foundation and the director of the Medical Sciences Division, Richard M. Pearce, with sketches and a description of the neurological institute he envisioned, but the foundation declined, suggesting that a survey of the state of neurology was needed before such a large undertaking could be taken.\textsuperscript{449}

Thus, for Penfield, opening a dialogue to assess the state of the discipline was strategically advantageous, and he realized that he could use Walshe’s letters for this purpose. When Alan Gregg succeeded Pearce in 1930, Penfield renewed his efforts and found in Gregg a much more receptive director. Penfield met with Gregg and shared with him the “hopes and fears that we have for neurology in Montreal,”\textsuperscript{450} and on March 18, 1931, he sent Gregg a copy of his article on the scope of neurology, as well as copies of his private correspondence with Walshe. Penfield was using the neurologist’s letters in two ways: first by showing Gregg how critical it was to invest in neurology through the prism of therapeutically-rich neurosurgery, considering that older doctors like Walshe appeared not to be fully aware of neurosurgery’s potential, and secondly by demonstrating the urgent need for an institution where young neurosurgeons were properly trained in neurology, in order to preempt future criticisms like those voiced by Walshe.

\textsuperscript{448} Penfield to Archibald, July 17, 1927, A/M 11-1/2, P 142, Wilder Penfield Fonds, Osler Library of the History of Medicine, McGill University.

\textsuperscript{449} Montreal Neurological Institute: Confidential Report to the Trustees, October 1937, Rockefeller Foundation Archives, Record Group 1.1, Series 427 A, Box 7, Folder 61, Rockefeller Archive Center.

\textsuperscript{450} Penfield to Gregg, March 18, 1931, Rockefeller Foundation Archives, Record Group 1.1, Series 427 A, Box 7, Folder 57, Rockefeller Archive Center.
4  “A Collective Examination of Conscience:” The Formalization of the Debate

Penfield’s “ulterior motive” was not well served, however, by just a private debate on this important topic. As a contributing member on the editorial board of the Archives of Neurology and Psychiatry, Penfield suggested to T. H. Weisenburg, the journal’s editor-in-chief, to start a debate on the topic of the education of neurologists and neurosurgeons, and in June 1932, also at Penfield’s suggestion, Walshe was asked to contribute the opening volley.451

Walshe’s article was the first in a series of twelve special articles published between February 1933 and March 1936.452 Written by doctors from five different countries, representing neurology, psychiatry, neuropsychiatry, and neurosurgery, these articles were replete with the language of war – conquest, invasion, regaining control, battleground, struggle, weapon, irredenta. “To borrow a simile from war,” the editors of the Archives said in a 1934 editorial, “the neurologist has been in the front line and the psychiatrist in the base hospital.”453 The war metaphors point to the deeply contested nature of the boundaries between these related specialties, as well as to the belligerent enterprise in which these doctors felt they were engaging. The urgency reflected in the language, as well as the fact that these articles were published in one of the premier professional journals, underscore the prominence of this debate.

451 Walshe to Penfield, June 22, 1932, Correspondence Francis Walshe, C/D 20, P 142, Wilder Penfield Fonds, Osler Library of the History of Medicine, McGill University.
452 F. M. R. Walshe, “Training of the Neurologist,” Archives of Neurology and Psychiatry 29, no. 2 (1933).
Several neurologists admitted that “[n]eurology is in a difficult position at present with regard to surgery” and that the American school of neurosurgery “caused a sense of disquiet in the neurologic world.” While some praised the “audacity” of neurosurgeons, and some even speculated whether the increasing prominence of neurosurgery could confer some advantage to neurology in its attempt to establish itself as an independent department within universities, the overall reaction to neurosurgery was cautious and occasionally dismissive.

Bernard Brouwer, a Dutch neurologist, observed that “in the present state of neurology a cardinal point of training is here involved. Shall this training continue to be given in close touch with psychiatry and general medicine, or will it rather have to turn to the surgical side? Must the future neurologist be a ‘physician’ or a ‘surgeon?’” Brouwer endorsed the former, but it is extraordinary that he asked the question, a fact that testifies to the strong impact of the neurosurgeons’ rhetoric on the clinical neurologists’ perception of both the scope of their specialty and their collective identity.

J. Ramsay Hunt dismissed neurosurgery for its overly ambitious goals: “Neurologic surgery arrived much later [than neurology and psychiatry] on the scene – a precocious child, the gift of surgery – and although not yet of age, would even now play the role of mother neurology

455 Ibid.
457 Brouwer, “Training of the Neurologist,”.
458 Ibid.: 624.
“..." He noted with disapproval a new trend: “(...) the title of professor of neurology is now given to the specialist in neurosurgery." Other contributors to this debate expressed great concern about the threat of neurosurgery. Henry Alsop Riley, the president of the New York Neurological Society, created an elaborate military metaphor likening various neurological conditions over which neurology had lost its authority to irredenta: “Neurology has her irredenta, spheres of activity and of influence which should be hers, but which have for one reason or another fallen under the control of related branches of medicine. [...] The very existence of this irredenta contains implications which bode ill for the future of our specialty.” According to Riley, epidemic cerebrospinal meningitis, anterior poliomyelitis, and cerebro-spinal syphilis had already been claimed by other medical specialties. He argued that if neurology did not take immediate action, it would soon incur a few additional devastating losses: dorso-lateral sclerosis with pernicious anemia, the convulsive states, the psychoneuroses.

These physicians recognized that apportioning medical conditions was not a mere academic exercise, but rather spoke directly to pressing economic realities. “Since this is a large slice of each practitioner’s daily bread, although undoubtedly reprehensible, it is nevertheless understandable that economic motives may play a role in such a controversy,“ wrote the editors of the Archives in an editorial that took stock of the debate. These economic concerns

460 Ibid.: 1083. Hunt identified himself as a neuropsychiatrist, and he worked at the Neurological Institute of New York.
highlighted the prominent role therapy played in this debate, as Penfield had suggested, because those doctors who could offer therapy stood to gain more patients and therefore more income.

Most neurologists who participated in the debate engaged with the issue of therapy: they either assented that it presented a difficulty for neurology, or acknowledged that neurology was perceived to have a problem in this regard. Borden Veeder wrote that “[n]europsychiatry – may I frankly state the general attitude of physicians toward it without raising the question of the validity of the point of view – has been regarded more as a diagnostic specialty,” and he wondered if “[p]erhaps in this lies the explanation of the rapid growth of neurologic surgery as an entity which is apparently upsetting some of my friends who have specialized in neurology.”

Some wondered why lately new therapies for neurological conditions were developed by other medical specialists, and noted that the neurologists often depended on others for administering therapy. Penfield, in his contribution to the debate, suggested that future neurologists had to choose their “therapeutic weapon:” surgery, bacteriology, endocrinologic therapy, or biologic chemistry. Riley urged neurologists to develop “a resourceful and persistent therapeutic program” and to reassume the ongoing care of chronically ill patients. In New York, some clinical neurologists were attempting to do just that by being closely involved in caring for and trying to find a cure for epidemic encephalitis. But ultimately, the question of therapy was not

463 Borden S. Veeder, “Training of the Neurologist, the Neuropsychiatrist and the Pediatrician,” Archives of Neurology and Psychiatry 30, no. 3 (1933): 628.
privileged over other issues. “Many factors led to the present situation,” Riley argued, and he suggested that a “reasonable increase in aggressiveness on the part of the neurologist in both the diagnostic and the therapeutic spheres of activity would redound to the benefit of the specialty and the patient.”

This debate can be read as an attempt by related medical specialties to define the boundaries of their practice. From a sociological standpoint, Andrew Abbott has argued for the importance of jurisdictional conflict in the process of professionalization, and, in a broad account, he has given the example of the way “personal problems” as a jurisdiction was divided and subdivided continuously between psychiatry, neurology and the clergy in the nineteenth and first half of the twentieth century. Although Abbott applied his theory to systems of professions, rather than to closely related medical specialties, jurisdictional conflict appears to be an important element in this case as well.

It is not surprising that this phenomenon was taking place at this time: historian George Weisz has shown that the second stage of medical specialization which took place early in the twentieth century was characterized in part by battles over jurisdictional boundaries. In some instances, these battles coalesced around new technologies; in others it had nothing to do with scientific

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469 Ibid.: 865.
472 Weisz, Divide and Conquer: A Comparative History of Medical Specialization, xvi, 173.
473 For example, see the clash between radiotherapists and surgeons over cancer care in the aftermath of the introduction of radium: Charles Hayter, An Element of Hope: Radium and the Response to Cancer in
or technical innovations. Penfield’s challenge reveals that neurosurgeons conceptualized medical specialties through the prism of therapy, rather than by focus on one organ or system of organs, neurology being destined to be carved up between medical specialties that delivered different kinds of treatment.

This debate started just before serious discussions began among neurologists and psychiatrists about creating a specialist licensing board, and it continued throughout that period. Before a national board was organized in 1934, the New York Academy of Medicine fulfilled the function of certifying neurologists and psychiatrists in order to “give notice to the public, legislative and judicial bodies, that a physician so designated has been recognized by the New York Academy of Medicine as a specialist in that branch of medicine.” At the same time, it was decided that a neurological surgeon ought to be certified as a “specialist in neurological surgery” by the sections of Surgery and of Neurology and Psychiatry, rather than as a neurologist or psychiatrist because “it is unlikely that a physician specializing in neurological surgery, would have the necessary familiarity with the various branches of neurology and psychiatry to qualify him as an expert either in Neurology or Psychiatry.” This decision is further evidence of neurosurgery’s

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475 “A Meeting of the Advisory Committee of the Section of Neurology and Psychiatry,” July 25th, 1933, Section on Neurology and Psychiatry Records, box 1 Executive Working Papers, New York Academy of Medicine Archives and Manuscripts.

476 “A Meeting of the Advisory Committee of the Section of Neurology and Psychiatry,” July 25th, 1933, Section on Neurology and Psychiatry Records, box 1 Executive Working Papers, New York Academy of Medicine Archives and Manuscripts.
recognition as an autonomous specialty, but also of clinical neurologists’ resistance to the neurosurgeons’ claims that they were neurologists as well.

In the early 1930s, as a result of the professional tensions between neurology and psychiatry, a deep division beset the Academy’s Section of Neurology and Psychiatry. As a 1932 memorandum reported, a “considerable number” – forty-three of the Section’s members, including the prominent physicians Smith Ely Jelliffe and Adolf Meyer – “applied to the Council for the creation of a new Section on Psychiatry [because] [t]he psychiatrists are convinced that the present Section is insufficient for the needs of the psychiatrists and that psychiatry would be better developed if carried on alone. The neurologists, on the other hand, feel that neurology and mental diseases cannot be divided and that it is far better for both the neurologists and psychiatrists for them [sic] to continue together.” After months of discussion and meetings, the Council of the New York Academy of Medicine rejected this proposal.

It does not come as a surprise then, that the decision, in late 1934, to create at the national level a joint Board of Psychiatry and Neurology, rather than two separate ones, was extremely contentious. In what was likely both a bid to reaffirm neurology’s traditional authority over mental conditions claimed by psychiatry as well as a reflection of its diverse membership, the American Neurological Association (ANA) supported the conclusion of the Council of Medical Education and Hospitals of the American Medical Association (AMA), which strongly favored a


478 Another petition followed in March 1972. The members of the Section voted, and on April 26th 1972, the Council voted to discontinue the Section on Neurology and Psychiatry, to authorize the formation of two other separate sections: a Section on the Neurosciences and a section on Psychiatry. Records of the New York Academy of Medicine Section on Neurology and Psychiatry 1972, New York Academy of Medicine.
single board, in order to avoid “a multiplicity of boards […] in fields which so largely overlap.”\textsuperscript{479} The disagreements hinged in part on the question of pride in a specialist identity, which also loomed large in the debates in the \textit{Archives}. One neurologist “found himself unable to understand the alphabetic idiocy of the psychiatrists who wished to name the organization ‘Psychiatry and Neurology.’”\textsuperscript{480}

In fact, in the mid 1930s, a proposal to rename the American Neurological Association was circulated among the society’s members. The proposed new name – the American Neuropsychiatric Association – was meant to emphasize the psychiatrists’ contribution. Harvey Cushing wrote to Putnam that “I have written a letter of expostulation to Henry Riley about this and I hope others will do the same, though I can well enough understand psychiatrists may feel that perhaps they are not sufficiently covered by the term Neurology. But the same might be said of the neurosurgeons, for there would be just about the same reason for calling the Association now the American Neurosurgical Association.”\textsuperscript{481} Although Cushing felt that a name change was not necessary since neurology “is a sufficiently broad term to take in surgeons and psychiatrists as well as physiologists, anatomists and pathologists who are interested primarily in the nervous system,”\textsuperscript{482} it is evident that many members of the ANA felt that the name of the association did not accurately reflect the identity of its members, especially at a time when psychiatry was becoming more and more prominent.

\textsuperscript{479} 1933, Status of the Negotiations to Establish a Board of Certification in Psychiatry and Neurology, Collection American Neurological Association, Box No. 1 #6, Memorabilia Scrapbook, 1933-1953.
\textsuperscript{481} Cushing to Putnam, March 26, 1934, Harvey Cushing Papers, Reel 44, 0075, Yale University Archives.
\textsuperscript{482} Cushing to Putnam, March 26, 1934, Harvey Cushing Papers, Reel 44, 0075, Yale University Archives.
Thus, apart from its institutional, educational, and economic dimensions, this boundary confrontation between the closely related specialties of neurosurgery, clinical neurology and psychiatry was fundamental to the way in which the doctors perceived their identity, as they struggled to articulate their sameness or difference. Identity is thus defined in a particular fashion in the 1930s. To be a neurosurgeon meant to be, by experience, a neurologist as well, argued Penfield. To be a neurologist meant to look after patients suffering from psychoneuroses, argued the clinical neurologists. In one debate, a neurologist was quoted as saying that “it is simply impossible to separate [psychiatry and neurology].” While many psychiatrists and neurosurgeons were trying to do just that, the neurologists considered themselves under siege, in a battle over authority and professional boundaries. This was a very different identity from their predecessors’, just one or two decades before.

5  “A Kind of Superman:” Post World War I Challenges to Neurology

In a 1913 presidential address to the ANA, Charles L. Dana had reveled in what he considered to be the prosperous future of neurology. Far from worrying about therapy, he asserted that “the great problems have been relatively solved so far as they can be by present methods, – or we are on the way to solve them.” And far from worrying about irredenta, he welcomed the fact that “much of what has been systematized and explained by neurologists has been most naturally and properly appropriated by the general practitioner.”

483 Freeman, Ebaugh, and Boyd, “The Founding of the American Board of Psychiatry and Neurology, Inc.,” 773.
485 Ibid.
At the beginning of the twentieth century optimism seemed well justified: the neurologists had successfully challenged the alienists in the late nineteenth century, and the New York contingent especially enjoyed a privileged position in the medical hierarchy. Dana saw the neurologist of the future not only as “the diagnostician and the prescriber of drugs and diet, or surgery and mechanical therapeutics,” but also as “an educator, preacher, [and] sociologist.” Well versed in eugenics, he would participate in the education of children and would advise people whom to marry. He would be “a kind of social and economic neurologist,” essentially “a kind of superman, one with higher ideals, more potent inhibitions and wiser in life and wider in outlook than those whom he is trying to guide.”

Far from considering themselves supermen, clinical neurologists of the 1930s believed that their sphere of activity was shrinking at the hands of neurosurgeons and psychiatrists. The change can be traced in part to the First World War when the army had put Thomas W. Salmon in charge of its mental medicine program. Working together for the first time in the “Department of Neuropsychiatry,” neurologists and psychiatrists had treated both physical and mental wounds, and subsequently returned from the war with expertise in both domains.

Furthermore, in the early twentieth century Freud’s ideas began to capture the attention of some American physicians but not others, leading to a rift in the neurological community. As historian John C. Burnham has shown, by 1918 there was in the United States “a recognizable medical

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488 Ibid.: 756.

As increasingly psychoanalytic content began to fill the pages of the *Journal of Nervous and Mental Disease*, a new rival journal – *Archives of Neurology and Psychiatry* – was founded in part because many neurologists thought their interest in organic illness was not adequately reflected in the *Journal*: the editor, Smith Eli Jelliffe, was a strong proponent of psychoanalysis.\(^{491}\)

By the late 1920s, as psychiatrists commanded more resources\(^{492}\) – such as growing financial support from the Rockefeller Foundation – and as younger neurologists increasingly gravitated toward organic disorders, the older generation of clinical neurologists in particular became aware that they needed to assert more strongly their interest in psychiatric disorders, lest their medical specialty lose its claim over them. In an executive meeting of the ANA, Frederick Tilney “spoke of the importance of emphasizing the field of psychiatry,” and he suggested that a day of the society’s meeting “be devoted exclusively to the subject of psychiatry and its allied fields.”\(^{493}\)

Bernard Sachs, a prominent New York neurologist, agreed, proposing “that the word neuro-psychiatry be used instead of psychiatry,” a term that emphasized neurology’s claim to conditions that were increasingly claimed by the psychiatrists. In 1929, the ANA elected the psychodynamically-inclined neurologist Smith Ely Jelliffe as its president. Four years later, Jelliffe remarked about the annual ANA meeting that it “was as usual – fewer and fewer


\(^{493}\) Minutes of the Council and Executive Session of the ANA, 1891-1933, p. 235. Collection American Neurological Association, Dorothy Carpenter Medical Archives, Wake Forest University.
psychological contributions but more and more tolerance for them. [...] The youngsters are in the saddle and going strong. The physiological work is excellent. Cushing rides the Pituitary and Crile the Thyroid.  

An additional challenge to traditional clinical neurology had come from experimentalists working within the larger intellectual domain of neurology. The prominent American experimentalist John Fulton, who, as I have shown in the previous chapters, had important ties to neurosurgeons and in 1932 had become himself a member of the Harvey Cushing Society, was a proponent of what he called “dynamic neurology,” which he described as involving “the incorporation into neurological study of the physiological principles originally enunciated by Hughlings Jackson [...]” Fulton saw dynamic neurology as a direct response to the anatomical “dead-house” neurology, which, he asserted, still dominated “at least nine-tenths of the centers in this country where [post-graduate] neurology is taught.” He lobbied the Rockefeller Foundation for support for this dynamic neurology, and he praised Penfield for embodying this approach. “In Montreal the presence of Penfield,” he wrote to Gregg in 1933, “has made possible a development which bids fair to have a profound influence upon the growth of dynamic neurology, and I am confident that it will serve as an example of what can be achieved by finding a man who is doing outstanding work and giving him full resources.” In stark contrast, he portrayed the most powerful American clinical neurologists with circumspection: “The officials of the New York Neurological Institute control the policies of the ANA and of the Association for Research in

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495 Fulton saw these principles as having “been amplified by Sherrington and Magnus, and brilliantly applied in the clinic by Foerster and to a certain extent by Head, Walshe and Riddock” [sic]. John Fulton, American Neurology, Report sent to Alan Gregg, 25 February, 1933, Rockefeller Foundation Archives, Record Group 1.1, Series 200, Box 120, Folder 1480, Rockefeller Archive Center.
Nervous and Mental Disorders, the two most powerful organizations associated with neurology in the United States. The newer [dynamic] point of view is detectable among the officers of these two associations, but close scrutiny is necessary.”496

Apart from psychiatry and experimental neurology, the rise of neurosurgery in the first decades of the twentieth century had strongly challenged traditional clinical neurology. By the 1920s, Cushing was one of the most well-known and influential American doctors and, as I recounted in Chapter 2, he had recently founded the first specialist society for neurosurgeons, the SNS. When in 1924 the president of the ANA, J. Ramsay Hunt, gave a special celebratory lecture in honor of the Association’s fiftieth anniversary, he chose to make good-natured humor of the most representative members of the community, and Cushing was an obvious selection. Attempting to draw laughter from the audience, Hunt projected a slide that depicted a serene Cushing with an axe in the process of decapitating a lovely young woman (see Figure 21). Three assistant surgeons were watching in silence; they were portrayed in KKK garb, suggestive of a cultish, clannish society:

“Here before you is young neuro-surgery, operating in his chosen field. Note the clean cut chiseled countenance – a monarch of all that he surveys. Somewhat in the background are the assistant surgeons in the costume of the order. They are the silent partners at the feast. You

496 Ibid.
will observe that for sanitary reasons Neurologists have been excluded. They are behind the black asbestos curtain.\footnote{497}

Figure 21 “A Capital Operation by Cushing,” American Neurological Association Meeting 1924 (Memorabilia), © American Neurological Association Collection in the Dorothy Carpenter Archives, Wake Forest University, reproduced with permission

This disturbing picture, which today is read as both racist and sexist, represented Hunt’s attempt to be humorous and entertaining.\footnote{498} In the 1920s, the play on the old metaphor of surgery as

\footnote{497 American Neurological Association Collection, Box 1 #5 Loose Memorabilia from scrapbook, 1888-1932, folder 20: Semi-centennial dinner, Bellevue – Stratford Hotel, June 6, 1924 (c.2), Dorothy Carpenter Medical Archives, Wake Forest University.}
butchery, the emphasis on the exclusion of the neurologists, and, what must have been even at that time, the jarring racial metaphor that pervades both the image and the speech communicated a tension between clinical neurologists and neurosurgeons even before Penfield’s bold, and more specific, challenge in the late 1920s. Furthermore, Hunt’s speech illustrates an attempt, which appears frequently in later debates, to suggest that there was something fundamentally different about the character of neurologists and neurosurgeons, who by virtue of their tools and their ancestry as butchers were not suitable to take over neurology, the domain of the more sophisticated physician. Hunt described neurosurgery as a “problem child [causing] the family no end of trouble,” an illegitimate offspring born from the reckless affair between Mother Neurology and Surgery, but he ended on a hopeful note, expressing his belief that “as time goes on, the prodigal son will realize that Mother was always wise and kind, and he will return and honor her declining years,” rather than attempt to take over her in a misguided Oedipal impulse.499

The critical point here is not that by the 1930s, under the threat of psychiatry, experimental neurology, and neurosurgery, clinical neurology had somehow failed to reach its potential as articulated in Dana’s 1913 speech, but rather that each generation developed its own distinct identity in response to a particular set of conditions and challenges. As I have illustrated, this identity was often negotiated face to face in the meetings of specialist societies, where it became a sort of performance, calibrated to act as entertainment. Hunt’s illustrated lecture, designed both

498 This image brings to mind John Harley Warner’s discussion of medical students in the late nineteenth and early twentieth century posing with the cadavers they dissected. Warner and Edmonson, *Dissection: Photographs of a Rite of Passage in American Medicine, 1880-1930*, 24-25.

499 Ibid.
to train a magnifying glass on uncomfortable professional frictions and to diffuse them through laughter, served the important social function of articulating a professional identity.

Two of the articles published in the *Archives* debate were also drawn from speeches: Riley’s contribution was based on his 1932 presidential address before the New York Neurological Society, and F. L. Wells’ was inspired by a round table discussion at the 1935 meeting of the American Psychiatric Association.\(^{500}\) Seen in this dynamic and interactive context, the rhetorical strategies and tropes employed – for instance the pathos contained in Riley’s call to battle – allow historians to see the richer meaning and the more dramatic impact that such a rhetorical performance might have had over a simply two-dimensional published text. Identity is thus fashioned in the highly dynamic social space that circumscribes specialist meetings.

6 The Aftermath of the Debate

This dramatic debate on the future of neurology in the interwar period was greatly encouraged by the Rockefeller Foundation through Alan Gregg, who led the Medical Sciences Division to focus on funding specific research areas. The foundation placed “particular emphasis [on] the function, derangements, and diseases of the nervous system or, speaking in broader terms, of that psychobiological knowledge of the behavior of man which might be in the possession of the ideal psychiatrist.”\(^{501}\) The fact that the psychiatrist was mentioned so prominently was already a nod in the direction of the relative importance of this medical specialist over the neurologist. Given the

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\(^{500}\) F. L. Wells, “Psychology in Medical Education,” *Archives of Neurology and Psychiatry* 35, no. 3 (1936).

foundation’s focus, it was important for an applicant to stress the superiority of his specialty. By pushing for the formalization of the debate on the future of clinical neurology and by crafting a particular argument – that of therapeutic superiority – Penfield had suggested to Gregg that there existed a hierarchy of deservingness. Neurosurgery with its promise of surgical solutions deserved more money and more authority than clinical neurology.

Penfield’s argument was spectacularly successful. In 1932, at the height of the Great Depression, the Rockefeller Foundation, building upon local support from the city of Montreal, the province of Quebec as well as from McGill University, authorized “appropriations totaling $1,282,652 to McGill University for aid through contributions to building and endowment in the development of clinical neurology, neurosurgery, and the physiology and pathology of the nervous system.”

The language of the document reflects the extraordinary resonance that Penfield’s arguments had had: “The contributions of American surgery to neurology are of very great importance, but until properly balanced neurological clinics are developed to assimilate it, modern neurosurgery will be more of a challenge to neurologists abroad than a part of neurology at home.” In 1934 the Montreal Neurological Institute (MNI), a place where neurology and neurosurgery existed in intimate proximity under Penfield’s leadership, opened its doors with a lavish celebration.

Penfield chose Cushing as one of the keynote speakers for this significant event, and Cushing chose as his topic the contentious relationship among psychiatrists, neurologists and

502 Rockefeller Foundation Archives, Record Group 1.1, Series 427 A, Box 7, Folder 57, Rockefeller Archive Center.
503 Ibid., my emphasis.
neurosurgeons, suggesting, as he put it in a letter to Penfield, “the importance of their playing ball together for the good of their common subject.”

The significance of this topic could not have been lost to the distinguished guests who attended the celebration, given the protracted public campaign that Penfield himself had waged on this very theme. Cushing agreed that “departmental boundaries in medicine fortunately are not fixtures and no plebiscite can keep them so. It is inevitable that in the passage of time they should be made and remade, crossed and recrossed.”

Echoing Penfield’s brash prediction, Cushing appeared to entertain the possibility that “it may well enough happen that the neurologist of the future will be largely surgeon.” On this festive occasion, the neurosurgeons were presenting a unified front.

A skillful and nuanced orator, Cushing is, however, more difficult to pin down than Penfield, and more subtle in his opinions. At times he seemed to plead for collegiality and collaboration, while and at other times he appeared to chastise neurologists for not recognizing the independence of neurosurgeons. Nevertheless, it is significant that on this important occasion Cushing acknowledged the boundary disputes between the closely related specialties. “We all appear to be in the position of taking things away from one another,” he said, “his problems, be he an investigator or teacher; his bread and butter, be he a practitioner.” This admission, coupled with

505 Cushing to Penfield, September 14, 1934, Harvey Cushing Papers, Reel 43, 0316, Yale University Library.


507 Ibid.
his complicated view on the future of medical specialties,\textsuperscript{508} points again to the tenuousness and the apparent instability of the identity of neurologists and neurosurgeons at this time, as well as to the fact that these specialists themselves thought their future identity was unstable and uncertain.

As a result of the fact that professional identity was debated in such dynamic performances at the meetings of specialist societies or at special occasions such as the opening of the MNI, where the audience could interject and interact, the particular configuration of the language and arguments that were employed continued to characterize professional discourse in the following decades. This was aided also by the fact that the speeches were published and disseminated more widely. For instance, the series of papers on the education of neurologists, psychiatrists, and neurosurgeons published in the \textit{Archives} was bound and distributed to medical libraries worldwide. A reviewer writing in the British Medical Journal welcomed the collection and conceded that “[i]t must be felt by many that of recent years the boundaries of the neurologist’s field of work, instead of being clear-cut and obvious, have become rather uncertain and ill defined, and even to some extent the subject of controversy.”\textsuperscript{509} Ultimately, however, despite the deep concern neurologists voiced about the challenges that faced clinical neurology, they expressed optimism about the future. Some even saw the return of neurosurgery to general surgery, as Cushing himself had, at times, prophesized.\textsuperscript{510}

\textsuperscript{508} Cushing believed that, as he put it “[t]he existence of a specialty is justified only so long as it makes such rapid progress that the larger group from which it has split off cannot keep pace with it. […] And whether internal medicine will once again take over neurology, and general surgery the neurosurgeon’s work, will depend entirely upon our ability to keep ahead of what the internist and the general surgeon can easily absorb.” Ibid.: 206.

\textsuperscript{509} “The Training of the Neurologist and the Psychiatrist,” \textit{British Medical Journal} 1136, no. 2 (1936): 395.

\textsuperscript{510} Hunt, “The Domain of Neuropsychiatry and the Training of the Neuropsychiatrist,” On Cushing, see note 508 above, as well as Greenblatt, “Harvey Cushing’s Paradigmatic Contribution to Neurosurgery and the Evolution of His Thoughts About Specialization,” .
Chapter 5 511
"Dreaming Neurology:” The Identity of Clinical Neurologists in the Interwar Period

The previous chapter has outlined the unstable nature of the neurosurgeons’ identity in the interwar period and the belief, shared by some members of the older generation of neurosurgeons, including Harvey Cushing, that the new specialty of neurosurgery would eventually return to general surgery. This prediction, however, did not come true. Starting with the late 1930s, the neurosurgeons’ prominence on the medical scene eclipsed that of their clinical neurologist colleagues. In the 1930s and 1940s, the new generation of neurosurgeons, many trained by Cushing, were occupying leading positions and were establishing, as I have shown in Chapter 3, their own professional organizations, such as the Harvey Cushing Society.

1 Men of Dreams and Men of Action

The surgeon Paul Bucy, a member of the society and, like Penfield, one of the younger and more vocal neurosurgeons, was the embodiment of the concern expressed by neurologists like the Boston-based Henry Viets, who had confessed in a 1937 AMA session that “[a]s broad as may be the training of a neurosurgeon, one cannot help but view with a little apprehensiveness the effort being made to replace the neurologist by an active surgeon as head of the department.”512 In 1939, Bucy became the head of the Division of Neurology and Neurological Surgery at the

511 A modified version of this chapter and the one preceding it has been published as Gavrus, “Men of Dreams and Men of Action: Neurologists, Neurosurgeons, and the Performance of Professional Identity, 1920-1950,” Copyright © Delia Gavrus. Adapted with permission by The Johns Hopkins University Press.

University of Chicago, and from his position of authority he exhorted young neurosurgeons to aim for more than “facile fingers” and a “merely technical competence,” and to aspire to the lofty goal of advancing neurological knowledge related to the structure and function of brain structures. Underlining the kind of authority that ought to be conferred on the neurosurgeon, Bucy remarked that “[c]ertainly more is required of one in whose hands mankind is forced to trust its brains.”513 In a paper he read at an AMA meeting, Bucy warned neurosurgeons-in-training not to rely on neurologists’ help, a directive that stood in stark contrast to the suggestion that Viets’ had recently made that “[t]he neurologist […] should be able to guide the surgeon into profitable paths of therapy.”514 This kind of cooperation, according to Bucy, was not practical: it often did not, or could not exist. Like Penfield, Bucy argued that a neurosurgeon “must be sufficiently familiar with the entire field of neurology.”515

Neurosurgeons of the 1930s were not only familiar with this field, but they were also attempting to write textbooks on neurology. Glen Spurling, while preparing such a manuscript, asked for John Fulton’s comments, only to gently reject Fulton’s suggestion that Spurling seek the advice of a clinical neurologist. Spurling wrote:

“In regard to your suggestion of submitting the details of the neurological examination to a “died-in-the-wool” clinical neurologist, I feel some apprehension. I feel sure that I would be advised to include the description of a great many more clinical signs and symptoms, electrical reactions and other

515 Bucy, “Surgical Neurology and Biology,” 263, my emphasis.
complicated laboratory tests. I have a notion that such a course would confuse rather than clarify the text for the budding neurologist. I am convinced from my own experience that the simple tests as outlined in the text will serve admirably for the examination of any ordinary neurological disorder. After all, my purpose from the start has been to write for the novice and not the advanced student.”

Neurosurgeons were rejecting the help of clinical neurologists not only in the operating room, but also when writing books about the neurological examination.

In the 1940s, the neurologists who reflected on the trajectory of clinical neurology in the previous decade appeared stunned by a spectacular role reversal. In a 1943 address before the Vidonian Club, the New York neurologist Louis Casamajor conceded that “[n]eurosurgery is firmly in the neurological saddle today.” Referring to Tracy J. Putnam (another neurosurgeon-neurologist), Penfield and Bucy, Casamajor despaired that “[i]n North America today there are three Neurological Institutes, in New York, Montreal and Chicago, and each one is headed by a neurosurgeon. Need one say more?”

The neurosurgeons themselves took note of this trend. Harvey Cushing, who upon his retirement from the Peter Bent Brigham Hospital in Boston was given a Chair in neurology at Yale, noted with amusement in a letter of congratulations to Tracy Putman, who had recently been appointed

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516 Spurling to Fulton, July 8, 1933, Fulton Correspondence, Yale University Archives.
518 Louis Casamajor, “Notes for an Intimate History of Neurology and Psychiatry in America,” Journal of Nervous and Mental Disease 98, no. 6 (1943): 607.
519 Ibid.
to a Chair in Neurology at Harvard University and who was the director of neurology at the Boston City Hospital, that “it is funny that you and I should both be holding Chairs of Neurology, for which I think you are very much better fitted than I am.”

Questions about the untimely demise of clinical neurology persisted and appeared even more urgent than in the 1930s; the Los Angeles neurologist Charles Aring articulated it most bluntly: “Are neurologists of a dying race? […] The concept is increasingly noised about that the neurologist is neither fish nor fowl, and why does not he come forth with an acknowledgment either of psychiatry or neurosurgery.”

The matter of neurosurgery seemed essential even in countries where this debate had not galvanized the community to the extent that it had in North America. Thus, a British official document that failed “to grasp the nettle of the future relationships [of neurology] with neurosurgery” was promptly taken to task, as was the 1945 report of the Royal College of Physicians Committee on Neurology in Britain, a report which attempted to set out educational guidelines for neurologists and to spell out the relationship between neurology, psychiatry and general medicine. An editorial in the British Medical Journal pointed out the Committee’s omission and described the neurologist as “a consultant rather than a specialist [because] he is not the purveyor of a particular line of treatment.” In response to the editorial, the prominent neurologists C. P. Symonds and Francis Walshe charged that, being concerned with just one type

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520 Cushing to Putnam, March 26, 1934, Harvey Cushing Papers, Reel 44, 0075, Yale University.
523 Ibid., 292.
of therapy, the neurosurgeon was not an adequate neurologist. Their letter elicited, in turn, a response from the American-trained British neurosurgeon Geoffrey Jefferson, who accused the clinical neurologists of having “an ideological concept of neurologist” and of lashing out in response to a loss of authority.

In this chapter, I will show how this acknowledged loss of authority elicited a complex response from the clinical neurologists over the course of the late 1930s and 1940s: first, the neurologists emphasized the arrival of a new kind of neurology, a dynamic neurology, in a tentative attempt to distance themselves from their predecessors. Secondly, they forcefully rejected the neurosurgeons’ claims to therapeutic superiority and attempted to demystify the surgeon’s craft. Lastly, they classified and thereby cast apart neurologists and neurosurgeons as physicians and surgeons, respectively, by appealing to a centuries-long traditional repertoire that ascribed particular temperamental attributes to these doctors. This discourse was articulated in the meetings of specialist societies in the same rhetorical and theatrical performances that I have described in previous chapters.

An appeal to Fulton’s notion of a dynamic neurology became a common rhetorical trope, allowing clinical neurologists to respond to the neurosurgeons’ challenge by claiming to belong to a transformed specialty. New York neurologists Harold Wolff and Henry Dunning, for example, spoke of neurological education based on “a dynamic concept of nervous system function in health and disease,” and Stanley Cobb summed up the transformation of neurology

by describing that “[i]nstead of the pedantic teacher of syndromes […] the medical student is now taught by a neurologist who thinks in terms of how the central nervous system works, in terms of evolution and dissolution, of integration and disintegration.”

Most importantly, while in the early 1930s neurologists pointed to vague solutions like better education and improved therapeutics, they now began to undermine the neurosurgeons’ very claim of therapeutic superiority, invoking new drugs like Prostigmin for myasthenia gravis and claiming that neurology’s “therapeutic sterility has been overemphasized; how much do the internists accomplish in many cardiac, renal and vascular diseases?”

An editorial in the *Journal of Neurology and Psychopathology*, a British periodical, argued that “treatment in organic neurology at all times compared favourably with that in organic medical diseases, such as chronic conditions of the heart, liver and kidneys.” The editorial listed successful treatments for a growing number of illnesses proving that “increasing attention has been paid to treatment per se and that the advances have been considerable.” Not only would neurosurgery not take over neurology, but the exact opposite might be true. “I have no hesitation whatsoever,” Aring wrote in 1946, “in predicting with considerable confidence that the treatment of glioma is not for long fated to be surgical. […] The therapeutic change is a big order but it is logical, and no one doubts its coming.”

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528 Viets, “Neurology - Past and Present,” 401.


531 Aring, “The Place of Neurology in the Medical Firmament,” 220.
neurosurgical problem – the “ritualism that surrounds surgery” contributed to the delay of the procedure and put the patient at risk. “If routine is lethal,” Aring wondered, “what is the good of the surgical touch. At the Cincinnati General Hospital I have jokingly reiterated the desire for a cranial drill on the wards where neurological patients are housed, which may not be as amusing as it sounds. In my brief, personal neurosurgical experience the placing of burr holes is a simple procedure.”

Neurosurgeons’ claims to specialized, superior and technically sophisticated knowledge were thus demystified and rejected.

This new combative stance resulted in some tense meetings of those professional societies that included all these different specialists, such as the ANA or the Association for Research in Nervous and Mental Disease. The editor of *The 1939 Year Book of Neurology, Psychiatry and Endocrinology*, the neurologist Hans Reese, referred to meetings in which tempers flared, and he pleaded for civility:

> “After reviewing the literary contributions of 1939 and after attending our scientific meetings during the year, I conclude that there is no need for the dog fights that so often occur when the representatives of sectional disciplines of nervous and mental afflictions meet. [...] The clinical neurologist has not been dethroned by the splendid achievements of the neurosurgeons; he has not lost prestige because the neuropathologist described in fascinating detail the cells, nuclei, tracts, and their possible pathology; he has worked together with the internist, endocrinologist, biochemist, and psychiatrist, and therefore

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532 Ibid.: 221.
he has not feared that some of the unfortunately too much publicized
disciplines would become enthroned.”  

Furthermore, clinical neurologists sought to delineate fundamental differences in the
neurosurgeons’ character and identity by appealing to what historian Steven Shapin has called
repertoires. Repertoires are “stable packages of attributions and evaluations” that describe
the temperament, characteristics, ways of presenting the self, and conduct of individuals. Shapin
has argued that these repertoires often have ancient sources, even if they are recombined and
modified in different time periods, and historian Christopher Lawrence has applied this insight
specifically to surgeons and physicians, showing how they were distinguished by “a
characteristic combination of corporeal and mental qualities [compiled over a long period of
time]. The physician is stereotypically lean, aquiline, bookish, inscrutable, solitary, and given to
deep musings on medical problems. The surgeon, by contrast, is muscular, buff, practical,
theatrical, gregarious, and ever ready for dramatic intervention.”

In the 1940 presidential address to the Central Neuropsychiatric Association, Percival Bailey
appealed to such repertoires, depicting neurosurgeons as men of action and implying that their
prosaic utilitarianism and lack of thoughtful deliberation hurt the discipline of neurology. In
contrast, he saw neurologists as reflective and learned scholars, and he pleaded that “[t]here must
be men who will dream neurology, think about its problems, wonder why the nervous system

533 H. Reese, N. C. Lewis, and E. L. Severinghaus, eds., The 1939 Year Book of Neurology, Psychiatry
and Endocrinology (Chicago: The Year Book Publishers, 1940), 7.
536 Lawrence, “Medical Minds, Surgical Bodies,” 156.
works as it does regardless of whether their dreams have immediate practical application. The world has more need of dreamers today than it has of men who act on the promptings of their guts, their blood, their iron, or whatnot – anything but their brains.”

Like Penfield, Bailey is an excellent example of the fluid specialist identity that became channeled in different directions according to local conditions. He could be described as Penfield’s doppelganger: they both received their MD degree in 1918 and proceeded to study neurology and neurosurgery from a motley of European and North American practitioners. Bailey worked as Cushing’s assistant and neuropathologist, before he took over neurosurgery for a short time at the University of Chicago. Within the contested domain of neurology-neurosurgery-psychiatry, his interests were wide-ranging, and he eventually became director of the Illinois State Psychiatric Institute in 1951. But unlike Penfield and Bucy, Bailey defended clinical neurology from what he saw as incursions on the part of neurosurgeons.

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Speaking at a time when the world had descended into the maelstrom of the Second World War, he declared that “[n]eurology cannot be left either entirely or principally to the men of action. The world is full of men of action today. Look what a mess they are making of it!” Like Viets, who had argued that advancement in the neurological clinic “can be made only under the guidance of a physician with a wide vision,” Bailey insisted that only a dreamer with an encompassing perspective of the specialty could be a true neurologist.

The neurologist J. M. Nielsen of Los Angeles appealed to the same repertoires to describe “a certain temperamental difference between a surgeon and a clinical neurologist. A surgeon wants action, and he wants it in a hurry. He wants to remove that lesion and have the patient well. He is not much of a philosopher as a rule. The neurologist has the philosophic attitude of the psychiatrist and the technical leaning of a neurosurgeon, and that is where he comes in.”

Nielsen was participating in an animated discussion that followed a paper given by the Philadelphia neurologists George Wilson and Charles Rupp at the joint meeting of the section on Nervous and Mental Diseases and the Section on Ophtalmology of the American Medical Association in 1946.

Wilson and Rupp had criticized their psychiatrist colleagues who despite a lack of neurological training were “[c]hief among the Cassandras anticipating the early demise of the clinical neurologist.” The other Cassandra was the neurosurgeon who was judged to be equally inadequate to take over clinical neurology. During the discussion period that followed, the neurologists wrestled with this thorny issue. The Los Angeles neurologist John B. Doyle proposed that “[t]he logical approach to anything like a satisfactory resolution of the evils that have arisen, and the greater ones that hover in the future,” was an educational and lobbying campaign that could convince medical administrators of the importance of neurology, describing in effect the kind of campaign that Penfield so successfully led in the late 1920s and 1930s for the benefit of neurosurgery. The Chicago neurologist Ronald P. Mackay blamed the current situation

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541 George Wilson and Charles Rupp, “Present Trends in the Practice of Neurology” _The Journal of the American Medical Association_ 133, no. 8 (1947): 512. The paper was originally presented at the joint meeting of the section on Nervous and Mental Diseases and the Section on Ophtalmology of the American Medical Association in 1946.

542 Ibid.: 509.

543 Ibid.: 512.
on neurologists’ ivory tower mentality, as well as on the regrettable fact that “the average physician has come to identify organic neurology with neurosurgery.”

The attributes employed to set neurosurgeons and neurologists apart thus fell along the centuries-old fault line that distinguished surgeons from physicians. Whereas physicians were portrayed as learned scholars, philosophers, custodians of recondite knowledge, the surgeons often labored under the shadow of practical craftsmanship at best and repulsive butchery at worst. These repertoires became complicated in the eighteenth century by the surgeons’ self-fashioning as gentlemen, but as historian Christopher Lawrence has shown, ultimately these sets of characteristics were employed in the rhetoric of early modernity and modernity with the purpose of shoring up authority or assailing the authority of others. The repertoires served the same function in the context of neurology. In 1946, Henry Viets concluded one of these many debates by declaring that “[o]nly the neurologist can be a good neurologist,” a statement that, had it been uttered two decades earlier, would have sounded completely nonsensical and that now encapsulated the serious consequences of the neurosurgeons’ challenge to the neurologists’ authority.

What is remarkable about this continuing debate is that, although the documents produced in its course were eventually published in various professional journals, virtually all started out as oratory – speeches or presidential addresses, followed by spirited debates at the meetings of professional societies. These were performances that relied on anecdotes, hyperbole, metaphors, humor, and appeals to emotion in order to construct a particular identity. To what must have been

\[544\] Ibid.
\[545\] Lawrence, “Medical Minds, Surgical Bodies,” 159.
knowing chuckles, Bailey recounted several encounters with clueless neurosurgeons, one of whom “said in my presence: ‘Oh! you medical neurologists fuss around too much. Now when we get a hemorrhage from the carotid artery we have to work fast.’ Yes, I thought, I have spent many a weary hour with my fingers on the carotid tubercle while the surgeon attempted to stop an eruption which a little forethought would have enabled him to avoid.”

Stories, especially ones that made fun of professional rivals, served the social function of strengthening the ties among members of the same specialty. Identity was thus negotiated in this dynamic setting, which was professional but also somewhat informal. Deriding the psychiatrist who was “so neurologically naïve that he considers the red nucleus some mysterious appendage of the U.S.S.R.,” the neurologists Wilson and Rupp blurred the lines between serious discussion and entertainment, and they stimulated a lively debate. While disagreeing about just how seriously in trouble contemporary neurology really was, the audience was nevertheless able to commiserate together about neurosurgery’s enviable cultural resonance: “[T]he sunlight of popular attention glitters on the silver scalpel in the surgeon’s hands,” bemoaned a member of the

547 Bailey, “The Present State of American Neurology,” 114. This may have been a reference to Cushing. In a talk given at the Chicago Literary Club and posthumously published in an edited collection, Bailey described the following incident: “One day Cushing tore the ophthalmic artery inside the cranium, became excited, and soon had the entire team disorganized. The general surgical resident came in to give a transfusion, which in those days was made with a paraffined tube so that the donor had to be brought into the operating room, thus increasing the congestion and confusion. When things had quieted down a bit, Dr. Cushing turned to me and said sharply, ‘Bailey, on such occasions act like a surgeon.’ I was quite startled, and also hurt. He might well have reproached me for inactivity, but it seemed to me that I had been the calmest person in the room. Not knowing what else to do I had simply stood quietly with my fingers compressing the carotid artery in the neck.” Percival Bailey, “Pepper Pot,” in Neurosurgical Giants: Feet of Clay and Iron, ed. Paul C. Bucy (New York: Elsevier, 1985), 75.

audience. They were also able to collectively reassure themselves that “clinical neurology is only staggering a little; it is not going down,” as another audience member put it.

The meetings of specialist societies were indeed conceived to function on a mixture of the professional and the entertaining. As I have already illustrated in Chapter 3, when the sessions filled with clinical and scientific papers were over, the doctors literally put on costumes to sing and dance. They transformed into stage actors, and the content of their plays, in a symmetrical way, blurred the edge between the entertaining and the professional. In one 1941 skit conceived as a spoof on the specialist board exam, a candidate sang about what made him different from general physicians and surgeons:

“Physicians may give pills to babies

A surgeon a plumber may be

As artist my nature demanded

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549 Ibid.: 512.

550 More research needs to be done on the history of the entertainment portion of the society meetings. In 1924, the neurologist Charles K. Mills suggested in his welcome remarks at the ANA’s meeting in Philadelphia that the ANA “began having an annual dinner in 1888, and thereafter the annual dinner has appeared on our program as one of the chief attractions of the meeting.” It also appears that for some of these early meetings, members engaged in artistic performances. For example, Mills recalled “Allen, our young Lycidas, […] [who] had a fluent pen, and wrote rhymes almost as easily as his name and address. He was a skillful performer on the piano and violin. On numerous occasions he supplied the main part of our entertainment at the annual dinner and occasionally at smokers. He improvised both words and music, making them personally or officially applicable.” Mills noted that the war had dampened the raucous nature of these entertainments, and “the old performances gave way to addresses like that of Dr. McCarthy on ‘The Prison Camps of Germany,’” but he thought that in recent years there was a tendency “to return to the old time way, as was indicated at our Boston dinner, in Ramsay Hunt’s talk, full of sparkling sallies of wit and humor.” Charles K. Mills, “Some Recollections of the Early Meetings and Personnel of the American Neurological Association with a Glance at the Work of the Association During the First Fifty Years,” in Semi-Centennial Volume of the American Neurological Association (1924), reprinted in Derek Denny-Brown, Augustus S. Rose, and Adolph L. Sahs, eds., Centennial Anniversary Volume of the American Neurological Association 1875-1975 (New York: Springer Publishing Company, 1975), 25-56. Quotes on pages 53, 54, and 56.
That I practice ne rol ogy [sic].

Bring back Bring back

Oh bring back the days as they used to be

Bring back Bring back

Oh bring back my new rol ogy [sic].”

The neurologist’s identity as a reflective artist in opposition to the simplicity of surgeons is as much present here as it was in Bailey’s assessment of neurologists as men of dreams and neurosurgeons as men of action. In a similar 1934 play, several prominent neurologists, including Casamajor who complained so bitterly about neurosurgeons, donned Ancient Roman garb and performed as the Chorus of Vestal Virgins (see Figure 23):

“We were always virgins

Till the neuro-surgins [sic]

Thought our humours would be better if trephined.

For the sake of scients [sic]

We were willing clients,

But it spoiled our peace of mind.”

With implied criticism, the chorus informs the audience that after the neurosurgeons’ intervention, the once chaste vestal virgins became loose women who “work[ed] the Coliseum.”

551 Script of play presented by the Boston members at the annual dinner of the ANA, June 10, 1941. ANA Collection, Box 1 #6, folder ANA Memorabilia, Dorothy Carpenter Medical Archives.

552 “From the Appian Way to Wienersnitzel, or Libido Semperbirens or History Repeats. A Tragedy.” ANA Collection, Box 1 #6, Folder ANA Memorabilia, Loose, #3 Programs and Songs, banquet entertainment, June 5, 1934, Dorothy Carpenter Medical Archives.
Thus the performance in front of the lectern morphed into a literal performance on stage, complete with costumes, music and props. With humor, the same neurologists who gave polemical papers about the relationship between neurology and neurosurgery also made fun of professional rivals (who were in the audience and even on the stage) while literally performing their identity. Treating not only their costumed-acting, but also their oratory on the scope of neurology as performances, that is, as scripted but dynamic social encounters, allows historians to capture the emotional impetus and the immediacy of the discourse, and it offers an explanation
for the fact that this rhetoric echoed over several decades. The ideas and language that emerged in the professional debates resonated onstage as well, and must have also been accompanied by raucous laughter. Ultimately, both kinds of performances served the same function – to create a tighter and more explicit group identity in the face of professional challenges, such as the one initiated by neurosurgeons. This explains the frequent emotional appeals, such as Bailey’s, whose speech ended with a rousing rallying cry: “On this neurological battlefield the medical neurological front seems to me most in need of reinforcement and the development of a fighting spirit.”

2 “No Uniformity of Organization:” Collecting Data

By the mid 1940s, the neurologists’ struggle to understand their specialty’s status and to define their identity led to gathering data, which was then interpreted and debated at length in the meetings of specialist societies. In 1945, Bailey surveyed the deans of all U.S. medical schools and all the neurologists and neurosurgeons certified by the specialty boards. Sixty-seven neurosurgeons answered the questionnaire, but Bailey took the liberty of trimming the data according to his belief that “those replies which stated that no neurosurgical neurology was done and no income was derived from such sources were discarded as obviously insincere since every neurosurgeon must of necessity see such patients in consultation and charges fees for his opinion.”

Bailey also discarded the data from those neurosurgeons who worked in large universities on salaries, using only the remaining forty-five cases in his analysis. He concluded that a staggering

59.7% of the neurosurgeons’ patients were nonsurgical, accounting for 17.5% of the surgeons’ income.²⁵⁵ He also noticed that these high estimates belonged almost entirely to younger doctors. “The trend is unmistakable;” Bailey wrote, “the younger neurosurgeon who is out on his own is doing an ever increasing amount of nonsurgical neurology as has been previously predicted. […] With the large fees derived from operations, the neurosurgeon can set low fees for neurological work and make it impossible for a non-operating neurologist to compete with him.”²⁵⁶

To make matters worse, only forty-eight neurologists were certified in neurology alone, whereas “the number certified in neurology and psychiatry is legion.”²⁵⁷ Bailey dramatically concluded that “clinical neurology has reached an all time low in this country,”²⁵⁸ and “the very inner citadel of neurology has been invaded by the surgeons by means of a therapeutics solidly based on the very intellectual discipline which is distinctive of neurology. Numerous letters from neuropsychiatrists lamented the dwindling of their neurological clientele with the advent of a neurosurgeon in their neighborhood.”²⁵⁹ In an attempt to end on an optimistic note, however, Bailey denied that the neurologist was heading for “extinction” and reiterated the urgent need for neurologists – but “good ones, not merely hyphenated psychiatrists or surgeons.”²⁶⁰

Bailey’s results made quite a stir in the neurological world, and the following year, the new president of the American Neurological Association, Henry Alsop Riley, undertook another quantitative study. In his presidential address, Riley quoted in disagreement Bailey’s grim

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²⁵⁵ Ibid.
²⁵⁶ Ibid.: 283.
²⁵⁷ Ibid.: 282.
²⁵⁸ Ibid.: 292.
²⁶⁰ Ibid.: 292.
assessment and reassured his constituency that neurology “has never reached a higher level of activity of productivity than at the present time.” Riley was keenly aware of the professional diversity of the American Neurological Association, and his speech appeared to have been calculated to strike a note of collaboration and collegiality.

As Bailey himself had shown, the doctors specializing in both neurology and psychiatry or neurosurgery, outnumbered those who specialized solely in neurology. Riley noted that in 1947, 65.5% of the members of the Association were clinical neurologists, but he did not specify how many of these doctors were also certified in psychiatry. He courted reconciliation by relinquishing the former rhetoric of combat, suggesting self-deprecatingly that neurology had lost various conditions not as a result of “the particular aggressiveness of our sister specialties but rather as a result of a lack of initiative on the part of the neurologists and our willingness to divide the field with other interested specialties.”

Revisiting the irredenta that in the 1930s he himself had considered lost to these rivals, Riley took great pains to show that neurology still maintained some authority over most of those disorders. He used data from the Neurological Institute of New York (which was probably unrepresentative of the entire field of neurology in the U.S., given the lack of uniformity of organization) to show that patients were not directly referred to neurosurgeons, bypassing the neurologists as Bailey had argued. To support his contention of a bright future, Riley noted that neurology was recognized in the vast majority of medical schools, although, unlike Bailey, he failed to make a distinction between those schools in which neurology constituted an independent

562 Ibid.: 263-64.
department, and those that recognized neurology in a more nebulous fashion, as part of internal medicine, for example. Just like Bailey, from a complicated set of data that probably reflected an even more complicated reality, Riley selected that data which supported his particular rhetorical aim. But despite his optimistic message and his appeal to collegiality, Riley betrayed a lingering sense of concern over neurosurgery’s effect on clinical neurology: he strongly disagreed with a recent argument to split the board of Psychiatry and Neurology and to combine Neurology with the Board of Neurological Surgery.  

The seriousness of the issue of neurology’s place in the medical hierarchy is underscored by the fact that it constituted the topic of three consecutive ANA presidential addresses. In his 1946 address, Walter Schaller stressed that “neurology is a much broader concept than either psychiatry and neurosurgery” and proposed that neurology be a “firm central authority for direction, correlation, and control” of related specialties. Schaller called the recent period in the history of neurology the “surgical epoch,” but he disparaged the supposed therapeutic superiority of neurosurgery: “[T]reatment by the knife is neither an ultimate nor completely satisfactory treatment in the great majority of neurological disorders. Even in tumors we confidently look forward to a more satisfactory therapeutic approach.”

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563 On the founding of the American Board of Psychiatry and Neurology and the initial disagreements between neurologists and psychiatrists see Freeman, Ebaugh, and Boyd, “The Founding of the American Board of Psychiatry and Neurology, Inc.,” Rosemary Stevens, American Medicine and the Public Interest (New Haven: Yale University Press, 1971), 222-25.


565 Ibid.: 5.

566 Ibid.
George Wilson, in his 1948 presidential address, expressed frustration with the widespread “doctrine of neurologic therapeutic nihilism,” which he felt was not only completely false, but was also being deliberately broadcast by “colleagues in other specialties.” He contended that the neurosurgeons often subjected their patients to unnecessary operations. “Their temperament and experience result in their believing themselves to be men of action,” Wilson noted, appealing to the frequently invoked characterization of neurosurgeons.

In the years that followed, neurologists continued to wrestle with Percival Bailey and Riley’s discordant views on the state of neurology. The Washington DC neurologist Pearce Bailey criticized Percival Bailey’s results by suggesting that his survey had been done immediately after the Second World War when the numerous neuropsychiatric cases had skewed the results. To dispute the results, he created a questionnaire of his own and sent it to eight hundred and fifty doctors. The results showed that the larger part of the neurosurgeons’ income was derived from surgery, suggesting “the future expansion of the neurosurgeon into surgery rather than into medical neurology.” Bailey concluded on an optimistic note, suggesting that neurology’s “assets outweigh[ed] its liabilities.”

Cornell neurologist Harold Wolff used Riley’s data in a presentation at the annual meeting of the Association of American Medical Colleges to argue that there were too few teachers of neurology, that neurology was conceived too narrowly, and that bedside instruction was not

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570 Ibid.: 228.
adequate. In the discussion period that followed, the chairman of the Committee on Public Relations of the ANA, Lewis J. Pollock, presented recent preliminary data suggesting that especially outside New England the specialty of neurology showed “no uniformity of organization,” that there was “no uniformity of the philosophy of teaching neurology,” and that in many hospitals “the activity of the neurologist often is submerged by medicine, orthopedic surgery, pediatrics, neurosurgery and psychiatry.”

However, as was the case with the original reports by Riley and Bailey, not everyone agreed that the data painted a grim picture of the state of neurology. C. D. Leake of the University of Texas disagreed with Pollock and Riley, arguing that “many other conclusions might be drawn from the statistics.” He did not think that combined departments of neurology and psychiatry spelt the end of clinical neurology; on the contrary, such an arrangement had worked well in the past, and Leake saw “no reason whatsoever for neurologists to be worried about the future development of their field.” Pollock, in turn, was forced to clarify his position: “I have no fear for the future of neurology. It will continue to exist for a great many centuries. I am nevertheless concerned with its development. I feel we need more neurologists in teaching, in training, in research and in practice.”

Furthermore, when the question of psychiatry arose in the discussion period, Wolff dismissed it as a problem to be solved locally: “Having defined the subject as I did, I felt that there would be

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572 Ibid.: 148.
573 Ibid.
574 Ibid.
575 Ibid.: 149.
no occasion to deal with the problem of psychiatry versus neurology. These, I think, are local problems to be solved in terms of personalities and interests.”

Given the extraordinary preoccupation with the professional standing of neurology especially in relation to its sister specialties, neurosurgery and psychiatry, and given the general disagreement of clinical neurologists on this issue, in 1949, the ANA charged a Committee on Public Relations with conducting a thorough investigation, sending letters of inquiry to medical schools, individual doctors, and professional societies. The members of the committee combed the reports of philanthropic foundations and various governmental agencies in order to ascertain the level of funding and the standing of neurology among medical specialties.

In a clear example of the stark shift in discourse that occurred in the 1940s, the committee prefaced its findings by proclaiming that “this report is not intended to bemoan the losses of neurology or to complain of discrimination against it. Moreover, there is no intention, because of envy, to criticize other branches of medicine which may be more favored.” The Committee thus placed its focus on the internal organization of clinical neurology, seeking data that revealed the specialty’s place in medicine at large.

The data painted a complex picture of neurology in the United States, a position further complicated by large discrepancies in geographical distribution. The thorny questions of autonomy and authority were raised, but were promptly diffused; the committee noted that young neurosurgeons routinely treated non-surgical neurological disorders because “until their surgical

576 Ibid. 

577 Report of the Committee on Public Relations, 1949. ANA collection, Box 1 #6, folder ANA Memorabilia Loose, Dorothy Carpenter Medical Archives.

practice became sufficiently large [they] were dependent upon neurologic practice for an income.”\textsuperscript{579} Nevertheless, the committee insisted that “[f]rom the questionnaires it would appear that the relation between neurology and psychiatry, internal medicine and neurosurgery was uniformly good.”\textsuperscript{580}

This interesting tension between the official discourse and the data was mirrored also in some of the suggestions that the committee received from neurologists on how to raise the profile of the specialty. Despite the sanctioned rhetoric of non-belligerence, the one suggestion that was made most often turned out to be: asserting “aggressiveness as an independent medical specialty.”\textsuperscript{581} Disregarding this tension, but concluding that indeed steps were required to ensure a prosperous future, the committee made suggestions that steered clear of the issue of authority loss, and instead recommended improved teaching, educating the lay public and the medical community about the importance of neurology, and lobbying for more funding, beds, and research fellowships.

In the discussion period that followed the committee’s presentation, Pearce Bailey emphasized the competition for resources among medical specialties and the need for neurology to receive support from its regional and national organizations, but cautioned that “it is rather dangerous to make comparisons in the development of neurology with psychiatry and neurological surgery. The fact that there is a boom in psychiatry and neurological surgery does not mean that there

\textsuperscript{579} Ibid.: 37.
\textsuperscript{580} Ibid.: 36.
\textsuperscript{581} Ibid.: 42.
should be a corresponding boom in neurology. Let them have their heyday now, and neurology come along as it becomes organized.”

This increasing focus on internal organization led to the establishment of various committees on education, regional organization, and public relations. Yet despite the new policy that eschewed a direct rhetorical engagement with sister specialties, there was a clear understanding that achieving autonomy was of paramount importance for neurology. Riley responded to the Committee’s report by reiterating the need “to establish separate departments of neurology in the various medical schools.” He was concerned that in departments “where neurology is grouped with medicine and psychiatry that on account of the numerical preponderance of medical patients and psychiatric patients, neurology will always be the tail of the dog. I believe that it is only by the establishment of separate departments for neurology that neurology will gain the recognition which it properly deserves.” Clinical neurologists were trying to distance themselves from their neurosurgeon and psychiatrist colleagues, both by relinquishing their former rhetorical antagonism and by advocating an organizational separation and autonomy.

Thus a fundamental change occurred in the late 1940s and early 1950s. The debate about the scope and future of neurology shifted from a direct engagement with its sister specialties in an attempt to mitigate the foregoing discourse of antagonism that often emerged during flamboyant performances in the interwar period. Certainly, it was recognized that clinical neurology continued to be in a difficult position, “sandwiched as it was between neurosurgery and

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582 Ibid.: 45.
583 Ibid.: 47.
584 Ibid.: 46–47.
psychiatry,”\textsuperscript{585} as the \textit{British Medical Journal} put it in its report of the Fourth International Neurological Congress, which met in Paris in 1949.

Internal organization now became a central trope in the clinical neurologists’ professional discourse, as they began to shift their gaze inwardly. At the Congress, Pearce Bailey “urged more active organization amongst neurologists”\textsuperscript{586} in a special half-day session devoted to a debate on the status of neurology worldwide. That day a resolution was passed recognizing “neurology as an independent dynamic specialty, and further resolving that all medical therapies dealing with the nervous system be considered and maintained as the primary responsibility of neurologists. An international committee was then appointed to implement this resolution throughout the world.”\textsuperscript{587} In the United States, the government turned out to be an important ally in the clinical neurologists’ attempts to better organize their specialty. In the second half of the twentieth century, both the Veterans Administration and the National Institutes of Health lent strong financial and institutional support to American clinical neurology.\textsuperscript{588}

3 “The True Renaissance of Neurology:” Therapy as Primary Objective

In the late 1940s and early 1950s, following the shift in the neurologists’ rhetoric, a new generation began to conceptualize and write the specialty’s history in a markedly different way.

\textsuperscript{585} “Fourth International Neurological Congress Meeting in Paris,” \textit{British Medical Journal} 4629, no. 2 (1949): 698.
\textsuperscript{586} Ibid., 698.
\textsuperscript{588} Aird, \textit{Foundations of Modern Neurology: A Century of Progress}, 8-9, Farreras, Hannaway, and Harden, \textit{Mind, Brain, Body, and Behavior: Foundations of Neuroscience and Behavioral Research at the National Institutes of Health}. 
In light of the neurosurgeons’ challenge and the often dramatic debates of the 1930s, these younger neurologists saw the entire history of neurology as rooted in the clinical neurologists’ “disinterest sometimes appearing almost as disdain for a distinct neurologic therapeusis.” Appealing to this imagined past constituted a strategy that allowed the younger clinical neurologists to define themselves in sharp relief to their predecessors.

Pearce Bailey, who emerged as a prominent leader in the neurologists’ professional community in the 1950s, incorrectly ascribed a rhetoric of therapeutic poverty to Dana’s 1913 presidential address. Neurology, the new narrative claimed, had never achieved professional autonomy. “In fact, a struggle for a position of independence in the medical hierarchy appears to be the dynamic theme underlying the real story of American neurology,” Bailey declared at the first interim meeting of the American Academy of Neurology (AAN), an organization first convened in 1948 and designed to be at once more inclusive than the ANA, whose stringent requirements for admission meant that junior neurologists often did not qualify, but also more focused on clinical neurology than the ANA, whose membership included psychiatrists, neurosurgeons, and other medical specialists interested in the nervous system. In the AAN, these other related medical specialists were relegated to a category called “associate members” and were distinct from charter members and active members, who included clinical neurologists certified by the American Board of Psychiatry and Neurology as well as junior neurologists who had not yet been certified.

Bailey’s speech before this new organization was a rallying call for the neurologists who at midcentury had formed this new society in the hopes of a “dynamic reorganization of neurology.” Befitting this ambitious agenda, the speech was also published as the first article of the new society’s journal, *Neurology*. Bailey argued that the neurologist had suffered a diminution of prestige between the two world wars, and he urged the new generation to change the fortunes of their specialty. By writing its history in a particular way, these younger men distanced themselves from their predecessors’ insecure discipline, which “with the development of neurosurgery and the more articulate personality of the neurosurgeon, [had] became closely affiliated with the latter specialty,” as Russell DeJong, another prominent member of the community put it.

These neurologists envisioned a renaissance – a word they used repeatedly – prompted in part by a thriving new neurological service under the Veterans Administration, which was employing over two hundred neurologists and neurological residents trained “not only in diagnostic aspects of neurology, but in neurologic therapeutics as well.”

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596 Apart from the Veterans Administration, the neurologists also benefited from strong support from the National Institutes of Health in the second half of the twentieth century. See Aird, *Foundations of Modern Neurology: A Century of Progress*, 8-9, Farreras, Hannaway, and Harden, *Mind, Brain, Body, and Behavior: Foundations of Neuroscience and Behavioral Research at the National Institutes of Health*.
Bailey, who had helped set up the program, expressed his hope that “a new generation of therapeutically-minded neurologists capable of taking over the complete management of neurologic disorders will be developed in this way.” Therapy became the cornerstone of the clinical neurologists’ new identity: “[T]he primary medical objective is and must be therapy,” Bailey insisted.

A performance of this transformed identity cast the younger neurologists in the role of therapeutic heroes. Bailey recounted one instance in which neurologists at a Veterans Administration hospital in Minneapolis took a group of 73 bedridden Second World War veterans and after an eight-month “‘total push’ program of therapy,” 67 of these patients became mobile. A sense of therapeutic optimism, a direct involvement in the rehabilitation of their patients, and a belief in the “true renaissance of neurology” characterized the new identity of the clinical neurologist in the mid twentieth century.

As Stephen Shapin has argued, the stories scientists – and doctors – tell about the nature of their disciplines and practitioners are “consequential cultural tropes.” Bailey’s reading of clinical neurology’s past is a such a trope serving a particular professional purpose. In order to argue that neurology was undergoing a period of progress, Bailey re-read the past in a way that suggested a break with neurology’s present focus on therapy. This narrative does not, however, reflect the past faithfully.

598 Ibid.
599 ———, “Program for the Activation of Neurology under the Veterans Administration,” 1286.
600 Ibid.
Historians have shown that up to the end of the nineteenth century in America, “professional identity was principally based upon practice” – that is, upon the doctor’s ability to offer an intervention. This was certainly true for Dana and his generation of neurologists, and it was true as well for the physicians who established the Neurological Institute of New York. The institute’s certificate of incorporation, dated 27th March, 1909, made explicit that therapy was the primary objective: “First the particular objects for which the corporation is to be formed are, 1. The care and treatment of persons afflicted with diseases of the nervous system […]”

Apart from the pharmacopeia of the day, the institute’s therapeutic arsenal ranged from hydrotherapy, to electrotherapy, to mechanotherapy, to massage, and occupational activities such as sewing. In 1910, for example, the Therapeutic Department reported a total of 10,395 treatments, and in 1921 the number had climbed to 22,412 treatments in the hospital and private clinic and 37,308 treatments in the dispensary. In the first decade of its existence, the institute’s Annual Reports prominently featured pictures of the various therapies offered: the Zander mechanical apparatus, the electro- and hydro-therapeutic rooms, the room for re-education of movement (see Figures 24-27). By the late 1920s, however, these pictures disappear from the reports, signaling a shift in the neurologists’ concept of what constitutes therapy that is worthy of highlighting.

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605 Note that these are number of treatments, not number of patients. “Neurological Institute of New York Annual Report,” (New York: Neurological Institute of New York, 1910), 20, “Neurological Institute of New York Annual Report,” (New York: Neurological Institute of New York, 1921), 34-35. The NINY annual reports are available at the Augustus C. Long Health Sciences Library, Archives and Special Collections, Columbia University.
Figure 24 The Zander Mechanical Apparatus, Neurological Institute of New York Annual Report, 1910. The Zander machine had been conceived and first built in the mid nineteenth century by the Swedish doctor Gustav Zander for the purposes of mechanical therapy. The machine consisted of a number of adjustable weights that the patient could train to lift.
Figure 25 The Electro-Therapeutic Room, Neurological Institute of New York Annual Report, 1910. This machine produced a mild electric current which could be applied to various parts of the patient’s body.
Figure 26 The Hydro-Therapeutic Room, Neurological Institute of New York Annual Report, 1910. In this room the patient received water therapy.
Figure 27 The Room for Re-education of Movement, Neurological Institute of New York Annual Report, 1910. This room was used for helping patients with movement disorders improve their motor skills.

Thus, the mid-twentieth-century discourse about earlier neurologists’ lack of interest in therapeutics was a revisionist narrative; an inability to proffer dramatic cures, which was acknowledged but denounced as unfair criticism by neurologists in the 1930s and 1940s, had, surprisingly, morphed into a narrative of therapeutic condescension. Certainly, the older generation did not suddenly cease to exist; multiple narratives are always present in such diverse professional communities. Nevertheless, it is important to note that this reinterpretation of neurology’s past became a prominent part of clinical neurologists’ discourse in the 1950s. Thus the neurosurgeons’ challenge in the interwar period and the ensuing debates that animated the
professional societies to which these related specialists belonged had become part of the
collective memory of a new generation of neurologists and had helped fashion a particular kind
of professional identity.

4  “Discarding the Gaudy and Pretentious Raiment of a
‘Ham’ Actor:” Surgery, not Neurology

In the post-war period, while the neurologists moved beyond a direct rhetorical confrontation
with their professional rivals, the neurosurgeons’ identity began to shift somewhat as the
community grew and other voices became more prominent. The Canadian neurosurgeon Frank
Turnbull, for instance, who in 1950 was the president of the Harvey Cushing Society, suggested
in his presidential address that neurosurgery was changing with the addition of “unorthodox
members” like himself. Unlike the professors of neurosurgery who used to make up the entire
community, these unorthodox members were practicing “neurosurgery in far western
communities that did not boast of medical schools.”

Thus, the neurosurgeons’ preeminence as researchers and as clinical neurologists – which Penfield, Bucy, Putnam and others had raised in
the interwar period, as I have shown in the previous chapter – was de-emphasized. Turnbull
contended that neurosurgeons were “neurological surgeons by repute, general surgeons by
design;” they had the privilege and ability to “wander with singular impunity from scalp to
toe.” He quoted Cushing’s long-ago prophesy that neurosurgery would return to general
surgery.

607 Ibid.: 291.
Other voices were raised in support of a closer alliance with surgery. Cobb Pilcher, a professor of surgery who was also in charge of the Division of Neurological Surgery at Vanderbilt University School of Medicine, served as president of the Harvey Cushing Society in 1948. In his presidential address, he sketched a brief history of neurosurgery, claiming that the specialty was “approaching the end of its second, or expansionist, phase,” and he strongly suggested that “the neurosurgeon can no longer be all things to all men, in the vast field of neurology. He must hark back to the basis of his existence, – namely, a particular therapeutic discipline which constitutes a full-grown specialty in itself.”

608 Pilcher, “Neurosurgery Comes of Age,” 512.
Pilcher was reacting specifically against Penfield, Bucy and others who, as I have shown, had argued that the future of neurology rested with neurosurgeons and whose professional identity belonged as much to neurosurgery as it did to clinical neurology. Pilcher was not suggesting that the neurosurgeon did not have an opportunity to “contribute to and profit by increasing knowledge in the fundamental sciences,” but he did caution that “we should not insist that he be a highly trained physiologist,” for example. Like Turnbull, he saw neurosurgery in close alignment with general surgery, and he urged his fellow neurosurgeons to consider “[a]n honest admission
that we cannot ‘know it all’ and [that] an unblushing return to emphasis upon surgical competence and its adjuncts are not causes for shame.”

Pilcher acknowledged that the position which he was advocating necessarily constituted a break with neurosurgery’s recent past, in which “the streams of neurosurgery and neurology flowed together for a time.” However, he insisted that the “time has now come when they must separate to run parallel courses.” In particular, he exhorted neurosurgeons to “abandon [their] non-surgical pretensions and return to [their] surgical banks,” while expressing his belief that “neurology, strengthened by its association with surgery (and the neurologist, it is hoped, by some neurosurgical training) and freshened by the inflow of knowledge from the fundamental sciences, need no longer be a weak and trickling stream.”

The clinical neurologist, Pilcher urged, had to “create a dynamic new field of neurology” rather than to continue rationalizing “his defence against being the waste-basket of neurosurgery. […] Let him snatch back the gliomas from the surgeon if he can […]. And let him compete with both the psychiatrist and the surgeon for the psychoses by investigation of their pathological physiology. In short, let him put on some new and modern clothes, while the neurosurgeon, for his part, discards the gaudy and pretentious raiment of a ‘ham’ actor.”

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609 Ibid.
610 Ibid.
In this vision of professional identity, the neurosurgeon of the interwar period had been overacting or over-performing: he had claimed authority over more than his fair share of surgical conditions by trespassing into the territory of clinical neurology. Pilcher concluded that now neurosurgery, “our bright and vital youth has come of age, that he must ‘settle down,’ cease his pretense to competence in matters that neither time nor training will permit him to master, and decide once and for all to climb progressively, proudly and with dignity along the path of his rightful destiny, – the road to finer surgical accomplishment.” Thus Pilcher was advocating a return to an identity that more closely aligned the neurosurgeon with general surgery rather than clinical neurology and the experimental sciences, ambitions on which neurosurgeons such as Penfield, Bucy, Putnam and others had built their careers.

Penfield, whose professional identity was so vested in neurology and who had so successfully fashioned the kind of identity that Pilcher was rejecting, disagreed. In a dinner address before the American Academy of Neurosurgery, he cited Pilcher’s “excellent presidential address,” only to immediately suggest that neurosurgery may have come of age “physically, if not intellectually!” He noted that “young surgeons who have learned to use the scalpel so expertly, […] may be tempted to look upon the performance of the pioneers in the earlier period with unjustified contempt.” To those young neurosurgeons, Penfield warned: “beware of vainglory; for it may be that our intellectual maturity is yet far off, and to be acquired only after years of further pioneering.” In addition, Penfield maintained that the neurosurgeon should continue to focus on the development of basic science – physiology especially – and that the recent attempt

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612 Ibid.: 513.
to standardize neurosurgical training through the institution of the specialty board was detrimental to the profession. He wrote that

“It is splendid for men to be trained in surgery and apprenticed to neurosurgeons until they can carry out every standard procedure. That may be the ‘straight gate’ and the ‘narrow way’ of the orthodox. But there are other ways of entering the ‘Kingdom of Heaven.’ I am sure that the great god Horus would join me in a plea that certifying boards should not close the gate to those who choose another approach. Not everyone can have a perfectly balanced training. Leave a crack in the gate wide enough to admit those of us who have had only surgical experience without approved neurosurgical apprenticeship, and for those with apprenticeship but with little general surgery. […] If there must be standardized tests, and I suppose there must be, let them be intellectual ones and have loopholes in the rules of service. Remember that the Egyptians achieved remarkable things in medicine and then retrogressed though two millenniums of standardized specialization. […] Some men think in anatomical terms, others neurologically, psychologically, pathologically, even chemically.”

Penfield was thus once again pleading, contrary to Pilcher, for a much broader identity for the neurosurgeon, a broad identity that the increasing standardization imposed by the specialty board and by programs of training seemed to put in jeopardy. As Francis Grant had once written to him: “You may not be anxious to identify yourself as a surgeon rather than a neurologist but it is

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614 Ibid.: 11.
nothing in my life for I have never considered myself much of a neurologist.” And indeed, Penfield continued to remain known as both neurosurgeon and neurologist, his professional identity as complex as he had crafted it in a time period in which the identity of neurosurgeons was fluid. Thus in his obituaries Penfield was referred to as “one of the world’s foremost neurologists who honed surgical techniques for treating epilepsy.”

5 A Fluid Identity: Conclusion to Part II (Chapters 4 and 5)

“The psychiatrist is […] too often confusingly protean,” had observed Edward Strecker during the 1930s debate that Penfield had engineered in the Archives of Neurology and Psychiatry. He could have said the same about the neurologist and the neurosurgeon. The identity of these medical specialists was fluid and contentious in the interwar period and in the immediate aftermath of the Second World War. The conflict that characterized their professional relationship illustrates the essentially different way in which they envisioned medical specialization. In the interwar period, some prominent neurosurgeons like Wilder Penfield anchored specialization in therapy, cleaving neurology along various therapeutic lines. The clinical neurologists, in an attempt to regain conditions lost to both neurosurgeons and psychiatrists, made the case for neurology’s authority over all disorders of the nervous system, organic and functional.

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615 Grant to Penfield, January 8, 1937, Society of Neurological Surgeons Collection, box SNS 1936-1950, folder 1937, Dorothy Carpenter Medical Archives, Wake Forest University.


A skilled polemicist, Penfield calibrated his arguments to support a particular professional goal – the creation of a neurological institute under his leadership. Working behind the scenes, he engineered a public debate in a prominent journal in order to stimulate the kind of review of the field that the Rockefeller Foundation had suggested was needed before supporting Penfield’s enterprise. His rhetoric of therapeutic superiority came at a crucial time when such an argument found wide resonance. Close attention to the language and arguments he employed allows for a richer understanding of Penfield’s success and proves the extraordinary impact that his professional self-fashioning had on the foundation’s policy.

In the 1930s, clinical neurologists responded to the challenge issued by neurosurgeons and psychiatrists by reasserting authority over contested neurological conditions. The ANA reaffirmed an interest in functional disorders and voiced support for a joint board of neurology and psychiatry. By the 1940s, as neurosurgeons assumed leadership positions in the elite neurological centers, the neurologists’ discourse shifted to a derogation of surgical therapy and an explicit rejection of neurosurgeons’ claims that clinical neurology was therapeutically sterile. Careful analysis, study and diagnosis were juxtaposed to urgent intervention; “dreaming” was privileged over “action.”

Metaphors like these have to be understood in the larger context of repertoires. In the interwar period, clinical neurologists appealed to particular sets of characteristics to define their professional identity in opposition to their neurosurgeon colleagues. Referring often to the divergent historical roots of medicine and surgery by alluding to butchery, the neurologists tried to diffuse the challenge of therapeutic superiority leveled by the neurosurgeons. Here again, a close attention to rhetoric allows for a deeper understanding of how these doctors created and experienced specialist identities.
After the Second World War, clinical neurologists took stock of their profession by conducting extensive surveys and seeking an internal reorganization. In the 1950s, a new generation of neurologists allied itself with state medicine and seized the opportunity to treat and rehabilitate war veterans, expressing a deep commitment to therapy. Remarkably, the neurosurgeons’ challenge in the previous decades was woven into a revisionist narrative that cast past generations of neurologists as being uninterested in – even disdainful of – therapeutics.

“American neurology needs a Voltaire to interpret the meaning of its saga,” lamented Pearce Bailey in 1950, noting the tortuous history of the profession. Section II of the dissertation has focused on several dimensions of this complicated story. Neurologists’ and neurosurgeons’ self-fashioning occurred, I have argued, in the dynamic cultural setting that constitutes the meetings of specialist societies, which functioned as both a professional and a convivial space. Here, identity was expressed in part through performance. In polemics that explored the scope of neurology and tried to articulate a specialist identity, the doctors blurred the line between serious debate and entertainment, while engaging in a lively dialogue with the audience. In a symmetrical reflection, the evening entertainment captured the same discourse. Training a lens on these performances allows historians to observe the highly dynamic nature of professional identity and to understand the way entertainment functions as a means of persuasion and as a social bond at a critical time when specialist identity is mercurial.
PART III

NEUROSURGERY AND POPULAR CULTURE
Chapter 6
The Inexplicable Good Looks of American Brain Surgeons: Neurosurgery and Public Imagination in the First Half of the Twentieth Century

It was March 1936 when Dr. Jane Graham, a newly graduated brain surgeon, was summoned to see Cecil Waring, a brain surgeon himself and the Chief Surgeon of the hospital. She was elated to finally be face to face with a man she had worshipped throughout medical school, when she constantly dreamed of one day attaining “to some degree his brilliant success.” But Jane quickly went from elation to “resentment” and “righteous anger,” when she realized that Waring was “making it quite clear that he did not approve of women in the medical profession.” To her frustration, Jane realized that he was telling her that “brain surgery was a man’s job,” and that he had no intention of allowing her to practice her chosen specialty. She was promptly reassigned to the maternity ward.

Later that day, as she was nursing her wounds and tending to crying infants, Jane was called urgently and unexpectedly to the operating room. A car accident victim had just been brought in: he was suffering from a serious skull fracture that had caused “fragments of bone [to be] embedded in the brain.” As chance would have it, Waring, the brain surgeon, was nowhere to be found, and despite fearing subsequent reprisals, Jane simply had to take his place to operate. She was immediately scrubbed in and started to work “deftly,” with brilliant, cool-headed technique: “her hand was like part of the steel – steady, firm.” The other doctors and nurses in the operating room “sensed that her career was at stake, that this was a crisis in the lives of both doctor and patient!” After “a successful operation – the work of a genius,” Jane left the operating room and the nurse removed the patient’s emergency bandages. At that very moment, “an exclamation of
astonishment echoed around the room. The man on the table was Dr. Waring!618 (See Figure 29).

![Image of Jane Graham operating](https://via.placeholder.com/150)

**Figure 29 Illustration of Jane Graham operating, “Crisis,” Spokane Daily Chronicle, March 14, 1936, p. 4, © 1936, The Spokesman-Review, reprinted with permission**

None of this ever happened: this fictional story was published in the Saturday edition of the Spokane Daily Chronicle, a newspaper from Spokane, Washington. The first woman was certified to practice neurosurgery in the United States in 1961 and her Canadian counterpart only in 1982.619 The fiction of the interwar period anticipated an imagined future, and it did so in

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619 The first woman neurosurgeon to be certified by the American Board of Neurological Surgery, which was established in 1940, was Ruth Kerr Jakoby. The gender imbalance in neurosurgery has always been staggering. Today, while women comprise 55% of medical students, only 4.6% of neurosurgeons in private practice are women, and only 6% of neurosurgeons in academic positions are women. William F. Chandler, “Residency Redesign,” *Clinical Neurosurgery* 56 (2009): 68. The first female neurosurgeon in Canada, Elizabeth MacRae, completed her residency in 1982 and practiced in Calgary, Alberta until 2010. Tamara Gignac, “Trailblazer of the Brain,” *Calgary Herald*, June 27 2010, available online: http://www2.canada.com/calgaryherald/news/story.html?id=0c3765ce-622b-4a1c-b51d-3e6c088982e7 (last accessed March 16, 2011).
specific ways that reveal a great deal about the authority of medicine and the status of brain surgery, while illuminating as well wider social realities, aspirations, and concerns.

In the previous chapters, I have charted the emergence of a communal identity among the first generations of North American neurosurgeons by examining the culture of professional societies and the jurisdictional conflicts that occurred between neurosurgery and related specialties. I have argued that from the very beginning there were signs of a pervasive ethos of elitism which informed the neurosurgeons’ professional identity. In three kinds of distinct but related performances (a technical one in the operating room, a rhetorical one at the meetings of specialist societies, and a theatrical one in plays produced as entertainment at these same meetings), the neurosurgeons borrowed from attendant cultural repertoires to craft an elitist professional self and a unique kind of masculinity that, surprisingly, appropriated many feminine characteristics.

In this chapter, I consider wider cultural representations of brain surgery and brain surgeons in the first half of the twentieth century in order to see how the identity that brain surgeons cultivated found or did not find expression in popular imagination. I situate my chapter in the growing literature on cultural representations of twentieth century medicine. Historians of medicine – and especially those who have looked at public health and bacteriology – have shown the complex “co-development of modern medicine, modern media and public faith in biomedical progress.”620 John Harley Warner has argued that in the middle decades of the twentieth century, the media “shaped and nurtured an image of [medical] research as a heroic drama punctuated by breakthrough discoveries.”621 As historian Bert Hansen has shown, in the 1940s, American

621 Ibid.
comic books portrayed medical figures as heroes and used the history of medicine as a means of
popularizing research, celebrating medical discoveries, and encouraging young people to pursue
a career in medicine. 622

The iconography that characterized these depictions of medicine can be traced to the 1880s when
Pasteur introduced his rabies shot. The extraordinary media interest that followed Pasteur’s
achievement precipitated a sudden shift in the way medical news was reported, establishing a
template that survived more or less into the mid twentieth century. As historian Bert Hansen has
shown, this new iconography was characterized by “popular curiosity about medical discovery,
enthusiasm for medical advance, a belief that novelty in medical treatment is desirable, and
expectations that scientists will produce ever-more-powerful and ever-more-numerous practical
innovations.” 623 This specific portrayal of medicine is significant because it lead to particular
beliefs and expectations on the part of the American public. Ultimately, as historians have
concluded, popular culture and the media, “by informing public perception and expectation,
[were] a key engine in the remarkable rise in the prestige of medicine through the mid-twentieth
century,” 624 and also in its remarkable fall, starting in the 1960s and 1970s when the romance
with medical research began to fade.

By interrogating representations of brain surgery and brain surgeons, I show that this kind of
surgery both contributed and resisted in subtle and interesting ways to the grander narrative of
prestige, progress, and heroism that was popularized by the media. Various cultural productions

622 Bert Hansen, “Medical History for the Masses: How American Comic Books Celebrated Heroes of
623 ———, Picturing Medical Progress from Pasteur to Polio: A History of Mass Media Images and
from magazine articles to movies increasingly construct neurosurgery as an elite medical specialty and testify to society’s growing fascination with the brain. At the same time, however, these narratives reveal a subtle tension and an interesting ambivalence about the neurosurgeons’ prominent status, an ambivalence rooted in anxieties and concerns specific to the interwar period, such as the fear of violence to both the body and the mind that neurosurgery seemed to threaten.

Furthermore, the elite status of neurosurgery was at times constructed, ironically, through portrayals of brain surgeons who were not themselves part of the elite cadre of neurosurgeons and who in fact did not belong to the specialist neurosurgical societies. This interesting fact can be viewed in light of the recent historiography of “popular science,” which has complicated older notions of popularization, criticizing the simplistic two-stage model which claimed that “first, scientists develop genuine scientific knowledge; subsequently, popularizers disseminate simplified accounts to the public.” In the same manner, the image of the neurosurgeon in popular culture had more diverse inputs, not functioning simply as a reflection of the professional image the elite neurosurgeon drew for himself. This was perhaps a result of the particular aims of the newspapers and magazines in the first half of the twentieth century. As historian Peter Bowler has argued in the case of science popularization in Britain and historian John Burnham for the American case, an important motivation of publishers, writers, and scientists writing for public consumption was to entertain. Thus, as Bowler put it, “[t]here was a fluid balance between the


two facets of what made literature about science attractive to the public: information and entertainment."\textsuperscript{627}

Historians of science, most of whom have focused on the nineteenth century, have argued that the terms “popular science” and “popularization of science” are problematic as a result of a long history of negative connotations, the terms having at times coded for inferior or less important knowledge and enterprise.\textsuperscript{628} Nevertheless, historians such as Bernard Lightman have opted to continue using them, while also clearly articulating the context and particular meaning of these terms.\textsuperscript{629} I use “popular culture” to refer to the content of American and Canadian newspaper and magazine articles, novels (published and unpublished), memoirs, plays, movies, and visual art. Popular culture in this context is the deeply encompassing and diverse discourse and representation intended for a wide and heterogeneous audience.\textsuperscript{630}

\textsuperscript{627} Bowler, \textit{Science for All: The Popularization of Science in Early Twentieth-Century Britain}, 4.

\textsuperscript{628} The issue of popular science has received much attention recently; some historians of science have argued that the term is deeply problematic and chose to focus instead on the sites (“the marketplace”) where scientific activities aimed at informing the wider public took place, or recasting this scholarship from the wider perspective of communication in science. Fyfe and Lightman, \textit{Science in the Marketplace: Nineteenth-Century Sites and Experiences}, Jonathan R. Topham, “Rethinking the History of Science Popularization/Popular Science,” in \textit{Popularizing Science and Technology in the European Periphery, 1800-2000}, ed. Faïdra Papanelopoulou, Agustí Nieto-Galan, and Enrique Perdriguero (Farnham, Surrey: Ashgate, 2009). An exhaustive review of this large literature is beyond the scope of this chapter, in which I engage in more a more sustained fashion with the literature on American medicine and popular culture.


\textsuperscript{630} The term “the public” is a similarly difficult and slippery term for historians. I am careful not to assume a homogeneous group of individuals by paying attention to the tensions present in different stories and by showing whenever possible the different ways in which North Americans reacted to brain surgery and brain surgeons. Perhaps the various tensions in the narratives and repertoires that are created around the persona of the brain surgeon can be explained in part by the different publics for which these different mediums (the magazine, the Hollywood film, the local newspaper) were intended. Nevertheless, such a closely focused study on each type of public/medium is beyond the scope of this chapter, which seeks to present instead a broad and richly detailed overview of the different ways in which a heterogeneous American public understood and imagined brain surgery.
1 “Women in White:” Masculinity, Femininity and the Gendered Art of Brain Surgery

One of the ways in which one can capture the increasing status and authority of brain surgery in popular imagination, is, ironically, by looking at the second sex, as Simone de Beauvoir, writing in the 1940s, called the less empowered half of society. In a 1929 review essay in the *New York Times* Leonora Lockhart, a member of the British Universities Debating Team, compared at length the professional status of women in England and the United States, noting that the professional woman "is practically a post-war innovation. Fifteen years ago her new position was so little understood that no one regarded her as a social factor of importance. Today there are many thousands of women, in England and America, for whom the office has replaced the home as a centre of interest."

631 Lockhart went on a tour of the United States and became convinced that "in this great feminine advance America has been, and unquestionably is, the leader, breaking down the long-established traditions of the home with a courage that compels admiration." Writing, ironically, just four months before the Stock Market crash of 1929, which preceded the Great Depression of the 1930s, Lockhart attributed women’s professional emancipation to “a period of unprecedented prosperity.” (See Figure 30).

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632 Ibid.
Figure 30 “The Professional Woman: A Contrast” *The New York Times*, June 2, 1929, p. 9. Lockhart wrote: “Compared with pre-war days [the professional woman’s] scope seems almost boundless. Changing conventions have relaxed the tyranny of childbearing. […] But in comparison with men, women remain still lamentably at a disadvantage. […] The triumph women have had on both sides of the Atlantic is so far only a half triumph.”633 The original caption consists of the last sentence of the above quote.

To take stock of the professional status of American women and their English counterparts, Lockhart looked to prestigious professions such as teaching, law, politics, and medicine. “In medicine” she wrote, “the American woman seems to be practicing in greater numbers and with more success than the woman in England.” She recounted a conversation she had had in the United States with

633 Ibid., 20.
“one of the older women doctors, who remembers the days when women in the medical profession felt it necessary to apologize for their very existence, related how gratified she was to hear one of the younger generation of doctors, a confident and confidence-inspiring young woman, declare that she had determined to become a brain surgeon. ‘That means,’ the older woman remarked, ‘that the men with whom she has been working have encouraged that doctor to become a brain surgeon. In my day one would never have been given that support.’”

The particular examples Lockhart chose to illustrate women’s professional gains are symbolically significant. As early as 1929, brain surgery had become an emblematic example, one that, as the story of Dr. Jane Graham published a few years later illustrates, became a common trope in the popular culture of the time. In both these cases, the authors used brain surgery as a symbol of a hitherto unassailable masculine profession, and it is precisely the stark juxtaposition between the most masculine medical specialty and feminine aspirations that gave the stories a striking resonance. Remarkably, women performing brain surgery is a recurring theme in stories that aimed to illustrate women’s aspirations to equality in the second quarter of the twentieth century.

Historian Nancy Tomes has used the term “cultural commodity” to describe popular portrayals of deadly epidemic diseases, and she has shown that these narratives “serve not only as personal accounts [and] ideological markers of cultural anxieties, [but] they also constitute potentially profitable forms of news and entertainment.” In a similar fashion, historian Susan Lederer has

634 Ibid., 9.
shown how narratives she called “malignant melodramas” – Hollywood films about cancer between 1930 and 1970 – reflected particular anxieties and conventions and “informed American attitudes about cancer and the role of medical research in overcoming the disease.” These narratives sometimes rely on a formulaic plot that, as Priscilla Wald has argued in her work on “the outbreak narrative,” can play a powerful cultural role, revealing specific social anxieties or legitimizing, for example, particular kinds of collective identities.

Narratives of women performing brain surgery functioned as such cultural commodities: they served as entertainment, but they also constituted an ideological marker for feminist aspirations. The January 24, 1944 edition of *Life* magazine ran an article about night attire in Broadway plays, the anonymous author marveling that “by a curious coincidence, such intimate feminine apparel as nightgowns, housecoats, pajamas and lingerie is worn in 14 out of the 29 attractions now on Broadway.” An accompanying photograph showed the celebrated American actress Barbara O’Neil relaxing “in a silk jersey housecoat designed by Valentina.” In stark juxtaposition, feminine ideals embodied by racy lingerie occupy the same space as masculine medical cleverness; the magazine informed the reader that the “[e]vening before this scene takes place [O’Neil’s character] had performed a difficult brain operation on a small boy and saved his life.”

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639 Ibid., 60. Interestingly, it appears that in the play, the brain surgery on the child is the central part of the story. In the serialized story upon which this play was based, the plot is a lot more complex and it contains other kinds of surgeries. It is significant that for the play the playwright chose to focus on the most striking and masculine of all surgeries.
“Doctors Disagree” was based on the story “Women in White” which in 1940 was serialized in *The Ladies’ Home Journal* and published as a novel by Farrar & Rinehart. The writer, Rose Franken, enjoyed a great deal of popular, financial, and occasionally critical success in the 1930s and 1940s with stories and plays that explored contemporary women’s issues.

The heroine of Franken’s story, Dr. Margaret Ferris, is an aspiring surgeon whose male colleagues continuously impede her professional success. One particular man stands in her way, Dr. Kirkland, a physician who tells her bluntly that “there happen to be unalterable functional and emotional and nervous differences between men and women; and because of those differences, I have reservations about women in medicine, and very definite reservations about women in surgery.” Partly as the result of Kirkland’s recommendation, a less competent male surgeon is chosen for promotion in her place, and although she has no choice but to accept this turn of events, Margaret is vocal about her rival’s lack of abilities – especially in regard to brain surgery:

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640 The play, unlike others written by Franken, received less than stellar reviews. One theatre critic considered this story to betray an “old-auntie attitude toward the contemporary stage surprising in a playwright whose previous work has in considerable part assumed quite a different stance.” He deemed Franken’s feminist thesis to be “already stage-rusty,” as it had been employed in the past to greater effect. Noting that “women’s struggle [is] these days […] necessarily about as bloody as a pillow fight,” the critic asserted that “aside from making her heroine for a change a surgeon, Miss Franken not only contributes nothing new to the general treatment of the subject [i.e. the inequality of the sexes] but contributes so much that is theatrically and otherwise ham that her play takes on in sum the dramaturgical architecture of Cain’s storehouse.” George Jean Nathan, in *The Theatre Book of the Year 1943-1944* (Cranbury, NJ: Associated University Presses, Inc., 1944), 185-86. *Time* magazine called it “a piece of pill-coated sugar glibly combining heart interest with brain operations.” “The Theatre: New Plays in Manhattan,” *Time*, January 10 1955.


“Doctor Bates’ operating technique is magnificent. [...] He is an automaton of the textbook. But he is no surgeon.”

“Aren’t you forgetting the Bates craniotomy?” [...] [asked Kirkland]

“No. I am not forgetting the Bates craniotomy, she replied quietly. I have watched it many times. I have also watched patients die under it. I admire its perfection and its skill, and yet I say that it is only an ingenious form of butchery. It has never been performed in less than an hour and thirteen minutes [...] and in many cases that time element means the difference between life and death for a patient.”\(^6\)

As Margaret struggles to accept her fate and reinvent herself as a general practitioner, a disastrous incident takes place. She watches helplessly from the gallery while the incompetent surgeon who took her job botches an operation on one of her former young patients, the same boy on whom she had successfully performed brain surgery in the past. The boy dies, and in an outburst of anger Margaret accuses the incompetent surgeon of murder.

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\(^6\) Ibid., 55.
Eventually the story ends on a triumphant note. Another of Margaret’s patients has to undergo surgery, and Margaret is allowed to assist the Chief Surgeon of the hospital (see Figure 31). During the surgery, the Chief Surgeon dies suddenly, and Margaret takes over, confidently and competently. Her brilliance in the operating room becomes evident to every one of her former detractors – even Dr. Kirkland, who by now has become her love interest and whose eventual approval – both professional and romantic – allows Margaret to fulfill the promise of the title – “Women in White” – by becoming a surgeon and a bride. Feminist triumph, the author suggests, is the ability to succeed in the most masculine of professions while not compromising the most traditionally feminine aspects of a woman’s character.

Thus, by the mid 1940s, brain surgery had acquired a powerful resonance in popular culture, shoring up the authority of medicine, embodying its ultimate masculinity, and becoming a cultural commodity trading on feminist aspirations. This was a cultural phenomenon specific to
the interwar period, although the newspapers’ interest in reporting stories about brain surgery had started a few decades earlier.

2 “Deft Experts with the Knife Transform Character:” Brain Surgery for All Sorts of Problems

Since the last two decades of the nineteenth century, the press had carried a variety of stories about brain surgery, a term almost always accompanied by the modifier “delicate,” suggesting the danger inherent in the procedure, but also the symbolic weight of the brain itself. As one Canadian newspaper put it in 1887: “the only means of saving McDonnell’s life was by an immediate, bold, and delicate operation, no less than an invasion of the brain itself in a search for the death-dealing bullet.” These stories were usually relatively short dispatches describing surgery following a gunshot wound or accident, or reports of the successful removal of brain tumors from British surgeons such as Rickman Godlee and Victor Horsley.

In the 1890s, these stories began to take a decisively different turn. Thus, The Arizona Republican reported in 1892 the case of Edward Divins, a man who as a teenager suffered a blow to the head that resulted in partial paralysis and epilepsy. Several years later, he shot a man who had betrayed his sister, and pled insanity at his trial. His lawyer suggested that Divins’ “homicidal mania” had been caused by the old brain injury, and he argued that a brain surgery

644 “Brain Surgery: Remarkable Operation at Chicago Hospital,” The Globe, August 20 1887, 12. The operation was deemed “a brilliant success.”
646 “Brain Surgery, the Lessons Taught by the Practice of Vivisection,” The Lawerence Journal, February 17 1885, “Mapping the Brain,” The Daily Bulletin, December 1 1886, “Brain Surgery: Successful Treatment of Three Patients Who Suffered from Epileptic Fits,” Richmond Dispatch, September 12 1886, “Science and Industry,” The Ohio Democrat, April 2 1887. This last story reported the successful removal of a fourth brain tumor; this case was widely reported in American newspapers.
could relive his client of his insanity. The newspaper noted that “[t]he operation on Divins’ brain will be the first instance in the history of surgery in the world in which a known homicide, possessed of an ungovernable mania for killing, will undergo surgical treatment […].”

In the years that followed, the practice of performing brain surgery for a variety of mental ills became increasingly common. The Chicago Tribune reported that Frank Howard Collier, an “eccentric lawyer” who had considered himself insane ever since he received a blow to the head, asked for brain surgery to relieve his condition, believing that “the surgeon’s trephine would restore him to public confidence.” Many newspapers carried articles speculating about the possibility of curing idiocy and insanity. In a speech before the Women’s Club, Dr. Sarah Hackett Stevenson, “one of Chicago’s famous women,” as a newspaper deemed her to be, expressed her belief that “the time will come when brain surgery can modify the brain structure and overcome criminal tendency.”

The New York Times described the case of one Leo Dean, a fifteen-year-old who continued to be a “bad boy, in spite of juvenile courts, reformatories, and finally trephining of the skull:”

“Leo had quite a record as an incorrigible before it was discovered that his perversity dated from a whack on the head. Brain surgery for the correction of mental abnormalities was just coming into vogue, and through the instrumentality of the Juvenile Court Leo became one of the first subjects

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647 “Brain Excision for Murder; Surgeons Will Try to Cut out Edward Divins' Homicide Cell,” The Arizona Republican, November 5 1892, 1.
648 “Frank Howard Collier Asks for an Operation on His Head,” Chicago Tribune, September 1898.
650 “Ideal Aurora Painted,” Aurora Daily Express, February 21 1894.
experimented upon here. Dr. George W. Crile and Dr. Harry S. Drysdale
relieved Leo’s brain pressure, and he got to be a very good boy.” 651

Unfortunately this reprieve did not last long. As misfortune would have it, Leo was looking up at
some men working on an awning, when “a hammer fell and cracked Leo on the head in the exact
spot where fate had buffeted him in childhood,” turning him into a bad boy again. “Mrs.
Callaghan, probation officer, hopes to induce the surgeons to repeat the operation,” the
newspaper noted. 652

Starting with the first decade of the twentieth century, stories about surgeries for what were
considered to be mental ills, from criminality to epilepsy, came to be abundantly represented in
the press. This is quite surprising, in light of the conservative surgeries – almost exclusively for
tumor and trauma – that the first generation of elite brain surgeons were performing. Non-elite
surgeons like William Sharpe, whose extraordinary and widely-covered performance at the New
York Academy of Medicine I have discussed in Chapter 2, were quite common, if the newspaper
reports are to be believed. These surgeons never belonged to the specialist societies which in the
1920s and 30s claimed to speak for the medical specialty, but they nevertheless performed brain
surgery for a range of physical and mental conditions.

In 1910, The Toledo News-Bee reported that Peter Sodd, a local resident who was deemed by the
juvenile court authorities to be a good candidate for brain surgery “as a cure for his wanderlust”
(i.e. running away from home), pulled yet another disappearing act: “Peter was about to be
operated on at St. Vincent’s hospital when an open window invited him to the wide world

651 “Surgery Made Leo Good but a Second Crack on the Head Made Him as Bad as Ever,” The New York
Times, December 30 1906.

652 Ibid., .
outside.” A few years earlier, a certain Dr. Peter Donnelley, who, as a newspaper from Meriden, Connecticut, reported “has so successfully operated on criminal children,” urged the state to investigate the possibility of conducting such surgeries on a large scale in the penal institutions. “Brain surgery,” Donnelley opined, “is in its infancy and experiments along the lines of curing incorrigibles from pressure may lead to the discovery of a sure cure for cases from abnormality” [sic].

The newspapers also printed advertisements for these kinds of surgeries. In one such advertisement, the Abbo Medical and Surgical Institute of San Jose, California, claimed that “brain surgery is a definite science” and promised that the “feeble-minded could be restored to usefulness and happiness if the proper treatment was administered” (see Figure 32). The add featured the picture of a happy toddler – “little Dewoy Parr,” who before an operation in which “Dr. Abbo removed the top of the skull,” [i.e. performed a decompression] had been unable to walk and talk. Although after the operation “the child has not regained its functions perfectly,” he can at least walk and talk and “will be in a normal condition in a very short time.”

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653 The newspaper noted that, apparently, “The presence of nine other children does not ease the heart of Peter’s mother, who watches every night for the return home of her wandering son.” “Wanderlust Still Holds Peter Sodd,” The Toledo News-Bee, June 22 1910, 7.
Figure 32 “Brain Surgery is a Definite Science” – Advertisement for the Abbo Medical and Surgical Institute, *The Evening News*, San Jose, California, June 4, 1902, p. 8

Considering that at this time, in the first decade of the twentieth century, elite American surgeons, such as Harvey Cushing, were only just starting to report mortality rates in the 10 to 15% range – a significant improvement upon the 50% mortality rate reported by European surgeons in the preceding two decades – it is astonishing that so many of these procedures on individuals deemed to be criminals were performed in the United States. Histories of brain surgery have completely overlooked this practice at the end of the nineteenth and beginning of
the twentieth century, since these histories have focused exclusively on the published work of elite brain surgeons. Similarly, histories of psychosurgery have generally focused on academic surgeons and psychiatrists and have tended to cover only the period from the mid 1930s, when the Portuguese neurologist Egas Moniz introduced the frontal leucotomy, to the 1960s when this practice ceased. Newspaper reports are therefore a very useful historical source, allowing the historian of medicine to access practices outside the academic sphere, and providing a context for the work of the elite surgeons who were fashioning themselves in contrast to the practices of other surgeons at the time, although they appeared not to have categorically articulated this distancing attempt.

These stories were so common in the decade preceding and the decade following the turn of the century that in 1909 a newspaper could report in one long feature article on the “magicians of surgery [who were] making over man,” including those “deft experts with the knife [who could] transform character,” that the “work of school surgeons and of the experts laboring in conjunction with juvenile courts and houses of correction, in which removal of adenoid growth or the correction of defective vision have eliminated criminal tendencies in children, are too well known and of too common occurrence to give them extended space in the present article.”


article cited the incredible statistic that “at the offices of [the Society to Protect Children from Cruelty] as many as 30 operations were performed in a week.”

In only twenty-five years, stories of brain surgery had become so common in the newspapers that the operative procedures were called “everyday miracles.” A San Francisco newspaper announced in a feature article on surgeons, who were called “the modern miracle workers,” that “brain surgery, as a part of the new surgery that we have seen developed in a decade, is generally – and daily – practiced in almost all of our cities and is no longer a front page wonder to confront us at the breakfast table under “scare” heads of our newspapers” (see Figure 33).

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659 My emphasis. A small subset of these newspaper articles were quite fantastical, the reported stories bordering on apparent miracles. One New Zealand “colorful” national publication, described a brain operation that supposedly took place in Britain: “The doctor in charge of the case decided to procure the brain of another patient and transplant a portion of it to replace the diseased portion. […] A week later the patient was rapidly improving!” The same article described a career criminal who underwent brain surgery, following which “all the man’s criminal tendencies disappeared; he became quite normal.” Another, even more terrifying murderer underwent the procedure and “his whole face altered. He became bright, kindly, intelligent, and his new disposition was as sweet and kindly as it had previous been fierce and brutal.” “Marvels of Brain Surgery,” New Zealand Truth, November 18 1922.

Not surprisingly, Hollywood movies in the first two decades of the twentieth century reflected this popular fascination with the ability of brain surgery to intervene in problems of the mind and of personhood. Most of these films were farces or horror movies about brain transplants gone wrong, or dramas about brain surgeons restoring their patients’ memories or curing their criminal impulses. An exhaustive search in the database of the American Film Institute, the most

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661 On the mad scientist in science fiction literature and film since the end of the nineteenth century, see Christopher P. Toumey, “The Moral Character of Mad Scientists: A Cultural Critique of Science,” Science, Technology and Human Values 17, no. 4 (1992). Toumey argues that the mad scientist stories “convey the argument that rationalist secular science is dangerous, and their principal device for doing so is to invest the evil of science in the personality of the scientist” (quote on page 411). He also argues that these stories become increasingly amoral in the twentieth century.
comprehensive such catalogue of American films, reveals the frequency of movies in which brain surgeries lead to various fixes of memory and character. Before the end of the 1920s, twelve such films had been released.662

In *The Brand of Satan*, a 1917 film starring Montagu Love and Gerda Holmes, a man who suffers from a dual personality – a part of him is morally upstanding, while the other indulges in criminal acts – undergoes brain surgery to successfully banish the evil inside (see Figure 34). In *The Love Doctor* (1917), a brain surgeon takes brain cells from a woman who is infatuated with him and transplants them into the brain of a young woman whom the doctor desires. This turns out to be a disastrous procedure: the young woman succumbs to “untamable passion” and leaves the doctor for another man. Eventually her insatiable passion brings her close to death, and the doctor performs another operation to save her life. Unfortunately, the young woman is only fit for the convent now, and the doctor, having learned his lesson, marries the woman who loved him from the beginning.

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662 This analysis relies on the summaries of the movies provided in the database available online at [http://www.afi.com/members/catalog/](http://www.afi.com/members/catalog/)
Through the late 1920s and into the 1930s, a considerable change occurred, in movies, in fiction and non-fiction alike. Stories about brain surgery for mental conditions and criminality diminished in number. For the first time, the nonfiction articles and memoirs that flooded the market can be characterized as concerted attempts at scientific and medical popularization. These stories are part of a project of lionizing doctors and telling heroic tales about medicine – a project that, as I mentioned in the introduction, historians have documented. Brain surgeons and brain surgery were popular choices in the paeans raised to modern medicine.

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3 “Diagnosis: Brain Tumor” – Popularizing Brain Surgery in the Interwar Period

Aided in part by cheaper printing techniques, popular magazines became a widespread form of entertainment in North America in the interwar period. In the early 1930s, one such magazine, *Popular Science*, ran a series of feature-length articles on surgery. The author, a doctor named Frederic Damrau, who was described by the magazine as a “leading neurologist of New York City,” lamented that “one of the most dramatic stories of the Twentieth Century remains virtually untold. […] Tradition and ethics of the medical profession prevent the surgeon from reporting to the press his own accomplishments. A wall of silence surrounds his work” (see Figure 35). Damrau was referring here to the moral anxiety that some elite surgeons like Cushing had expressed toward involvement with the press, as I have described in Chapter 2. At the same time, Damrau was signaling that an important shift was taking place in this relationship between the medical profession and the lay press. This particular series of articles was intended to break the wall of silence and to show the public the triumphs that were being achieved in the modern operating theatre.

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664 *Popular Science* became cheaper in August 1932, dropping from 25 cents a copy to 15 cents (as advertised on the front page of the magazine).


Brain surgery was prominently featured in this series, getting its own individual article (see Figure 36). “If you were in an operating room watching surgeons working on the brain,” Damrau wrote in a tantalizing first sentence, “you would see things that would make you gasp.” He then proceeded to make his readers gasp by recounting many stories of people surviving terrible

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accidents with the help of miraculous brain surgeries. In addition, Damrau described in great detail one type of brain surgery devised in New York by “the famous brain specialist Dr. K. Winfield Ney” for epilepsy, which according to Damrau, Ney “demonstrated to be caused by the sagging of the brain after it has become attached in places to the top of the skull.”

In a procedure that was widely reported in the press, including in *Time* magazine, Ney used a piece of thick celluloid to replace a part of his epileptic patients’ skull in order to prevent the arachnoid membrane from supposedly growing through the dura and attaching itself to the skull. Ney allowed Damrau and a photographer into his operating room to watch this procedure and to illustrate it for the readers of *Popular Science.*

668 Ibid., 26.

669 “Celluloid V. Epilepsy,” *Time,* April 10 1933.
Figure 36 "Operations on Human Brain" by Frederic Damrau, *Popular Science*, May 1933, pp. 24-25. The top picture shows Karl Ney operating on an epileptic patient.

Following the publication of this series of articles about surgery, Damrau received a great deal of mail: “scores of readers have written me, asking for facts about famous surgeons and how they fit themselves for their life work. How do they get into surgery? How do they develop their
amazing, life-saving skill?” As a consequence of this evident widespread fascination, Damrau wrote a follow-up article in which he interviewed a number of surgeons to produce “a collection of fascinating, human-interest facts about men whose names are synonymous with surgical skill.”

Not only did this article lionize surgeons and established them as an object of legitimate public fascination and adoration, but the author clearly privileged brain surgeons over any other surgical specialists: “One brain operation takes more out of a surgeon than a number of abdominal ones,” he wrote. He described at length an unnamed brain surgeon at work:

“Throughout the operation the surgeon was outwardly calm. There were several minor mishaps that could not be avoided, but he did not lose his temper. I knew he was a man of iron nerve and tremendous self-control because I had played golf with him and had never seen his even disposition disturbed. But when the strain was over, he was almost in a state of collapse. He trembled as if he had been through the third degree. I had to hold his glass for him while he drank ice water and later he asked me to drive him home because he was afraid to handle his own car. People who think that surgeons are cold-blooded creatures, unaware that human life depends upon their skill, are mistaken. It is their keen realization that a single slip of the knife may mean death to the patient that adds to the tension.”

670 ———, “Hobbies of Great Surgeons Aid in Life-Saving Marvels,” 32.
671 Ibid., 33.
672 Ibid.
This neurosurgeon is a fascinating composite – he is almost superman, but in a touchingly and reassuringly human way, he is marked by the strain of his almost Herculean task. Apart from this anonymous brain surgeon, Damrau offered a detailed portrait of his friend, Karl Winfried Ney, complete with the New York brain surgeon’s illustrious pedigree as a “direct descendant of Napoleon’s great general, Marshal Ney.” Ney was described as having “iron control of himself and has disciplined his nerves to stand terrific strains. […] To keep fit, he regulates his life like clockwork.” Ney’s portrait was meant to suggest that a brain surgeon’s life is always in the service of his craft: not only does the brain surgeon have to practice self-control and clock-like regulation, but he must also choose hobbies that train his senses and test his dexterity. Like an athlete, he is continuously in training: “Because it demands a coordination of rapid movements, Dr. Ney practices trap shooting […] Also he trains his fingers for hours at a time by modeling clay, carving wood, and practicing sculpture. […] But like all surgeons, he is particularly careful, in doing such work, not to injure his hands and fingers. Every cut or blister is a possible source of infection and must be guarded against.”

Damrau’s articles on surgery touting “life-saving adventures more thrilling than those found in any novel” pleased the readers of *Popular Science*, many of whom clamored for more. One female reader from the Bronx wrote a pleading letter to the magazine, “voicing,” as she put it, “the cry of future surgical geniuses” and demanding “more articles on modern surgery and amateur dissection” and “some thoroughly scientific articles that will stir up the brain and let us

673 Ibid.
674 Ibid.
675 Ibid., 34.
see exactly what surgery is all about” (see figure 37). The end of Damrau’s series of articles on surgery had caused her nothing less than “mental agony,” since these articles “were the most interesting of any series you have printed in a long while.”

Figure 37 A letter from a reader: “Amateur Dissections Are What She’s Interested In,” *Popular Science*, September 1933, p. 8

Other readers were equally complementary. “Dr. Damrau’s series on modern surgery [is] absolutely marvelous […], help[ing] to keep a scientific tone in the magazine,” wrote a certain C.

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M. of New York.\textsuperscript{678} Another reader from Oregon, Missouri, having read the articles about surgeons, confessed to being “filled with admiring wonder. I wish to approve to the fullest extent the statement made by H.L.S. [another reader who had sent a complimentary letter] that “it’s great stuff,” and I too will eat up every article Dr. Damrau writes.” The lesson that this reader took from the series of articles was that “every respectable doctor and surgeon of the world should be looked upon by his fellow citizens as one who has endured many trials and hardships in his desire to aid mankind.”\textsuperscript{679}

Certainly, the entire public was not uniformly enchanted with surgery and not everyone celebrated surgeons as modern heroes. A certain J. H. S. from Tacoma, Washington, wrote to the magazine that “Dr. Damrau’s articles on surgery have made good reading, but they have told only one side of the story – the bright side. Of course there have been wonderful operations performed; everybody knows that. But he never said a word about the failures of the ‘sawbones.’” This reader believed that “there is a lot of unnecessary cutting up going on in our hospitals and that most of the wonderful operations are the result of guesswork and luck.” This skepticism was motivated by this reader’s belief that it was not possible that “the doctors know so darn much about the human body, which is one of the most complicated pieces of machinery ever made, when you can’t even get an automobile fixed and know for sure that it is done right.”\textsuperscript{680}

Nevertheless, despite the occasional skeptic, the readers of \textit{Popular Science} seemed to embrace stories on medical themes. Damrau’s articles were very popular. A certain M. R. S. from Winnipeg, Canada wrote in to say that “[w]hile you have a splendid magazine, it, like all things

\textsuperscript{678} “Our Readers Say,” \textit{Popular Science}, April 1933, 9.

\textsuperscript{679} Ibid., March, 11.

\textsuperscript{680} “Our Readers Say,” 7.
can be improved. [...] [M]ore adventures into the medical world with Dr. Frederic Damrau are in order [...]681 In particular, stories of surgical miracles and brain operations were abundantly represented in the newspapers and magazines. Some of these were written up like medical mysteries. A list of symptoms would be followed by a dramatic pronouncement: “Diagnosis: brain tumor.”682 The surgeon, Dr. William James Gardner of Cleveland performed an extraordinary operation that consisted in the removal of the patient’s entire right cerebral hemisphere, “not a very common procedure;” he noted, “it is an operation of great magnitude.” As it happened, a few years after the surgery, the patient fell down a stairway and afterwards she “grew apathetic, dullwitted, unable to feed herself,” and eventually she died, “bedridden, apathetic, twitching spasmodically.” The mystery remained, however: “Had ordinary hemorrhage caused her death? Or had the fall stimulated a new growth of the old tumor? An autopsy would have settled the question,” but alas, the magazine reported, this mystery was to be forever unexplained, since “despite the most fervent pleas, the woman’s family refused to permit” an autopsy.

The mystery, drama, and visual spectacle of brain surgery, often amplified by apposite photography,683 appealed to the interwar public, and the media was happy to capitalize on this

682 “Half a Brain,” Time, September 7 1936.
683 Historians Daniel Fox and Christopher Lawrence have shown that in the interwar period the American photographer Edward Steichen “transformed the surgical photograph into a picture of an awesome, dramatic event. Using the familiar conventions of surgical photography, Steichen created a powerful image which he called ‘Death Takes a Holiday.’ The title was that of a contemporary play which was later made into a successful film. The photograph was taken from the angle of someone high in the amphitheater. The patient’s body was implied by the positions of the surgeons and the anesthetist. [...] Like the play from which Steichen took his caption, surgery was a performance which an audience observed from a distance.” Fox and Lawrence argue that “Steichen’s photograph helped to transform the surgical image into a cliché in both formal medical pictures and in popular culture. His image was frequently imitated by professional photographers working in hospitals. It was also used in the theatre and
interest. In 1936, Life, a brand new magazine that was particularly focused on showcasing photography, made an interesting appeal for readers’ photos in its second issue: “Instead of letters-to-the-editor, LIFE proposes to dedicate these pages shortly to a photographs-to-the-editor department.”

To underscore the kind of exciting photography that the magazine wanted to acquire, the editors warned that “[d]ull people with dull pictures will be given short shrift but the contributor with a crackerjack story, graphically told, may suddenly wake up to find his work lifted out of this department and plunked down as a special act in the main body of the magazine.” As an example of a “crackerjack story,” the magazine used a series of extraordinary dramatic photographs of an unfolding brain surgery (see Figure 38).

in films” such as the 1933 play Men in White, “a play about the heroism of doctors and the power of medicine.” Daniel M. Fox and Christopher Lawrence, Photographing Medicine: Images and Power in Britain and America since 1840 (New York: Greenwood Press, 1988), 185-88, quotes on p. 187.

684 “This Is a Brain Operation,” 3.
4. Four holes are drilled in the dome.
5. Between the holes, the skull is sawed out.
6. Beneath the skull lies the dura mater.
7. Rough edges of bone are chiseled smooth.
8. The dura mater is pulled back, exposing the brain.
9. Adhesions freed, a colloidal plate replaces the skull.
The original caption reads: (1) The scalp, well shaved, is slit open. (2) A flap of the scalp is peeled back. (3) The skull is now ready for opening. (4) Four holes are drilled in the dome. (5) Between the holes, the skull is sawed out. (6) Beneath the skull lies the dura mater. (7) Rough edges of bone are chiseled smooth. (8) The dura mater is pulled back, exposing the brain. (9) Adhesions freed, a celluloid plate replaces the skull. (10) The scalp heals over the plate. (11) Out of the scalp, hair grows again.

These eleven photographs chronicled, in a step-by-step fashion, a brain operation on an epileptic patient in the operating room of the New York brain surgeon Karl Winfried Ney. In an event

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685 Copyright for these photographs is unknown; Life Magazine has been contacted and does not own the copyright.

686 Interestingly, before publishing these pictures, the editors consulted with prominent elite neurosurgeons such as Walter Dandy, who practiced at Johns Hopkins, and Byron Stookey, who practiced at the Neurological Institute of New York. The elite (“topnotch”) brain surgeons were skeptical of Ney’s claims and doubted that “epilepsy can be cured by this method.” The magazine acknowledged that “these shots, unfortunately, are better as photography than they are as surgery,” but maintained that “this brain operation adds up into a significant set of pictures per se,” that “the camera truthfully detailed each step of the process,” that “these shots clearly indicate the point to which technical photography had progressed by 1936,” and that “next year the camera in expert hands will go even farther in bringing the laboratory into the layman’s living room.” The editors challenged those who might object to these photographs: “If technologists with a flair for photography object to this brain operation on the ground of surgical orthodoxy, let them pull out of their own files and submit for publication better pictures which LIFE’s editors feel sure are there.”
sponsored by Leica, a German company that manufactured the camera that took the pictures, this remarkable collection of narrative photographs went on to be exhibited all over the United States. Leica had chosen these particular photographs for the dramatic spectacle that they narrated, but also in order to allude to the technical excellence of their product. By 1936, brain surgery had become a powerful metaphor for specialized and exceptional technology and technique.

The magazine, which over the next couple of decades published hundreds of articles celebrating medical progress and heroic medical figures, must have had a very positive response to this brain surgery story, because, remarkably, only three years later, it ran again a very similar series of photographs. This time, the photographer traveled to Paris, to the operating room of the French neurologist and brain surgeon Clovis Vincent, who had trained in the United States in the late 1920s with Harvey Cushing. The thirteen photographs featured in the magazine described the operation for a brain tumor, step by step (see Figure 39). In another photograph, Vincent himself is shown looking wistfully in the distance, marked by the completion of a strenuous task. The caption describes his face as “drawn after a 7-hr. operation.”

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688 “Dr. Vincent, Great French Surgeon Removes a Tumor from the Brain,” *Life*, July 24 1939.
Figure 39 “Dr. Vincent, Great French Surgeon Removes a Tumor from the Brain,” *Life* July 24, 1939, pp. 44 and 46. The first picture shows the patient on the operating table; the second picture shows the brain surgery in progress; the third picture (above, left) shows the tumor that Vincent removed from the patient’s brain; the last picture is a portrait of Dr. Vincent. 689

This evidently increasing interest in brain surgery and brain surgeons is reflected in the large number of articles on this topic published in the second quarter of the twentieth century. There is a plethora of stories about people undergoing brain operations, from the anonymous to the famous. 690 The press covered composer George Gershwin’s death following surgery for a brain tumor in 1937, 691 and Leon Trotsky’s death following two emergency brain surgeries performed

689 Life Magazine has been contacted and does not own copyright of these photographs. According to their records, I. Kitrosser from Pictures Inc. owns copyright. Research indicates that Isaac Kitrosser was a Paris-based photographer who had been born in Besserabia in 1899. See “Life's Pictures,” *Life*, April 25 1938. I have been unable to find any additional information relating to copyright.


in the wake of a severe blow to the head dealt during an assassination attempt in Mexico City.  

“Like a fairy tale of medicine,” one 1935 article in *Modern Mechanix* gushed, “is the description of an operation which removed nearly the entire “thinking” portion of a woman’s brain, changing her entire personality.” New technical developments were celebrated – diagnostic procedures such as ventriculography, for instance – which aided brain surgeons in “taking people apart and putting them together again.” A newspaper reported that by replacing some of the cerebrospinal fluid, which bathed the brain, with air, and then taking an X-ray image, doctors were able to “take a look at the workings of your brain.”

4 “The Inexplicable Fact that Most U. S. Brain Surgeons Are Notably Good Looking:” The Cult of the Neurosurgeon

A distinctive public persona for North American brain surgeons also emerged in conjunction with this increasing coverage in the interwar period. When Wilder Penfield secured the financial support of the Rockefeller Foundation for building his Neurological Institute in Montreal, he was described in the popular press as a “star currently in the ascendant at McGill,” who had studied with “choleric Brain Surgeon Walter Edward Dandy of Johns Hopkins” and with “choleric Brain Surgeon Harvey Williams Gushing [sic] of Harvard.” Like Cushing, *Time* magazine noted, “Penfield makes a fetish of proficiency in diverse activities,” such as football, tennis, farming,

692 “Trotsky Dies, Blaming Ogpu; Police Question American Girl,” *St. Petersburg Times*, August 22 1940. In both Gershwin’s and Trotsky’s case, the Johns Hopkins neurosurgeon Walter Dandy was flown in to assist with the brain surgery, and in both cases he arrived too late. Gershwin’s operation was performed by Howard Naflziger and Carl Rand. For a detailed description of Gershwin’s malady, see Bengt Ljunggren, *Great Men with Sick Brains & Other Essays* (Park Ridge, Ill.: American Association of Neurological Surgeons, 1990), 92-100.


literature, and music – although “[b]est of all he enjoys a case of epilepsy.”

In fact, Penfield’s star burned so bright, that, the article noted, “with no real joy do Canada’s eight other medical faculties behold McGill’s good fortune,” although the University of Toronto, McGill’s “nearest rival,” was consoling itself with Frederick Banting’s Nobel Prize.

The repetition of the adjective “choleric” was suggestive of the forceful, hot tempered, man-of-action personality of brain surgeons. In an article on Meniere’s Disease, a reporter noted that “[b]rain surgeons, like exalted telephone repairmen selecting particular lines in a many-stranded cable, tried with little success – to pick out the balancing fibres of the acoustic nerve.” Success finally came when “Dr. Walter Edward Dandy, choleric neurologist who became Johns Hopkins’ brain surgeon after choleric Brain Surgeon Harvey Gushing [sic] left that institution for Harvard, announced that he could pick out the proper fibres to cut” without leaving the patient deaf. Now, the writer quipped, the patient “can enjoy hearing the clicking of his heels in the corridors and the voice of the cashier telling him how big his bill is.”

In the 1930s and 1940s, the concept of a brain surgeon increasingly began to acquire particular connotations, becoming a shorthand and a metaphor for difficult and delicate labour, exclusivity and elitism, mental agility and focus, attributes that, as the previous chapters have shown, had emerged in the culture of specialist societies. Thus, an article describing the founding of the American Academy of General Practice noted that “[f]amily doctors do not enjoy as much prestige (or get such high fees) as surgeons or other specialists.”

A Louisiana G.P., who “[l]ike most Texans […] has no inferiority complex,” told Time magazine that “I never feel I have to

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696 “Meniere’s Disease,” Time, December 17 1934.
apologize to any specialist. A man may know brain surgery, but I know more about feeding babies.” In another article that bemoaned the dearth of U.S.-born orchestra conductors, the writer noted that Germany could boast so many conductors because in that country “conducting is as specialized a profession as brain surgery” and that as a consequence “conductors are systematically trained and systematically advanced in their careers.”

In a long essay in *The Rotarian*, William Moulton Marston – the writer, psychologist, and creator of the comic superheroine Wonder Woman – wrote a paean to concentration, an ability which he considered to be waning in this “age of distraction, with interruptions by phone, by friends, by noise, by scares, and by our own flightiness.” To illustrate the achievement and success that the capacity for focus can foster, Marston gave the example of brain surgery: “Recently, by rare good luck, I had a chance to watch a great surgeon in action. He was performing a difficult brain operation, and a slight slip of his hand would have meant paralysis or death for the patient. What impressed me about him was not the skill he displayed, but his amazing calmness, his single-minded attention to the job.” Here again brain surgery became emblematic of high achievement and extraordinary ability – not just surgical ability, but a special mental and temperamental ability as well.

Brain surgery was also used as an emblematic example in a polemic published in 1937 in a Quebec newspaper in which an economist warned about the “danger of fixing wages by


700 Ibid.
government fiat.” The minimum wage (which had been set at 45 cents an hour by the Canadian government) was, according to this polemicist “entirely too high as compared with the cost of living.” After enumerating a list of factors that ought to determine wages, the author gave the example of brain surgery as one of the most specialized, exclusive and therefore economically high-ranking professions: “It is extremely delicate and difficult and not many men are qualified to do it successfully. They can therefore command high fees.”

The cult of brain surgeons was at its most obvious in celebratory biographical articles. In a Time magazine piece celebrating Cushing’s seventieth birthday and entitled simply “Brainman,” the now retired brain surgeon was described as having “penetrated [the] wilderness” of the human brain. Only forty years before he had come along, “the living brain was a jungle of tangled nerve fibres [sic], a mass of corrugated grey tissue.” Not so anymore: “thanks to Dr. Cushing, an operation for brain tumor is no more dangerous than a stomach operation.” The article described Cushing as “wiry, bright-eyed […] one of the most single-minded men in the history of medicine […]” and noted that “[h]is inspiration burned with icy clarity.” He was “reticent and aloof, [and he] made few friends. He lived for medicine.” The journalist described Cushing’s daily work and discipline:

“His labors were phenomenal. He would rise shortly after seven, eat a light breakfast, work on his medical articles, then go to the hospital. One operation sometimes took him eight hours. He performed three or four such long


702 He continued, “But suppose there were five thousand highly competent brain surgeons in Montreal instead of five – the fee for a brain operation would drop amazingly.” Ibid., 2.

703 “Brainman,” Time, April 17 1939.
operations each week. Only a few lucky physicians would be invited to view each operation. Dr. Cushing always dressed in grey, made few remarks. Only sign when he struck an unexpected problem: he would lightly rub his hands together, or dip them quickly in the bowl of antiseptic solution which stood near the operating table.”

Cushing’s mentorship and his teaching were described as “hard, factual. He never spiced his lectures with humor, never unbent. During his entire career, he taught about 2,500 men from all over the world. To many of them he seemed a cold, reticent perfectionist.” Cushing’s personality was portrayed as being only fitting to the exceptional demands of medicine – especially of medicine during the war: “In the bloody operating rooms of France during the War, Dr. Cushing led a life of scientific asceticism.” The self-control and asceticism were mirrored in his humanistic work. Cushing published his War Journal, a book that Time praised as “remarkable for its restraint as for its scientific and military detail,” which was told “in vivid doctor’s language.” This restraint, asceticism, and devotion to medicine appeared to lead to the evident conclusion that “retirement, to Harvey Cushing, did not mean rest. He hates vacations, spends his day at the New Haven Hospital. […] Social affairs he has always detested.” Similarly, his obituary emphasized his extraordinary self-control and dedication and ended with a tragic anecdote that was supposed to underscore these attributes: “One day in 1926, while preparing for a ticklish brain operation, [Cushing] got word that his son had died. He telephoned the news to his wife, returned to his patient, performed the operation successfully.”

704 “Cushing Obituary,” Time, October 16 1939.
This portrait certainly contained elements that lionized Cushing as a larger-than-life figure. A historian who has reviewed several letters that patients wrote to Cushing has argued that “[e]xpressions of sincere devotion from Cushing’s patients often rely on distinctly religious language to capture the meaning and impact of the doctor in their lives.” Cushing himself appeared at times to echo this kind of religious vocabulary when discussing the moral function of medicine and the role of physicians. This religious undertone was not unusual, especially when surgeons were described. The celebrated American poet T. S. Eliot captured this Christ-like image of the surgeon in his 1940 poem *East Coker*:

“The wounded surgeon plies the steel
That questions the distempered part;
Beneath the bleeding hands we feel
The sharp compassion of the healer’s art
Resolving the enigma of the fever chart.”

One celebratory article, which alluded to the sacredness of the spaces where neurosurgery was practiced, described the New York Neurological Institute as “no workday hospital, devoted to textbook treatment of disease, but […] a great *temple of experiment*, where even sober trustees are fired by the high task of ending the body’s tyranny over mind.” Some brain surgeons appeared to court this religious metaphor. In an article that recounted the journey of a young

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706 Ibid.: 542-43.
American woman suffering from epilepsy to Penfield’s Montreal Neurological Institute, Penfield, “soft-spoken” and “one of the world’s top brain specialists” is quoted as saying: “It is our task to accept the most desperate sufferers whether they come from farm, mine, factory, city, street, the home, or from other hospitals. We undertake apparently hopeless cases referred to us by doctors everywhere.”

Nearly sounding like a prophet and almost echoing the biblical injunction to the poorest of the poor and the most desperate, Penfield appeared here as a larger-than-life savior, one who was especially saintly for accepting the most “hopeless” of cases.

This moral beauty was articulated in conjunction with a celebration of physical appeal: “handsome” was an epithet often used in conjunction with brain surgeons. One article celebrated “[h]andsome Dr. Cushing’s 37 years” in practice. In one rather scandalous case, many readers actually wrote to Time magazine to complain, ridicule or otherwise embarrass a reporter who had abused the word handsome in a report of the 1935 International Neurological Congress that had taken place in London, England. The neurologists did not even make a nominal appearance in this article, the text being devoted entirely to neurosurgeons and their daring surgeries for epilepsy, brain tumors, and Raynaud’s Disease. To this “prideful lot”

“the brain, cathedral of human intelligence, is no more than 2 ½ lb. of raw meat, the cerebrospinal nervous system, conveyor of human will to muscles, a set of puppeteer’s strings; the sympathetic and parasympathetic nervous systems, a network of complex paths, lanes, byways and highways through which the human soul moves strangely. To know the complexities of the

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710 “Anti-Diptheria Man,” Time, January 30 1933.
neural ways and cords and of the cerebral mass requires a chess player’s intricate mentality. To dare to touch them with a knife requires unpassionate fingers.”

Every time a neurosurgeon was introduced, he was called handsome: “handsome Dr. Wilder Graves Penfield” who had “opened the skulls of 75 epileptics, [and] removed the scars and abscesses he found on their brains;” “handsome Dr. Max Minor Peet,” who had cut “abdominal nerves which stimulate the kidneys, adrenals, spleen, pancreas, liver, stomach and intestines,” and other organs for the purpose of relieving patients of high blood pressure; “handsome Dr. Richard Max Brickner,” who “took out both frontal lobes of a man’s tumorous brain;” and Dr. Alfred Adson, “senior” but still “handsome,” who was operating on patients suffering from Raynaud’s Disease.

Letters from readers poured in. A certain J. B. Gaylord from Indiana asked, mockingly: “Is the medical profession becoming noted for the beauty of its male followers? Or has it always been so?”, Sophia Potgieter from Steamboat Rock, Iowa, wondered, in relation to the patients suffering from Raynaud’s Disease, “Do neurotic young ladies go to these surgeons because they want relief or because the surgeons are handsome? Again, would there be fewer neurotic young ladies if the surgeons were less handsome?” Questions were raised about the “susceptible reporter who covered the ‘Nerve Congress.’ Is she blonde or brunette? And are all doctors of the Adonis type merely because they are doctors?” “Sirs,” wrote, sternly, Otto V. Tilton from Iowa, “These are earnest, hard-working surgeons, not beauty contestants.” The editor of the magazine

came to the reporter’s rescue: “Does any TIME reader contend that Drs. Penfield, Peet, Brickner or Adson is not handsome? A standing joke among U.S. physicians is the inexplicable fact that most U.S. brain surgeons are notably good looking.”

To be sure, good looking is exactly how Hollywood portrayed its brain surgeons. In 1939, the actor George Brent played one such character in *Dark Victory*, a film nominated for three Academy Awards \(^{713}\) (see Figure 40). Based on a stage play written by George Brewer Jr. and Bertram Bloch, the movie tells the story of Judith Traherne, a rich socialite whose dissolute life is disrupted by a brain tumor diagnosis. Over the course of the film, she has an operation, falls in love with her surgeon, marries him, and follows him to a farm in Vermont, thus redeeming herself and finding purpose at the end of her short life.

Bette Davis, who played Treherne on the silver screen, recounted in her autobiography how she “begged, cajoled, peddled for months this story to every producer at Warners.”\(^{714}\) Jack Warner (of the Warner Brothers) was reticent to invest money in such a sad story. He is reported to have asked: “Who the hell wants to see someone dying from a brain tumor?”\(^{715}\) Scores of people, as it turned out: the movie was very successful at the box office, and Davis herself was nominated for

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\(^{713}\) Susan Lederer discusses this film from a different perspective – in relation to portrayals of cancer on screen between 1930 and 1970 – Lederer, “Dark Victory: Cancer and Popular Hollywood Film,” where she argues that cancers that were less likely to lead to potential disfigurement – such as brain tumors – were more likely to be represented in Hollywood films.


\(^{715}\) It was only after the movie turned out to be such a successful and “perfect woman’s picture,” that Jack “ordered the studio’s credit-writers to include the card, ‘Jack Warner in charge of production.’” Michael Freedland, *The Warner Brothers* (London: Harrap, 1983), 113.
an Academy Award\textsuperscript{716} for a role that, at the end of her career, she called her “favorite and the public’s favorite part I have ever played.”\textsuperscript{717}

Figure 40 \textit{Dark Victory}: George Brent as Dr. Steele and Bette Davis as his patient, after the operation (left). The caption reads: “After operation, the doctor withholds laboratory report which shows her tumor is a malignant type sure to recur.” The caption of the second picture reads: “Make-up expenses were moderate. This is Dr. Leo Shulman, Warner medical expert, fixing bandages for hospital scene.”\textsuperscript{718} \textit{Life}, April 24, 1939, pp. 31 and 34

\begin{footnotesize}
\textsuperscript{716} She lost – and apparently none too gracefully – to Vivien Leigh who played Scarlett O’Hara in \textit{Gone with the Wind}. See Davis, \textit{The Lonely Life: An Autobiography}, 227.

\textsuperscript{717} Ibid., 224. In her autobiography Davis suggests that the drama of the movie had consequences for her life: “It was inevitable from our first meeting through the seven films we had made together, that [George Brent and I] would one day have a romance. Often the identities of the characters actors are playing are transposed into our real-life relationship. The doctor’s sympathy and love for Judith, plus her dependence on him, influenced, I think, both of us” and led to the affair the two had while filming the movie. \textit{———}, \textit{The Lonely Life: An Autobiography}, 226.

\textsuperscript{718} Apart from Shulman, the producers, director and screenwriters also consulted doctors from the Cedars of Lebanon Hospital in Los Angeles to ensure medical accuracy. Charles Higham, \textit{Warner Brothers} (New York: Scribner, 1975), 137. On the abundance of technical terms in the film, see also Lederer, “Dark Victory: Cancer and Popular Hollywood Film,” 102. \textit{Life} does not own copyright of these photographs.
\end{footnotesize}
The success of the movie proved that the story of a young woman undergoing a brain operation and eventually dying of a brain tumor could be immensely compelling to the audience of the interwar period and that public imagination invested the persona of the brain surgeon with erotic undertones. The film reflected the theme, common at the time, of medical heroism, a theme that was most famously explored in Sinclair Lewis’ Pulitzer Prize-winning novel *Arrowsmith*, which had been published more than a decade earlier.\(^7\)\(^1\) That novel had pitted the idealism of a medical researcher against worldly temptations of money and fame, and in so doing had elevated the scientist to the rank of hero in popular imagination.\(^7\)\(^2\) *Dark Victory* certainly echoed similar themes, but perhaps the most interesting aspect of the film is the subtle resistance it offered to the ideal of medical progress though surgery.

This resistance is evident from the beginning of the movie. In the first scene which introduces the brain surgeon, who goes by the apposite aponym Steele, he is on the brink of quitting his practice, and he is packing up his office while talking to Joe Carter, a physician friend:

“*Carter:* Fred, a man like you – a credit to surgery – to suddenly chuck a gold-plated practice –

*Steele:* Know much about brain surgery, Joe?

*Carter:* I know I’d be in it if I had the surgical courage. Think of it – to go inside a human being’s skull and tinker with the machinery that makes the whole works go – by heaven, that’s romance.

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Steele: Romance, eh? (Hands small paper from desk to Carter). There’s your romance.

Carter (looks up in astonishment): This is a florist’s bill.

Steele: Yes. Flowers for my last patient. He was a gifted young composer.  

[…] The operation was a brilliant success – but the patient just happened to die.

Carter: That’s a pretty old joke.

Steele: Take a look at a brain surgeon’s mortality rate and find out how unfunny.

Carter (change of tone): I’d never have believed it of you. […] You’re quitting because you’ve lost your nerve. (Steele looks at him and Carter stumbles.) Well – what else is a man to think?

Steele: I’m not quitting. I’m just going back to medicine. […] I’ve built a small laboratory on my farm in Vermont. […] Brain cells. Why do healthy cells suddenly go berserk – grow wild? Do you know? […] We call them tumors – gliomas-cysts-cancers… We operate and try to cure with the knife when we don’t even know the cause. People put their faith in us because we’re doctors and… […]

Carter: Well, shine my golden halo – you and Pasteur!

721 This is most certainly a reference to the death of the composer George Gershwin.
Steele: Probably you’re right. But someday somebody’s going to find a serum that will be to these growths what insulin is to diabetes – what antitoxin is to diphtheria – and really earn his title of Doctor of Medicine.”

The notion that the scalpel is an inadequate, temporary measure is most clearly articulated in this scene, and it certainly becomes the central focus of the movie when Steele’s operation fails to save Judith’s life. A worthy doctor – the film suggests – is one who can find the magic bullet, like insulin or diphtheria antitoxin, rather than one who performs surgeries. By the end of the movie, Steele, who marries Judith and does indeed go to Vermont, is testing such a promising serum, but this comes too late for Judith, who chooses to die alone, courageously – and, of course, this being Hollywood, glamorously (see Figure 41).

![Figure 41 Bette Davis in the final death scene of Dark Victory, Life, April 24, 1939, p. 32](image)

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723 This certainly appears to be a direct allusion to Arrowsmith. Lewis, Arrowsmith.

724 Life does not own copyright of this photograph.
The ideal, elusive cure in *Dark Victory* is portrayed as medical rather than surgical, and this idea recurs in other interwar-period sources. For instance, in a 1932 article in *Ladies’ Home Journal*, the science popularizer Paul de Kruif wrote that the brain surgeon Max Peet was “as smart as you find them at patching up smashed skulls and jarred brains.” However, de Kruif noted, “[t]hough the nimbleness of his fingers is famous among surgeons from Seattle to Budapest, what makes him really unique is the way he has saved folks’ lives by *not* operating.” Peet’s most valuable contribution, the article suggests, was his non-surgical discovery that glucose injections reduce high intracranial pressure. For this medical innovation de Kruif called Peet “a true man against death.”

### 5 “Brothers of the Greasy-Faced Fellows:” Elements of Resistance in Celebratory Narratives of Brain Surgery

In the interwar period, surgery possessed, inescapably, connotations of manual labor – and a messy, disturbing kind at that. Even de Kruif, in his celebratory description of the “men fixing life,” noted that doctors and brain surgeons like Peet were “not wizards making magic beyond our understanding. They are brothers of the greasy-faced fellows who lie on their backs peering up at the crankshafts of eight-cylinder motors.” Diego Rivera captured the idea of surgery as manual labor in a 1932 mural that depicted the surgeon as only a pair of hands grasping a brain tumor he had just removed, an X-ray of the brain positioned suggestively in the background (see Figure 42).

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726 Emphasis in the original.

This fragment is part of a large – and at the time controversial – fresco, a project Rivera was commissioned to paint for the Detroit Institute of Arts. The mural honored Detroit’s labor and industry, and Rivera placed several panels depicting surgery and medicine in the context of industrial labor. For Rivera, a committed Marxist, this kind of manual labor was to be celebrated, but the American public had a more complicated relationship with such work.

Surgery had the immediate quality of manual labor and could be graphic and disturbing. Even the most “delicate” brain operation was but one step removed from butchery. In a riveting memoir published in English in 1939 and which *Time* described as “the first patient’s-eye-view account of a brain operation in medical history,” the Hungarian writer Frigyes Karinthy, described in

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great detail the brain surgery – for a tumor – that he underwent while fully conscious. His neurosurgeon was Herbert Olivecrona, a Swedish, American-trained doctor. “The brutality of the operation,” he wrote, “had begun to work me up into a frenzy. I abandoned myself to it with a savage voluptuousness, and longed to help [Olivecrona] in his task. Gasping for breath, I urged him on with secret exhortations. A veritable fury of destruction seized hold of me. Give it socks! I wanted to shout. Break it up! Smash away! Bust it to bits! Now go for the vertebra! That’s it! And again! Catch hold if it harder, man! Twist it round, can’t you? You’ve got to break it! That’s the way – it’s coming! It’s come! Now the next one! Smash into it, butchers!”

The association of surgery with butchery in the first part of the twentieth century, as well as the anxiety produced by the violation of the body inherent in surgery and the fraught questions that procedures such as organ transplantations and blood transfusions raised about the integrity of the self, were available, as cultural repertoires, to the public of the first half of the twentieth century. As historian Susan Lederer has observed, “[t]he colloquial phrase for surgery, ‘going under the knife’” as it was commonly described at the time, “suggests the association of surgery with a particular weapon and form of violence,” and it explains why, as far as Hollywood censorship was concerned, surgery was on the list of “repellant subjects,” along with hangings, brutality, cruelty to children and animals, and was scrutinized for not transgressing certain boundaries of decency.

731 Karinthy, A Journey Round My Skull, 221.
733 ———, “Repellent Subjects: Hollywood Censorship and Surgical Images in the 1930s,” Literature and Medicine 17, no. 1 (1998): 95. The expression “going under the knife” was used in conjunction with brain surgery as well: “Senora Leonor Florente Calles, of Mexico City, today underwent a brain operation at Peter Bent Brigham Hospital.” “Calles' Wife under the Knife,” Reading Eagle, June 23 1932.
But what Hollywood movies did not show for fear of repelling the public and of being censored by the state, popular magazines were more eager – and apparently more at liberty – to do so. In 1946, Life magazine ran, again, a very graphic series of photographs depicting brain surgery and plastic surgery in World War II veterans. One of the soldiers who were featured in the magazine had undergone brain surgery at Walter Reed hospital in order to have a metal plate inserted between his brain and scalp. A shell had blown off his skull when his B-12 was shot at over Budapest in 1944.734

These explicit photographs elicited a strong, if discordant, reaction from the public. A certain Howard Smith from New York wrote to the editors, “Sirs: I have just been reading your story “War Surgery”. It was the most disgusting story I have ever read. What made you think that the public would be interested in THAT?” 735 The assistant director of the Atlanta, Georgia chapter of the United Service Organizations Club, a nonprofit organization that provided leisure activities to US military members, wrote that “A GI looking at your war surgery pictures here passed out cold!” Other readers wrote in to “congratulate you on a superb story and brilliant pictures.” And a certain Pete Morse from Wilmette, Illinois, wrote at length:

“Many thanks for your story on surgery. I bet you get at least 50 letters from people saying that it was too horrible to print or that children will have blood and guts on their minds for months afterward. So what? After all, those children may grow up to have trouble like that, and if there were no surgeons because they had all been scared of a little blood when they were young, what

would happen? They would die. I myself am only 13 years old and I have
sewed up a guy’s head that was split. Your pictures should be put up in an art
museum.”

Public reaction to brain surgery was certainly not homogeneous. On the one hand, great and
desperate hopes could be pinned on this procedure; on the other, brain surgery could be more
terrifying than death itself. One front-page story (reported widely in several newspapers) was the
case of a desperate young mother who “urged surgeons at the Neurological Institute [of New
York] to perform a dangerous brain operation on her 13-months-old baby,” who suffered from
cerebro spastic paralysis. The press noted that the surgeons were vacillating about intervening,
while the mother “asked them to go ahead at once, willing to gamble the baby’s life against a
future of mental abnormality.”

Other stories, however, illustrated how terrifying the prospect of facing a brain operation could
be. One insurance salesman opted to take his own life (twice, actually, since he botched the first
attempt) rather than submit to brain surgery for an injury he had sustained from a hammer falling
on his head. The 39 year old man declared that “he would not dread the operation if he were
convinced he would either get well or die, but he feared it would leave him mentally
deficient.” Brain surgery was thus doubly frightening: it could be threatening to both life and
sanity.

\[736\] Ibid., 4.
\[737\] “Babe’s Life Staked in Brain Operation; Mother Gambles with Death to Save Girl’s Mind,” \textit{The Pittsburgh Press}, January 22 1932, 1.
Cultural representations and popular reactions to brain surgery and brain surgeons in the second quarter of the twentieth century therefore existed at an interesting juncture. On the one hand, the surgeons themselves were often lionized: they become symbols of moral as well as physical beauty. They were built up, but also, in subtle ways, torn down. The specter of butchery, of repulsive violence to both the body and the mind, was never far behind. The idea that that surgeons were, after all, tinkerers, “brothers of the greasy faced fellows” performing manual labor, belonged to the wider cultural repertoire.

This complexity becomes evident in Hollywood movies as well. Apart from an exponential increase in films about brain surgery (there were 6 such films in the 19teens, 6 in the 1920s, 12 in the 1930s, and 20 in the 1940s), there is a shift in the 1930s narratives. A striking theme of redemption makes an appearance in many of these movies. In Magnificent Obsession, a 1935 film based on a 1929 novel written by the reverend Lloyd C. Douglas, the life of a selfish young man is saved at the expense of a morally upstanding surgeon’s life. The young man falls in love with Helen, the surgeon’s widow, and begins to feel guilty about the fact that he was the one whose life was spared. As a means of redeeming himself and winning Helen’s affection, he becomes a brain surgeon, and through a brilliant surgery he saves Helen’s sight, which she had lost as a result of brain damage from an accident.

739 Historians of science have argued that films are a rich resource for historians because “they provide important evidence for the connections between scientific knowledge and popular culture; and they constitute a significant means through which particular contemporary and historical visions of the scientific enterprise are made available to a considerable number of people.” Rima Apple and Michael Apple, “Screening Science,” Isis 84, no. 4 (1933): 750.

740 This inventory is based on the American Film Institute database available online http://www.afi.com/members/catalog/

741 A brain surgeon has claimed that Lloyd C. Douglas’s novel was inspired by the brain surgeon Edgar A. Kahn, who practiced in at the University of Michigan Medical School in the late 1920s and early 1930s. See, Helen Meldrum, Characteristics of Compassion: Portraits of Exemplary Physicians (Sudbury, Mass.:
Cinematic heroes in 1930s brain surgery melodramas are thus remarkable but flawed men, who sometimes achieve redemption either as a result of brain surgery, or by becoming brain surgeons – or both, in one particularly dramatic 1936 movie, *The Man Who Lived Twice*, in which a criminal undergoes brain surgery to curb his violent impulse and subsequently becomes a brain surgeon himself to perform the same operation on others suffering from criminal tendencies (see Figure 43).


**Figure 43** French poster for the Hollywood film *The Man Who Lived Twice* (1936)


Another flawed, albeit brilliant, brain surgeon in need of redemption appears in a popular novel, *Miss Susie Slagle’s*, which follows a group of students as they go through medical school at Johns Hopkins in the early twentieth century. One of the characters, a Jewish student named Isidore Aaron, will choose to become a brain surgeon. He is described as having an enormous head and a small body; he is intense, passionate, insecure, in equal parts brilliant and neurotic. One of the other medical students, Ashby, who is amazed at the complexity of Isidore’s thoughts, exclaims at some point in the novel: “But you should have been a philosopher! Why did you decide to study medicine?” Isidore comes from a family of manual laborers, tailors who worked with their hands, sewing, cutting fabric. Having met Isidore’s very poor family for the first time, Ashby “took deep breaths and walked slowly savoring this incredible truth. For the first time in his twenty-two years he had spent four hours face to face with contrast, smelled poverty and felt genius.”

But genius in this novel is not an entirely positive and desirable attribute because it appears to come with a rather heavy load of neuroticism. Isidore is perpetually insecure, and he is terrified that emotions will get the better of him. After meeting a young woman and falling in love, the novelist describes how

“Later that afternoon, he walked with measured, slow steps down Broadway. He wanted to sing, he wanted to skip, but his hatred of hysteria among Jews was so violent, that years before, he had clapped upon himself an iron

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744 Tucker, *Miss Susie Slagle’s*.  
745 Ibid., 60.  
746 Ibid., 64.
composure. Now, in the presence of intense pleasure, it functioned by decreasing his speed to a snail’s pace.”

With uncomfortably (to a modern audience) racist overtones, the novelist invests Isidore’s genius with racial stereotypes common in the interwar period. Self-control, so necessary to a brain surgeon, is something that Isidore struggles not to lose while being constantly terrified of losing it. Brain surgery is, in this novel, a specialty that requires genius, but those who would choose such a specialty are complex, imperfect characters teetering dangerously on the verge of madness.

These complex narratives that offered resistance to an unproblematic or simplistic celebration of brain surgeons did not emerge in the 1930s by coincidence. As historian Morris Dickstein has argued, “[b]ecause the economic crisis of the Depression undercut all confidence in the system, the audiences of the 1930s had a special longing for heroes – but also an uncommon skepticism about them.” Dickstein noted that *Citizen Kane*, the celebrated Orson Welles movie, embodied this tension perfectly. Narratives about brain surgeons, though never quite rising to the artistry of *Citizen Kane*, seem to fit this tradition quite well.

Among the many sources that document the imperfect character of neurosurgeons and that offer a resistance to an uncritical celebration of these doctors, one of the most interesting and unusual is the unpublished novel that, having been rejected by a Montreal publisher (who actually sent the manuscript to Penfield), was eventually deposited in the archives of the Montreal Neurological Institute (MNI). “The Means are Nothing,” was written by Edward Dockrill a technician at the

747 Ibid., 291.
MNI, and it is set in a hospital very much like the Neuro. Dockrill’s hero, Gerry Armstrong, is a lab technician, working in the shadow of Dr. Meadowes, a thinly veiled portrait of the real neurosurgeon in charge, the “handsome” (as *Time* magazine called him) Dr. Penfield, for whom Dockrill had worked in the 1930s. At first Gerry is in awe of the famous Dr. Meadowes, but very soon he becomes disillusioned. Meadowes is less of an idealistic scientist and surgeon, and more of a shrewd politician whose professional accomplishments rest on the uncredited work of lab technicians like Gerry, who reflects bitterly that “[w]hoever pays me has the social and economic right to take what they are paying for.”

The novel thus sets out to reveal what is obscured by an uncritical aggrandizement of famous and elite doctors: the arduous and unrecognized work of the many anonymous medical workers without whose help the doctors at the top of the medical hierarchy would not be able to get their laurels. Dockrill and his fictional alter ego Gerry are the embodiment of what historian Steven Shapin has called the “invisible technician” in the context of early modern experimental philosophy. Robert Boyle employed technicians to run his experiments, and just as these technicians were invisible in Boyle’s published work, so were Gerry and Dockrill invisible in the publications of the elite doctors of the prestigious Montreal institute. This unpublished novel,

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750 Ibid., 90.

751 Steven Shapin, “The Invisible Technician,” *American Scientist* 77 (1989). Shapin noted in this 1989 article that the technicians were invisible not only to Boyle and his contemporaries, but also to historians of science. Since then, more historical work has been done on this topic. In the Canadian medical context, see Peter L. Twohig, “Labour in the Laboratory Medical Laboratory Workers in the Maritimes, 1900-1950.” (Montreal: McGill-Queen's University Press, 2005).
sought to give a voice to invisible technicians who toiled unacknowledged behind the scenes, while the neurosurgeon reaped the glory.

6 Conclusion: Delicately Fastidious Experts and Magicians

In the interwar period brain surgery began to be increasingly celebrated as a privileged medical specialty, so special, so powerful, so elite, and so masculine that in popular culture it became emblematic in women’s fight for gender equality. Popular culture thus held a complex mirror to the cultural identity that neurosurgeons were creating for themselves in their professional societies by articulating some of the same attributes. However, in an interesting twist, some of the media’s exemplars of this elitism – surgeons such as Karl Ney – were actually never part of any neurosurgical specialist societies and occupied a marginal place in the economy of this medical specialty.

Popularizers of medical science lionized brain surgeons in richly illustrated articles that celebrated the surgeons’ seemingly miraculous work in the operating room. And yet, at the same time, this dominant narrative also engendered other, less celebratory counter-narratives that reveal important moments of resistance and social anxiety about brain surgery. As I have shown, this resistance is exemplified by the fact that the ideal cure for brain tumors was often portrayed as medical, not surgical, by the public’s ambivalent reaction to the inescapably graphic nature of surgery, by the fear of both bodily and mental harm that brain surgery threatened, and by the Depression-era complex portrayal of heroes as flawed characters in need of redemption.

As historians have richly documented, popular culture as reflected in newspapers, magazines, literature, cinema, and visual art can thus constitute a rich resource for historical understanding. First of all, the sheer number of stories about brain surgery proves that this topic was not arcane
and unavailable to the public. These stories were extremely diverse, being drawn from different sources and covering many kinds of procedures and surgeons.\footnote{Samuel Greenblatt has suggested that the image of the brain surgeon in American culture was determined by descriptions of Harvey Cushing in the press during his life. As I have shown here, however, there was an enormous range of stories about many different brain surgeons – from the elite to the obscure. Samuel H. Greenblatt, “The Image of The "Brain Surgeon" In American Culture: The Influence of Harvey Cushing,” \textit{Journal of Neurosurgery} 75, no. 5 (1991).} Secondly, newspaper reports reveal that many surgeons who did not belong to the elite group of North American brain surgeons in the period between the mid 1880s to the mid 1930s were nevertheless performing operations for a range of conditions from epilepsy to criminality, operations which the more conservative elite surgeons such as Cushing, Frasier, Dandy and Sachs had not endorsed. Thirdly, by turning to such sources as newspapers and magazines, many of which not only reported stories from the public, but actively gave the public a voice by printing letters to the editor, historians can capture the voices of an otherwise silent audience, along with its social aspirations and anxieties about brain surgery.

Undoubtedly, as John Harley Warner and others have argued, in the second quarter of the twentieth century “[m]edia depictions of medical research helped sustain what historians have called ‘the Golden Age’ of American medicine […] when medical institutions and practitioners enjoyed their greatest esteem in American society – public confidence and cultural authority surpassing anything experienced before, or since.”\footnote{Warner, “Medicine, Media, and the Dramaturgy of Biomedical Research: Historical Perspectives,” 22.} But, as I have suggested, a close reading of some of the celebratory narratives about brain surgery reveals points of real tension.

When in the 1940s Johnny, the son of the well known American journalist John Gunther, was diagnosed with a cancerous brain tumor, his family “was sucked […] into the vast mechanism of a modern hospital, with all its arbitrary and rectilinear confusion,” as Gunther described in
harrowing detail in a memoir entitled “Death Be Not Proud.” Gunther encountered many neurosurgeons during this ordeal, describing for instance Tracy Putnam, the New York neurosurgeon who operated on Johnny, as “the most delicately fastidious expert in the field I have ever met. He has great quality of sensitive reserve also; brain surgeons seldom give themselves away […] he resembled Buddha.” Wilder Penfield was also called in from Montreal for a second opinion, and although Gunther introduced him as a “magician,” he nevertheless expressed great pleasure at Penfield’s failure to provide an accurate prognosis. Even more importantly, Gunther opted to have his son treated by a non-mainstream doctor who believed that cancer could be cured by a special diet, in spite of the neurosurgeons’ opinion to the contrary. Thus, while medicine in the middle decades of the twentieth century certainly maintained a patina of unprecedented prestige, historians have to acknowledge the occasional real resistance of the public to the authority of the orthodox medical establishment, including the authority of neurosurgeons.

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754 Gunther, *Death Be Not Proud; a Memoir*, 28.
755 Ibid., 27.
Chapter 7
Conclusion: “In Direct Apostolic Descent” from Cushing

After his death in 1939, Harvey Cushing began to be universally praised as the father of neurosurgery, and he became an important symbolic figure in the self-representation of the North American neurosurgeons, some of whom went to considerable lengths to trace their lineage to “the Chief.” “The birth certificate of neurological surgery in the United States,” one tribute read, “was issued on November 18, 1904 when Dr. Harvey Cushing presented a paper at the Academy of Medicine in Cleveland with the title ‘The Special Field of Neurological Surgery.’” More importantly, Cushing was credited with creating a school of neurosurgery by training many men who went on to practice as neurosurgeons not only in the United States, but all over the world. A foreign obituary published under the headline “The world’s greatest brain surgeon is dead,” claimed that “practically speaking all brain surgeons now alive consider themselves his pupils.”

Furthermore, Cushing was praised for schooling new generations of surgeons into a particular kind of surgery, as I explained in Chapter 2 – a surgery that was based on the virtues of patience and surgical conservatism. As the Yale University’s official news release following Cushing’s death put it, Cushing “did much more than establish a school of neurosurgery, for he also perpetuated and extended into the broader field of surgery the tradition established by Halsted: slow and painstaking dissection, gentle handling of tissues, and the universal use of silk for

757 “The World’s Greatest Brain Surgeon is Dead,” translated in English, no date, 115 Cushing Obituaries, C-117, Cushing/Whitney Medical Library, Yale University.
closing wounds— all these things have become the creed and ritual of the Halsted-Cushing school of surgery which, by their pupils, especially those of Cushing, have carried into every phase of surgical endeavor.”

Especially after Cushing’s death, having had some relationship with “the Chief,” as his pupils called him, became more and more a central part of the professional identity of the second and third-generation neurosurgeons. Like the young men who, as I explained in Chapter 3, discovered that they could not establish a new neurosurgical society without Cushing’s blessing, most practicing neurosurgeons at midcentury tried to fit Cushing into their professional lineage, no matter how tenuous this link may have actually been. It was for this reason that, in the mid 1940s, Percival Bailey complained in a letter to John Fulton, who had just written Cushing’s biography, that

“By the way, the list of Cushing’s assistants given in appendix A to the Bibliography gives false impressions. For example, Loyal Davis was never an assistant. He stayed there about 9 months on a National Research Fellowship and was rarely in the op. [operating] room except to watch blood replacements. Those Jr. Associates should not have appeared in the list. Their inclusion has given rise too much grumbling among the residents. They are not, as it were, in direct apostolic descent and should have been listed separately. Many of them are inclined anyway to exaggerate the extent of their service. For example there was published in the Northwestern Univ. Alumni

758 Yale University News Statement, October 7, 1939, 115 Cushing Obituaries, C-117, Cushing/Whitney Medical Library, Yale University.
Bulletin that Davis was 2 years with Cushing and his favorite pupil. Your biography should contain at least accurate statements concerning the extent of different men’s association with the Chief.\textsuperscript{759}

Bailey, whose relationship with the Chief had been complicated and not always amicable, had published an obituary in the \textit{Archives of Neurology and Psychiatry} that was somewhat more measured than the standard superlative obituaries, if still ultimately ending on a high note. Highlighting what he considered to be the essence of Cushing’s character, Bailey wrote: “Not a reflective type, it was not until he reached the clinic that his genius became apparent. Then he blossomed immediately, when a field for action appeared. His artistic sense, his motor skill, his tenacity of purpose, his dogged perseverance, his absolute assurance, his ruthless determination, his ascetic self-denial, his stoical endurance, his theatrical flair – all made up the peerless surgeon.”\textsuperscript{760} This one-sentence summation of Cushing’s character echoes many features of the neurosurgeons’ professional self, which emerged in the first half of the twentieth century as a result of the continued interaction and negotiation among a handful of men, including Bailey himself.

In this dissertation, I have charted the development of this professional identity by looking at three broad arenas where a communal identity took shape. I began by considering the formation of the first two specialist neurosurgical societies, the politics of inclusion and exclusion, and the moral landscape that came to define these two professional groups. I then analyzed the particular self-fashioning of a second generation of neurosurgeons in the interwar period – the most

\textsuperscript{759} Bailey to Fulton, August 30, 1946, Fulton Correspondence, Yale University Archives.

prominent of whose members was Wilder Penfield – and the professional disagreements that this self-fashioning engendered among closely related medical specialties. Lastly, I traced the identity of the neurosurgeon in popular culture by engaging in a close reading of the narratives that appeared in newspapers and magazines, films and plays, novels and visual art.

I have argued that an ethos of elitism and exclusivity came to dominate the social landscape of this specialty in the first half of the twentieth century and deeply informed the identity of neurosurgeons. The founders of the first specialist society – the Society of Neurological Surgeons – did not make their community accessible to all the surgeons who were interested in performing surgery on the nervous system. Even when their interests were not as firmly focused on neurological surgery, academic surgeons were privileged over others, such as the brothers Sharpe and Karl Ney, who practiced at the Homeopathic hospital. The founders acted as moral arbiters, closely scrutinizing potential members and admitting only those whose professional and moral qualities were deemed to be appropriate by their standards. Over the first decade of its existence, the society became increasingly defined by an ethos of exclusionism: the meetings of the society were animated by protracted discussions about who deserved to be included and who ought to be excluded. Extensive neurosurgical experience and professional standing began to be required of potential members, as many young neurosurgeons who were being passed over for membership discovered to their chagrin in the early 1930s.

Most importantly, the small elite SNS group also sought to mediate rules of moral conduct. Sharpe’s apparent attempt to court the media with exceedingly optimistic claims about neurosurgical cures, as well as the dramatic way in which he made his patients perform in front of medical colleagues and newspaper reporters was deemed to be inappropriate conduct for a neurosurgeon, as was Fay’s conduct ten years later. Cushing’s rejection of flashy performances –
both in the operating room and in the public arena – stemmed from an anxiety about the moral character of the early twentieth century surgeon and found expression in a conscious embrace of conservative surgery. In the obituary I quoted above, Bailey ascribed to Cushing a “theatrical flair,” but as I have shown, Cushing only sanctioned certain kinds of performances and only certain kinds of audiences, keeping the surgical demonstrations within the professional sphere and out of the public’s reach.

Although the practice of later generations of brain surgeons changed to accommodate a much less conservative surgery – more experimental techniques applied to a much larger variety of conditions, less reverence for handling brain tissue, less anxiety over flashy performances both in the operating room and in the public arena – the ethos of elitism and exclusionism that inspired the founders of the SNS continued to inform the social landscape of neurosurgery for the entire first half of the twentieth century and perhaps beyond. The younger neurosurgeons who, having been repeatedly denied SNS membership sought to establish a new society in the early 1930s, soon discovered that their initial desire for an inclusive group and an initial attempt at distancing from the older society had to be tempered in order for their endeavor to succeed. The resulting society was in several key respects a new expression of the old status quo.

In the first half of the twentieth century, the meetings of these two specialist societies constituted the forum in which the moral attributes and professional endeavors of the neurosurgeons were put on display and were communally negotiated. The meetings opened with the host neurosurgeon performing a series of surgeries in the operating theatre. I have argued that these technical performances in front of a professional, select audience fulfilled the function of encouraging particular norms, of standardizing surgical techniques, and also of demonstrating the neurosurgeon’s mastery of his craft. On these important occasions, the host neurosurgeon bore
the important responsibility of “putting on a good show” and finding a fascinating “case” to share with his guests.

It was also during these meetings that the neurosurgeons came to express and to actually perform a unique type of masculinity. Surgery had a long history of being considered a quintessentially masculine specialty, but brain surgeons qualified this masculinity by appropriating feminine attributes, often describing their work as a “delicate performance” and likening it to embroidery, a practice that was coded feminine. In the theatrical performances produced by members of professional societies, the neurosurgeon played the role of the “prima donna,” a role that embodied this delicate tension between masculinity, authority, theatricality, and femininity.

The meetings of specialist societies set the stage for a different kind of performance as well. In a context in which neurosurgeons were trying to convince funding agencies to invest in their specialty, often at the expense of related medical specialties such as clinical neurology, polemics on the scope of the field became common at professional meetings. These polemics can be viewed as rhetorical performances that allowed neurosurgeons, clinical neurologists, and psychiatrists to negotiate the shifting boundaries of their specialties and to assert their professional identity in a time period in which this identity was particularly fluid. Designed equally to sustain an argument, to entertain, and to seek support for a communal identity, these rhetorical performances relied on humor, metaphors and other tropes, specific cultural repertoires, and appeals to emotion. As a type of performance meant to be given in front of a professional audience, these polemics on the state of the field are particularly striking when read against the theatrical performances that were also common in this time period at the meeting of professional societies.
In a broader sense, then, I have argued that it is useful to look at the identity of the neurosurgeons of the first half of the twentieth century by considering the role that performance played in the formation and negotiation of a common identity. Specifically, the neurosurgeons’ specialist medical identity was both fashioned and expressed through three types of performances: a technical performance in the operating room in front of visiting colleagues; a rhetorical performance in papers delivered at professional meetings and which constituted, essentially, polemics on the state of the field; and a theatrical performance in elaborate and humorous productions that were put on in the evenings as entertainment at the meetings of specialist societies. While different in character, these three different kinds of performances were nevertheless linked by shared linguistic conventions and, most importantly, by their common purpose of building a shared professional identity.

In these key areas, it is useful to see performance as a technology of the self that allowed neurosurgeons to engage each other in the communal project of constructing and cultivating a specialist identity. Framing these distinct endeavors as performances allows the historian to throw their shared features into sharper relief, as well as to draw attention to the important role played by the audience consisting of medical colleagues or adversaries, as the case may be, in the fashioning of this specialist identity. Since, as I have shown, the term performance and related terminology (“putting on a show”) was often employed, literally and metaphorically, by the historical actors themselves, drawing attention to the different kinds of performances that were constitutive of the doctors’ identity also allows the historian to recover the webs of meaning that the neurosurgeons constructed in order to make sense of their professional world and of the work in which they engaged.
At the same time, foregrounding these doctors’ performances and investigating the role they played in the fashioning of a specific professional identity has allowed for an engagement with a thriving body of literature in the history of science that historians of medicine have mostly overlooked. As I have shown in Chapter 2, examining the ways in which both the surgical performances and the performances put on in the public arena were staged and managed in particular ways clarifies the moral landscape that informed the appearance of neurosurgery as a medical specialty, and it illustrates how medical practice developed in conjunction with a specific professional self. Furthermore, as historian Iwan Rhys Morus has argued, “[l]ooking at performances should also get [historians] thinking about science [and medicine] in terms of doing rather than writing, aesthetic pleasure rather than hard reason.” This perspective is consequential because aesthetics is also deeply embedded in the politics of knowledge: “This to a large degree was how the politics of knowledge was articulated though its performances: though a calculated appeal to the sensibilities of elites of various kinds.” With the appeal to cultural repertoires and a specific kind of humor and pathos, both the rhetorical and theatrical performances in which the neurosurgeons engaged functioned as a stage upon which specialist medical knowledge was negotiated.

More work needs to be done to understand in what ways the neurosurgeons’ culture as it was revealed in these different kinds of performances was similar to or differed from the culture of other unrelated medical specialists at this time, and thus whether a focus on performance as a technology of the self that allowed doctors to create a common identity can also be useful in specialties other than neurosurgery or clinical neurology. By focusing on the way in which

761 Morus, “Placing Performance,” 778.
762 Ibid.
medical specialists engaged with each other in the meetings of professional societies, historians can begin to illuminate the culture and the moral landscape of the various medical specialties that constituted the wider medical world in the twentieth century, the interesting ways in which these specialties were different or similar, and the anxieties and ambitions that characterized medical specialization. This approach has allowed us to understand, as I have outlined in Chapters 4 and 5, the divergent ways in which neurosurgeons and clinical neurologists understood specialization in the interwar period: the neurosurgeons anchored specialization in therapy, cleaving neurology along different therapeutic lines, while clinical neurologists, who were attempting to reassert authority over medical conditions they had lost to both neurosurgeons and psychiatrists, made the case for neurology’s control of all disorders of the nervous system, both the organic and the functional.

More work needs to be done as well in order to understand how the identity that twentieth-century medical specialists cultivated in their professional sphere informed (or failed to inform, as the case may be) the public image of various medical specialists that was reproduced in popular culture at large. In the previous chapter, I have suggested that the increasing authority that neurosurgeons commanded within the medical establishment was also reflected in the American press, fiction, theatre, and film, and that this public perception can be glimpsed in part by a close reading of the narratives themselves and in part with the help of a unique source – the correspondence American readers sent to newspapers and magazines. I have also shown, however, that starting in the interwar period, while brain surgeons began to be increasingly glamorized and portrayed as medical heroes, subtle tensions were also present in these celebratory narratives, tensions that testify to particular cultural anxieties and wider social concerns that neurosurgery tapped into, such as the fear of violence to both the body and the mind.
Even stories about Cushing himself, who especially after his death was widely and explicitly called a genius, betrayed this interesting tension as a result of the connection that existed between genius and madness not only in popular culture, as evident in the neuroticism of the to-be neurosurgeon in the novel Miss Susie Slagle’s which I have described in Chapter 6, but also, apparently, in some areas of psychiatry as well. For instance, in 1959, the British psychoanalyst Ernest Jones recounted in his autobiography that

“Incidentally, it comes to my mind that Harvey Cushing, the American Victor Horsley, was my guest. During that meeting in the evenings he would discuss a distressing neurotic symptom before each of his great brain operations. He wished me to analyze him for it but that never proved feasible. I told Freud of it afterwards and rather to my surprise he said he would not have advised treatment in such a case. It might prove that the surgeon’s superb achievements were so closely bound up with the neurotic symptom, in a sense conditioned by it, that to disturb the one might disturb the other. My own opinion is that such an eventuality could only be temporary.”

Freud had seen Cushing’s “neurotic symptom” as inextricably bound with his “superb achievements,” a commentary on the sometimes close connection between greatness and neuroticism that was a cultural trope also present in popular fiction about neurosurgery, as I have shown in Chapter 6.

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763 One 1971 biography, which appears to have been written for young adults, was entitled Genius with a Scalpel. Justin F. Denzel, Genius with a Scalpel, Harvey Cushing (New York: J. Messner, 1971).

Interestingly, some of Cushing’s students, who sometimes wrestled with complicated feelings toward their Chief, took note of Jones’ anecdote. Upon reading the book, Percival Bailey actually reminisced in a letter to Fulton that “I remember how long we used to have to wait until Dr. Cushing came up to the operating room,” and he wondered whether Fulton could “throw any light on this supposed neurotic symptom?”

Fulton, using religious language, bristled at the suggestion that Cushing had suffered from a psychological condition. He attempted to normalize Cushing’s anxiety by deeming it an inherent part of the difficult work of the neurosurgeon, and indeed the work of anyone engaged in a serious task:

“\[I\] wouldn’t desecrate the sense of uneasiness which he always had before giving a lecture or going into an operation by describing it in psychoanalytic terms. This would have given him butterflies, and certainly an analysis would not have helped him. Surely he had nothing more than you or anyone else has before undertaking some responsible assignment. You must yourself recall that he often mentioned it and Ernest Jones, although probably a good man in his limited sphere, sounds to me a little naïve in describing H.C. as he has.”

The neurosurgeon of the first half of the twentieth century was complex and contradictory, sometimes a genius sometimes a neurotic, the epitome of masculinity yet full of feminine delicacy, heroic and all too human. As I have shown in this dissertation, the professional identity of the neurosurgeon found multiple inscriptions in this time period, shifting with different

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765 Bailey to Fulton, March 7, 1960, John Fulton Correspondence, Yale University Archives.
766 Fulton to Bailey, March 18, 1960, John Fulton Correspondence, Yale University Archives.
generations of neurosurgeons, even if an ethos of elitism and exclusionism continued to inform this collective identity. The neurosurgeons’ relationship with theatricality and the idea of performance also shifted over time, but their view of their work as a performance governed by rules of technical, professional, and moral conduct remained.

In 1944, another of Cushing’s former students published a paean to the Chief – a befitting article to inaugurate the new *Journal of Neurosurgery*. Describing older attempts at brain surgery, Gil Horrax explained that “the technic of brain operations at this time was crude, and was influenced largely by general surgical methods which we now know cannot be applied to such delicate performances.”

767 These were indeed delicate performances that the neurosurgeons of the first half of the twentieth century saw themselves engaged in – whether in the operating room under the watchful gaze of visiting colleagues, or in the raucous meetings of specialist societies when they discussed the often contentious scope of their medical specialty, or on stage, literally performing their complex and extraordinary identity while singing and dancing in their roles as prima donnas.

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