

Metamorphosis of a Public Institution: The Early Buildings of Kingston General Hospital

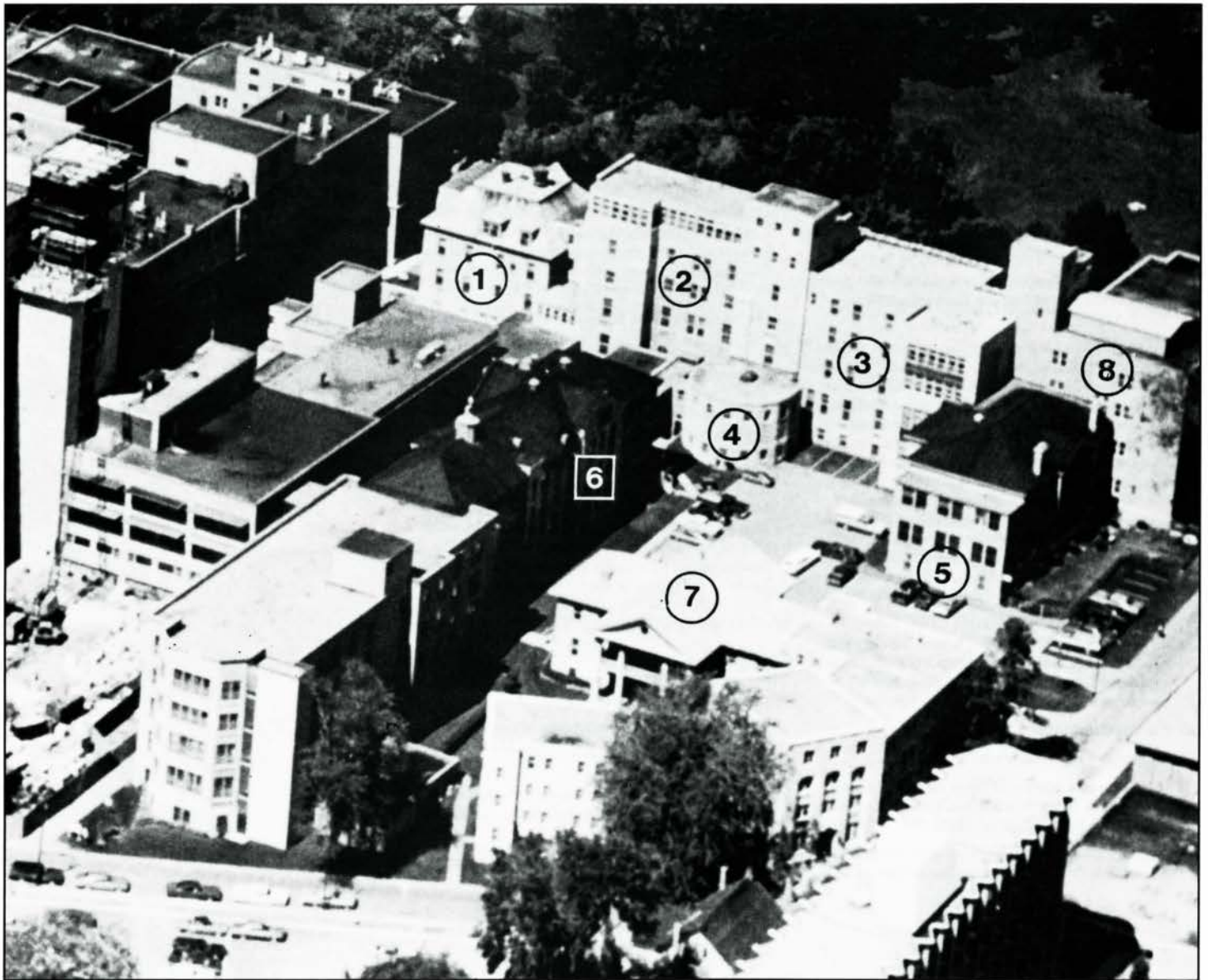


Figure 1. Aerial view of Kingston General Hospital, Ontario, from the south, probably in the 1960s, showing (1) Nickle Wing, built 1891; (2) Main Building, built 1833-35; (3) Watkins Wing, built 1862; (4) Fenwick Operating Theatre, built 1895; (5) Doran Building, built 1893-94; (6) Empire Wing, built 1912-14; (7) nurses' home (Ann Baillie Building), built 1904; and (8) Angada Children's Hospital, built 1953. (Kingston General Hospital Archives)

b y J a m e s D e J o n g e

The City is rapidly growing, filling up with a class of people to whom a Hospital in case of sickness is a necessity. The prejudice against hospitals is fast vanishing, and the public, both rich and poor, coming to realize that in many forms of sickness the Hospital is the only place where successful treatment can be assured.¹

In their annual report for 1912, the administrators of Kingston General Hospital astutely summarized the transformation witnessed by the institution over the previous two decades. From the perspective of the 1990s their observations might seem curious, for we have come to take for granted the fundamental role of hospitals in the delivery of health care. Until the early 20th century, however, hospitals were primarily intended for those who had no sick rooms in their homes, or no home at all. They were viewed as places to become ill rather than to become well, and offered no advantages over the domestic setting. The preference for the home was consistent with prevailing medical theory and the tradition of treating disease in its environment; it also reflected the fact that complicated surgical operations were not widely attempted prior to the late 19th century. It was the destitute, the poor, the immigrant, the sailor, and the soldier who turned to the institution for basic medical treatment. As historian of medicine Morris Vogel has noted, hospitals were “marginal institutions treating the socially marginal.”²

All of this began to change in the 1880s and 1890s. In Canada, as elsewhere, the period was critical in terms of the physical expansion of hospital facilities and the broader transformation in public attitudes and medical theory that this implied. At the heart of this shift was a growing understanding and appreciation of the germ theory of disease, which stimulated the development of new surgical procedures. Advances in bacteriology and improvements to the microscope confirmed the ideas developed in the 1860s by Louis Pasteur and Joseph Lister that contagious disease and wound infection were caused by specific microscopic organisms and not simply by a general contamination of the atmosphere. Lister’s procedure of using an antiseptic spray to disinfect the operating room reduced mortality and gradually convinced doctors of the need to keep wounds and surgical instruments free from bacteria.³

The success rate in surgery and the complexity of operations increased dramatically in the 1890s. By the opening decade of this century, surgery had become central to the hospital, and society increasingly acknowledged that the institution was the preferred place for treating and curing a wide range of maladies. During the 1880s and 1890s, hospitals expanded rapidly in number and became more complex architecturally, a trend that accelerated in the 20th century. In Ontario alone, public general hospitals increased in number from 8 in 1881 to 20 by 1890, and to 146 by 1949.⁴

Kingston General Hospital provides an interesting case study of the transformation of this public institution from a place of poor relief to a centre of “scientific medicine.” Constructed near the shore of Lake Ontario on the outskirts of town in the 1830s, it expanded several times on its spacious site (figure 1). Nearly every major period and trend in the hospital’s evolution is represented in the complex. For the architectural historian, the hospital is particularly significant for having retained its original buildings as well as those from the late 19th and early 20th centuries, thus reflecting various periods of architecture. Recently designated a national historic site, this grouping of pre-1920 buildings chronicles the early charitable role of the hospital in Canadian society, and the remarkable metamorphosis of the institution at the turn of the century. A study of its evolution contributes to the growing body of literature on the history of Canadian hospitals and underscores the importance of architecture as a primary source in researching and understanding the institution.⁵

Kingston General Hospital today bears little resemblance to its appearance in the mid 19th century, when a single limestone structure—still referred to as the Main Building—occupied the site. As the hospital expanded, a succession of respectable Kingston architects, among them William Coverdale, John Power, and William Newlands, strove to maintain a design coherence through the use of restrained classicized detailing and grey limestone on the exteriors of new buildings. The Main Building and its 1862 addition, the Watkins Wing, remained the core hospital buildings until the 1890s, when they were augmented by the Nickle Wing and the Doran Building on either side, and by the Fenwick Operating Theatre at the rear. Expansion continued after 1900 with the construction of the nurses’ home (1904, now called the Ann Baillie Building) and the Empire Wing (1912-14) at the rear (figure 2).

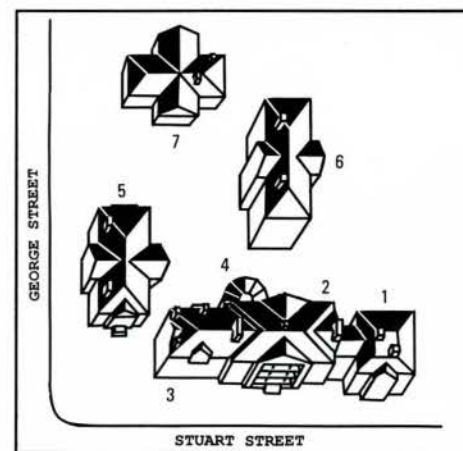


Figure 2. Bird’s-eye view drawing of Kingston General Hospital from the north as it would have appeared about 1920, showing (1) Nickle Wing; (2) Main Building; (3) Watkins Wing; (4) Fenwick Operating Theatre; (5) Doran Building; (6) Empire Wing; and (7) nurses’ home. (René Price, Parks Canada, Ontario Service Centre)

1 Queen’s University Archives, Kingston, Ontario, Collection 500, Kingston General Hospital Records (hereafter QUA/KGH), B-103, Report of the Committee of Management, 30 September 1912.

2 Morris J. Vogel, *The Invention of the Modern Hospital: Boston, 1870-1930* (Chicago: University of Chicago Press, 1980), 77. Other major studies of the 19th-century hospital include Brian Abel-Smith, *The Hospitals, 1800-1948: A Study in Social Administration in England and Wales* (London: Heinemann, 1964), and Charles E. Rosenberg, *The Care of Strangers: The Rise of America’s Hospital System* (New York: Basic Books, 1987). Good overviews in a Canadian context include J.J. Heagerty’s classic, *Four Centuries of Medical History in Canada* (Toronto: Macmillan, 1928), Ontario Department of Health, *The Hospitals of Ontario: A Short History* (Toronto: King’s Printer, 1934), and David Gagan’s more recent article, “For ‘Patients of Moderate Means’: The Transformation of Ontario’s Public General Hospitals, 1880-1950,” *Canadian Historical Review* 70, no. 2 (June 1989): 151-79. Useful review essays include S.E.D. Shortt, “The Canadian Hospital in the Nineteenth Century: An Historiographic Lament,” *Journal of Canadian Studies* 18, no. 4 (winter 1983-84): 3-14, and J.T.H. Connor, “Hospital History in Canada and the United States,” *Canadian Bulletin of Medical History* 7, no. 1 (1990): 93-104.

3 Vogel, *Invention of the Modern Hospital*, 60-63, and Rosenberg, *Care of Strangers*, 137-47.

4 Gagan, “For ‘Patients of Moderate Means,’” 154-55.

5 Two noteworthy recent case studies of Ontario hospitals during the 1880-1920 period are David Gagan, *A Necessity Among Us: The Owen Sound General and Marine Hospital, 1891-1985* (Toronto: University of Toronto Press, 1990) and Mark Cortiula, “Social Class and Health Care in a Community Institution: The Case of Hamilton City Hospital,” *Canadian Bulletin of Medical History* 6 (1989): 133-45.

Two subsequent expansion phases altered individual components of this complex. The first occurred in 1929-31, when additional storeys were added to the Main Building and Watkins Wing. This work was directed by the Boston-based architectural firm of Edward F. Stevens and Frederick C. Lee, who had a Toronto office and emerged as leaders in hospital design in this period in Canada and the United States. Their extensive reworking of these early buildings was in keeping with the 20th-century trend in hospital design favouring large multi-storey buildings.⁶ The second expansion was the construction of the Angada Children's Hospital in the early 1950s against the north side of the Doran Building and the east side of the Watkins Wing. Clad in limestone, it hides part of the older complex but blends in with its subdued institutional character.

Despite these changes, one can still discern the pre-1920 buildings as a distinct enclave within the modern, monolithic hospital, which now extends to the west and to the south towards Lake Ontario. These early components of the complex merit a closer look for the insight each offers into the metamorphosis of health care. They echoed contemporary ideas about medical care and, in some cases, helped to shape the evolving role of the hospital in the community.

“Rather an Affliction Than an Object to be Desired”

From the origins of European settlement, hospitals in Canada emerged as places for the care of the poor and destitute. In New France, Catholic religious orders established at least five hospitals before 1700 at Québec, Montreal and Trois-Rivières, which were incorporated into larger complexes of buildings associated with the orders.⁷ During the British Regime, these hospitals were complemented by “public general” hospitals, usually initiated by wealthy patrons from Protestant, English-speaking communities. These institutions were founded in the larger urban centres where rudimentary social welfare facilities became strained after 1815 by the influx of immigrants suffering from cholera and other diseases. The Catholic hospitals and the public general hospitals differed in their administrative structures, but both focused on helping individuals in destitute circumstances, and they relied heavily on voluntary services from the local community, including those of private visiting physicians.

Constructed between 1833 and 1835, Kingston General was the third purpose-built public general hospital in Canada, pre-dated only by its counterparts in Montreal (1821-22) and York (1824).⁸ Its early date of construction reflected the status of Kingston as one of the largest Upper Canadian communities, whose population by 1830 had already surpassed 3,000. Kingston benefitted from its role as a transshipment point at the head of the St. Lawrence River, though the increasing number of sick immigrants passing through the community each year strained municipal resources, a problem aggravated by the influx of labourers engaged in the construction of the Rideau Canal between 1827 and 1832. Seasonal outbreaks of malaria and a severe epidemic of cholera in 1832 also took their toll on immigrants and labourers alike. As at York (Toronto) and Montreal, Kingston's permanent hospital was intended to replace a temporary building operated on a seasonal basis by volunteers, in this case the well-to-do local women who formed the Female Benevolent Society.

The process leading to the establishment of Kingston General Hospital provides insight into contemporary attitudes towards the indigent sick, civic dignity, and medical treatment. As a charitable institution, the hospital had an ambivalent place in the urban landscape. Community leaders who pushed for its construction were motivated in part by their sense of social responsibility to care for the “deserving” poor, and in part by a desire to get the destitute off the street and in a controlled setting where they would be out of sight and less likely to spread infection to the general population. A local committee successfully petitioned for a grant of £3,000 from the provincial government in 1831-32, which made possible the construction of a permanent building. In the debate over the bill, William Morris, the member of the legislature for Perth, echoed the view of many contemporaries by calling the hospital “rather an affliction than an object to be desired,”⁹ an indication that Kingston, like York and Montreal, was feeling the strain of coping with the destitute.

Municipal authorities engaged a respectable local architect, Thomas Rogers, who had experience in designing several public buildings in the town. Rogers studied the Montreal General Hospital—an attractively scaled Neoclassical building adorned by a lantern and cupola—but settled on a more modest design in keeping with the financial means of the community.¹⁰ Still, it was an impressive addition to Kingston's civic architecture. The three-storey limestone building featured a low hipped roof punctuated by

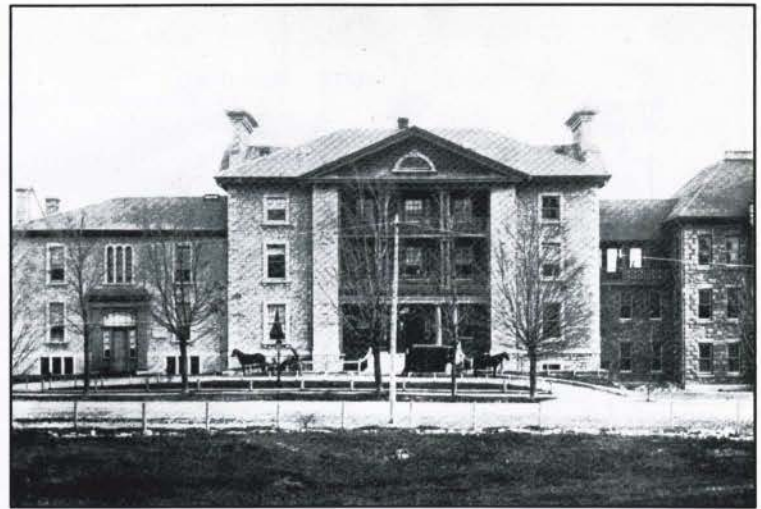
6 “Alterations to Main and Watkins Buildings, Kingston General Hospital,” Stevens and Lee, Architects, August 1929 (Kingston General Hospital, Kingston, Ontario). Edward F. Stevens was the author of several influential studies on hospital design, including *The American Hospital of the Twentieth Century* (New York: Architectural Record Publishing Co., 1918), which was reissued in several editions. Annmarie Adams of McGill University School of Architecture is currently preparing a major study on the work of the firm.

7 Claudette Lacelle, “L'apport social des communautés religieuses catholiques présentes au Canada avant 1940,” Microfiche Report Series No. 425, Canadian Parks Service, 1987, 22-24. Recent studies of Quebec hospitals include Denis Goulet, François Hudon, and Othmar Keel, *Histoire de l'Hôpital Notre-Dame de Montréal, 1880-1980* (Montreal: VLB Éditeur, 1993), F. Rousseau, *La croix et le scalpel: Histoire des Augustines et de l'Hôtel-Dieu de Québec (1639-1892)* (Québec: Septentrion, 1989), and Shelley Hornstein, “The Architecture of the Montreal Teaching Hospitals of the Nineteenth Century,” *The Journal of Canadian Art History* 14, no. 1 (1991): 12-24.

8 For background on these two institutions, see H.E. MacDermot, *A History of the Montreal General Hospital* (Montreal: Montreal General Hospital, 1950), 1-12, W.G. Cosbie, *The Toronto General Hospital, 1819-1965: A Chronicle* (Toronto: Macmillan, 1975), 5-18, and C.K. Clarke, *A History of the Toronto General Hospital* (Toronto: William Briggs, 1913), 16-41.

9 QUA, Queen's Medical Faculty Collection, Box 11, Scrapbook No. 3, Extract from Debates of the House of Assembly of Upper Canada, 2nd Session, 10th Parliament, as reported in the *Colonial Advocate*, York, 4 February 1830.

10 Margaret Angus, *Kingston General Hospital: A Social and Institutional History* (Montreal and Kingston: McGill-Queen's University Press for Kingston General Hospital, 1973), 8-9.



massive stone chimneys (figure 3). It was reminiscent of large residences of the time, alluding to the home as the preferred location for the care of the sick. Identical front and rear facades each featured numerous windows and a classically inspired frontispiece with balconies on each storey to encourage cross ventilation. The design reflected the miasma theory, which held that disease emanated from decaying organic material and was transmitted by the air—hence the emphasis on windows and balconies to promote the movement of stagnant air. The siting of the building on an elevated, open location near Lake Ontario was also intended to encourage the circulation of fresh air to cleanse the interior.

Good intentions and an initial capital outlay were not by themselves sufficient to make the hospital a reality, however. For the remainder of the 1830s, the building remained essentially closed while locally appointed commissioners struggled to raise funds to finish the interior and secure basic furnishings. As immigration to Upper Canada fell in the late 1830s and as epidemic diseases remained in check, the problem of the indigent sick declined as a community priority. This became evident in 1841 when Kingston was selected as the temporary seat of government for the newly created United Province of Canada. As one of the few buildings in the city large enough to house parliament, the hospital was turned over to the government. The interior was extensively renovated to suit its temporary role as a legislature, a function it served for the next three years. Finally, in 1845, after a delay of ten years, the hospital officially opened for patients under the management of the Female Benevolent Society. Incorporated as the Kingston Hospital in 1849, it came under the management of a lay board of governors who regulated the admission of patients and confirmed that they were legitimate recipients of charity.¹¹

In the decades that followed, Kingston General was similar in its administration to other public general hospitals set up on a formal basis in Ontario and elsewhere. An annual provincial grant helped offset the costs of supporting the few salaried staff who prepared meals and provided basic care for patients. In the 1850s and 1860s the hospital accommodated about fifty patients at a time, segregated by sex into two basic wards. Destitution as much as disease remained the primary criteria for admission. Visiting surgeons tended to the sick, using their own instruments right at the bedside of patients for simple operations, as they would for paying patients who could afford treatment in their own homes.¹²

The institution expanded during the early 1860s with the construction of a two-storey addition known as the Watkins Wing. Designed by prominent Kingston architect William Coverdale, it continued the classicism of the original building and the use of limestone, the characteristic building material in the city (figures 3, 4).¹³ Constructing the wing responded to the ongoing pressure to care for the sick poor, but it also pointed to trends that would fundamentally alter the institution in the 1880s and 1890s. A small part of the interior was set aside and furnished for well-to-do patients willing to offset the cost of medical attendance. As well, a modest operating room was incorporated in the upper floor, which reflected the hospital's growing association with medical education, following the opening of a medical school nearby at Queen's College in 1854. The operating room was also used for clinical lectures, enabling

Figure 3 (left). Kingston General Hospital in the early 1860s, showing the rear (south) elevation of the Main Building and the Watkins Wing. (Kingston General Hospital Archives)

Figure 4 (right). Kingston General Hospital in the early 1890s, showing the front (north) elevations of the Watkins Wing (left), Main Building (centre), and Nickle Wing (right). (Kingston General Hospital Archives)

11 *Ibid.*, 16-25. The hospital is still legally the "Kingston Hospital," but for over a century it has commonly been known as Kingston General Hospital, a name likely adopted to differentiate the institution from the Hôtel-Dieu, which was established on Brock Street in 1845 by the Catholic religious order les Religieuses hospitalières de St-Joseph.

12 *Ibid.*, 26-28 and 34-36.

13 *Ibid.*, 38-39. The wing was named in honour of John Watkins, a local hardware merchant, who paid for its construction. For a comprehensive examination of Kingston architects and architecture in this period, see Jennifer McKendry, *With Our Past Before Us: Nineteenth-Century Architecture in the Kingston Area* (Toronto: University of Toronto Press, 1995).

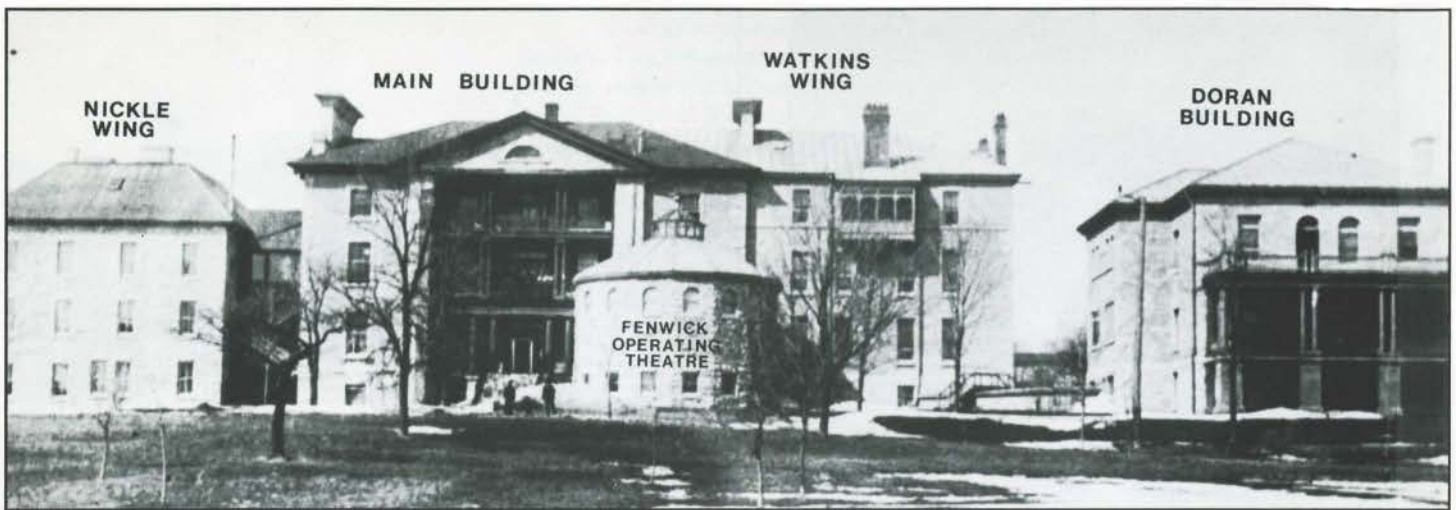


Figure 5. Kingston General Hospital, view from the south showing rear of the hospital complex, c. 1900. (Kingston General Hospital Archives)

medical students to study the sick and witness operations. The name of the facility—the amputating theatre—was indicative of the limited procedures attempted, and the emphasis was as much on studying the sick as curing them. But gradually the hospital was acquiring a professional image, as the skills gained by the students here were carried to their practices outside the institution.

The Emerging Surgical Environment

While Kingston General retained its character as a charitable institution during the second half of the 19th century, it began a slow but dramatic transformation in the 1880s and 1890s. Like its contemporaries, it evolved into a facility focused on the most up-to-date scientific medical treatment, eventually becoming indispensable to all classes of society. The hospital's changing role as an advanced centre of medical practice was evident in the steady building campaign initiated in 1890, which produced five new buildings over the following three decades, all of which survive as components of the present-day complex. This veritable construction boom was fuelled by important breakthroughs in understanding and treating certain diseases. Improvements to the microscope enabled scientists to confirm the existence of micro-organisms and their relationship to contagious diseases and the infection of wounds. This new knowledge accelerated the acceptance of antiseptics (the procedure developed by Joseph Lister in the 1860s using disinfectant spray to cleanse patients during surgery) and of asepsis (the procedure requiring a meticulously clean surgical environment, which replaced antiseptics in the 1880s). As the patient's chances of surviving surgery improved, doctors moved beyond amputation and began to attempt new operations on the human body, most notably the abdominal cavity.¹⁴ At Kingston General Hospital, the adoption of antiseptic and aseptic procedures led to the construction of specialized operating rooms and an increase in surgery during the 1890s. The new approaches also revolutionized ideas about nursing care and prompted the improvement of facilities for isolating patients with communicable diseases.

The influence of the germ theory on architectural form is well illustrated by the Nickle Wing, constructed on the west side of the Main Building in 1890-91. This three-storey limestone structure was designed for patients with infectious diseases, evident in the narrow connecting passageway to the Main Building intended to prevent the spread of disease to surgical patients (figure 4). The bevelled edges and rounded corners in the patient rooms made cleaning easier, though the special "Smead-Dowd" heating and ventilation system in the new wing, which provided separate air circulation to each room, proved inefficient and caused much frustration for years to come.¹⁵ A few years later, a bequest from the estate of a Kingston industrialist made possible the construction of the Doran Building, adjacent to the Watkins Wing (figure 5). Completed in 1894, it was designed by Kingston architect John Power as a self-contained hospital for maternity care, gynaecological diseases, and the treatment of children. Behind its classically inspired facade was an up-to-date operating room for obstetrical and gynaecological patients. The interior finishing materials and the iron and glass furnishings in the operating room were selected because they were easy to clean. A combination of gas and electric light fittings in the operating room provided the best possible illumination

¹⁴ Rosenberg, *Care of Strangers*, 147-50; Vogel, *The Invention of the Modern Hospital*, 60-63; J.T.H. Connor, "Listerism Unmasked," *Journal of the History of Medicine* 49 (April 1994): 236-39.

¹⁵ Angus, *Kingston General Hospital*, 67

for surgeons. It was appropriate for Dr. Kenneth N. Fenwick, the hospital's specialist in this field, to remark at the building's official opening that there would have been no use for its operating room twenty years before, because extensive abdominal operations were not then attempted.¹⁶ Gradually, the hospital was coming to be viewed as a centre of expertise for specific medical problems.

Even with the inclusion of these modern finishes and furnishings, the scale and massing of the Doran Building still relied on the design principles popularized by Florence Nightingale in the 1860s, based on her experience in the Crimean War. The Doran Building incorporated sun porches and numerous windows, and was restricted to only two storeys in keeping with Nightingale's ideas of maximizing ventilation and minimizing patient density. It also had its own heating system to ensure the separation and isolation of patients from disease.¹⁷ Indeed, not until the 20th century would the breakthroughs in understanding disease causation translate into substantive changes in hospital design. Interconnected, modestly scaled buildings such as the Doran, Watkins, and Nickle units would give way to multi-storey hospital blocks in which greater emphasis was placed on the efficient arrangement of interior services.¹⁸ The expansion of the Watkins Wing up against the west side of the Doran Building in 1929-31 reflected this trend towards more integrated monolithic hospitals.

The emergence of Kingston General as a place of scientific medicine oriented towards surgery is most vividly illustrated by the Fenwick Operating Theatre, completed in 1895. Financed with the help of a generous donation by Dr. Kenneth Fenwick, it was indicative of the rising importance of the hospital to medical education and to the careers of surgeons. Fenwick, who was appointed house surgeon at Kingston General in 1874 at the age of 22, travelled widely in North America and Europe throughout his career to stay abreast of the latest medical procedures.¹⁹ He played a strong role in introducing aseptic surgery to Kingston. Like many of the doctors on the hospital's Medical Board, he also taught at Queen's medical school. The operating room named in his honour was designed as a teaching amphitheatre for students to witness the newest medical procedures. Such facilities became very popular at hospitals associated with medical schools around the turn of the century, though the Kingston example is the only one in Canada known to survive from this era.²⁰ It demonstrated that patients were no longer just to be studied in the hospital, but were being cured there in a specialized environment that could not be duplicated at home. Kingston General's modern surgical facilities prompted its medical superintendent to boast in 1898 that "the surgical work of the hospital compares favourably with that of other institutions, almost all of the major operations having been performed and performed successfully during the year."²¹ By the opening decade of this century, surgery was carried out on about one-third of patients admitted. Complicated procedures such as the appendectomy, perfected and practised widely during the 1890s, were done on a routine basis.²²

Designed by Kingston architect William Newlands and built at the rear of the Main Building, the Fenwick Operating Theatre was a highly functional two-storey limestone structure, semicircular in plan and covered with a metal roof and cupola (figure 5). Its lower storey, contiguous with the basement of the Main Building, consisted of a waiting room and washroom facilities for students. The main floor formed an extension of the ground floor of the Main Building, which was renovated at the time of construction to create a series of specialized support rooms to meet the complex requirements of surgery (figure 6). These included areas for doctors to change, wash, and consult prior to surgery, and a separate preparatory room for anaesthetizing patients so that they would avoid the stress of seeing the operating room. As well, there were separate rooms for medical supplies and for sterilizing surgical instruments. In the decades to follow, such support facilities would continue to be a central design consideration stressed by hospital architects in the planning of operating suites.²³

The Fenwick Operating Theatre was typical of other contemporary facilities in Canada and the United States, with a centrally placed operating table and rows of seats arranged in a semicircle for observers. So, too, was the emphasis on illuminating the interior. Natural light entering through the cupola was diffused through a ceiling of ground glass. Illumination was further enhanced by a series of high windows and a large gas lighting fixture directly above the operating table. Equally important were the easily cleaned finishing materials, including the polished Italian marble for the walls and the slate for the floors. Wash basins and equipment for sterilizing the surgical area were situated on either side of the operating table (figure 7).²⁴ Contemporary understanding of the germ theory influenced the functional complexity of the building and the emphasis

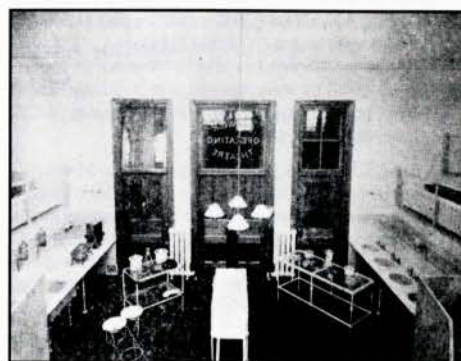
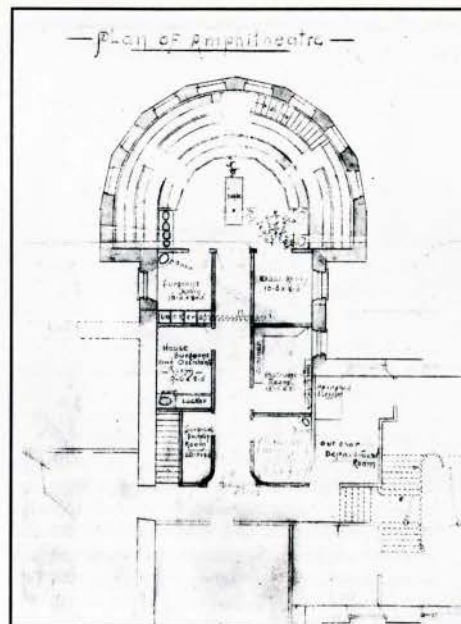


Figure 6 (top). Conceptual plan of the Fenwick Operating Theatre prepared by William Newlands, architect, c. 1894. (Queen's University Archives)

Figure 7 (above). Interior view of the Fenwick Operating Theatre, c. 1899. (Queen's University Archives)

¹⁶ Cited in Angus, *Kingston General Hospital*, 72.

¹⁷ Rosenberg, *Care of Strangers*, 128-29, 136-38, and Leslie Maitland, "The Design of Tuberculosis Sanatoria in late Nineteenth Century Canada," *Society for the Study of Architecture in Canada Bulletin* 14, no. 1 (March 1989): 6. On the design of purpose-built 19th-century hospitals in Europe and North America, see also Adrian Forty, "The Modern Hospital in England and France: The Social and Medical Uses of Architecture," in *Buildings and Society: Essays on the Social Development of the Built Environment*, edited by Anthony D. King (London: Routledge & Kegan Paul), 61-93, and John D. Thompson and Grace Goldin, *The Hospital: A Social and Architectural History* (New Haven and London: Yale University Press, 1975), 146, 159-61.

¹⁸ Thompson and Goldin, *The Hospital*, 187-89.

Figure 8. Front elevation of the nurses' home, Kingston General Hospital, soon after its completion in 1904. (Queen's University Archives)



- 19 J.A. Low, *Obstetrics & Gynaecology: The Faculty, 1854-1954* (Kingston: Queen's University, 1985), 10-11, and *Queen's University Journal* 23, no. 7 (8 February 1896): 99-101.
- 20 At its official opening in October 1895 the Fenwick Operating Theatre was "pronounced to be the most convenient in Canada and surpassed by only one or two in the United States." *Queen's University Journal* 23, no. 1 (2 November 1895): 14; *ibid.*, no. 7 (8 February 1896): 101; Rosenberg, *The Care of Strangers*, 194-201. When crammed with many students, operating theatres were questioned for their effectiveness in medical education. See Abraham Flexner, *Medical Education in the United States and Canada: A Report to the Carnegie Foundation for the Advancement of Teaching* (New York: Arno Press Reprint Ed., 1972), 98. Still, they were incorporated into many Canadian hospitals affiliated with medical schools, including the 1854 block of Toronto General Hospital, the wings of Montreal General Hospital (1848 and 1892), and in the Royal Victoria Hospital in Montreal in 1893. On the Royal Victoria Hospital, see D. Sclater Lewis, *Royal Victoria Hospital, 1847-1947* (Montreal: McGill University Press, 1969).
- 21 QUA/KGH, B-103, Annual Report of the Medical Superintendent, 30 September 1898. The transition from home care to hospital care is discussed in the British context by Abel-Smith, *The Hospitals, 188-89*, in the American context by Rosenberg, *Care of Strangers*, 244-48, and in the Canadian context by Gagan, "For 'Patients of Moderate Means,'" 152-58.
- 22 In 1913-14, for example, nearly 200 appendectomies were performed at Kingston General. QUA/KGH, *Kingston General Hospital Annual Report, 1914* (Kingston: Jackson Press, 1915), 36.
- 23 See, for example, John Allan Hornsby and Richard E. Schmidt, *The Modern Hospital: Its Inspiration, Its Architecture, Its Equipment, Its Operation* (Philadelphia and London: W.B. Saunders Company, 1914), 47-48, and "Ottawa Civic Hospital, Ottawa, Ontario," *Construction* 17 (December 1924): 369-70.
- 24 Angus, *Kingston General Hospital, 73-74*; A.A. Travill, *Medicine at Queen's, 1854-1920: A Peculiarly Happy Relationship* (Faculty of Medicine: Queen's University, 1988), 164-65; Queen's University Archives, William Newlands Collection of Drawings, Plan 6055.
- 25 John Murray Gibbon and Mary S. Mathewson, *Three Centuries of Canadian Nursing* (Toronto: Macmillan, 1947), 144-59.
- 26 Angus, *Kingston General Hospital*, 60-65; QUA/KGH, *Annual Reports, Kingston General Hospital, 1907, 1908*.
- 27 On the evolution of scientific training in nursing, see Kathryn McPherson, "Science and Technique: Nurses' Work in a Canadian Hospital, 1920-1939," in *Caring and Curing: Historical Perspectives on Women and Healing in Canada*, edited by Dianne Dodd and Deborah Gorham (Ottawa: University of Ottawa Press, 1994), 71-80.
- 28 QUA/KGH, B-103, Annual Report of the Nurses' Training School, 31 September 1907. For an overview history of the nursing school, see Katherine Connell Crothers, *With Tender Loving Care: A Story of the K.G.H. Nursing School* (Kingston: K.G.H. Nurses Alumnae, 1973).

on selecting finishing materials and furnishings that would promote a bacteria-free environment. In turn, the ideal surgical conditions of the specialized operating room permitted surgeons to expand the boundaries of medical theory and practice.

A Place of Their Own

Doctors and medical students were not the only health care practitioners to become dependent on the hospital for education and professional status. Kingston General also developed one of the earliest apprenticeship-based training schools for nurses, opened in 1886. Its organization was typical of nursing programs established at many lay hospitals in Canada during this period.²⁵ Initially, nursing students lived on a floor of the Nickle Wing and received formal training right in the hospital, amounting to about twelve hours a week. In exchange they formed the principal labour force of the hospital, working long hours attending to patients on the wards and in the operating rooms. The full-time paid nursing staff after 1900 consisted of a head nurse and a night supervisor who directed the work of some thirty to forty student nurses.²⁶

The construction of a separate nurses' home in 1903-04 signalled the growing importance of nursing as a profession that was responding to the scientific, technological image of the hospital. The application of aseptic procedures demanded specialized training on the part of nurses for such tasks as preparing patients for surgery, assisting with operations, and changing dressings. In the period before antibiotic drugs, their careful attention to the strict standards of ward and patient cleanliness was critical to maintaining the hospital at the centre of scientific medicine.²⁷

Situated at the rear of the Main Building, the nurses' home became an integral part of the evolving hospital complex, providing nursing staff with comfortable accommodations and convenient access to the wards and operating rooms. The two-storey building, featuring a cross-axial plan, was built of hammer-dressed limestone with string courses delineating the base of each storey (figure 8). William Newlands, the architect for the Fenwick Operating Theatre, was responsible for the design, which incorporated a monumental two-storey portico of Beaux-Arts inspiration at the south-facing main entrance. The building's stately appearance acknowledged the centrality of nurses to the institution, and would have been conducive to the efforts of hospital administrators to establish nursing as a profession for women from well-to-do families. The interior had a deliberate residential feel, with a kitchen and large sitting room on the ground floor and bedrooms upstairs. One of the rooms was used for lectures and demonstrations, supplementing the instruction provided by physicians in the hospital wards and operating rooms.²⁸

Perhaps the most important role of the residence was in nurturing the lives and careers of the nurses who entered the training school. The nurses' home permitted an escape from the hectic environment of the hospital wards and reduced the risk of contracting diseases from patients. As Annmarie Adams has argued in her study of the nurses' residence at the Royal Victoria Hospital in Montreal, the nurses' home became the physical centre of the hospital-based schools, where nurses lived, trained, formed



friendships, and developed a place of their own within the male-dominated hospital environment. For nurses, the training school and their alumnae fostered and reinforced a strong identification with their emerging profession. The skills and sense of solidarity they acquired here were important to their subsequent careers as private-duty nurses.²⁹

The Hospital Transformed

With day-to-day administration increasingly controlled by physicians and a core of professionally trained nurses who demonstrated the efficacy of the institution in medical treatment, Kingston General commanded a growing respect among local residents after 1900. As the prejudice against hospitals as places for the poor vanished, hospital administration increasingly focused on business principles and concerns over efficiency. In the opening decades of the 20th century, the most pressing need became the provision of accommodation for patients admitted for surgery who were willing to pay for semi-private and private rooms.³⁰ Like other lay hospitals, Kingston General responded to the growing market for health care, gradually losing its character as a distinctly charitable institution. The acceptance of Kingston General as a centre of medical care for the community may also have been accelerated by the First World War, when the institution's facilities were strained to care for soldiers.

The construction of the Empire Wing between 1912 and 1914 to serve the needs of paying patients was an indication that the hospital was becoming relevant to the needs of the larger community. Situated to the rear of the Main Building and adjacent to the nurses' home (figure 9), this three-storey wing contributed substantially to the hospital's income with its 30 private rooms, 12 with private baths.³¹ As David Gagan has noted, the preponderance of private and semi-private wards by the end of the First World War symbolized the end of the transformation of the charitable hospital. By this time, steadily improving surgical techniques and medical expertise had reinforced the perception among patients and doctors alike that the hospital, rather than the home, was the preferred place for treating acute illness.³² Moreover, hospital administrators were increasingly focused on business principles, as evidenced by the 1912 annual report of Kingston General's Committee of Management: "The new wing will give us thirty more revenue producing rooms, and though expenses are sure to increase with increased revenue, it is only what occurs in every growing business in the community"³³

The specialized, scientific orientation of the Empire Wing was evident in the incorporation of a pathological laboratory in the basement for use by Queen's medical faculty, and in the installation of x-ray equipment there in 1919.³⁴ The wing was connected to the Main Building only by a narrow basement passage to ensure that patients would not be bothered by the smell of anaesthetic and other odours emanating from the operating room.³⁵ The building's long rectangular plan demonstrated the ongoing popularity of this footprint in hospital design and the continuing practice of housing medical services in separate buildings, a trend that was common in Canadian hospitals after 1910. Still, the wing's substantial scale and the incorporation of elevators to facilitate the movement of patients and supplies pointed towards the multi-storey hospital blocks characteristic of more recent additions to Kingston General Hospital.³⁶

An extension to the Empire Wing in 1923-24 created 24 additional private rooms and accelerated the changing character of the hospital. Whereas in 1898 paying patients accounted for only a quarter of total admissions, they now made up the

Figure 9 (left). Empire Wing, Kingston General Hospital. The section at the far left was added to the original 1912-14 building in 1923-24. (J. De Jonge, 1995)

Figure 10 (right). Front (north) elevation of the Main Building and the Watkins Wing, now integrated into the larger hospital complex. (J. De Jonge, 1995)

29 Annmarie Adams, "Rooms of Their Own: The Nurses' Residences at Montreal's Royal Victoria Hospital," *Material History Review* 40 (fall 1994): 29-37.

30 Angus, *Kingston General Hospital*, 93-106.

31 QUA/KGH, B-103, Annual Report, Board of Governors, 30 September 1914.

32 Gagan, "For 'Patients of Moderate Means,'" 152.

33 QUA/KGH, B-103, Annual Report, Committee of Management, 30 September 1912.

34 Angus, *Kingston General Hospital*, 94; QUA/KGH, B-103, Annual Report, Board of Governors, 30 September 1919.

35 QUA/KGH, B-103, Annual Report, Board of Governors, 30 September 1914.

36 The high construction and maintenance costs of interconnected, modestly scaled hospital buildings, combined with the growing scarcity of land, also contributed to their replacement. Monolithic buildings were considered to be more cost-effective and efficient, especially following improvements in elevator design in the opening decades of the century. Adrian Forty, "The Modern Hospital in England and France," 81-84; G. Harvey Agnew, *Canadian Hospitals, 1920 to 1970: A Dramatic Half Century* (Toronto: University of Toronto Press), 181-82.

majority.³⁷ Medicine and medical practice were also increasingly institutionalized within the hospital as medical students and their teachers competed for internships and staff positions to further their careers. As Kingston General continued to evolve into a centre of scientific healing, its original *raison d'être* as a place for the destitute came under scrutiny. Already in 1918, the medical superintendent there remarked: "With the addition of a nurse and orderly at the House of Industry, the city could very well relieve us of this class of patient—and have them taken care of at the home."³⁸ The steady rise in medical costs in the decades to follow sparked debates among physicians, hospital administrators, and residents over the suitable mandate of the institution, and questions concerning funding and access to medical care—issues that continue to dominate discussions over health care today.

A Rich Architectural Legacy

Kingston General Hospital continues to be an active teaching hospital, one that has expanded in size many times since the 1920s, a course typical of public general hospitals across the country. Like most hospitals, Kingston General took a rather pragmatic approach to upgrading and expanding facilities, often giving priority to functional requirements over aesthetic considerations. Indeed, buildings devoted to medical care were rarely intended to remain untouched over time, and their survival depended upon their continued utility and adaptability to the evolving scientific and social milieu of the hospital. The pre-1920 components of Kingston General are noteworthy simply for having survived, in contrast to so many of their 19th-century contemporaries, and they continue to serve the needs of the institution, now primarily as office space. Their survival has been aided as well by the availability of adjacent land for expansion and by local appreciation for their historic value, evident already in hospital reports of the late 1920s.³⁹

Given their lengthy association with medical treatment, it is not surprising that both the original Main Building and the Watkins Wing have changed over time. In particular, the extensive 1929-31 renovations by Stevens and Lee left a strong imprint (**figure 10**). The work included the removal of existing interior walls and floors and their replacement with modern fireproof concrete floors and plaster finishes. As well, the buildings were expanded vertically and the functional arrangement of the interior spaces changed dramatically. The specialized operating rooms were relocated to newer parts of the hospital and the first floor of the Main Building was opened up to create a spacious lobby and an improved reception area for patients.⁴⁰ In subsequent decades the patient admitting area was moved to another part of the ever-expanding complex. Despite numerous 20th-century overlays, the limestone shells of these early buildings provide a tangible link to the charitable origins of the hospital. Having survived by evolving to meet changing needs, these original components of the hospital have outlived their 19th-century counterparts in Montreal and Toronto, both long since demolished.

During the 1929-31 remodelling, the original metal roof and cupola were removed from the Fenwick Operating Theatre and new concrete floors laid in the interior as part of its conversion to a doctors' library. Now used as a conference room, it remains a rare example of a former operating amphitheatre associated with medical education. Other buildings in the complex have fared much better, notably the Nickle Wing and Doran Building, which are largely intact on the exterior. The nurses' home, currently under development as a museum of medicine, is generally well preserved on the exterior and interior, as is the Empire Wing, which retains its layout with separate rooms arranged on either side of a central corridor.

The early buildings of Kingston General are also enriched by the numerous wings and additions constructed after 1920 southwards towards Lake Ontario and to the west. For example, the Richardson Laboratories Building, built in 1923 next to the Nickle Wing, and the Victory Wing, built in 1947 against the south end of the Empire Wing, document subsequent phases in the hospital's evolution. These are complemented by other wings that are increasingly monumental in scale and complex in function. Nearby, on Queen's University campus, the original 1856 building of Queen's medical school also survives, creating an effective backdrop that testifies to the continuing evolution of hospital care in Kingston. Kingston General's rich architectural heritage remains a splendid resource for tracing the metamorphosis of the charitable hospital to the predominantly medical institution that is central to our idea of health care today. Diverse in appearance, function, and origin, its buildings reflected the social and medical ideas of their time, and were instrumental in shaping and reshaping medical practice and the evolving role of the hospital in the community.

37 QUA/KGH, B-103, Superintendent's Report, 30 September 1898; *Kingston General Hospital Annual Report*, 1924.

38 QUA/KGH, B-103, Annual Report, Committee of Management, 30 September 1918.

39 See, for example, QUA/KGH, B-103, *Kingston General Hospital Annual Report*, 1927-28. The hospital's Building Committee noted that the original hospital building was of "historic interest."

40 The rationale behind many of the changes to the interior is outlined by B. Evan Parry, "Progress Versus Obsolescence," *The Canadian Hospital*, November 1934, 11-12, 26. I am indebted to Annmarie Adams for bringing this article to my attention.

I am indebted to Marsha Hay Snyder, Annmarie Adams, and David Theodore for their many helpful comments on the content and organization of this paper.