



What's Old Is New Again: The Reconvergence of Libraries, Archives, and Museums in the Digital Age

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WHAT'S OLD IS NEW AGAIN: THE RECONVERGENCE OF LIBRARIES, ARCHIVES, AND MUSEUMS IN THE DIGITAL AGE

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As cultural institutions begin to share physical and human resources, and as new technologies reshape approaches to access and preservation, educational programs must respond in kind. However, it is important to ask in what ways the current convergence of libraries, archives, and museums marks a return to tradition rather than a departure from it. Are new technologies and curricula leading these three fields of study and practice into new territory, or do they represent new stages in an ongoing history of acquisition, documentation, representation, and access to the enduring knowledge of our communities? This article examines the historic convergence between these institutions, with a focus on museums and libraries as repositories of cultural artifacts. The long-standing epistemological links between libraries and museums are explored using archival records and examining two contemporary cases, pointing to the reconvergence of a traditional shared history.

Introduction

In 2004 the Parliament of Canada merged the National Archives of Canada with the National Library, creating an entity called Library and Archives Canada (LAC). According to Librarian and Archivist of Canada, Ian E. Wilson, this integration was ground breaking because it established a “new

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kind of knowledge institution” designed to preserve Canadian heritage by combining the functions of archives, libraries, and museums [1]. The staff at LAC collect, preserve, document, and make available to a diverse public such items as government records, books, family papers, newspapers, music, film, maps, photographs, documentary art, and painted portraits. Wilson insists that Canada is the first country to integrate these objects and services. Yet, is this convergence of institutions truly novel? How can the wide appeal and increasing adoption of such comprehensive knowledge institutions be understood?

This article approaches these questions about the present situation by looking both to the past and the future. From the shared goals of information organizations in the nineteenth century through today’s digital environment—where Web 2.0 and other technologies are reshaping users’ experiences of cultural organizations—we consider how the current state of these institutions constitutes points of reconvergence rather than an exclusively new phenomenon. During the nineteenth century, libraries, museums, and archives could overlap in terms of their political function and physical space. As recent scholarship in critical museum theory has indicated, elite patrons in England, the United States, and Canada regularly grouped these institutions together, arguing that they could both elevate and educate the “lower” classes while providing cities with visible signs of civilization [2–4]. Wealthy benefactors typically established all three organizations at the same time, collecting books, documents, and specimens according to such categories as natural or local history. More significant than this temporal and spatial convergence, however, is the epistemological foundation that enabled it. What theories of knowledge underpinned the expansive institutions? How did the directors of the institutions understand learning to occur? What were their educational goals, and who did they imagine as ideally suited to convey information to the public?

These more specific questions are best answered with a case study method that avoids generalizing about the diverse history of libraries, archives, and museums. One primary object of study here is the Museum of the Natural History Society of New Brunswick. Established in Saint John in 1862, it collected an array of specimens and books until the 1930s, when it became part of the New Brunswick Museum. Numerous archival sources document how the founders of this early Canadian institution understood what we would now call the transfer of knowledge. The educational programming developed by the Natural History Society of New Brunswick received acclaim, augmenting its position within an international web of similar organizations. Despite some unique features, this museum/library is comparable to many other natural history museums equipped with libraries, including those in Montreal, Winnipeg, and Vancouver, as well as to American establishments such as the Newark Museum, founded in 1909

as part of the public library by John Cotton Dana. The following historical discussion of these connected institutions focuses on the links between museums and libraries by shedding light on current forms of their convergence, particularly the theories of knowledge and learning that inform them.

Today, many digital repositories and portals reflect the reconvergence of libraries, museums, and archives as institutions with common mandates for preservation and access. The recent reunion of these types of organizations is driven by a number of factors, including demands from government funding agencies that museums and archives not focus exclusively on the accumulation and classification of objects but instead serve a wider public by making information more available. Administrators of museums and archives have responded in part by digitizing collections and documents, circulating their holdings in a manner akin to libraries. Not everyone favors this shift to the digital landscape, however, arguing that the materiality of collections is being lost as information is homogenized and simplified for public consumption [5, pp. 13–14]. At the same time, as cultural institutions begin to share physical and human resources, and as new technologies reshape approaches to access and preservation, educational programs are responding in kind (e.g., the iSchools movement in the United States—see <http://www.ischools.org/oc/>). Yet most archivists, librarians, and museologists continue to pursue separate degrees of study with very little curricular overlap, where a critical examination of issues related to digitization as well as theories of information and knowledge exchange across the cultural sectors might best be explored. In the spirit of promoting such dialogue, this article combines the insights of a scholar trained in critical museum theory with one specializing in library and information science theory, providing a unique perspective on the institutional and pedagogical transformation of library, archive, and museum studies.

Ways of Knowing in Early Institutions

When forty-three men—including business owners, customs officials, and teachers—founded the Natural History Society of New Brunswick in 1862, they immediately created a museum collection designed to “illustrate the Natural History of this Province, and so far as possible, of other countries” [6]. By 1864 the museum contained 10,000 minerals and fossils, 2,000 marine invertebrates, 750 insects, 500 plants, and 30 stuffed birds, in addition to sundry exotic artifacts and aboriginal implements [7, p. 5]. According to early members, the collection and display of these objects contributed both generally to the dissemination of useful knowledge and

specifically to the promotion of New Brunswick's natural resources, especially its mineral wealth. This conflation of museums and industrial expansion was commonplace during the Victorian era, when exhibitions were meant to develop the economy as well as the mind [8, pp. 36–42; 9]. Largely inspired by a British model, natural history societies sprang up across Canada and the United States during the nineteenth century, producing rudimentary natural history museums in many towns and cities long before the establishment of art galleries. Proponents of such societies claimed that nature study was an appropriate social pastime, which in addition to economic rewards provided spiritual and physical benefits to participants [10].

The collections in Saint John, donated by participants in the Natural History Society as well as traveling missionaries and ships' captains, must have resembled an early modern "cabinet of curiosities," overwhelming viewers with their abundance and diversity [11, 12]. Members of the society organized the rapidly expanding collections very slowly, for even in 1899 they called for volunteers to identify the geological specimens, which remained almost entirely unlabeled [13]. A report of 1896 recommended that the foreign birds scattered throughout the shell, mammal, and geological rooms be more appropriately displayed with the domestic birds in the lecture room, alongside a stuffed caribou too large to fit elsewhere [14, p. 153]. Members of the society held, however, that this random arrangement did not undermine the value of viewing the collection. Like many nineteenth-century North American museums, the Museum of the Natural History Society was fueled by what historian Steven Conn calls "naked eye science," a practice affirming the significance of the close observation of specimens [15, pp. 32–73]. Louis Agassiz, the Swiss-born founder of Harvard's Museum of Comparative Zoology in 1859, for example, regularly gave his students a small pickled fish, instructing them to scrutinize it for days, without immediately resorting to books [16]. Proponents of natural history collections in Saint John and elsewhere similarly held that when people looked intensively at material objects they gained access to information that books could not provide.

Yet, members of the Natural History Society of New Brunswick did not disdain written texts; they had created a library to complement the museum. A range of historical and scientific books and pamphlets could be signed out by members of the society or used on site by the general public. These printed collections were acquired through purchase, donation, and exchange. The latter method proved especially effective once members began publishing the *Bulletin of the Natural History Society of New Brunswick*, a scholarly journal launched in 1882 and traded for the publications of similar organizations around the world, including many in Europe, the

United States, Russia, and Australia [17]. This emphasis on the circulation of information had an impact on the society's educational programming, for by 1894 members of the Natural History Society of New Brunswick began sending mineral samples, fossils, and stuffed birds to public schools throughout the province (see fig. 1). In 1908 the museum's curator, William MacIntosh, began including written notes with each specimen, outlining its history and significance [17, pp. 561–62]. Emphasis on the complementary nature of looking and reading also increased within the exhibition spaces. In 1907, MacIntosh embarked on a more thorough reorganization of the collections, mounting the shells on black tablets so that “every specimen can be seen, and the label at the front of each tablet easily read” [18, p. 59].

When a group of male anglophone physicians and educators created the Natural History Society of Montreal in 1827, it also formed a museum/library meant to educate local inhabitants. In addition to books about geology, mineralogy, entomology, and botany, the society's early collections included stuffed mammals and birds, as well as fish and insects preserved in spirits. According to the early members of the Natural History Society of Montreal, written records and material objects were mutually dependent, illustrating each other. Scientific books ensured that specimens did not remain mere objects of curiosity, while the descriptions in books could be compared with “authentic specimens” by those scholars and amateurs striving to attain an expansive understanding of the natural world [19]. In the early 1900s Oliver C. Farrington, Curator of Geology at the Field Museum of Natural History in Chicago, reinforced this approach to the pursuit of knowledge, reporting that “the museum illustrates the objects of which the library tells; the library describes the objects which the museum exhibits” [20, p. 80].

This complementary understanding of reading and looking was not unusual, extending beyond natural history societies to other kinds of museums and the broader educational system in North America. In 1887, Luigi Palma di Cesnola, the first director of the Metropolitan Museum of Art in New York, argued that museums were in effect libraries of objects, offering “what the books do not and cannot supply” on their own [21, pp. 52–53]. The notion that material objects could be “read” like books, even though they were ultimately distinct from printed sources, was also encouraged by various nineteenth-century educators, including Alexander H. MacKay, the Nova Scotia editor of the *Educational Review*. In an article from 1887, he urged teachers to have students dissect cocoons in the classroom, attending to their color and texture in a way that would supplement deficient science textbooks [22]. According to him and other pedagogues, a full understanding of the natural world could be gleaned



FIG. 1.—Louis Merritt Harrison, Genevieve Thorne, and Gloria Roulson in the School Service Department, 1944, New Brunswick Museum, an educational loan service begun in 1894 by the Natural History Society of New Brunswick. Courtesy of the New Brunswick Museum, Saint John, NB (1989-83-1208).

only by engaging in both the close visual observation of specimens and attentive reading of written texts: the two activities would be inadequate without each other.

The combination of objects and books was nevertheless not always successful in practical terms. When the Historical and Scientific Society of Manitoba was founded in Winnipeg in 1879, its goals were “to collect and maintain a general library of scientific and popular literature, also to embody, arrange and preserve a library of books, pamphlets, maps, manuscripts, prints, papers and paintings; a museum of minerals, archaeological curiosities, and objects; . . . to rescue from oblivion the memories of the early missionaries, fur-traders, explorers and settlers . . . and to obtain and preserve [their] narratives in print, manuscripts, or otherwise” [23]. As this ambitious mandate indicates, the Winnipeg society had a particular emphasis on collecting archival documents in addition to natural history specimens and books. The underfunded Historical and Scientific Society of Manitoba sought to acquire government support for these pursuits by agreeing to operate a circulating library and public reading room in exchange for free accommodations and an annual payment of \$600 [24]. This official obligation quickly became burdensome to the society, and the annual report of 1887 noted that it was difficult to maintain a large and popular library—by 1892 it housed some 10,000 volumes devoted to literature, science, and history—while simultaneously caring for material objects [25]. The society’s museum collections were pushed to one side, housed in hallways and stairwells, as the demands for library resources increased. After steady decline, the Historical and Scientific Society of Manitoba essentially collapsed around 1910, unable to attract members more interested in studying specimens and archival records than in managing a public library. In any case, the society’s services were no longer required, for a new public library, funded by American industrialist and philanthropist Andrew Carnegie, had opened in 1905, and it did not include spaces for either museum displays or the storage of archival records [26, 27].

This brief discussion of the public library in Winnipeg alludes to the way in which books could take precedence over collections of material objects, becoming a government priority. A similar preference was evident in Saint John as early as 1897, when the members of the Natural History Society of New Brunswick strove in vain to have their natural history collections included in a public library building proposed for the city [28]. This building did not actually materialize until 1904, when an impressive red-brick structure was created with funding from Carnegie, who between 1886 and 1917 spent over \$56 million to construct 2,509 libraries throughout the English-speaking world, including 156 in Canada [29, p. 22]. Libraries had existed in North America before this time but had tended to

be private, lending books only to those with paid subscriptions. In his survey of American libraries built before 1876, Haynes McMullen argues that the Harvard College Library, formed in 1638, was among the earliest organized collection of books on the east coast [30, p. 15]. Public libraries expanded in the eastern United States during the 1880s, but purpose-built library buildings were still a rarity in the west. The situation was similar in Canada, with uneven library development across the country. It was not always easy for smaller towns to accept Carnegie's offer to finance a public library, however, for he required that recipient localities provide both a site for the building and continuing revenue to fund its maintenance and staffing [31, p. 260]. Although in 1904 the local government in Saint John promised to meet its financial obligation to the new library, it did not seriously contemplate funding a public museum until the 1920s, finally donating monies for the building that opened in 1934 but without committing ongoing support for its upkeep or staff salaries [32].

Though Carnegie claimed that he wished to promote the public pursuit of self-education in free libraries, he also contributed to the professionalization of these institutions by financing new buildings. According to historian Jacalyn Eddy, during the late nineteenth century, unique spaces were linked with unique functions and thus with professionalization and progress [33, p. 157]. Carnegie libraries were not standardized, however, in terms of architectural plans, contents, or function [29, pp. 44–63]. The Carnegie library constructed in Saint John excluded the collections of the Natural History Society, and yet those of the Art, Historical and Scientific Association were installed on the top story of the Carnegie Library in Vancouver, which opened in 1903 (see fig. 2). In an agreement with city officials, members of the association agreed to hand over their collection of stuffed birds, minerals, aboriginal implements, and paintings to the city, receiving in return meeting rooms and museum space within the Carnegie building [34]. Although the crowded and diverse collections remained in this location until Vancouver's Centennial Museum was built in 1967, by the 1920s the combination of museum and library functions had become controversial. An article published in a local newspaper in 1924 declared "Museum to be Ousted," while members of the Art, Historical and Scientific Association strategized to construct an independent museum building [35]. Adequate space for the expanding library was one concern, but the appropriateness of charging a fee to view material objects within the library was also raised, especially when it was revealed that the Carnegie Corporation lacked any documentation attesting to its consent to the museum's presence in the Vancouver building [36]. This case provides one example of the increasing conceptual separation of libraries from museums, a distinction also developed elsewhere. In 1924, Judson Jennings, then president of the American Library Association (ALA), complained that libraries



FIG. 2.—City Museum and Art Gallery, west from the curator's desk, early 1940s, Vancouver, BC. Timms Photography. Courtesy of the City Archives of Vancouver, Vancouver, BC.

were cluttered with objects extrinsic to library work. He claimed that “in going about my own library, I have at different times found exhibits of dolls, or embroidery, or bird houses or even a collection of dead birds” [33, p. 166]. Jennings insisted that these “foreign” exhibitions be removed from libraries, though members of natural history societies had long considered the objects he mentions to be complementary to the act of reading books rather than a distraction from it.

At the same time, the roles of librarian and museum curator were being more rigidly defined. During the nineteenth century, if these job titles were used at all, they were conflated, especially in smaller institutions. Members of the Natural History Society of Montreal referred to William Hunter, the man employed in their museum between 1859 and 1871, variously as caretaker, janitor, cabinet keeper, and curator [37]. His tasks were correspondingly diverse and included taxidermy, mopping the floor, cleaning the exhibition cases, and staffing the museum when it was open to the public. Although William MacIntosh was consistently identified as the curator of the Museum of the Natural History Society of New Brunswick, like Hunter he was entirely self-trained, lacking formal education in either natural history or museum work, and lived on site, caring for the museum building as well as the collections inside it. MacIntosh met with fund-raising committees, operated the magic lantern during lectures, greeted museum visitors, executed secretarial work, organized archival records, purchased coal to heat the museum, repaired the roof of its storage shed, and ordered supplies for the annual camping trips [32, p. 81]. He was also responsible for the society’s library, although during the 1880s and 1890s young women were hired to assist with this task, subject to his supervision. In addition to cataloging and organizing the book collections, these women were asked to care for the objects and cases in the museum, showing visitors through the exhibitions [38]. Their labor was clearly undifferentiated and “unprofessional,” relying on general skills learned on the job rather than university training or specialization.

After ceasing to fund library buildings in 1917, the Carnegie Corporation of New York—founded by Andrew Carnegie in 1911—focused on library education, a policy change initiated by Henry Pritchett, executive of the Carnegie Foundation for the Advancement of Teaching [31, p. 259]. He commissioned a survey of libraries in 1916, which resulted in a report calling for trained and efficient librarians. According to historian Barbara Brand, the small library schools that prepared women to work in Carnegie libraries were ignored, with attention paid to reforming the fifteen “professional” library schools then active in the United States [31, p. 261]. The Carnegie report insisted that only instructors with adequate experience and college degrees should teach in these programs, accepting students who were already college graduates. This emphasis on credentials accords

with sociological descriptions of professional work, which typically features specialized knowledge, systematic training that leads to credentials, distinctive hierarchies that delegate power to those at the upper levels, and organizations that control who is allowed to work, usually by evaluating training programs and assessing performance [39, 40]. According to the Carnegie report, a proper librarian would acquire a broad knowledge and professional attitude, with such practical work as filing, indexing, and type-writing allocated to female high school graduates trained in the classes offered by large libraries. This hierarchical plan was meant, Brand argues, to counteract the feminization of library work by raising its intellectual status and attracting more men into the field [31, p. 263]. The gendered nature of librarianship is a subject of much discussion and debate in the literature on library history, with some scholars discussing attempts to “masculinize” library work and others producing accounts of how influential library women both conformed to and resisted these efforts [40–44].

When the Carnegie Corporation turned its attention to museum work during the 1920s, it continued to emphasize professionalization rather than buildings; this was a move that Andrew Carnegie, who had died in 1919, might not have supported [31, p. 260]. British scholars Sir Henry Miers and Sydney Markham conducted museum surveys in numerous countries, including Canada. Their 1932 report ranked Canadian museums among the worst in North America because of inadequate financial support and poorly trained personnel [45]. Carnegie Corporation president Frederick Keppel then formed the Canadian Museums Committee to provide advice about the disbursement of funds for gallery development and museum training. In 1936 the members of this committee—predominantly white businessmen—declared that “the urgent need in Canada is for the creation of an adequately trained Art Gallery and Museum personnel to replace, as opportunity permits, the casual, amateur and volunteer assistance with which most museum work in the Dominion is carried out” [46]. Since there were as yet no museum schools in Canada (and very few in the United States), members of the Canadian Museums Committee gave both travel grants and fellowships to aspiring museum workers already equipped with university degrees, a move in line with the Carnegie Corporation’s approach to professionalizing library staff [47].

The Canadian Museums Committee funded numerous individuals between 1933 and 1938 but had a particular impact on the staff of the New Brunswick Museum. This provincial institution was formed in 1929 when various museums in Saint John, including the Museum of the Natural History Society, were amalgamated. Members of the Natural History Society remained influential enough to insist on filling positions on the board and to have its curator, William MacIntosh, appointed director of the New Brunswick Museum. As indicated previously, however, MacIntosh lacked

college training in either natural history or museum work. Dr. John Clarence Webster, a wealthy patron of the New Brunswick Museum and Chair of the Canadian Museums Committee, immediately sought Carnegie funds to replace MacIntosh, selecting the historian Dr. Alfred Bailey, a recent graduate from the University of Toronto [32, p. 86]. MacIntosh disapproved, however, of Bailey's high level of education, complaining that a PhD was of no use in a museum because "a person holding that degree would not roll up his sleeves and get down on his hands and knees and perform [the] manual labour required of the position" [48]. The older director clearly aligned museum work with a kind of hands-on physical effort at odds with Webster's insistence on the intellectual work, catalog writing, and scholarly research to be performed by his protégé, Bailey. Recalling the division of academic from practical work already occurring in libraries, the situation at the New Brunswick Museum was additionally informed by debates about the preferable forms of masculine behavior and labor to be performed within museums.

The professionalization of museums occurred rather slowly in Canada, and Webster's efforts to introduce Bailey faced opposition from the members of the Natural History Society still on the museum's board. In keeping with the nineteenth-century definition of natural history that had infused this society, nature was an organic unity of all living things, available for study by generalists equipped with a keen eye and an enterprising spirit. Following a particularly Baconian approach, members of the Natural History Society had focused on the inventory and description of nature, believing that the observation of a wide range of specimens could educate the average person, rendering university training unnecessary [49, p. 3; 50, p. 10]. Respect for such knowledge gained by field work or practical training had generally declined in North America by the late 1890s. According to historian Robert E. Kohler, most nineteenth-century curators of American natural history museums were amateur collectors without formal credentials. He calculates that only two of the eleven men hired by the American Museum between 1871 and 1892 had college degrees. That same institution hired, however, nineteen curators between 1895 and 1915: ten of them had doctorates and only one was without academic certification [51]. Kohler attributes this rather sudden change—evident at a range of other American institutions—partially to the increasing number of trained biologists produced by universities but mostly to the growing social status of academic credentials and their ability to define modern, elite occupations while excluding the "lower" orders as well as many women from them.

Women were funded nevertheless by the Canadian Museums Committee, and one grant recipient, Edith Hudson, was hired in 1941 as curator of the Art Department at the New Brunswick Museum. According to historian

Kathleen D. McCarthy, women finally began to be hired as official curatorial staff in major American museums by 1930, but “they remained at lower occupational rungs and in areas such as textiles, which decorative art societies had claimed as particularly ‘feminine’ terrain” [52, p. 144]. Hudson’s employment at the New Brunswick Museum followed this pattern, and she resigned in 1945 citing sexist treatment [53]. She was nevertheless an ideally “professional” applicant, for, in addition to her BA and MA degrees, she had successfully applied for funding from the Canadian Museums Committee, undertaking research for ten weeks at the National Gallery of Canada in 1936 and surveying museums and historic sites in France, Germany, and England in 1939 [54]. All the same, her supporter at the New Brunswick Museum, Alice Lusk-Webster—the wealthy wife of Dr. John Clarence Webster—felt that Hudson lacked a crucial element: hands-on museum experience. She thus enrolled Hudson in the apprenticeship program at the Newark Museum. Lusk-Webster provided a rather weak defense of this program, explaining that she had “set aside my own objections to Newark, for I know no place where contact with the public is so intimate, or where instruction is given to children in such an elementary form, and believe that doing odd jobs in a one horse museum, is just what she [i.e., Hudson] needs to counteract her academic tendencies and fit her to meet our requirements” [55]. Lusk-Webster seems to have associated the Newark Museum with the kind of menial labor liable to take Hudson down a peg, preparing her for work at the relatively small and underfunded New Brunswick Museum.

Begun in 1925 by the museum’s founder, John Cotton Dana, the apprenticeship program strove to equip an intelligent work force with an array of practical skills that could drive conservative experts—such as curators of European oil paintings—out of museums. As a public librarian for forty years, Dana had pioneered the open stack system, while advocating comfortable library spaces that would welcome the public [56]. After being appointed head of the Newark Public Library in 1902, Dana conceived of a museum created along the lines of a library, with loan collections and exhibitions geared toward the needs and demands of the local population [57; 39, pp. 93–96]. He launched the Newark Museum within the same building as the Newark Library, creating industrial exhibitions—including one on the development of bathtub design—in a deliberate rejection of what he considered the “gloom” of elitist institutions. With the apprenticeship program, Dana and his associates continued to avoid specialization by having the apprentices work in each department, receiving a salary of fifty dollars per week in return. The apprentices followed an eight-month program, beginning their training in the public library connected with the Newark Museum before undertaking between two and five weeks’ of practical work in the education, registration, exhibitions, and science depart-

ments, as well as lessons in typewriting and personal comportment [58]. Instead of dividing museum staff into expert curators and those who performed unskilled labor, such as guards, Dana's program was meant to create a new kind of practical worker situated somewhere in between. The founder of the Newark Museum and his followers argued that the most useful and important kind of museum worker would "no longer [be] isolated from the everyday life, no longer existing chiefly for the pleasure and enlightenment of the student and the initiated" [59, p. 4].

The dual training undertaken by Hudson was informed by contested visions of museum professionals. One vision, supported by Dana and his followers, affirmed that museum workers should possess the practical skills required to produce diverse exhibitions that served the public instead of showcasing elitist knowledge. The other, supported by the members of the Canadian Museums Committee, involved training students with university degrees to undertake specialized museum research so that they could become curators and directors. Dana's vision was overtly associated with women, both in terms of actual enrollment and in the descriptions released by the Newark Museum. Archival records indicate that between 1925 and 1941 the apprenticeship program enrolled 217 students: 204 of them were women, and only 13 were men [60]. There are a number of explanations for this distinction, related to the gendered divisions of work and identity during the first half of the twentieth century. Dana's program envisioned the ideal museum worker as flexible and practical, dedicated to serving the public and educating children as well as adults, roles then socially coded as feminine. Official publications released by the Newark Museum explicitly recognized that the apprenticeship program would appeal more to women than men, arguing that a man would want to specialize and make a name for himself, whereas a woman was "like Lord Bacon," taking "all knowledge for her province" [61, p. 17]. This reference to the Baconian approach invokes the expansive kind of learning identified with natural history during the nineteenth century and thus recalls the kind of "amateur" worker (such as William MacIntosh) that members of the Canadian Museums Committee wished to displace from museums. Although Dana and his followers praised the service-minded female staff member as more important than a museum expert, their understanding of the ideal worker reinforced gendered distinctions of labor, recalling the image of the female librarian assistant as a skilled typist who interacted well with the public.

In the end, the vision of the Canadian Museums Corporation dominated, with expert curators considered essential museum staff by the 1970s in major institutions. Scholars are increasingly criticizing the elitism of museums, however, and are embracing Dana's vision of an accessible institution committed to the dissemination of useful knowledge [62]. Practi-

tioners of critical museum studies continue to debate the appropriate function of curators—should they instruct or should they serve the public?—a discussion underpinned by the considerations of professional status outlined above [63; 3, pp. 138–47]. The renewed debate is also informed by assumptions about how knowledge is gleaned and who is most capable of producing it. Both John Clarence Webster and Alice Lusk-Webster ultimately viewed the museum as a repository of culture, staffed by highly educated professionals able to elevate the well meaning but uncultivated population of New Brunswick [64, 65]. As this image of the museum and its function shifts, it is increasingly identified with public service and the provision of access to diverse forms of information, taking the form of a dialogue rather than a lesson. In various ways, the museum is becoming more like a public library, potentially returning to the emphasis on self-education and the circulation of information promoted by members of the Natural History Society of New Brunswick.

Is the library also becoming more like a museum, embracing multiple forms of knowledge acquisition in ways that do not subordinate material artifacts and hands-on learning to written sources? The case study outlined previously suggests reasons why libraries became more firmly separated from museums during the twentieth century, including government funding priorities and the kind of professionalization that increased the status and profile of institutions even as it sought to exclude those “amateurs” who had long contributed as volunteers and staff members. Attending to the history and power dynamics of this process enables new questions to be asked of the current reconvergence of libraries and museums: Is the focus on a user-oriented definition of these institutions based on traditional understandings of knowledge acquisition, or is it exclusively fueled by new technologies and budget cuts? What are the spatial politics of recently recombined organizations? Do the professionals working within them fear that current challenges to hierarchies and disciplinary distinctions threaten their identity and status? Have new forms of division been created as a compensatory mechanism? Do unstated concerns about the “feminization” of all library and museum work inform discussions of these modern knowledge institutions? Do they inform the continued divisions between the educational programs designed to produce librarians, archivists, and museum workers? Perhaps an entirely new kind of professional will result from the reconvergence of libraries, museums, and archives, but at this point the answers to most of these questions remain open; some responses can nevertheless be gleaned by taking a closer look at a selection of contemporary institutions and the educational programs that now produce information specialists.

Convergence in Practice—Libraries, Archives, and Museums in the Digital Age

What is the current state of modern librarianship and its ties to museums, archives, and other cultural institutions? All of these fields are grappling with recent innovations in technology, including Web 2.0 technologies that allow users to engage with these institutions via social networking sites, blogs, wikis, and other mechanisms, to faster platforms and less expensive user tools (e.g., handheld devices) that allow individuals to access a range of multimedia resources from around the world. Indeed, institutions worldwide are engaged in large-scale initiatives to digitize cultural artifacts and make these available to the general public—often within a funding environment that promotes restraint and competition between competing organizations. At the University of Alberta, for example, the Ukrainian Folklore Archives is housed in Museums and Collections Services [66], while the Alberta Folklore and Local History Collection is housed in the University of Alberta Libraries [67]. The lines between libraries, museums, archives, and related organizations have become blurred in the last decade, particularly in the eyes of citizens who may be unfamiliar with the divided territory that has come to shape traditional approaches to gathering and providing access to cultural materials. Also, organizations faced with reductions in government funding (at a time when new technologies for gathering and providing access to materials demand increased human and fiscal resources) are finding new ways to work together toward a common goal. Library and Archives Canada, for example, now “collects and preserves Canada’s documentary heritage, and makes it accessible to all Canadians. This heritage includes publications, archival records, sound and audio-visual materials, photographs, artworks, and electronic documents such as websites” [68]. As indicated previously, LAC was created in 2004 by joining the National Library of Canada and National Archives of Canada under one administrative and physical home. Despite the fact that the word “museums” was not captured in the earlier or current name of this organization, many of LAC’s materials and practices include those found in museum environments. The legislative act that created LAC mentions museum materials explicitly [69], and LAC’s descriptions of itself as “a new kind of knowledge institution” notes the inclusion of a “museum mandate” for this organization [70].

Although the formal mandate of LAC and the conceptual vision of a single entity that is charged with collecting and providing access to a country’s cultural heritage under one roof may be attractive to government and citizens alike, the educational divisions between these related, yet structurally separate, fields of study may well be the most challenging aspect of LAC’s future successes. While the LAC Web site refers to the new organ-

ization as being able to remove “arbitrary boundaries” [70] between the former institutions, these divisions are anything but arbitrary for the faculty and professionals teaching and working in these fields. As long as librarians, archivists, and museologists (not to mention other information professionals) continue to be educated in isolation from one another—for example, with few standards that cross disciplinary boundaries in terms of organization, preservations, and user access—real boundaries to collection, management, and access of materials will remain.

How are educational programs responding to the current evolution of physical and digital spaces that provide access to various forms of knowledge? A review of educational preparation for the various information professions reveals a general divergence and separation between these fields of study, despite the overlapping imperative to collect, manage, and provide access to various forms of cultural and knowledge production. The ALA, for example, remains the primary gatekeeper for formal preparation of professional librarians, through its sixty-two accredited programs (at fifty-seven institutions in the United States, Canada, and Puerto Rico) [71]. The ALA’s Web site references a number of “career paths” for “librarians” but makes no reference to curators, museologists, archivists, or other information professionals; although ALA does not explicitly exclude museums and archives (and defines the field covered by accreditation in very broad terms), it is notable that none of the accredited programs specializes exclusively in museum or archival studies [72]. The list of ALA-accredited programs reveals a broader diversity of program names (e.g., Master of Library and Information Studies, Master of Information Science, Master of Arts, Master of Science), although these programs must adhere to the *Standards for Accreditation of Master’s Programs in Library and Information Science* in order to be given the ALA’s “accreditation” designation. Although some LIS programs offer courses in archives, records management, and related areas, only one school on the ALA’s Web site includes archival studies in its name (i.e., University of British Columbia’s School of Library, Archival and Information Studies), with only the University of Wisconsin–Madison offering a formal specialization in archives and records management [73].

Individuals interested in museum or archival studies, then, must look elsewhere for educational programs—and without the benefit of an accredited system to point the way to programs that reflect a standardized curriculum. In Canada, the Canadian Museums Association provides program details on their Web site [74]. Unlike LIS programs (where the master’s degree is the entry designation for the profession), museum studies programs are available at the certificate, bachelor’s, and graduate levels (e.g., Technician in Museology, Museum Management and Curatorship Program, Arts Management Program). In the United States, museum stud-

ies programs are offered at dozens of institutions at the graduate level [75], and undergraduate and certificate programs are also available. Many of these programs cross a number of disciplinary boundaries (e.g., Duquesne University's graduate-level Archival, Museum and Editing Studies program), while others are embedded in established fine arts, education, anthropology, or related programs (e.g., University of St. Thomas's master's program in art history). The Society of American Archivists (SAA) provides "Guidelines for a Graduate Program in Archival Studies" on its Web site, where it notes that "archival education programs have traditionally been established in both history and library science environments . . . [while] other programs may emphasize interdisciplinary studies that link, for example, library, archival, and museum professionals" [76]. Librarianship is listed as being a key, allied profession, with archival programs including very distinct curricular intentions and points of focus. Similarly, and with specific reference to library and museum contexts, the SAA notes that "archivists and archives work in cooperation with other professions and institutions such as libraries and museums to preserve and provide access to cultural memory and to ensure accountability. Students should understand the interrelationship among archives and other keepers of cultural heritage, and the ways in which records contribute to that heritage." Like ALA, the SAA provides a directory of programs on its Web site for graduate, bachelor, and certificate programs available in the United States (twenty-two) and Canada (two) [77]. As with museum studies, however, many of these degrees and certificates are cross-disciplinary with an archival stream (e.g., Master of History; Master of Arts in Public History) or embedded in a Master of Library and Information Studies program, rather than a stand-alone program in archival studies.

The embedded nature of archival and museum studies within Library and Information Studies programs (even at the level of a single course) is not a new phenomenon; indeed, LIS schools have often included some attention to these allied professions in explorations of LIS theory and practice. Although this has not been done yet in any systematic way, the evolution of "LIS" to "IS"—with a focus on information science as the overriding umbrella concept for various approaches for collecting, managing, and providing access to material culture—demonstrates great potential for a more complete convergence at the educational program level. Indeed, such a convergence may best reflect and address the convergence of these information practices in society, particularly given those new technologies that allow people to access a range of materials for different purposes.

The "iSchools" movement, although still in its infancy, provides one example of the potential for a reconvergence of libraries, museums, and archives in educational contexts. However, it is also worth noting that the movement has been critiqued heavily by many LIS scholars, given the rules

and fees involved for membership; the predominantly male leaders within the organization (combined with a focus on those areas of the field that are more closely allied with computing and other “masculinized” activities) draw an interesting—and very troubling—parallel to the gender divisions that shaped the professionalization debates discussed previously. Unfortunately, the often vocal critics at conferences in the field have not yet explored these issues in the published LIS literature, making this an area that is ripe for further investigation from a feminist perspective. In addition, as libraries, museums, and archives move to digital preservation and access to materials, it will be interesting to see if the iSchools also embrace humanities disciplines (such as art history) alongside the focus on computing technologies.

What the iSchools do offer at present, however, is a consistent theory of knowledge not based on distinctions between objects but based on their complementarity, in keeping with nineteenth-century ideals. The first conference of the iSchools (the formal name for the group) was held in September 2005, at the School of Information Sciences and Technology at Penn State University. The iSchools movement was created by a number of deans in the United States who joined forces to promote awareness of the information field as represented by various, related programs. The movement has its own charter document, membership committee, and regular conference, reflecting its interest in “the relationship between information, technology, and people [that] is characterized by a commitment to learning and understanding the role of information in human endeavours” [78]. Although a review of the current list of member iSchools reflects a clear focus on library and information science and computing ends of the spectrum of information-related programs, there appears to be space for archival and museum studies under the information-related “umbrella” represented by this group [79]. The description of this interdisciplinary and interprofessional field of study notes that “the iSchools take it as given that expertise in all forms of information is required for progress in science, business, education, and culture. This expertise must include understanding of the uses and users of information, as well as information technologies and their applications” [78]. The iSchools Web site encourages students to consider studying at an iSchool, as this field of study “empowers people in all other fields to create, find, store, manipulate, and share information in useful forms” [80]. Interestingly, this (and most other definitions of information found in the LIS literature) is reminiscent of the Baconian approach to learning discussed previously, where “all knowledge” can be subsumed, to some degree, within an expansive view of individual engagement with learning and sources of information.

In spring 2006, a special section of the *ASIST Bulletin* (edited by Glynn Harmon) documented some of the key issues explored at this conference

and that inform the movement itself. As ASIST *Bulletin*'s editor Irene Taylor notes, "the I-Schools view themselves not as a new science trying to find a home, but as institutions *providing* a home to a wide variety of information-related disciplines in the hope of improving the synergy, collaboration and identification of the information field" [81]. In their reflections on the conference experience, Anthony Debons and Glynn Harmon remark on the cross-disciplinary and cross-professional nature of the conference; they note the inclusion of perspectives from such fields as "computer science, information science, library science, telecommunications, information technology, management information systems, informatics, instructional technology, software engineering, computer engineering, archives and others. Attendees also brought forth their respective orientations from the humanities and social and natural sciences" [82]. The purposes of the conference were to

- 1) explore and develop the essential foundations of the information field;
- 2) identify some of the grand challenges faced by society and the iSchools;
- 3) explore disciplinary and administrative relations between iSchools and the university;
- 4) search for common themes related to iSchools identity; and,
- 5) explore possible transformations, impacts, and opportunities ahead. [83]

John Leslie King, in his article "Identity in the I-School Movement," described the movement in this way: "The I-School Movement is made up of novel academic programs that embrace new intellectual and professional challenges in a world awash in information. I-Schools move beyond traditional programs, while building on the intellectual and institutional legacies of these programs. I-Schools straddle the academy's ancient engagement with information and the contemporary challenges of ubiquitous information affecting all aspects of society" [84].

Conclusions

While the iSchools reflect a very exclusive, American-focused movement (i.e., with only one Canadian member to date), there is great potential here to create a new educational coalition among the information-related fields that can embrace the full spectrum of information-focused professions and programs. Although the current members focus, most prominently, on the computing and information science realms of the field, the other end of the spectrum—as represented by library, museum, and ar-

chival studies, as well as related humanities and social sciences disciplines—is needed to present a balanced glimpse of the information field that the iSchools purport to represent. Unfortunately, a number of structural requirements in the iSchools charter (e.g., US\$10,000 annual membership fees; representation by deans, rather than directors/chairs) may prevent this body from achieving its dream of building an inclusive home for allied disciplines within the information field. What the iSchools movement does achieve, however, is an open space for dialogue among and between information-related programs and professions; it recognizes the interplay of technology, culture, education, and people and presents a clarion call for joining together to move educational programs with similar mandates and goals further into the twenty-first century. Museums, archives, and libraries need to be involved in these discussions in active, productive ways, or they risk isolation and extinction in the face of modern technologies and fiscal restraints; this can be achieved by a conscious reconvergence of mandates and goals, to exploit traditional and modern areas of expertise, and to work together to connect people with the artifacts of culture.

However, it is also important to note that such a convergence at the “school” level must also be considered in light of the historic context regarding the role of gender in shaping the evolution of libraries, museums, and archives. Christine Pawley, for example, explores the masculine voices that sit on either side of the “professional/libraries” and “researcher/information science” spectrum that has shaped the “contested terrain” of LIS for many decades [85]. As technology shapes practice in LIS (and other allied professions), are core services shifting from what was once the purview of a nurturing, female profession, to that of a male, technologically focused domain? Is information science (in the words of Ellen Crosby) simply “librarianship practiced by men” [86], or is there space here for a new “gender convergence” in the digital age? Are the educational programs that shape our fields concerned with service to the public, with science and rationality, and do they differ from those that shaped the earlier arguments about professionalization? Are these new programs creating content experts or public servants or a new breed of information professional for the twenty-first century? Is part of the current lack of convergence in educational programs related to issues of professionalization and even masculinization, as discussed previously in light of historic perspectives on these issues? These questions have not yet been adequately addressed in the current educational literature; however, considerations of gender politics and the implications for curricular design (as well as for professional practice) must be examined in more detail.

On the practice side, libraries, museums, and archives must also join forces to effectively claim their shared territories in the digital environment. Users typically do not draw the same lines in the sand that profes-

sionals tend to draw around their educational and practice-oriented boundaries. Although the three professions reflect quite different mandates at a micro level (e.g., user-focused library collections vs. archival preservation), these organizations share a vital wealth of knowledge and care for cultural heritage at a macro level. As digitization projects move forward, as government funding becomes increasingly competitive, and as individual citizens harness the power of Web 2.0 technologies to engage with cultural organizations in new ways, librarians, archivists, and museologists—whatever they choose to label themselves—must work together toward a common curriculum and common baseline of expert knowledge to gather, manage, and make accessible the vast array of materials in the coming centuries. By respecting and acknowledging our shared history and by using that history as a springboard for reenergizing the convergence of the information professions, we can ensure a vibrant future for our cultural materials and the ways our citizens can engage in that history.

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