

Perfect Timing: Policy Change at the Rockefeller Foundation and the Establishment of the Montreal Neurological Institute

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My current research project explores the emergence of the profession of neurosurgery in the first half of the twentieth century. I take an in-depth look at two of these institutes, the Montreal Neurological Institute, which was founded in 1934 with financial help from the Rockefeller Foundation, and the Neurological Institute of New York, which opened its doors in 1909, but did not benefit from substantial Rockefeller Foundation help until much later.

I visited the Rockefeller Archive Center in order to understand how and why the Rockefeller Foundation (RF) came to offer such a generous amount of money to the establishment of the Montreal Neurological Institute. I was also interested in the relationship between the RF and the much closer, geographically, Neurological Institute

of New York. Did the foundation choose to support one institute over the other, and if yes, why? What were the factors that the foundation considered in making its decision?

Before I outline some of the answers to these questions revealed by the rich material in the archives, I will give a brief history of the Montreal Neurological Institute and of one of the main architects of its founding, the neurosurgeon Wilder Penfield.

Wilder Penfield was born in Spokane, Washington, on January 26, 1891. He was educated at Princeton, Harvard, and Oxford, and received his medical degree from Johns Hopkins Medical School in 1918. Following a one-year surgical internship at the Peter Bent Brigham Hospital in Boston, some graduate training at London's National Hospital at Queen's Square, and a short stint as a neurosurgeon at the Presbyterian Hospital in New York, Penfield was recruited by the Canadian surgeon Edward Archibald to fill a position at the Royal Victoria Hospital in Montreal. When Penfield arrived in Canada in 1928, he was already the most qualified neurosurgeon in the country. Only two other surgeons had the ability to open the human skull: Archibald in Montreal and Kenneth McKenzie in Toronto. Archibald had had no training in neurology, however, and McKenzie, although he had done his residency with Cushing in Boston between 1922 and 1923, was not the most skilled surgeon. Historian Michael Bliss reports that Cushing had described McKenzie as "the sloppiest man I've had for a long time." Penfield had no serious competition in his new country, and this situation conferred more power to him than he had ever enjoyed before. Thus, he immediately began to lobby for the creation of his dream institute: a place where neurology and neurosurgery were united in one academic department, where multidisciplinary teams worked to solve neurological mysteries and where neurosurgery was not a subordinate branch of medicine at the whim

of neurologists, a situation with which he was all too familiar from his days in New York, where the course of a patient's therapy – including the decision to undergo surgery – was often dictated by the neurologists in charge.

In 1929, Penfield approached the Rockefeller Foundation with sketches and a description of the institute he envisioned. He met briefly with the director of the Division of Medical Education, Richard M. Pearce, but he was initially turned down by the RF. There is no record of this meeting in Pearce's diary, most likely indicating the low priority that this proposition had for the foundation at that time.

Penfield persevered, however. He was clearly very adept at establishing friendships with important people. His ability to promote himself and his work is evident from the success he had in eventually garnering the necessary financial support for the founding of the Montreal Neurological Institute. One example, for instance, is his friendship with the rich mother of one of his patients, Madeleine Ehret Ottmann, who bequeathed to him fifty thousand dollars in addition to smaller amounts she had contributed during her life. Several years later, Penfield befriended Dr. Alan Gregg, who had replaced Pearce as the director of the Division of Medical Education of the Rockefeller Foundation. This time, with Gregg's support, the RF's Board of Trustees decided to support Penfield's project, and in 1932 they awarded \$1,232,000 toward the founding of a Neurological Institute. The Province of Quebec and the city of Montreal supplied the rest of the funds needed for such an expensive undertaking, and in 1934 the Montreal Neurological Institute officially opened with Wilder Penfield as its first director.

Penfield considered his institute unique in the world. It was, he thought, the ideal place to finally tackle the one illness that had fascinated him for a number of years – epilepsy. For the rest of his career, Penfield sought to understand and cure epilepsy through surgical means. He devised what became known as the Montreal procedure to pinpoint and excise the scar tissue that was the source of his patients' epileptic attacks. While his patient lay conscious on the operating table, Penfield used an electrode to gently stimulate the brain, both as a means of finding the scar, and as a means of avoiding damage to important parts of the cortex. Once he found the scar, if indeed there was one, Penfield removed it surgically. The Montreal technique also allowed him to create a map of the brain that showed the various sensory, motor, and speech areas of the cerebral cortex.

His surgical solution allowed Penfield to cure about half of his epileptic patients, by his own count. It is important to note, however, that although no other surgeon was attempting this technique on quite as large a scale, Penfield was nonetheless not advocating an entirely novel procedure. The British physician Hughlings Jackson had surmised, as early as the end the 19th century, that epilepsy was caused by abnormal electrical discharges in the brain and had speculated on a possible surgical solution. Furthermore, Penfield learned about direct cortical stimulation and the removal of scar tissue from Otfried Foerster. Penfield's contribution lay in perfecting these techniques and employing them in a systematic fashion that allowed him to standardize the surgical procedure and to create a map of the cortex. Invaluable to his achievement was the Neurological Institute in which he practiced and which allowed him the independence he

needed, the necessary large variety of patients, the support from other medical specialties, and the requisite material support.

The records in the Rockefeller Foundation Archives have allowed me to understand why the foundation committed itself to such a substantial gift at that particular time. It appears that an interesting shift occurred in the policy of the foundation between the first decades of the 20th century and the early 1930s. Projects that involved neurology did not seem to capture the RF's attention to a significant extent until the early 1930s. This resulted perhaps in the cool reception received by Penfield's first proposal in 1929, when "it was explained to Doctor Penfield that aid to the project could not be considered because 1) building and support of hospitals did not fall within the scope of the Foundation's activities, and 2) because if anything distinctive were to be done in neurology a survey of the whole field seemed indicated in advance of any commitment."

Indeed, a similar proposal which had been put forth immediately after the end of World War I by the most famous neurosurgeon at the time, Harvey Cushing, did not garner much enthusiasm or support. In a letter addressed to Alan Gregg in 1934, Cushing recounts his and several other doctors' attempts to establish a National Institute of Neurology. They first engaged the government, which, however, "in spite of their talk of reconstruction, couldn't see it," and later the Rockefeller Foundation, which at the time was more interested in supporting its hygiene program. Cushing approached "George Vincent, Abraham Flexner, Mr. Gates and others" and "had various meetings, but finally, for reasons which I need not go into, the project fell through and each of us drifted back into his former humdrum professorial job." In his letter, Cushing wondered, perhaps somewhat bitterly, if his original suggestion had sown the idea of building the Montreal

Neurological Institute. In his response, Gregg admitted that he had not been familiar with Cushing's earlier project, and he emphasized that Penfield's project received support because of the foundation's interest in funding research in neurology, psychiatry and allied sciences. He also underscored his and the foundation's conviction that "it is men that matter, especially in a new undertaking. I thought Penfield a good bet (and I think so now) and my colleagues agreed." Gregg believed in "a heightened appreciation of the meaning of persons: - of the importance of finding them, training them thoroughly, and backing them generously and thus liberating their energies. When institutions in this country hold these things to be their job I shall be in favor of institutions whole-heartedly. And not enough do."

My preliminary conclusion is that there seem to be two main explanations for the foundation's decision to extensively support Penfield's Institute at this particular time: first, a dramatic change in policy that occurred in the early 1930s, and secondly the foundation's belief that while it was important to support particular research projects, it was more imperative to choose to support institutions that were administratively stable and individuals who were not only good scientists, but also good administrators and able "politicians." Furthermore, the latter is precisely the reason why the Neurological Institute of New York was not able to command the same kind of attention and financial help from the foundation.

The change in policy was two-fold. First, the foundation decided that rather than granting "emergency" grants, it would be more efficient to make more substantial grants that would have a more dramatic impact and possibly lead to more important results. In December 1925, Pearce wrote that over the next few years he wanted to "bring the

emergency program to an abrupt end [...] in the hope that in the next five years we can do something of which we shall really be proud and not be worried to death by the routine details of the emergency aid we are now giving.” Pearce wanted to invest more money in supporting graduate and specialized education, as opposed to just medical education, and in “stimulating work in certain research institutes which can train a higher type of men as graduates.” Penfield’s Institute seemed to be such a place – graduate education and teaching of specialized fields were an integral part of this institution. In the 1929 annual report, this change in policy was clearly articulated. Between 1920 and 1928, the foundation followed a “policy of attempting to aid in several countries the teaching functions of institutions of medical education.” Starting in 1929, however, “research in the advancement of knowledge in the medical sciences may be considered as the principal interest, thus taking the place of a previously predominating interest in the welfare of schools or faculties of medicine as institutions.”

Secondly and most significantly, the foundation became convinced that “the field of medicine is so wide that in order to do effective research work it is necessary to proceed on a highly selective basis.” Starting with the early 1930s, the foundation began to give special attention to psychiatry and related sciences, arguing the need for “studies throwing more light on the function of the nervous system, the role of internal secretions, the factors of heredity, the diseases affecting the mental and psychical phenomena, and in general the whole field of psychobiology.” The foundation’s sudden interest in psychiatry and psychobiology were of great benefit to those who wished to receive grants in neurology and neurosurgery. Penfield’s second proposal in 1931 thus came at a critical time.

Furthermore, from numerous documents it is evident that the foundation carefully evaluated and ultimately approved of the situation at McGill University and Royal Victoria Hospital. In 1931, on a trip to Montreal, Gregg wrote in his diary that he was “impressed by the amount of local interest and the extent to which sacrifices will be made in order to retain P[enfield].” Penfield had received an offer from Pennsylvania, and he was considering leaving Montreal. The Dean of the Medical School at McGill and the leadership of the Royal Victoria Hospital were very eager to prevent Penfield from leaving, and as a result they lobbied for funding from the city and the province in order to ensure that Penfield’s needs were met. In addition, Penfield himself had secured funds from other sources. The Rockefeller Foundation took into consideration this extensive local support, as well as Penfield’s ability as an administrator and fundraiser. As Gregg suggested in his letter to Cushing, the foundation believed that “it is men that matter,” and the foundation’s role was “backing them generously and thus liberating their energies.” In search of greater and more specific projects than the ones they had supported in the past, the Rockefeller Foundation came across Penfield’s proposal and realized that this project was a good fit with the foundation’s new policy and ambitions.

The situation could not have been more different at the Neurological Institute of New York. In 1935 Gregg wrote in his officer’s diary: “Lewis asked what I thought of the Neurological Institute in NY. I said that any comments would have to be in the light of the possibilities that the Neurological was likely to ask the RF for support[.] [H]e said that he did not know this was the case. Told him I thought Tilney [the director of the institute] had a good many clinical men pushing rather hard for status and that there were too many posts and not a very clearly defined program but that I wished this comment to

rest with him.” That same year, Gregg noted in his diary that “we might be interested in helping an entirely reorganized institution.” Evidently, the foundation was not impressed with the Institute’s organization. In fact, the 1930s were tumultuous years for the Institute. Although it applied for RF funding, the lack of stability and organization precluded the foundation from offering substantial support. It was only in 1938 that the foundation granted Columbia University (with which the Institute was affiliated) a substantial grant, but even then, the money paled in comparison to what the Montreal Neurological Institute had received: Columbia received the sum of \$100,000 over a period of five years for the support of teaching and research in neurology. As late as the 1940s, the Institute continued to be plagued by problems and controversies, including a disagreement between its director Tracy J. Putnam and the Board of Trustees, which resulted in Putnam’s resignation in 1947.

In conclusion, the founding of the Montreal Neurological Institute can be understood to have occurred as a result of the intersection of several factors. Penfield’s proposal was made at a time when the Rockefeller Foundation was changing its policy. The original emphasis on medical education was being replaced by a concern with graduate and specialized education and with research and knowledge in the medical sciences. Similarly, the foundation no longer wished to distribute its grants across the wide range of medical specialties, but rather sought to focus especially on psychiatry and its allied sciences – among which, of course, neurology and neurosurgery were prominent candidates. The particular conditions in Montreal were also favorable, in the eyes of the foundation. The university, the medical school, and its affiliated hospital presented a unified front in their attempt to gather funds for the establishment of adequate facilities

for Penfield, who was being lured away to Pennsylvania. And finally, Penfield himself appeared to possess the kind of political and administrative acumen which assured the Rockefeller Foundation that, in his hands, its investment of more than 1.2 million US dollars would bear fruit in the long run.