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Hervé Gagnon

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Article abstract

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# The Natural History Society of Montreal's Museum and the Socio-Economic Significance of Museums in 19th-Century Canada\*



HERVÉ GAGNON

## RÉSUMÉ

Premier musée à vocation savante à Montréal, le musée de la *Natural History Society of Montreal* est, au cours de la première moitié du siècle, le résultat des activités des amateurs de science, essentiellement issus de la bourgeoisie anglophone locale, qui se regroupent au sein de la Société. Comme cette dernière, le musée profitera de l'implication temporaire des membres de la Commission géologique du Canada au cours des années 1850–1860 pour prospérer. La crise économique des années 1870 et le départ de la Commission pour Ottawa en 1881 le rendront à son statut amateur.

## ABSTRACT

The Natural History Society of Montreal's Museum, the first science museum in Montreal, was led, throughout the first half of the 19th century, by members of the local anglophone bourgeoisie. It temporarily prospered with the increased involvement of the Geological Survey of Canada with the Society during the 1850s and 1860s, until the economic crisis of the 1870s and the departure of the Survey for Ottawa in 1881 restored it to its amateur status.

During the 19th century Montreal, led by a capitalist bourgeoisie composed of merchants, professionals and civil servants, went through a transition to industrial capitalism and became the economic motor of Canada. As early as the 1830's, mills, shipyards and breweries flourished in the city. During the second half of the century, access to new markets through the improvement of canals linking the city with its Upper Canadian hinterland, the development of railways, and the construction of the Victoria Bridge, produced constant industrial expansion, fueled by massive immigration and a marked growth in population. Possessing most of the financial and political power, Montreal's anglophone bourgeoisie was at the forefront of Canada's economic, industrial, and territorial expansion. In their eyes, Canada was a power in the making, its resources awaiting development, and its growth conditional on its transformation into a transcontinental nation. This idea of national development remained dominant throughout the century and enlisted, in one form or another, the support of disciplines such as the sciences, art, and history.

With the transition from a preindustrial to an industrial capitalist economy, sciences were increasingly linked to economic development and businessmen perceived scientific progress as an adjunct of greater prosperity.<sup>2</sup> As Suzanne Zeller has shown, by providing data and ideas that supported the vision of the nation's potential, inventory sciences (geology, botany, meteorology and magnetism) gave the concept of a transcontinental nation an aura of feasibility:

Both inventory and nation-building were important processes which Canadians believed would arm them to meet the challenges of industrialization and modernization. Victorian inventory science defined premises upon which a certain Canadian nation could be built, and which gave rise to 'national' policies designed to safeguard that existence. New information offered raw material for developing conceptions; without it, the idea of a British North America could no doubt still have emerged, but it might not have been the same as that informed by Victorian science.<sup>3</sup>

Art also contributed to nation-building during the 19th century. According to Dennis Reid, as artists became inspired with the vision of Canadian progress, their professional aspirations coincided with those of capitalist entrepreneurship. From the 1860's, art was increasingly seen as an integral part of an 'advanced' society and artistic societies devoted to the development of a Canadian

school blossomed. Industrialists, often art collectors themselves, and the federal government encouraged landscape artists to produce grandiose representations of the country's impressive nature, particularly that of the recently-opened West. Sketching the country from sea to sea, they encouraged the image of a united nation, where two founding people worked for the common good.

Canada was the future; its full magnitude still a dim shape, a rough outline, but promising greatness, strength, wealth and, in many minds, even empire. To grasp this future, first to perceive it and then to achieve it, became the Canadian obsession of the eighties, and as much for the artist as for the politicians or railway entrepreneurs.<sup>4</sup>

Finally, during the second half of the 19th century, as the ideal of the Canadian Confederation was endorsed by moderate liberals, both French-Canadian and English-Canadian,<sup>5</sup> history became an important instrument in the promotion of a new national unity:

The primary purpose of the new generation of Canadian historians was to narrate for their compatriots the story of how collectively they had struggled to raise the united province to its present stature, overcoming both the wilderness and an irresponsible élite. ... History was for them a continuum, and their first task was to provide a credible line of descent. But they were also to bring open discord to a close, to end the partisan, racial and other divisions of the past, and to fashion a new, unifying identity. From a history of struggle they would forge a national consensus.<sup>6</sup>

During the course of the 19th century, through the actions of members of the anglophone bourgeoisie, these disciplines generated scientific and artistic societies that, in turn, produced museums wherein one can perceive the influence of the national vision. The museums of the Natural History Society of Montreal (1827-1925), the Geological Survey of Canada (1844-1881), the Art Association of Montreal (1879), the Numismatic and Antiquarian Society of Montreal (1896), as well as museum projects such as those of the Mechanic's Institute (1828) and the Board of Arts and Manufactures (1857) all bore the influence of anglophone capitalists and transmitted their vision of Canada through notions of utilitarian science, national landscape, and historical and political unity. In essence, Montreal's anglophone scientific museums acted as a window on the national future as seen by its elite.

Such museums hold a certain significance in the understanding of national ideologies. They constitute an interesting illustration of the association between economy, science, and culture at a time

when industrialists did not dissociate nation-building and culture-building. Of this association, the museum of the Natural History Society of Montreal (NHSM), given its longevity (1827-1925) and the quality of the existant documentation, provides a particularly representative case.<sup>7</sup> Linked from its beginnings with the local anglophone bourgeoisie, the NHSM, although initially a place where amateurs could exercise their passion for natural sciences, was gradually taken over by the scientific personnel of the Geological Survey of Canada in order to consolidate the support of the financial powers residing in the economic capital. Thus, for a time, the NHSM's activities came to bear the mark of a more professional attitude.

#### THE ANGLOPHONE BOURGEOISIE BETWEEN CURIOSITY AND SCIENCE (1827-1850)

On 12 May 1827, twenty-six gentlemen met at the presbytery of the Reverend Henry Esson, minister of the Scotch Presbyterian Church of Montreal, to discuss the relevance of founding a society devoted to natural history, which they proceeded to render official six days later. With this initiative, they sought to promote the study of natural history and thus generate a better understanding of the country's natural resources among members. A collection was essential to this purpose and, from the beginning, became the primary object of the founding members:

... il n'a jusqu'à présent existé en Canada que peu de moyens d'acquérir des connaissances sur l'Histoire Naturelle faute de cabinets ou de collections auxquels on pût avoir accès. ... C'est en vue d'éloigner les difficultés qui nuisent en grande partie aux recherches sur l'Histoire Naturelle, d'en faciliter l'étude à ceux qui désireraient s'en occuper, d'exciter l'émulation des personnes possédant les talents (sic) nécessaires, et par ces moyens de parvenir à mieux faire connaître les productions naturelles du pays, que la Société d'Histoire Naturelle de Montréal a été établie ... (et) a adopté comme des objets de première nécessité la formation d'un Musée d'Histoire Naturelle, et d'une Bibliothèque ....<sup>8</sup>

With these objectives in mind, the Society rented space on St. Paul Street, where it installed its museum and library.<sup>9</sup> There,

they hoped that ... they might, in the course of the years, have formed a collection of some value and they were content to think

they might slowly advance. Commencing with no extravagant ideas, but acting with zeal and unanimity, their success exceeded all expectations.<sup>10</sup>

From the very beginning, the Natural History Society of Montreal was distinctively animated by the Montreal anglophone elite: of the 26 original members, only two were francophones.<sup>11</sup> From the 1830's to the end of the 1850's, the board of the Society was composed of an average of 1.1 francophone and 7.2 anglophones.<sup>12</sup> This linguistic dominance would remain throughout the century.

The Protestant clergy held an important position within the founding group, as it did among anglophone society. Henry Esson, an educator as well as a clergyman, would later become professor of history, literature, and philosophy at Knox College. James Somerville, minister of the Scotch Presbyterian Church of Montreal with Esson, and Alexander Mathieson, minister of the St. Andrew's Presbyterian Church, were also among the founding members. A year later, in 1828, the Anglican rector of Montreal, John Bethune, became a member.<sup>13</sup>

As lawyers played an increasingly important role in a society rapidly moving toward industrial capitalism they, too, formed an important part of the original group. The most eminent of them was John Samuel McCord, an avid amateur of meteorology who was already a member of the very select Brothers-in-Law club during the 1820's and would have a very successful career as a judge. Stephen Sewell was also a lawyer, mainly with the Royal Institution for the Advancement of Knowledge. Commerce was represented in the person of H.H. Cunningham, a bookseller, and Robert Armour, a businessman and co-founder of the Bank of Montreal, Queen's Printer for the district of Montreal and owner of the *Montreal Gazette*.

It was within medical circles, however, that the new society found some of its most important elements. Andrew Fernando Holmes, for one, was a well-known collector of botanical and geological specimens as well as a medical doctor. As such, he remained attached to the Montreal General Hospital from 1822 to 1842. With colleagues William Caldwell, William Robertson, dean of medical personnel at the Montreal General Hospital, and John Stephenson, all original members of the Natural History Society of Montreal, Holmes had also founded the Montreal Medical Institution, which became in 1829 the Faculty of medicine of McGill University. He later served as dean of that faculty from 1843 to

1860. Among the lesser known founders, B. Berthelet, James Campbell and G. Vallée were also listed as medical doctors in the documents of the Society.

During the first half of the century, the NHSM relied mostly on the contribution of non-scientific anglophone board-officers from the legal, commercial and medical fields. Considering only the seats of president, vice-presidents, treasurer, recording and corresponding secretary and excluding the founding members already mentioned above (some of whom remained active in the Society for variable periods of time), the vast majority were eminent anglophone citizens.

Law was well represented: in 1828, James Reid, judge in chief at the Court of the King's Bench in Montreal, acted as president of the Society, as did Louis Gagy, an eminent judge and jurist, in 1831. Finally, William Badgley had just been named judge of the Circuit Court of Montreal when he became president of the Society in 1845, and later became professor of law at McGill University. Important journalists of the period were also attracted to the Society. Adam Thom, editor-in-chief of the *Montreal Herald* and anti-French-Canadian activist, was vice-president in 1837. Léon Gosselin, a former Patriote sympathiser and founder of the moderate newspaper *Le Populaire*, served as secretary in 1842.

Medicine provided the NHSM with some of its most eminent practitioners and professors. Besides the founding members, many doctors of the Faculty of Medicine at McGill University were prominent, such as Archibald Hall, secretary in 1837, who was a professor at the Faculty, amateur meteorologist and co-founder of the *British American Journal of Medical and Physical Science* in 1845. James Crawford occupied the seats of vice-president and president between 1845 and 1847 and was a professor of clinical medicine and surgery. M. McCulloch was professor of obstetrics when he became president in 1846. George William Campbell, vice-President in 1846 and 1847, was professor of surgery from 1835 to 1875, and Dean of the Faculty from 1860 to 1882.

As industrialization expanded during the 1840's, commerce and finance began providing the Society with representatives. John Glass, a real-estate broker, acted as treasurer from 1842 to 1846. J.T. Brondgeest, vice-president in 1842, corresponding secretary in 1845, and president in 1846, also sat on the Board of Trade and the board of directors of the Montreal branch of the Bank of British North America in 1846. That same year, Hugh Allan, served on the

council: founder of a transatlantic shipping line, he was president of the Borad of Trade in 1851-1854.

From its very beginning, the NHSM had rested on the liberal principle that all classes of society could be admitted, "le désir d'avancer les sciences dans ce pays étant la seule qualification requise".<sup>14</sup> It remained in the hands of dedicated amateurs until the Geological Survey of Canada, established in Montreal in 1842, took it over during the 1850's.

\* \* \*

The evolution of the NHSM museum during the first half of the century is consistent with the amateurism of the officers. From the very beginning, forming "a collection of some value"<sup>15</sup> stood as one of the essential purposes of the Natural History Society of Montreal, along with a reference library. From 1831 to 1847, the office of "librarian and cabinet keeper" was filled by such non-scientific personnel such as bookseller H.H. Cunningham, one of the original founders of the Society, in 1831; Robert Mackay, editor and author of the *Montreal Directory*, in 1842; J.H. Joseph, a tobacco manufacturer and importer, in 1844-1845; and W.M.B. Hartley, a lawyer, in 1847. In accordance with the Constitution of 1828, they were in charge of all books and specimens and were expected to keep separate catalogues of each<sup>16</sup> — which was not done until 1854.

The growth of the collection is first attested by the continuous need to find more space to house it. As early as 1828, sources mention the necessity to move the collection.<sup>17</sup> The *Star and Commercial Advertiser*, for instance, stated that "considering the shortness of time that the society has existed, the collections in botany, minerals, preserved animals, books, and miscellaneous articles, are surprisingly great".<sup>18</sup> Therefore, in 1831, the NHSM moved to a more spacious building, at 20 St. James Street, which it shared with the McGill University Faculty of Medicine.<sup>19</sup> Two years later, the museum was once again faced with the need to increase space:

It appears by the state of the Museum, and by the great number of objects possessed by the Society, which have not yet been placed in the rooms, that it is requisite to obtain an increase of space in order to (improve) the exhibition of the articles in the Museum; and further, that it is to be expected that each successive year will render the enlargement of the rooms more and more necessary.<sup>20</sup>



In 1835, after suspending most of its activities due to the cholera outbreaks of 1832 and 1834, the NHSM petitioned the Legislature for a grant of a vacant lot allocated to the Montreal Library, for which the deed had expired in 1834, in order to erect a building in the near future. The Society also proposed to launch a subscription to gather half the necessary capital, the other half to be paid by the government. This endeavour proved unsuccessful but the Society did obtain a grant from the Provincial Legislature.<sup>21</sup> It then acquired a building better suited to its activities at 10 St. James Street in 1837, where it remained until 1859:<sup>22</sup>

The house at present belonging to the Society is well adapted to its purpose. It contains an excellent lecture room, well fitted up, in which the meetings of the Council are held, and lectures frequently delivered by the members during the winter half-year; and good accomodations for the Museum and Library.<sup>23</sup>

Thus located in suitable quarters ten years after its beginnings, the collection incorporated, as well as a growing quantity of natural history specimens, a vast array of miscellanies. It was essentially represented as a repository of general interest, a "large collection of valuable Works, Instruments, objects of natural history and Curiosities".<sup>24</sup> Because of inadequate sources, it is virtually impossible to analyse the evolution of the collection, and the complete sequence of acquisitions is unknown. The *Registry of miscellaneous Donations to the Museum*<sup>25</sup> for the years 1827 to 1853 was reconstituted in 1854, and can hardly be considered reliable considering the time elapsed between the actual acquisitions and their registration. Moreover, it does not provide information regarding objects taken out of the collection, which leaves an unreliable record of the contents of the collection in 1854. The annual reports of the Society deal mostly with the collection on a qualitative basis and only irregularly provide precise numbers which can be used to document its quantitative evolution. The only reliable statistics ever provided by the Society, while not describing all categories of specimens, were published in 1828, 1830, 1864, 1868 and 1897. Nevertheless, taken together, these sources give a general overview of the evolution of the interests and priorities of the museum.

From its earliest stage, the collection was divided into four sections: botany, mineralogy, zoology and miscellanies.<sup>26</sup> Botanical and mineralogical specimens, collected by members on field trips, seem to have been the fastest-increasing sections. In 1830, for instance, the 442 specimens originally contained in the botany

department in 1828<sup>27</sup> were augmented by the constitution of two herbaria,

one containing 500 specimens in the finest preparation and of the largest size, and forming (exclusive of the Grasses, Grass-like plants and trees) a nearly complete Flora of the environs of this city. The other contains 250 species of Plants, cultivated in the gardens around this city.<sup>28</sup>

The same year, the Society recieved a grant from the Provincial Legislature to enable it to acquire a collection of 685 mineral specimens which had been offered at a low price.<sup>29</sup> By 1830, the number of specimens reached 1,401.<sup>30</sup> Throughout the first decades, according to the *Registry of miscellaneous Donations*, the mineralogy department (which, accordingly to original classification, included minerals, corals, shells, and fossils) elicited the most donations from individual members of the society.

The zoology department (including insects, mammals, birds, fish, reptiles, batrachians and shellfish) was much slower and uneven in its development, partly due to "the want of a person properly qualified to prepare the specimens".<sup>31</sup> In 1828, it contained 20 specimens of mammals, 220 of birds and 40 of fishes.<sup>32</sup> In 1830, the total number of birds had risen to 335 specimens, many of which were duplicates, but only 74 specimens of fishes and reptiles and 39 specimens of mammals were available for display.<sup>33</sup> Shells and corals were quite numerous in 1828 (144 and 172 specimens respectively) but there were only 11 insect specimens.

Before 1850, the "miscellanies" department grew at the same rate as the three natural history departments. Building on the 40 miscellaneous objects originally listed in 1828, the collection boasted 95 works of art in 1830. Among those, the four casts from antique statues, known to connoisseurs as "The Discobolus, The Antinous, A Fawn and a Piping Boy" that were given to the museum by Nathaniel Gould in 1832 remained the most widely known of its artistic holdings.<sup>34</sup> One could also find "various Indian curiosities, such as dresses, weapons, instruments (and) articles of dress from various countries".<sup>35</sup>

The collection comprised 297 history and numismatic objects, but the council remained quite realistic about the use of such a collection:

the Society possess(es) a considerable number of coins, ancient and modern, the majority certainly of no great value, but always useful

in an extensive collection, while a few are valuable as antiquities or as historical records.<sup>36</sup>

Due to a continuous flow of donations from members throughout the period, which could hardly be turned down, given the amateur status of the museum, the numismatics collection reached considerable proportions and, in 1854, it boasted around 700 specimens.<sup>37</sup> Historical mementos such as a lead plaque taken from the foundations of a house built in 1768, a personal handkerchief of Mary Queen of Scots,<sup>38</sup> or a facsimile of Rob Roy's handwriting,<sup>39</sup> were incorporated into the collection but remained a minor sector of activity that disappeared during the second half of the century.

Among miscellanies, but in much smaller quantities, one also found curios and *lusus naturae* such as a malformed hen's egg, a miniature mummy from Alexandria, "a clay stone of curious shape", a cane made out of bone,<sup>40</sup> and some ethnological artifacts donated by members.

Despite undirected collecting and amateur membership, the NHSM displayed some concern for the preservation of its specimens. As early as 1828, it appended to its Constitution what can be seen as the first conservation manual in Canada, detailing methods for preserving and shipping specimens. To this end, a taxidermist was hired the same year to prepare specimens.<sup>41</sup>

In 1839, Newton Busworth, although omitting the miscellanies, gave a general description of the collection:

In the botanical department there is found a considerable collection of plants from Europe, from the United States, and from Canada.... Its mineralogical cabinet is extensive, and the specimens of the finest description. In the part of it containing the simple minerals, and not including those found in this country, the number in the catalogue amounts to upwards 1600, exclusive of duplicates. In addition to these are the foreign and Canadian geological collections, and the simple minerals of Canada.... In Zoology, considerable success has attended the efforts of the Society. Of shells, a large number of fine specimens are exhibited in the Museum, and the Society possesses also numerous cases of Insects, native of Canada, and of the East and West Indies; of Reptiles, the number is considerable; but of Quadrupeds there is a deficiency. The chief attraction is the large number of Birds, prepared in the best manner, and exhibiting a striking representation of life; in the Ornithological collection, indeed, are contained nearly all the birds found in this part of the world; also, a large number of the gorgeously decorated inhabitants of the torrid zone, both east and west, — and a large number of the birds of Britain.<sup>42</sup>

## CREDIBILITY AND PROSPERITY (1850-1870)

Along with other natural history societies all over British North America during the second half of the 19th century, the NHSM entered a period of consolidation.<sup>43</sup> From 1850 to the end of the 1860's, the Society and its museum underwent almost continuous growth, in the size of the collection as well as in the rate of its acquisitions. At the same time, in order to gain the support of the Montreal business and industrial community which formed the core of the NHSM's membership, an increasing number of eminent Montreal scientists connected with the Geological Survey of Canada served on its board, thus giving its general activities — and its museum in particular — a more scientific turn.

The link between the NHSM and the Geological Survey can be traced back to the latter's beginnings. During the 1830's, the anglophone bourgeoisie which formed the core of the NHSM's membership was becoming increasingly conscious that prosperity lay in the knowledge of the country's natural resources. As early as 1837, the NHSM petitioned the legislature of Lower Canada for a geological survey, only to see the project interrupted by the rebellion in Lower and Upper Canada. In 1841, along with the Literary and Historical Society of Québec, which also made natural history one of its priorities, the NHSM successfully petitioned the Assembly of the United Canadas to set up a national geological survey in order to determine the nation's industrial potential. The Geological Survey of Canada was created and, through his personal connections with the Montreal business élite, William Logan became its director. In 1842, the Survey moved to Montreal and opened its museum in 1844.<sup>44</sup> Between 1845 and 1852, it shared space with the NHSM at 10 Little St. James Street.

As during the first half of the century, the Society remained firmly in the hands of anglophones after 1850 and, from 1859 on, they filled all the seats on the board until the end of the century.<sup>45</sup> Amateur naturalists from various fields were still well represented. Benjamin Workman, owner of the *Canadian Courant*, was treasurer of the Society in 1855 and 1856; A.N. Rennie, editor-in-chief of the *Transcript*, remained secretary from 1855 to 1858. The Ecole de médecine et de chirurgie de Montréal was represented on the board by Hector Peltier, who acted as secretary in 1852, and W. Sutherland, vice-president in 1853 and 1854. William Hale Hingston, surgeon-in-chief at the Hôtel-Dieu de Montréal who was elected mayor of Montreal in 1875, was corresponding secretary from 1857 to 1861. Amateur scientists continued to be involved in the Society,

such as Major Robert Lachlan, president in 1853, who had served in numerous agricultural societies in Upper Canada during the first half of the century.

As the movement of natural theology aimed to reconcile science and religion,<sup>46</sup> Protestant clergymen also took an active part in the NHSM. Canon William Turnbull Leach, an Anglican priest, professor then dean of the Arts Faculty at McGill University, was president in 1854 and 1856. Francis Fulford, Anglican bishop of Montreal and first metropolitan of the ecclesiastical province of Canada in 1860, was president in 1855, while Presbyterian ministers Alexander Ferrie Kemp and Philip Pearsall Carpenter (both specialists in algae and fungi) were vice-president in 1865-1866 and 1866 and in 1869-1872 respectively. The Jewish community was represented by Abraham DeSola, who served numerous terms as vice-president from the 1850's to his death in 1882.

Besides the officers mentioned above, two notable shifts in the board's composition between the 1850's and 1870's demonstrate an increased connection between business and science. As industrialization was progressing rapidly and financial circles were becoming increasingly aware of the importance of utilitarian science, their presence increased on the board. Entrepreneurs John Molson, Peter Redpath and James Ferrier, William Henry Allan Davies, a mining investor attached to the Hudson's Bay Company, George Barnston, also from the Hudson's Bay Company, J.H. Joseph, a tobacco manufacturer and importer, John Leeming, a customs broker, and A.T. Drummond, manufacturer of railway supplies, all sat on the board as presidents, vice-presidents or treasurers during the 1850's and 1860's.

At the same time, the Geological Survey of Canada (GSC), buoyed by the success of the Canadian mineralogical exhibit at the London Great Exhibition in 1851 and renewed grants,<sup>47</sup> and McGill University, began exerting considerable influence on the Natural History Society of Montreal. Elkanah Billings, the official paleontologist of the GSC and eventually curator of its museum, was vice-president from 1858 to 1876. John Frederick Whiteaves, who succeeded Billings as paleontologist of the GSC, served as both recording secretary and curator from 1863 to 1877. From 1865 to the beginning of his tenure a professor of mineralogy at the Massachusetts Institute of Technology in 1872, Thomas Sterry Hunt, official chemist and mineralogist of the GSC, was a fixture as vice-president on the board of the Society. William Edmund Logan, geologist and director of the GSC from 1842 to 1869, sat as vice-

president or president almost continuously from 1865 to 1876. A.R.C. Selwyn, who succeeded Logan as director of the GSC, served as president in 1871 and 1872. On a lesser note, W.S.M. D'Urban, a young naturalist who assisted Logan in collecting botanical and entomological specimens in 1858, acted as assistant-curator from 1857 to 1860. John William Dawson, paleontologist and principal of McGill University, served almost uninterrupted terms on the board between 1857 and 1894 as vice-president, president, or honorary president. In 1857, the NHSM took over the *Canadian Naturalist and Geologist*, founded by Billings, and made it its official journal: between 1864 and 1883, professionals from McGill and the GSC monopolized 43% of the papers published in the journal.<sup>48</sup> For the GSC, increased involvement with the NHSM was probably nothing more than a means to ensure good relationships with the business community of Montreal.

During the 1850's and 1860's, membership remained overwhelmingly anglophone (see Figure 1). It also increased significantly, soaring from 140 in 1828<sup>49</sup> to around 400 during the 1860's. However, as Table 1 indicates, if one assumes that ordinary members contributed the most to its daily activities, the Society underwent a important loss of "productive" members after the mid-1860's. Observing the "Ordinary Members" column in Table 1, one notices that, after ordinary membership reached a high of 284 out of 456 in 1864, active and total membership became distinct realities. Although the number of corresponding members remained stable, ordinary members decreased considerably. In the last years of the decade, the Society artificially maintained its total membership around 400 by creating new and less active categories. In 1865, it began nominating life members, generally individuals who could not, for varied reasons, contribute regularly to its activities. From 1868, it accepted women, but their role remained confined to social activities. After 1865, the Society could still boast an impressive membership total but a decreasing number of productive ordinary members. Ironically, the presence of professional scientists on the board of the NHSM seems not to have had a positive influence on membership. One may infer that the transformation of the NHSM into a place of dialogue and mutual benefits between finance and science deprived ordinary amateurs of natural history of their traditional place of leisure.

In 1870, President J. Baker Edwards deplored the departure of thirty members, while only seven new members were added to the list. He noted that many influential members were no longer part

of the Society and, in general, the remaining members did not show the same level of involvement.<sup>50</sup> One year later, after losing another eleven members, the Council of the Society was forced to acknowledge the drop in membership. The situation was ascribed to the fact that the committee in charge of soliciting membership no longer existed, and the works of the Society were generally unknown to the public.<sup>51</sup> The decline in membership correlates with slower economic growth from 1870 to the end of the century. The economic crash of 1873-79 deeply disrupted Montreal banks and industries,<sup>52</sup> and turned the anglophone elite's attention away from the NHSM.

FIGURE 1  
Linguistic representation among ordinary members  
of the Natural History Society of Montreal (1859-1870)<sup>53</sup>

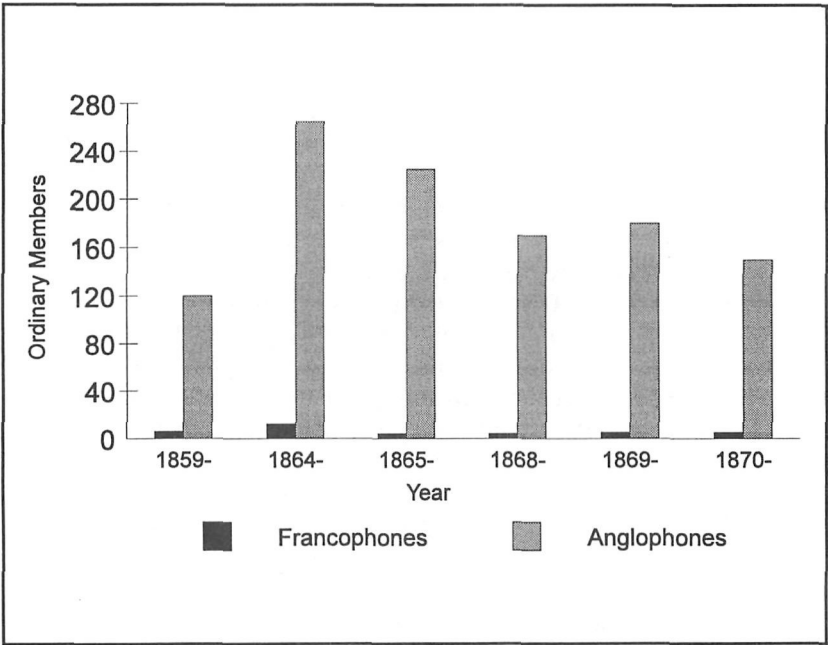


TABLE 1  
Number of members of the Natural History Society of Montreal  
(1859-1870)<sup>54</sup>

YEAR	MEMBERS					TOTAL
	Ordinary	Corresponding	Honorary	Life	Women	
1859	192	116	23	NIL	NIL	331
1864	284	119	14	39	NIL	456
1865	224	124	13	39	NIL	400
1868	174	125	11	56	31	397
1869	182	125	11	56	30	404
1870	153	122	11	54	28	368

The Society resolved to reach for young people with an interest in science.<sup>55</sup> This, however, does not seem to have revived the membership, although exact numbers were never again published in the *Annual Proceedings*. Since ordinary members made an annual contribution to the Society, such a decrease in membership reduced its income. It was likely to compensate this loss that the Society gradually resorted to new sources of income during the early 1860's. It turned mostly to the public for support, offering renewed and improved access to the museum. In 1873, President Dawson took evident pride in the fact that the museum's doors were "ever opened to all who wish to know anything of our natural productions, and to strangers who desire to obtain acquaintance with the aspects of nature in this country".<sup>56</sup> However, the Council remained realistic about the general appeal of the museum:

The Hall, the Gallery and Museum have never been properly cleaned since the building was erected (in 1859), and improvements which are most urgently needed have been found impracticable, and abandoned for want of funds. ... Upwards of 1000 persons have visited the Museum during the past twelve months. Were our collections made more worthy of this commercial and wealthy metropolis, and the building thrown open freely to the public, it is reasonable to suppose that the number of visitors to the Institution would be very largely increased.<sup>57</sup>

The experience was nonetheless reasonably succesful, bringing an average of 1154 visitors a year between 1870 and 1881, and an



average annual revenue of \$40 between 1863 and 1881 (see Table 2). Such a sum was a rather modest addition to the annual government grant, which had been fixed at \$1000 since 1860.<sup>58</sup> Still, the Society endeavoured to ensure the largest possible access to the museum and, for instance, opened it free on meeting nights during the year 1878-1879, which explains the disparity between the number of visitors and the income that year (Table 2).

Alarmed by the fall in revenue, the Council even suggested in 1871 opening an art gallery, in order to increase the number of visitors to the museum.<sup>59</sup> As soon as the economic situation improved, however, the Art Association of Montreal opened its permanent gallery in 1879 and the NHSM's project never materialized. One of the Society's initiatives provided some income: in 1871, it rented 4 feet by 5 of exhibition space in its museum to the Numismatic and Antiquarian Society of Montreal, and the monthly use of the meeting room, for an annual fee of \$20.<sup>60</sup>

TABLE 2:  
Number of visitors to the Natural History Society of Montreal's  
Museum and generated income (1863-1881)<sup>61</sup>

Year (May to May)	Number of visitors	Income (\$)
	* = estimate	
1863-1864	—	33.00
1864-1865	—	36.00
1867-1868	—	13.50
1868-1869	—	38.00
1869-1870	—	21.00
1870-1871	373	35.83
1872-1873	1000*	51.97
1873-1874	—	76.15
1874-1875	1200*	50.50
1876-1877	1200*	34.75
1878-1879	2000*	18.50
1880-1881	—	75.80

During this period, the NHSM, influenced by the increased presence of professional scientists, developed its collection along lines more in tune with scientific interests and gradually abandoned the miscellanies. The management of the collection was increasingly entrusted to professionals who had a sizable impact on its development, classification, and exhibition. In 1848, chemist and geologist Thomas Sterry Hunt took the responsibility of the collection for a year. Six years later, in 1854, the council discussed increasing the curator's salary without taking any action,<sup>62</sup> indicating an increased importance of this office. The first step in building a scientific collection was its cataloguing and, in 1854, Dr Wright, curator of the museum, reconstructed the accession catalogue, incomplete since 1827 despite the strict prescriptions of the by-laws.<sup>63</sup>

The exhibition also became a priority and, in 1854, after failing to move into more spacious rooms, the museum was completely refurbished. The reorganization of the collection's contents was slow and, while the mineralogical section of the museum was considerably modified and augmented, art, numismatics and ethnology remained an integral part of the presentation:

"the walls of the passages of the upper stories have been decorated with the war and other implements of various nations; suitable cases have been produced for the coins, medals, &c. ..." and "a room has been fitted up with such statues, busts, &c., as belong to the Society".<sup>64</sup>

In the course of 1855 and 1856, the museum underwent more renovations. The geological collection was exhibited in a new room on the first floor, while the second floor was divided into two rooms occupied respectively by the ornithological and entomological collections.<sup>65</sup> Art, ethnology and numismatic objects remained on display until well into the 20th century<sup>66</sup> but were no longer mentioned in the annual reports, suggesting a tangible shift in interests within the Society's board and curatorial personnel.

While reorganization was taking place in the 1850's, the acquisition process was slowed by a paucity of funds and the fact that members, "notwithstanding repeated solicitations, (were) rather more remiss than formerly in their responses to enrich the Cabinet with objects of Natural History".<sup>67</sup> Thus the Society turned to exchanges with kindred institutions to enrich its collection:

Your Council are of opinion that it would be to the Society's advantage, to make careful distribution of duplicate specimens in the

Museum among institutions of kindred nature within and beyond the Province. The act would no doubt be cordially reciprocated, and the Museum enriched thereby.<sup>68</sup>

Cataloguing the collection and acquiring new specimens did not prevent the council from pondering the question of public access to the museum and, throughout the second half of the century, the topic was much discussed. No permanent policy was ever adopted, however, and the museum was often opened to the general public, then closed again some time later.<sup>69</sup>

The NHSM began to be more ambitious about its museum:

... the Society must ever bear in mind that the rate of progress which should, in the earlier stages of its history, have been satisfactory, will no longer be considered so, in view of its increased means as exemplified in its collections.... Possessed of an extensive museum, enriched through the means of Legislative grants, to some extent, it is not, it cannot be, permitted to the Society to rest satisfied with being the mere custodians of the treasures they hold, — something more is expected of them, — these treasures must be increased, and the knowledge of nature they are calculated to impart must be made available by every possible means.<sup>70</sup>

In 1857, NHSM President John William Dawson convinced the American Association for the Advancement of Learning to hold its 1858 annual congress in Montreal.<sup>71</sup> Curator James Barnston, a medical doctor and botanist who had become the first professor of botany at McGill University that same year, was entrusted with the task of meeting the standards expected by such a prestigious institution. To help Barnston, W.S.M. D'Urban, who also served as Logan's assistant in collecting botanical and entomological specimens, was hired as temporary assistant curator.<sup>72</sup> Despite this, he was only partly successful in arranging the museum, as he stated himself in his annual curatorial report for 1857:

It is intended that the arrangements in the Museum will be more or less completed previous to the session of the American Association for the Advancement of Learning next August in this city.... It is a matter of regret that during the past year nothing has been done to place the Library and Museum in better condition than they formally were. This has been owing to a difficulty in the practical organization of the Special Committees appointed to arrange books in the Library and classify the objects of Natural History in the Museum.<sup>73</sup>

Obviously, while the Society aimed at presenting the best possible arrangement in its museum, the practical side of the matter required a level of dedication and coordination that members were either unwilling or unable to supply, as well as more spacious rooms. Nonetheless, the renewal of the assistant curator until 1860 points to a growing concern within the Society for the classification and scientifically accurate disposition of its collection in the museum.

Barnston was succeeded as curator by George Edgeworth Fenwick, a surgeon and professor of surgery at McGill University, in 1859 and 1860. The first year of his tenure coincided with the move of the Society into new facilities built at a cost exceeding \$10,000, on a lot given to it by the Board of Governors of McGill University and located "in the most rapidly increasing part of the city"<sup>74</sup> on the corner of Cathcart and University streets.<sup>75</sup> There the Society and its museum, which enjoyed "room for a larger collection than we at present possess"<sup>76</sup>, stayed for the remaining part of the century.

The move became an opportunity to rework the presentation of the collection, a task to which the most competent authorities available within the Society were committed:

During this removal, Mr. D'Urbain, the sub-curator, rendered efficient service, and in the subsequent arrangement of the specimens and library, much assistance was rendered by our President, (McGill) Principal Dawson, Mr. D'Urbain and other gentlemen, who gave considerable time towards that desired end.<sup>77</sup>

In the process of arranging the specimens, William Hunter, the newly-hired taxidermist, "opened all the cases of birds and mammals, thoroughly cleansed the specimens, and re-arranged many of them. He has also set up between 90 and 100 new specimens which have been added to our collection".<sup>78</sup>

Under Fenwick's tenure, the Society was urged to make use of the by-law which allowed it to exchange specimens for ones of equivalent value,<sup>79</sup> and to continue its endeavours to rationalize its holdings and to increase the collection in quality as well as in quantity:

Owing to the increased accommodation which the museum affords, your Council recommend that steps be taken for increasing the contributions to it. Similar Societies ought to be communicated with respecting an interchange of duplicate specimens, of which there is

a large number in your collection, and corresponding and ordinary members be advised that donations will be acceptable and publicly acknowledged.<sup>80</sup>

Fenwick himself, in his annual curatorial report, urged the Society to review its collection:

(The curator) draws attention to the many duplicate specimens of birds, both American and foreign, fossils, minerals &c., which, by judicious exchange, would secure many objects which are not in our collection.<sup>81</sup>

The collection, as it turned out, although gradually focussing on natural history, still contained a widely diversified group of objects and specimens. Sources indicate that miscellaneous objects still managed to find a place in the museum: objects from the West Indies and China and mementos from the French regime were acquired in 1852, along with zoological, botanical, ornithological and mineralogical specimens;<sup>82</sup> a collection of 43 numismatic pieces and some minerals in 1854;<sup>83</sup> Egyptian antiquities and a panther arrived in 1859;<sup>84</sup> native American artefacts in 1860.<sup>85</sup> As could be expected, newspapers were sometimes critical of the general quality of the museum. When James Ferrier, treasurer of the Society, brought back Egyptian antiquities from a personal trip in 1859, *La Minerve* mocked:

Il est à espérer que cette série de curiosités au Musée de cette ville portera les membres de l'institution à faire disparaître du Musée les antiquailles qui sont actuellement l'objet de la risée du public.<sup>86</sup>

In 1864, Joseph Frederick Whiteaves became curator of the museum. A paleontologist employed by the Geological Survey, he remained curator until 1876, when he was named official paleontologist and curator of the museum of the GSC. For his benefit, the official title of the office was changed from "librarian and cabinet keeper" to "curator", and he was often referred to as "Scientific Curator". Whiteaves, a very active scientist with more than 150 publications to his credit, emphasized the need to acquire specimens in order to complete series. During the first year of his tenure alone, 2,000 new specimens entered the collection.<sup>87</sup> He also immediately set about rearranging the collection in accordance with the canons of science, adding over ten new cases for mammals, insects, fishes and birds, and completely rearranging the reptile

collection. He still found time to publish a catalogue of the Canadian species of reptiles, mammals, and fishes in the collection.<sup>88</sup> During the following years, he also established an acquisition policy and traded many duplicate specimens,<sup>89</sup> thus rationalizing the collection as well as the collecting process. The quality of his work was recognized at once by the Society:

Your Council would beg to make special mention of the Scientific Curator, Mr. Whiteaves, who continues to give the most entire satisfaction. His work has been onerous and difficult. An inspection of the Museum will at once convince any one of the labour and care he has bestowed on the classification and labelling of the specimens in each department of Natural History.<sup>90</sup>

We are indebted to the exertions of our esteemed Scientific Curator, Mr. Whiteaves, for the very valuable additions to our Museum, partly presented and partly purchased.... They add greatly to the attractive character of the collection.<sup>91</sup>

In 1864, according to his annual report, the collection included 200 species of Canadian shells, 89 specimens of mammals illustrating 49 North American species, between 3000 and 4000 minerals, of which only 1800 could be exhibited due to the lack of appropriate cases, 55 species of reptiles and at least 238 species of birds,<sup>92</sup> a total that rose to 934 specimens in 1868.<sup>93</sup> No mention was made of miscellanies, still part of the collection but obviously perceived as secondary. Since Whiteaves' arrival in 1864, available sources indicate that donations from members accepted for the museum focussed almost exclusively on natural history and particularly on insects, minerals, birds, mollusks (a personal field of interest for Whiteaves) and fossils,<sup>94</sup> to which must be added the specimens Whiteaves gathered himself on his annual summer expeditions. He even deposited his personal collection of shells and fossils in the museum in 1870.<sup>95</sup> The only notable exceptions to an exclusive collection of natural history were a few archaeological and ethnological artifacts acquired in 1868 and 1869 and deemed of "little interest".<sup>96</sup>

While enlarging and classifying the collection, Whiteaves attempted to rationalize it. In 1874, he unsuccessfully offered<sup>97</sup> to donate the entire numismatics collection (over 700 pieces) to the Numismatic and Antiquarian Society of Montreal, which already shared a small space in the NHSM's museum for exhibition purposes.<sup>98</sup> In the early 1880's, the Society finally got rid of the two

antique casts it still held, Discobolus and Antinous, giving them to the museum of the Art Association of Montreal, opened to the public in 1879.<sup>99</sup>

In 1873, president Dawson summed up the accomplishments of the Society under his presidency (which had started in the late 1850's) and identified the difficulties it would encounter if it wanted to keep the pace that had been set for the museum:

Our Museum has now reached a somewhat critical point in its history. When the Society removed to its present building, we seemed to have ample space for our then comparatively small collection. But the objects in our possession have grown until we are in need of much more room, and our collection is again beginning to be crowded, while we lack means to extend our accommodations or even to utilize by new and improved cases the space we have. With some changes of arrangement and additional cases, our present building might contain and exhibit the collections of the Society for several years to come; but it would require an annual sum of at least \$1,000 at the disposal of the curator, to provide the necessary repairs, additions and extensions. Were the public sufficiently alive to the importance of the object, it should not be difficult to realize the amount either by annual subscriptions or by a permanent endowment. In any case we should be prepared to consider within a few years the necessity of enlarging the Museum.<sup>100</sup>

#### DECLINE (1870-1925)

Born out of the dedication of amateurs of science in 1827, the Natural History Society of Montreal profited from the presence of members of the Geological Survey to increase its scientific image, reflected in the growth of its collection and museum. With general economic hardship during the 1870's, the decrease in membership that began a few years earlier and the departure of the Geological Survey for Ottawa in 1881, the NHSM reverted to its original status: that of an amateur society. By 1884, the collection, which had reached a moderate degree of quality, was considered second rate, and the museum declined until the Society's dissolution in 1925.

In 1881, the move of the Geological Survey of Canada to Ottawa represented a dramatic blow to both membership and prestige for the NHSM. Since its establishment in Montreal in 1842, the Survey had supplied the Society with a steady flow of scientists who served on its Council and had influenced the development of the museum. Although it was hoped that "the museum must henceforth

attract more attention from the public owing to the removal to Ottawa of the Geological Survey",<sup>101</sup> the move appeared to Dawson as a peril not only to the NHSM but to local science:

It is a matter of deep regret to us ... that a recent Act of the Dominion Parliament renders it possible that the Geological Survey of Canada, which has since its commencement had its domicile in this city as the centre of commerce and practical science in the Dominion, may within one or two years be removed to Ottawa. That this, should it be carried into effect, would be a serious loss to this Society, the larger number of papers and lectures contributed by members of the Survey, and the active part they have taken in the management of its affairs as officers and members testify. The removal of the Survey would also have its effects on the University (McGill), and on the interests of the numerous students who resort to this city for education, as well as on those gentlemen connected with the numerous mining and similar enterprises which have their center here.<sup>102</sup>

The departure of the Geological Survey of Canada's collection left the NHSM with a considerable void in its museum, since Canadian geology had for a number of years been purposefully left for the Survey to collect and exhibit.<sup>103</sup>

With membership in disarray, the Society also lost one of its foremost patrons. Dawson had developed a small university museum and cherished the idea of a building specifically designed to accomodate natural history collections. In 1880, Montreal businessman Peter Redpath announced that he was giving \$100,000 for this purpose and the Redpath museum was inaugurated in 1882.<sup>104</sup> From then on, Dawson's interest in the NHSM and its museum faded although he remained on the board until 1894.

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Having lost whatever scientific impetus the Geological Survey had given it and impoverished by its decreasing membership, the NHSM's collection began a slow decline. During the early 1870's, the Society reduced its mission to specific fields of Canadian natural history. It was felt that the collections "of mammals, birds, insects and mollusks of Canada (were) now nearly complete up to the present state of knowledge".<sup>105</sup> That was probably why non-American bird specimens were taken out of the collection in 1871.<sup>106</sup> In a general fashion, acquisitions followed those priorities until 1877. In 1871 — not counting Whiteave's own collection of 3,000 shells — a few corals, a collection of ethnological objects



from the West Indies, 26 fossils, one specimen of a grizzly bear, one mollusk and 39 specimens of British birds and 91 of North American birds were added to the collection. However, a new law against killing birds impaired the Society's efforts to improve its ornithological collection.<sup>107</sup> During the following years, the Smithsonian Institution donated a series of rats and mice that arrived so badly preserved that they could not be exhibited. The Society also received some specimens of mammals, more than 100 birds, an exchange of 120 species of fishes from the United States Fish Commission, a series of marine animals from the Geological Survey, some Indian skulls, a collection of insects and a collection of plants.<sup>108</sup> Whiteaves himself, through numerous collecting trips, brought back specimens of marine species almost every year until his resignation in 1877.<sup>109</sup>

Despite Whiteaves' activities, the lack of funds was already having major effects on daily activities in the museum. In 1871, the collection had begun deteriorating physically and a specialist had to be called in to eradicate a moth infestation in the bird and mammal specimens. Four years later, many damaged specimens of insects had to be destroyed.<sup>110</sup> In 1879, larvae attacked the museum's herbarium and emergency measures had to be taken using camphor and sealing cases.<sup>111</sup> Tight finances prevented any significant improvement of the exhibition, which probably peaked when it moved into the new building in 1859. The Society could not even afford cases to exhibit new specimens of marine animals in 1873 and, later, had to postpone the re-arrangement of its reptiles for the want of bottles and alcohol!<sup>112</sup> In 1877, and again in 1881, it finally managed to clean and paint the museum. On that occasion, new labels were put in cases and all the specimens dusted.<sup>113</sup>

Whiteaves' resignation as curator of the museum in 1877 accelerated in the decline of the collection. As indicated in his final report at the annual meeting of the Society, he left behind a fairly significant collection, carefully ordered throughout his twelve years in office. In this document, he advised that the series of local fishes and mammals greatly needed renewal but were thoroughly identified; the North American birds collection he deemed of very good quality and susceptible to be improved at little cost; the fossils were all identified and labeled; the minerals amounted to well over 4,000 specimens, but the Canadian section was a "poor collection"; the mollusks were in a tolerable order but their nomenclature demanded more investigation; the plant collection filled 21 portfolios but was ravaged by insects; the reptiles and fishes were in

decent condition but could be improved; the ethnological collection, finally, was only partly exhibited.<sup>114</sup> Whiteaves was replaced on interim by taxidermist Passmore and it was decided that the work of identification and labelling of the specimens would be continued by a committee.<sup>115</sup> Annual reports indicate almost no acquisitions after 1877.

In 1884, Valentine Ball dismissed the scientific interest of the museum in his *Report on the Museums of America and Canada*:

This Museum ... though in itself affording creditable evidence of the work accomplished by the Society to which it belongs, is not of a character to compare with the greater Institutions described in this report. The collections are principally illustrative of the zoology and ethnology of Canada, but there is nothing especially noteworthy in their value or mode of arrangement, so far as I am aware. It is probable that the funds available for their conservation and extension are limited.<sup>116</sup>

Ball had identified one of the major causes of the collection's decline: decreasing financial means. As decline set in, the NHSM resorted to rather trivial exhibitions such as a local copy of Millet's *L'Angélus* in 1891<sup>117</sup> and flowers in 1896.<sup>118</sup> By the end of the century, it had become a minor museum. It still held a total of 18,250 specimens in 1897 (150 mammals, 1,300 birds, 50 reptiles, 120 fishes, 4,000 shells, 200 shellfish, 5,000 insects, 150 radiates, 250 corals, 1,600 plants, over 4,600 minerals, 160 bird eggs and some Egyptian antiquities).<sup>119</sup> This was certainly significant and testified to the unrelenting work of a Society which had given birth to one of the first natural history museums in Canada. However, compared with the 92,000 specimens of the Geological Survey of Canada in Ottawa, the 75,000 of the Redpath Museum in Montreal, the 35,000 of Laval University in Québec, the 32,450 of the Musée de l'Instruction Publique,<sup>120</sup> relying on solid government or institutional financial support, NHSM holdings appear quite modest.

In 1906, the building erected in 1859 was sold and two adjoining lots on Drummond and Mountain streets were acquired. The collections were packed in preparation for a move that never occurred and the museum of the Natural History Society of Montreal disappeared. One last attempt was made to bring back past glory in 1912, when the possibility of joining the Mechanic's Institute, the Fraser Institute, the Montreal Technical Institute and the Natural History Society of Montreal was explored. In 1916, however, the financial statutes of the NHSM having not been produced, the

project was definitely abandoned.<sup>121</sup> An accumulated debt of over \$60,000 led to the dissolution to the Society in 1925. A large part of the collection (particularly in the fields of mineralogy, zoology and ethnology) was then transferred to the Redpath Museum, while other artifacts went to the McCord Museum.

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Born as a meeting place for dedicated amateurs of natural history, the Natural History Society of Montreal profited from the presence in Montreal of the Geological Survey of Canada and its endeavours to enlist the support of financial circles. In that sense, one can assert that the increase in scientific status of the Natural History Society of Montreal between 1850 and 1870 was incidental and went far beyond the original mission established in 1827, which was to facilitate the study of natural history to those who were interested in it and to generate a better knowledge of the natural productions of the country. With the departure of the GSC, the Redpath Museum became the dominant scientific institution in Montreal.

## NOTES

- 1 L'auteur tient à remercier Jean Trudel, John A. Dickinson et Raymond Duchesne, qui ont bien voulu commenter la première version de ce texte.
- 2 John A. Dickinson and Brian Young, *A Short History of Quebec: A Socio-Economic Perspective* (Toronto, Copp Clark Pitman Ltd., 1988), pp.105-137.
- 3 Suzanne Zeller, *Inventing Canada. Early Victorian Science and the Idea of a Transcontinental Nation* (Toronto, University of Toronto Press, 1987), pp. 269-270.
- 4 Dennis Reid, *Our Own Country Canada. Being an Account of the National Aspirations of the Principal Landscape Artists in Montreal and Toronto, 1860-1890* (Ottawa, Galerie nationale du Canada, 1979), p. 317.
- 5 Fernande Roy, *Histoire des idéologies au Québec aux XIXe et XXe siècles* (Montréal, Boréal, 1993), pp. 47-60.
- 6 M. Brook Taylor, *Promoters, Patriots and Partisans. Historiography in Nineteenth-Century English Canada* (Toronto, University of Toronto Press, 1989), p. 152.
- 7 Peter Bowler, "The Early Development of Scientific Societies in Canada", in Alexandra Olesen and Sanborn C. Brown, eds., *The Pursuit of Knowledge in the Early American Republic* (Baltimore, Johns Hopkins University Press, 1976), pp. 326-339; Richard A. Jarrell, "The Social Functions of the Scientific Society in Nineteenth-Century Canada", in Richard A. Jarrell et Arnold E. Roos, eds., *Critical Issues in the History of Canadian Science, Technology and Medicine* (Thornhill et Ottawa, HSTC Publications, 1983), pp. 31-44; Archie F. Key, *Beyond Four Walls: the Origins and Development of Canadian Museums* (Toronto, McClelland & Stewart, 1973), pp. 110, 122, 162; Cyril Simard, ed., *Patrimoine muséologique au Québec. Repères chronologiques* (Québec, Commission des biens culturels du Québec, 1992), p.18; Raymond Duchesne and Paul Carle, "L'ordre des choses: cabinets et musées d'histoire naturelle au Québec (1824-1900)", *Revue d'histoire de l'Amérique française*, 44, (été 1990), pp. 3-30; Stanley Brice Frost, "Science education in the nineteenth century. The Natural History Society of Montreal, 1827-1925", *McGill Journal of Education*, XVIII, 1 (winter 1982), pp. 31-43. For the history of natural history museums in Canada, see Susan Sheets-Pyenson, *Cathedrals of Science. The Development of Colonial Natural History Museums During the Late Nineteenth Century* (Kingston/Montréal, McGill-Queen's University Press), 1988. 144 p.; Luc Chartrand, Raymond Duchesne and Yves Gingras, *Histoire des sciences au Québec* (Montréal, Boréal, 1987), pp. 75- 106. Carl Berger, *Science, God, and Nature in Victorian Canada* (Toronto, University of Toronto Press, 1983), pp. 4-27.
- 8 *Journal de la Chambre d'Assemblée du Bas-Canada*, 38, 2 December 1828.
- 9 Stanley Brice Frost, "Science education...", p. 40.
- 10 *First Annual Report of the Natural History Society of Montreal* (1828), p. 4.
- 11 The founding members were Stephen Sewell; Hugh Hill, A.C.C.; William McKay; William Caldwell, M.D.; J.S. McCord; A.F. Holmes, M.D.;

- H.H. Cunningham; H. Corse; Rev. H. Esson; J. Stephenson, M.D.; J.M. Cairns; rev. J. Somerville; rev. A. Mathieson; B. Berthelet, M.D.; John Try; R. Cleighorn; Patrick H. Ogilvie; R. Armour Jr.; James Scott; William Robertson; David Brown; James Campbell, M.D.; Gle. Vallée, M.D.; William Belin; Peter Diehl and J.R. Sponner. *Constitutions and By-laws of the Natural History Society of Montreal with Directions for Preserving and Forwarding Objects of Natural History* (1828), p. 23.
- 12 Based on the lists of officers published in the annual reports of the Natural History Society of Montreal, in the various city directories and in different Montreal newspapers.
  - 13 Frost, "Science education...", pp. 32-33.
  - 14 *Journal de la Chambre d'Assemblée du Bas-Canada*, 38, 12 December 1828.
  - 15 *First Annual Report of the Natural History Society of Montreal* (1828), p. 4.
  - 16 *Constitutions and by-laws...* (1828), pp. 2, 7.
  - 17 *Journal de la Chambre d'Assemblée du Bas-Canada*, 38, 12 December 1828.
  - 18 *Star and Commercial Advertiser*, 4 June 1828.
  - 19 Frost, "Science Education...", p. 40.
  - 20 *Quebec Mercury*, 28 September 1833.
  - 21 *Journal de la Chambre d'Assemblée du Bas-Canada*, 44, 4 March 1835; 3 November 1835.
  - 22 *Twenty-eight Annual Report of the Natural History Society of Montreal*, 1856, p. 4.
  - 23 Newton Busworth, *Hochelaga Depicta. The early story and present state of the city and island of Montreal* (1839), p. 171.
  - 24 *Act of Incorporation and By-Laws of the Natural History Society of Montreal* (1833), p. 4.
  - 25 *Registry of Miscellaneous Donations to the Museum commencing in 1827* (1854).
  - 26 *Constitutions and By-Laws...* (1828), p. 9.
  - 27 *Bibliothèque canadienne*, IV, 6 (May 1828), pp. 235-236.
  - 28 *Third Annual Report of the Natural History Society of Montreal* (1830), p. 6.
  - 29 *Third Annual Report of the Natural History Society of Montreal* (1830), pp. 4-5; *Provincial Statutes of Lower Canada*, XLVIII, 26 March 1830.
  - 30 *First Annual Report of the Natural History Society of Montreal* (1828), pp. 5-6; *Third Annual Report of the Natural History Society of Montreal* (1830), p. 7.
  - 31 *Registry...*, p. 5.
  - 32 *First Annual Report of the Natural History Society of Montreal* (1828), p. 5.
  - 33 *Registry...*, p. 6.
  - 34 *Fifth Annual Report of the Natural History Society of Montreal* (1832), quoted in Frost, "Science Education...", pp. 34-35.
  - 35 *First Annual Report of the Natural History Society of Montreal* (1828), p. 6.
  - 36 *Fifth Annual Report of the Natural History Society of Montreal* (1832), pp. 7-8.
  - 37 *Twenty-sixth Annual Report of the Natural History Society of Montreal* (1854), p. 7.
  - 38 *Registry...*, pp. 68-76.
  - 39 *Le Populaire*, 25 September 1837.

- 40 *Registry...*, pp. 63-64, 68-74, 78-79.
- 41 *First Annual Report...* (1828), p. 5.
- 42 Busworth, *Hochelaga Depicta...*, p. 170.
- 43 Carl Berger, *Science, God and Nature...*, pp. 5-27.
- 44 Zeller, *Inventing Canada...*, pp. 31-50; Christy Vodden, *Pierre par pierre. Les 150 premières années de la Commission géologique du Canada* (Ottawa, ministère des Approvisionnements et Services Canada, 1992), p.1.
- 45 Based on the lists of officers published in the annual reports of the Natural History Society of Montreal, in the various city directories and in different Montreal newspapers.
- 46 Berger, *Science, God and Nature...*, pp. 31-50.
- 47 Zeller, *Inventing Canada...*, pp. 78-112.
- 48 Jarrell, "The Social Functions...", p. 35.
- 49 *Star and Commercial Advertiser*, June 4, 1828.
- 50 *Proceedings at the Annual Meeting of the Natural History Society of Montreal* (1870), pp. 12-14.
- 51 *Proceedings at the Annual Meeting of the Natural History Society of Montreal* (1871), p. 10.
- 52 Paul-André Linteau, René Durocher and Jean-Claude Robert, *Histoire du Québec contemporain. De la Confédération à la crise* (Montréal, Boréal Express, 1979), pp. 89-91; Jean Hamelin and Yves Robi, *Histoire économique du Québec, 1851-1896* (Montréal, Fidès, 1971), pp. 84-97.
- 53 Data produced from the annual proceedings of the Natural History Society of Montreal from 1859 to 1870.
- 54 Data produced from the annual proceedings of the Natural History Society of Montreal from 1859 to 1870.
- 55 *Proceedings at the Annual Meeting of the Natural History Society of Montreal* (1881), pp. 3-4.
- 56 *Proceedings at the Annual Meeting of the Natural History Society of Montreal* (1873), p. 2.
- 57 *Proceedings at the Annual Meeting of the Natural History Society of Montreal* (1873), p. 12.
- 58 *La Minerve*, 14 march 1861.
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## BIOGRAPHICAL NOTE

Détenteur d'une maîtrise en muséologie et d'un doctorat en histoire de l'Université de Montréal, l'auteur oeuvre à titre d'expert-conseil auprès des musées d'histoire.

The author has a MA degree in Museology and a PhD in History from Université de Montréal. He currently works as a consultant with history museums.