

INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

ProQuest Information and Learning
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA
800-521-0600

UMI[®]

**The No.5 Terminal Grain Elevator in the Port of Montreal:
Monument in a Shifting Landscape**

Nathalie H. Senécal

A Thesis

in

The Department

of

Art History

**Presented in Partial Fulfillment of the Requirements
For the Degree of Master of Arts at
Concordia University
Montreal, Quebec, Canada**

June 2001

© Nathalie H. Senécal, 2001



**National Library
of Canada**

**Acquisitions and
Bibliographic Services**

**395 Wellington Street
Ottawa ON K1A 0N4
Canada**

**Bibliothèque nationale
du Canada**

**Acquisitions et
services bibliographiques**

**395, rue Wellington
Ottawa ON K1A 0N4
Canada**

Your file Votre référence

Our file Notre référence

The author has granted a non-exclusive licence allowing the National Library of Canada to reproduce, loan, distribute or sell copies of this thesis in microform, paper or electronic formats.

The author retains ownership of the copyright in this thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without the author's permission.

L'auteur a accordé une licence non exclusive permettant à la Bibliothèque nationale du Canada de reproduire, prêter, distribuer ou vendre des copies de cette thèse sous la forme de microfiche/film, de reproduction sur papier ou sur format électronique.

L'auteur conserve la propriété du droit d'auteur qui protège cette thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

0-612-59347-9

Canada

Abstract

The No. 5 Elevator and the Port of Montreal: Monument in a Shifting Landscape

Nathalie H. Senécal

The No. 5 terminal elevator in the port of Montreal is the last of a group of colossal machines for moving and storing grain that once lined the waterfront in front of Old Montreal. The terminal elevators of the port of Montreal were the culmination-point of the national infrastructures of grain shipping that helped to make Montreal the most important grain-exporting port in the world during the 1920s and 1930s.

Built and expanded in stages between 1903 and 1958, elevator No. 5 was ultimately shut down in the winter of 1994. Since then, it has remained unused within the setting of the “Vieux Port” – the beautified and reclaimed harbour land relandscaped for leisure and tourism and opened in 1992 to coincide with Montreal’s 350th anniversary.

The public dialogue over what can or should be done with a derelict structure of this scale and nature has evolved into an exploration of the artistic and civic possibilities of an obsolete industrial structure. This thesis is a “critical biography” of this building. It traces its built and iconographic history, examines its role in the changing landscape of the port, and delves into the issues of perception, preservation and interpretation of elevator No. 5.

**Ce travail est dédié à la mémoire d'Hubert Senécal (1936-1998)
et de Jacques Senécal (1901-2000).**

Acknowledgements

A number of people contributed in important ways to this thesis. First, I would like to thank my family, my parents Hubert and Mary Senécal, my sister Elisabeth, and my brother François, each of whom unfailingly gave help and encouragement when it was most needed.

Dr. Jean Bélisle, who teaches by example, was a wise and thoughtful guide through the intricacies of industrial architecture, both in the classroom and in the field. Dr. Catherine Mackenzie gave me teasing encouragement to pursue this “strange” topic. I am grateful for her continuing support during my entire time in the graduate programme and for her valuable suggestions on this paper. Thanks also go to Dr. Loren Lerner for her helpful comments in the early stages of the research for this project and her careful reading of the finished product. I am particularly indebted Susan Bronson of the Faculté d’Aménagement of l’Université de Montréal, who read this work with great attention. Her keen insight on the changing nature and meaning of monuments and landscapes helped to sharpen the focus of this work. I also wish to warmly thank to Cammie McAtee, Assistant Curator at the Canadian Centre for Architecture, who alternately encouraged, pushed and sympathised with me. I am very grateful for her support through some of the more difficult moments in this process.

The research for this project was greatly facilitated by the invaluable assistance of Denise Duguay of the Archives du Port de Montréal, Françoise Roux of the Library of the Canadian Centre for Architecture, Lucie Pelletier of the Archives de la Ville de Montréal and Robert Klein of Heritage Montreal. Special thanks go to Emmanuel Madan

and Thomas McIntosh of [The User] for sharing their thoughts on elevator No.5 and for sharing the experience of the Silophone.

I also wish to recognise the unfailing support and encouragement of my friends Natasha Kowalchuk, Annie Buckland, Carolyn Glanville Paradis, Réjean Paradis, Rachel Keyserlink, Ted Keiserlink and Claudine Déom.

Finally, this thesis could never have been completed without the help of Nancy Mullick, who acted as reader, editor, sounding board, technical advisor and moral support. She now knows more about grain elevators than any Inuit Art specialist should, and I am grateful for her unwavering friendship.

Table of Contents

Table of Illustrations		Page ix
Introduction		Page 1
Chapter One	The Industrial Landscape	Page 6
	- Policy, capital and the creation of a separate space	Page 7
	- Systems: the railways and terminal elevators	Page 11
	- The transfer of technology	Page 15
	- The elevators	Page 17
	- Private property	Page 28
Chapter Two	The Symbolic Landscape	Page 32
	- The postcard	Page 32
	- Reception in Europe	Page 38
	- Reception at home	Page 42
	- Revision	Page 44
Chapter Three	The Landscape Reclaimed	Page 48
	- The Vieux-Port as a public process	Page 53
	- Preservation vs. progress	Page 58
	- Designing the landscape of leisure	Page 61
	- Tourism	Page 67

Chapter Four	The Monument	Page 71
	- Public interest	Page 71
	- Ephemeral solutions	Page 82
Conclusion		Page 87
Bibliography		Page 91
Illustrations		Page 98

Table of Illustrations

Figure 1	<p>“Havre de Montréal, un port fluvial, 1830 à 1858.” Map. Illustration from Cardinal, Hardy et Associés and Peter Rose, <i>Vieux-Port de Montréal Plan directeur d'aménagement</i>. (Société du Vieux-Port de Montréal, 1990), 9.</p>	Page 98
Figure 2	<p>“Havre de Montréal, un port international, 1859 à 1899.” Map. Illustration from Cardinal, Hardy et Associés and Peter Rose, <i>Vieux-Port de Montréal Plan directeur d'aménagement</i>. (Société du Vieux-Port de Montréal, 1990), 10.</p>	Page 99
Figure 3	<p>“Naissance du port moderne, 1900 à 1930” Map. Illustration from Cardinal, Hardy et Associés and Peter Rose, <i>Vieux-Port de Montréal Plan directeur d'aménagement</i>. (Société du Vieux-Port de Montréal, 1990), 11.</p>	Page 100
Figure 4	<p>“Montreal harbor” Postcard Archives Nationales du Québec CP 3003</p>	Page 101
Figure 5	<p>“Montreal, General view of the harbor” Postcard, c.1910 Archives Nationales du Québec Collection Michel-Bazinet CP 5661</p>	Page 102
Figure 6	<p>Building “B” (1903-1906), elevator No.5. Summer 1999 Photo by author</p>	Page 103
Figure 7	<p>D.W. Hatch “View looking south west from the tower of Notre-Dame-de- Bonsecours at various activities happening on the wharves of the port of Montréal, Québec” 1903 Gelatin silver print Centre Canadien d'Architecture/Canadian Centre for Architecture PH1989.0141</p>	Page 104

Figure 8	<p>“Where Montreal Began” <i>Historic Montreal, Past and Present.</i> Montreal: Henry Morgan & Co, no date, No page number.</p>	Page 105
Figure 9	<p>“Le Port: ‘Entrée interdite sauf par affaires’” <i>La Presse</i> (Montreal) 5 June 1965</p>	Page 106
Figure 10	<p>B-1 Building (1958), elevator No.5 Summer 1999 Photo by author</p>	Page 107
Figure 11	<p>“New elevator on waterfront as it now appears” The Montreal Daily Star, April 1 1903</p>	Page 108
Figure 12	<p>“One of the old White buses on a sight-seeing trip stops to view the “new” Banff Springs, late 1920s.” Illustration from Bart Robinson, <i>Banff Springs: The Story of a Hotel</i> (Banff: Summerthought, 1973), 79</p>	Page 109
Figure 13	<p>“Greeting from Montreal” Postcard Archives Nationales du Québec CP 3049</p>	Page 110
Figure 14	<p>“Montreal, New Elevator, Harbor” Postcard Archives Nationales du Québec Collection Michel-Bazinet CP 5674</p>	Page 111
Figure 15	<p>“Montreal Harbor from the Grand Trunk Elevator” Postcard Author’s collection</p>	Page 112
Figure 16	<p>“Montreal – an elevator in the harbor” Postcard Archives Nationales du Québec Collection Michel-Bazinet CP 6577</p>	Page 113

- Figure 17 Charles O'Shea,
"Port of Montreal with elevator No.5"
Stained-glass window, c.1922
City Council Chambers, City Hall, Montreal
Archives de la Ville de Montréal
U-1145-12 Page 114
- Figure 18 "Grain elevators of North and South America"
Illustrations from Le Corbusier, *Vers une Architecture*
(Paris: G. Crès et Cie., 1924), 20 Page 115
- Figure 19 Adrien Hébert (1890-1967)
"Elévateur à grain no.3"
Oil on canvas, c.1930
Illustration from Paul L'Allier, *Adrien Hébert*
(Québec: Musée du Québec, 1993), 45 Page 116
- Figure 20 Adrien Hébert (1890-1967)
"Elévateur no.1"
Oil on canvas, c.1930
Illustration from Paul L'Allier, *Adrien Hébert*
(Québec: Musée du Québec, 1993), 45 Page 117
- Figure 21 Photographs and plans of elevators
Illustrations from *Architectural Design* 37,
no. 7 (July 1967), 328, 329 Page 118
- Figure 22 "Great Northern Elevator, plan" and "Great Northern
Elevator, ground floor"
Illustrations from Reyner Banham, *A Concrete Atlantis:
U.S. Industrial Building and European Modern
Architecture* (Cambridge, MA: MIT Press, 1986), 120 Page 119
- Figure 23 "Marine A, bin bottoms" and "Marine A,
cleared basement"
Illustrations from Reyner Banham, *A Concrete Atlantis:
U.S. Industrial Building and European Modern
Architecture* (Cambridge, MA: MIT Press, 1986), 159 Page 120
- Figure 24 "Wreckers 'open a window'"
The Gazette (Montreal), 12 August 1983. Page 121

Figure 25	<p>“Secteur ouest, le canal Lachine.” Model. Illustration from Cardinal, Hardy et Associés and Peter Rose, <i>Vieux-Port de Montréal Plan directeur d’aménagement</i>. (Société du Vieux-Port de Montréal, 1990), 39.</p>	Page 122
Figure 26	<p>Marché Bonsecours and ruins of elevator No.2 Summer 1999 Photo by author</p>	Page 123
Figure 27	<p>Elevator No.5 and didactic panel Summer 1999 Photo by author</p>	Page 124
Figure 28	<p>Abandoned Quaker Oats silos, Akron, Ohio Illustration from Stewart Brand, <i>How Buildings Learn: What Happens After They’re Built</i> (New York: Penguin Books, 1994), 105</p>	Page 125
Figure 29	<p>“The Quaker Hilton”, Akron, Ohio Illustration from Stewart Brand, <i>How Buildings Learn: What Happens After They’re Built</i> (New York: Penguin Books, 1994), 105</p>	Page 126
Figure 30	<p>“Silos – Atelier in situ” Illustration from <i>Panique au Faubourg: Catalogue published on the occasion of the exhibition Panique au Faubourg, Montreal, May 22 – June 29 1997</i>, (Montreal: Quartier Ephémère, 1997), 4</p>	Page 127
Figure 31	<p>Invitation to the inauguration of the Silophone, 9 June 2000 [The User]</p>	Page 128

Introduction

Evolving over a span of fifty years, the No. 5 terminal grain elevator in the port of Montreal is an ensemble of three structures that span nearly a mile in length and reach up to 12 storeys in height. Together these buildings form an immense machine for receiving, storing, and moving grain. The first sections of the elevator bore the name “B” and were built for the Grand Trunk Railway by the engineer John S. Metcalf, beginning in 1903; the final element of the group was added by the engineering firm of C.D. Howe in 1958. Elevator “B” was acquired by the Montreal Harbour Commission in 1923 and later re-named elevator No. 5, in sequence with the port of Montreal’s other terminal elevators.

The terminal elevators of the port of Montreal were the culmination point of a vast network of smaller rural elevators, roads, canals, and railroads that made up the national infrastructures of grain shipping which helped to make Montreal the most important grain-exporting port in the world during the 1920s and 1930s. In this urban context, these machines represented a massive interruption in the scale and nature of the built environment of the city. In consequence, the relationship between the elevators and the citizens of Montreal has been equivocal from the beginning.

The grain trade was a major source of revenue for the Port and for the City of Montreal until its gradual decline in the 1970s. In the winter of 1994, the Port of Montreal closed elevator No. 5. From that moment until recently, the elevator

has stood empty, its fate in question. What can or should be done with a derelict structure of this scale and nature? This issue has become a problem for the elevator's owners, for its institutional and residential neighbours, for the advocates of its preservation, and those calling for its demolition.

Montreal's harbour exemplifies the late 20th-century transition from a landscape of industry to a landscape of leisure. From the late 19th century to the mid-20th century, a series of major Public Works projects radically re-shaped the city's waterfront, creating a complex system composed of large-scale structures for shipping and storage. In the span of a century, five terminal grain elevators were built on Montreal's waterfront, three in the harbour facing Old Montreal and two more in the recently developed eastern sector of the port. In 2001, elevator No. 5 is only extant terminal elevator in the historic harbour.

The intent of this thesis is to give a brief history of the evolution of the port of Montreal and the construction of its elevators, to reconstruct the changes in the physical landscape surrounding the No. 5 and to examine the issues of perception, preservation, and interpretation of this "monument."

At the end of the 19th century, the grain elevator was an entirely new and distinctly North American building form. Although it was designed by engineers and its form evolved through imperatives of function rather than style, the elevator has been introduced into the canon of architectural history. However, the issues affecting elevator No. 5's current situation fall outside the frame of traditional architectural history, which is predicated on the intentions of the architect and the reception of their work. Landscape history and theory offer

wider views of the changing cultural meaning of place and the active role of the public in place-making that is essential to understanding the problem of elevator No. 5. The writings of John B. Jackson, Denis Cosgrove and M. Christine Boyer have been particularly useful in this study.

Chapter One examines the political and economic factors that shaped the physical landscape of the port of Montreal in the 19th and 20th centuries. First among these are the interactions between the Port of Montreal's governing body, the Harbour Commission, the federal government, and the national railway companies, the Canadian Pacific Railway and the Grand Trunk Railway. This context provides the setting for the process of the design, construction, and function of the Grand Trunk Railway's "B" and the four other terminal elevators in the port. This chapter also maps the progressive differentiation and the eventual polarisation between the lands of the Port and the City.

Certain distinctions must be noted in this chapter and after: "port" describes the physical site and its function, while "Port" characterizes the Port of Montreal, the managing organization instituted in 1936 to replace the Harbour Commission. The word "harbour" describes the waterfront lands between Berri Street and the western entrance to the Lachine Canal, the historic centre of maritime commercial activity in Montreal.

Chapter Two considers the development of the iconography of the grain elevator and its influence on public perception of the machine's form, function and context. The striking phenomena of the colossal machine was interpreted for commercial, artistic, and propagandist purposes. During the first decades of the

20th century, commercially-produced images of grain elevators played an important role in inspiring a fascination for the display of technological expression of “modern” life for a generation of Montreal artists. Postcards of North American industrial buildings, including grain elevators, travelled the world and were received and appropriated by a generation of young architects in Europe.

The late 20th century has brought about significant changes in the economic and spatial organization of North American cities, triggered by the progressive shift away from an economy of production to one of consumption. The change can be measured through the transformation of the built environment of Montreal, as the structures and infrastructures of industry have been converted, recycled or simply erased. Chapter Three examines the transfer of the isolated industrial harbour lands into a civic and touristic parkland, as the port was transformed into the Vieux-Port. The process of reclaiming the port’s territory for the city began as a grassroots movement and grew into an active public involvement in the business of place-making. This process and the eventual design of the Vieux-Port illustrate the difficult relationship of industrial heritage and the post-modern landscape.

Chapter Four outlines the events following the shut-down of elevator No. 5 in 1994. The ambiguous presence of the abandoned “Machine in the Garden” of the Vieux-Port sparked an unprecedented dialogue over the fate of the terminal elevator among the Port representatives, preservationists, and citizens. In the intervening years, these discussions have moved from the possibilities of

recycling and re-use to solutions predicated on the radical idea of a structure valued for its obsolescence.

This critical biography of the elevator examines the current situation and records for future reference the architectural and landscape history of terminal elevator No. 5 – the subject of an unprecedented exploration of the possibilities of this “unconscious monument.”

Chapter One

The Industrial Landscape

The apt epigrammatic description of Canada as “The Empire’s Granary” has been followed by the equally happy designation of Montreal as the “Spout of the Granary.”

The Book of Montreal, 1903 ¹

Now began, with construction of Elevator No. 1, the building of the great grain elevators that are the most obvious feature of Montreal Harbour. Their towering height, the shapeless size, with no proportion to the sight or scene they occupy, make them, to the eye of art, a blot on the landscape, a disfigurement of nature’s work.... In any case they mean so much to the life and industry of Canada, to the life line of imperial safety, that the eye that looks on them becomes trained to a new adjustment.

Stephen Leacock, 1942 ²

The port of Montreal was the primary gateway of trans-Atlantic trade in 19th and early 20th-century Canada. As such, the port was also the engine of Montreal’s commercial and industrial expansion during this period. This chapter considers the political and economic frame that surrounds the development of the port of Montreal in the 19th and 20th centuries and its evolution as a separate landscape within the city during this period. The progressive construction of

¹ Ernest Chambers, *The Book of Montreal, A Souvenir of Canada’s Commercial Metropolis* (Montreal: The Book of Montreal Company, 1903), 81.

² Stephen, Leacock, *Montreal, Seaport and City* (Garden City, New York: Doubleday, Doran & Company, 1942), 241.

elevator No. 5, conducted over half a century, serves as the focus for the genesis of Montreal's network of terminal elevators, the "Spout of the Granary."

Policy, capital and the creation of a separate space

In 1985, joining the debate over the future Montreal's waterfront, architect and historian Jean-Claude Marsan remarked that the harbour could never for a moment in its urban history have been considered a pastoral landscape.³ From the city's beginnings, the waterfront had had an open but resolutely commercial character, which over time would harden into an industrial zone, an anti-urban enclave on the city's doorstep.

Montreal was the furthest inland point that Atlantic ocean-going vessels could reach in North America before transferring their cargo onto the smaller vessels, or barges that navigate the canals and the Great Lakes. This privileged position as gateway between the interior of North America and Europe was assured through a series of projects designed to counteract the river's natural impediments. A shipping channel was dredged out of the St. Lawrence River in order to avoid the rough waters of St-Mary's current, east of the harbour. The longstanding project to circumvent the Lachine Rapids, was realized with the completion of the Lachine Canal in 1825. The twelve-kilometre long shipping

³ Jean-Claude Marsan. *Sauver Montréal, Chroniques d'architecture et d'urbanisme* (Montreal: Les éditions du Boréal, 1990), 189.

canal manned with seven sets of hydraulic locks was the first of the great infrastructure projects to transform the harbour of Montreal.⁴

The canal provided Montreal with the trade and transportation link to an evolving national system of waterways along the Saint Lawrence River and the Great Lakes, including the Welland canal (opened 1829), Rideau Canal (1843), and the Long Sault canal (1843). This system was designed to compete with New England's Erie canal (also completed in 1825), the waterway that connected the port of New York City to the Great Lakes, for the traffic of Canadian and American goods, particularly grain, bound for Atlantic seaports. The eastern entrance of the Lachine Canal opened onto Montreal's waterfront, confirming the city-front harbour as a natural trans-shipment site. Montreal's entrepreneurs quickly recognized and then capitalized on the great gift of the city's geography by building temporary wooden wharves on the muddy slope of the waterfront, to help smooth the passage of their goods and passengers.⁵

Soon after the opening of the Lachine Canal, the federal government asserted its control over the future development of the harbour (Fig. 1, Fig. 2). The legal character and physical limits of the port of Montreal were established in 1830 with the founding of the Montreal Harbour Commission by order of the

⁴ The project was initiated by a group of prominent Montreal businessmen but completed under the direction of the government of Lower Canada. The canal was deepened and widened in 1836-37 and again in 1848. For a brief but concise history of the development of the Lachine Canal, see Jean Bélisle et al., *Regard sur un paysage industriel* (Montreal: Centre Canadian d'Architecture/Canadian Centre for Architecture, 1992), 9-19.

⁵ The wharves and sheds on the waterfront were removed in the fall and rebuilt in the spring after the ice had melted. Jean-Claude Marsan, *Montréal en Évolution: historique du développement de l'architecture et de l'environnement urbain montréalais*, 3rd ed. (Montreal: Editions du Méridien, 1994), 165.

Province of Lower Canada.⁶ The Commission was a civil corporation whose mission was to manage the modernization of the city's harbour according to the plans drawn by Captain Robert Piper of the Royal Corps of Engineers, one of the three members of the new Harbour Commission.⁷ After several boundary modifications, the Commission's legal and territorial authority was established and described as follows:

The Commissioners hold in trust all harbour lands and areas from the Government of Canada and develop and administer according to the authority received from his excellency the Governor General of Canada, in council. The jurisdiction of the Harbour Commissioners extends to the whole of the river St Lawrence, with the exception of the ship channel, from Bout de l'Isle to above the Victoria Bridge, a distance of 17 miles. This area comprises all the land under water and the beaches up to the high water mark, including the whole of l'Isle Ronde.⁸

The Commission's authority gave it the power to borrow capital to carry out major projects, to own buildings and equipment, to sign leases and other contracts with railways, industries, and businesses as well as to contract with engineers and builders. Perhaps more importantly, the Commission acted as mediator between representatives of the city's business class and the federal government. In this capacity, the Commission could propose improvements

⁶ Chambers, *Book of Montreal*, 84.

⁷ The other members of the first Harbour Commission were the Hon. George Moffat and Jules Quesnel. Ibid.

⁸ *Report on the Works for the Improvement and Maintenance of the Harbour of Montreal for the Year 1911*, 6-7. APM. The territory of the Port of Montreal has been revised several times since and now encompasses the waterfront lands of Montreal's south shore up to and including the city of Sorel.

suggested by local concerns and negotiate leases for storage space on the port's wharves and waterfront land.

Responding to the increasing demand for greater local influence over the affairs of the port, the federal government modified the composition of the Harbour Commission in 1894, expanding it to a body of eleven members, answerable to the federal Minister of Public Works. Four Commissioners were named from the city's trade and shipping business organizations: the Board of Trade, la Chambre de Commerce, the Corn Exchange, and the Shipping Federation.⁹ The Mayor of Montreal served as an ex-officio commissioner.¹⁰

The presence of a single elected official on the Harbour Commission gave the citizens of Montreal as whole only a nominal voice in the affairs of the port and none at all in the reshaping of their waterfront. Politically, the port was a separate zone in the city. Civic and national democracies were outweighed by a consensus of self-interest between government policy and local industrialists.¹¹

⁹ The Board of Trade represented the interests of the Anglophone business community and was by far the most influential organization in the Commission. In 1894, la Chambre de commerce was the newly recognised francophone equivalent to the Board of Trade. The Corn Exchange represented the city's grain brokers and millers, while members of the Shipping Federation were among the port's most important tenants.

¹⁰ The first criteria for the selection of Harbour Commissioners was involvement in a commercial enterprise. The membership was typically comprised of successful and influential businessmen who were equally active in politics and banking. For a description of the complex network of social, political, and economic relationships of Montreal's business community, see Gerald J. Tulchinsky, *The River Barons, Montreal Businessmen and the Growth of Industry and Transportation, 1837-1953*, (Toronto: University of Toronto Press, 1977).

¹¹ The complex associations between public office, industry, and the management of the port are well illustrated in the career of Robert MacKay, Chairman of the Harbour Commission from 1898 to 1910. MacKay was a major shareholder in industries such as the Montreal Rolling Mills; he was director of Montreal Gas Co., the Merchant's Manufacturing Co., the Dominion Transportation Co., the Royal Victoria life Insurance Co. and was Vice-President of the Bell Telephone Co. During his tenure as Chairman of the Harbour Commission, MacKay ran for federal office unsuccessfully in the district of Montreal West. Henry James Morgan, ed.

In his study on the development of the port at the beginning of the 20th century, historian Paul-André Linteau remarked that the growth of the port of Montreal played an important role in the success of the “national policy” of development at the beginning of the 20th century. This success was intimately tied to the interests of Montreal’s *grande bourgeoisie*.¹²

In Montreal, the construction of three immense terminal grain elevators near the heart of the city was the clear expression of the conjuncture of interests of national transportation policy and industrial capitalism. The history of elevator No. 5 is a built record of the relationship between the government, railroads, and trans-Atlantic commerce, as well as the strong influence of local capitalists over site, size, technology, and profit.

Systems: the railways and terminal elevators

Between 1896 and 1914, the port of Montreal was literally re-shaped into a modern facility capable of accommodating the rapid evolution of the transportation network (Fig.3). In response to the energetic lobbying of the Harbour Commission, an agreement concluded between the Commission, the City Corporation and the federal government provided funding for extensive

Men and Women of the Time, a Handbook of Canadian Biography (Toronto: William Briggs, 1898), 697. As Robert Chodos has shown in his revision of the myth of the CPR, *The CPR, A Century of Corporate Welfare* (Toronto: James Lewis and Samuels, Publishers, 1973), the potential for conflict of interest between the public and private spheres was a largely uncontested fact of life in the era of the great infrastructure projects.

¹² Paul-André Linteau, “Le développement du Port de Montréal au début du 20^{ième} siècle” *Historical Papers/ Communications historiques* (1972): 203.

modernization of all aspects of the port's functioning.¹³ Above all, modernization implied the elimination of natural barriers to navigation on the St. Lawrence. An imposing stone retaining wall was built parallel to de la Commune Street to protect the city from annual spring flooding. Built of heavy blocks of limestone, the retaining wall echoed the massing of the French regime defences that had once surrounded the city; it was the first tangible barrier erected between the City and the Port. Improvements to the harbour involved continued dredging of the shipping channel between the harbour and Lac St-Pierre, and deepening the harbour basin. The construction of immense permanent piers insured accommodation for the length and deep drafts of the new trans-Atlantic vessels as well as providing the site for new permanent storage sheds.¹⁴ Using infill dredged from the river, the new piers and the harbourfront lands were raised several meters above their previous height, bringing the harbour lands to the level of de la Commune Street and erasing the traditional slope from the city to the water.

In 1902, Cornelius Van Horne, a prominent citizen of Montreal and chairman of the Canadian Pacific Railroad (CPR), commented that "Canada has been adding sides to her hopper for a long time, but has neglected to enlarge the spout."¹⁵ Van Horne's statement reflected the intimate relationship between the

¹³ This agreement was made official by an act of parliament on June 13, 1898. The Dominion government lent the Harbour Commission \$2,000,000 to implement a programme of "improvements." Chambers, *Book of Montreal*, 87.

¹⁴ The piers were built in succession: the Jacques Cartier pier (1898 to 1899), Alexandra (1899-1901), King Edward (1901-1902), followed by the Victoria pier in 1910.

¹⁵ As cited in Norman R. Ball, ed., *Building Canada, A History of Public Works* (Toronto: University of Toronto Press, 1988), 94.

railway companies and the growth of the grain trade in Canada. His analogies referred to the great grain production boom in the prairie provinces following the completion of the railroad, and the corresponding paucity of grain transportation, storage and transfer structures to manage its export.¹⁶

The project of uniting the country by rail, a condition of Confederation, and was a political and economic endeavour carried out by the CPR, a private company subsidized by public money. Completed in 1885, the railway was to link east and west for travel and trade, and thus to strengthen the young nation's sense of identity and community. The project's parallel objective was the transportation of immigrant homesteaders to the prairies and a fast and reliable system for removing the grain they produced to eastern seaports for export. With the introduction of the Crow's Nest Pass accords in 1897, the federal government promised to subsidize the improvement of the CPR's western rail network in exchange for the reduction of the railway's tariffs on grain transportation from all points west and all points east of Port Arthur and Fort William, the Lake Ontario ports known as the "Lakehead."¹⁷ The "Crow rates" made the price of shipping grain through Canada competitive with the American system and allowed the CPR to consolidate its dominance of the grain-handling system.

¹⁶ For an overview of the politics of harbour improvements before the turn of the 19th century, see Pierre Brouillard, "Le développement du Port de Montréal, 1850-1896" (M.A. thesis, Université du Québec à Montréal, 1976).

¹⁷ C.F. Wilson, *A Century of Canadian Grain, Government Policy to 1951* (Saskatoon: Western Producer Prairie Books, 1978), 5.

However, the system's weakness, as Van Horne suggested, was in the lack of storage and transfer structures at the end of the network. Canadian ports were decades behind American ports in the development of technology for the fast and safe transfer of bulk grain through terminal elevators.

Prior to 1884, there existed only one grain elevator in the port of Montreal, a 600 000 bushel wooden structure situated on the eastern end of Windmill Point, operated by the Montreal Warehousing Company, a subsidiary of the Grand Trunk Railway.¹⁸ Grain was transferred from ship to ship by a small fleet of privately-owned floating elevators.¹⁹ Montreal's lack of grain-handling facilities was understood to be an impediment not only to the port's fortunes, but also to the Canadian trade network as whole, as high shipping tariffs and insufficient storage and handling systems meant that much of Canada's grain had to be handled by American ports. The construction of grain elevators became a priority, and an 1884 report confirms that the Commissioners looked to the railway companies as the natural choice for a partner in this new venture:

One of the most important steps taken in the interest of the harbour is the lease of land made by the Commissioners to the Canadian Pacific Railway for the erection of elevators. A lease has been agreed upon for fifty years at a nominal rental, but should the land not be used for elevator purposes it is to revert to the Harbour Commissioners. The Commissioners hope that the building of

¹⁸ The wooden elevator known as "C" was built by the Montreal Warehousing Company in 1872 on the western end of Windmill Point. The "C" was sold to the Ogilvie Flour Mills in 1913 for \$142,500.00. APM, *Montreal Warehousing Co. Prospectus*, 1916, no pages.

¹⁹ A fleet of eighteen floating elevators was owned by the Montreal Grain Elevating Co. Incorporated in 1857, the company handled all of the ship to ship transfer of grain in the port of Montreal prior to the construction of the first wooden elevators. Chambers, *Book of Montreal*, 108.

these elevators will give the port the grain trade of our north-west, and also insure a reasonable stock in port, especially before the canals open, which will induce more shipping to come to the harbour.²⁰

The prosaic timber-frame structures, elevators “A” and “B,” were built in 1884 and 1885 in the eastern section of the harbour, near the CPR’s passenger terminal, Dalhousie Station. The same year, the CPR constructed two similar wooden terminal elevators, also known as “A” and “B”, at Port Arthur, Ontario (now Thunder Bay), the company’s train-to-ship transfer point on Lake Ontario. This ensured its control over almost every aspect of the handling and shipping of bulk grain in Canada.²¹ However, despite their gigantic size against the low Montreal skyline, these structures were judged to be insufficient and obsolete by 1895 (Fig.4).

The transfer of technology

The year 1898 signalled the beginning of a radical change in the landscape Montreal’s port. The signing of the Crow’s Nest Pass Accords, lowering the shipping tariffs on Canadian grain complemented the Harbour Commission’s successful petition for government funds to modernize the port and its infrastructures.

²⁰ Annual Report, 1884, 5. APM.

²¹ This monopoly was short-lived. Financial constraints forced the CPR to abandon the idea of building its own network of country and terminal elevators. Milling companies, farmers’ cooperatives, and individuals built the country elevators. Competing railways, port authorities, and grain shipping companies controlled the terminal elevators. Wilson, *Canadian Grain*, 13.

While the impetus for the construction of terminal elevators in the port of Montreal was driven by the commercial nationalism of the east-west rail link, the transfer of expertise and technology created a second, north-south axis between Montreal and rival American grain ports.

In this period, engineers become influential players in shaping the morphology of the 20th-century port. When they looked to expand the port's grain-handling facilities, a decade after the construction of the CPR's elevators, the Harbour Commissioners were fully aware of the importance of modern grain elevators. The modernization of the port's permanent structures, the wharves and piers, had been undertaken in anticipation of a new generation of shipping infrastructure, and new grain elevators were a determining factor in the re-organization of the port. In 1897, 27,045,560 bushels of grain had been handled by the floating and railway elevators. It was clear that, with the implementation of the Crow Rates, this system would not be able to handle the increasing flow of grain moving through Canada's network. Harbour Commissioner John Torrance reported to his colleagues that the Montreal grain trade was strongly in favour of new elevators, "but as to who should build them, he was not so sure."²²

Montreal's ambitious plans and its potential as a major grain-handling centre had not gone unnoticed. In December 1898, the Commission received an unsolicited letter from John S. Metcalf, a Chicago-based engineer whose firm

²² "Procès Verbaux," December 27, 1898, 86, APM.

specialized in the design and construction of grain elevators, requesting the opportunity to tender bids on future grain elevator projects.²³

The Harbour Commissioners would eventually call for bids on a “modern steel elevator.” Their understanding of the qualities of a modern grain elevator, their insistence on the use of steel, and their choice of engineers and builders for these first projects was the result of a tour of Montreal’s rival ports in the northern United States. In January 1899, a group of Montreal Harbour Commissioners, a representative of the Minister of Public Works, members of the Corn Exchange, and the Port’s chief engineer, John Kennedy, visited the ports of Portland (Maine), Boston, New York, Philadelphia, Baltimore, Newport News, Washington, and Buffalo. The tour had been organized to allow the Commissioners to assess their competition and observe examples of modern infrastructure that could serve the Port of Montreal. In Buffalo, the delegation from Montreal was introduced to both the latest technology in grain-handling and to those who controlled it.

The elevators

In 1899, the grain elevator was on the verge of the next step in its formal evolution, reinforced concrete. Buffalo is the recognized birthplace of this technology. In a paper presented to the Buffalo Historical Society in March of 1865, entrepreneur Joseph Dart, the credited inventor of the grain elevator, explained the process by which he had modified an existing patent for a steam

²³ Ibid.

powered continuous conveyor belt affixed with grain scoops, by integrating the system into a mobile mechanical “leg” that could be lowered into the hold of a ship to scoop up its contents and transfer it directly into storage bins. Dart tested his invention in a simple wooden storage structure with a capacity of 55,000 bushels, that he built on the Buffalo Creek in 1842. Its success was such that, within 20 years of its construction, there were 27 colossal grain elevators on the Buffalo waterfront.²⁴

Over a hundred years later, architectural critic and historian Reyner Banham made the first serious study of the form and function of the grain elevator in his 1986 book *A Concrete Atlantis*. Noting that “what makes an elevator an elevator is not that it occupies a particular building form, but that it has machinery for raising the grain to the top of the storage vessels,” Banham reasoned that Dart’s true contribution was not architecture, but the perfection of a system, a machine for moving grain. Banham also remarked that while the technology was new, the early wooden elevator buildings were simply functional adaptations of vernacular warehouse sheds.²⁵

One of the factors that would drive the formal evolution of the grain elevator well into the first decades of the 20th century was the danger of explosions. The volatility of grain dust in the presence of sparking machinery gave the average wooden elevator a life span of about 12 years.

²⁴ Joseph Dart explained the history of grain elevating technology in paper read before the Buffalo Historical Society, March 13, 1865.

²⁵ Reyner Banham, *A Concrete Atlantis, U.S. Industrial Building and European Modern Architecture, 1900-1925* (Cambridge, Massachusetts: MIT Press, 1986), 109.

Engineers and architects experimented with “fire proof” materials such as steel, brick, and concrete, looking for the material that possessed sufficient compressive strength and elasticity to allow for both efficient rationalization of storage and handling space, and structural integrity. Just before the turn of the 19th century, many of the advances made in the structural design of the grain elevator were illustrated on the Buffalo Creek.

Like Montreal, Buffalo’s strength lay in its geography. Situated at the juncture between the Great Lakes and the Erie Canal, Buffalo was the inevitable trans-shipment point for American and Canadian grain destined for the port of New York. By 1899, Joseph Dart’s wooden structures had long since been replaced with a new generation of elevators, the latest of which was the steel “Electric Elevator”, built circa 1897.²⁶ The Buffalo press observed the reactions of the Montreal visitors:

The party visited the Eames Electric elevator first. The electric machinery, the compressed air system and the group of great iron receiving tanks at this elevator were a source of wonder to the visitors. They had never seen an elevator like this one before. The engineer Kennedy at first was of the opinion that such a radical departure from the generally accepted plan for elevators could not be a success. But he changed his mind after Mr. Urban explained the system in detail. The party next visited the Great Northern elevator ...²⁷

²⁶ Ibid., 124.

²⁷ “Montreal aspires to be the great grain shipping port of the western world,” *The Buffalo Daily Express*, January 21, 1899, “Newspaper Clippings,” APM.

In February 1899, the Commissioners met with representatives of the GTR and CPR to discuss their participation in the grain elevator project.²⁸ The results of this meeting were inconclusive and in the months that followed, the Harbour Commissioners published a call for tender for the construction of a modern grain elevator made of steel. The designated site for the elevator was Windmill Point, a natural outcropping of land that had been built up with stone dredged up from the harbour and refuse from the city, into a slim pier framing the eastern entrance of the Lachine Canal.²⁹ A group of Buffalo grain men headed by W.J. Conners, whom the Commissioners had met on their tour, was awarded the contract to build and operate a million-bushel elevator and a two-million-bushel storage silo in first months of 1900. However, after a year, the Conners Syndicate had failed to do more than drive the piles for the elevator, and the Harbour Commissioners moved to annul the contract and call for bids again. Appealing to the Minister of Public Works for a further loan of \$1,000,000, the Commission assumed responsibility for the construction and operation of the first of the new elevators of the port.³⁰ On a new harbourfront site facing Place Royale, the oldest public

²⁸ William Wainwright, General Assistant of the Grand Trunk Railway, Thomas Tait, Manager of the CPR east of Fort William, and representatives of Canada Atlantic and Intercolonial Railways were present. John Kennedy spoke for the Harbour Commission. "Procès Verbaux," 9 February 1899, 103, APM. The Grand Trunk Railway had traditionally been reticent to invest in the port of Montreal, preferring to concentrate on its facilities in Portland, Maine, a natural harbour that functioned year long, for which it had built the Victoria Bridge. A.W. Currie *The Railway of Canada* (Toronto: University of Toronto Press, 1957), 5, 12, 385.

²⁹ Windmill Point was named for the wind powered flour mills that occupied this site from French regime to the mid-19th century.

³⁰ The loan was authorised by the Dominion Government in Act 1, Edward VII, Chapter 9, 1903. "Annual Reports 1903," 6, APM.

square in the city, the first of Montreal's modern terminal elevators was erected between 1902 and 1904.

In an article published in 1901, Joseph Kennedy reviewed the different elevator construction methods available at the time.³¹ Kennedy's own research and his critical inspection of American elevators had led him to conclude that steel silos were the most efficient and suitable model.³² Again, the construction expertise was imported from Montreal's rival port city, as the Buffalo Steel Storage Elevator Construction Company, which had built the Eames Electric elevator, was awarded the contract. The construction of the concrete sub structure and the steel bins was carried out under the supervision of the John S. Metcalf Company of Chicago. Born in 1847 in Sherbrooke, Quebec, John S. Metcalf moved to Chicago and founded an engineering company specialized in "reports, designs, detail plans, specifications and construction of grain elevators" in 1887.³³ In 1907, the company had offices in Chicago, Vancouver, and London, as well as at 54 St. François-Xavier Street in Montreal. Metcalf had been quick to recognize Montreal's potential, and although it is unclear why he did not submit a bid for

³¹ "Fireproof Grain Elevators in North America," *Engineering News* XLVI (July 18, 1901): 42.

³² Reyner Banham discusses the factors that may have influenced Kennedy's choice of steel. In the years between 1899 and 1903, when critical decisions regarding the construction of the first elevators were made, concrete silo construction was still imperfect and unreliable. Banham argued that despite its reported deficiencies, in the face of relatively untested new technologies steel had proven its worth. The fact that the 1906 building was in continuous use for nearly 90 years indicates that steel silos were not simply an aberration in the evolution of the form. Banham, *Concrete Atlantis*, 132.

³³ The company was re-organized under the name John S. Metcalf Co. in 1901. Metcalf died in Evanston, Illinois in 1912. John S. Metcalf Co., *Grain Elevators* (1926), no page numbers.

elevator No.1, his contribution to its successful completion had impressed John Kennedy (Fig.7).³⁴

The completion of elevator No.1 was concurrent with the start of construction of a new elevator on the Windmill Point site. The Montreal Warehousing Company, a subsidiary of the Grand Trunk Railroad, entered into a contract with the Harbour Commissioners to build and operate a million-bushel steel elevator on land leased to them for 40 years. Prior to this, the GTR had invested in grain-handling infrastructure only through its connection to the Atlantic port of Portland, Maine.³⁵ The alliance between the Montreal Harbour Commission and the Grand Trunk made sense, as the railway was now preparing to compete with the CPR by building its own trans-continental line from Winnipeg to the Pacific Ocean.³⁶ The Windmill Point site was the obvious choice for its proximity to the GTR's Point St-Charles shops and its own 600,000-bushel wooden elevator on Mill Street. Although the Harbour Commission had delegated the responsibility of the management of the new elevator to the GTR, it had a

³⁴ Metcalf was hired to oversee the completion of elevator No. 1 amid continuing contract litigations between the Harbour Commission and the Buffalo Steel Storage Co. Kennedy made regular reports on the progress of the construction to the Commission. See "Procès Verbaux," 1900- 1904, APM.

³⁵ The Metcalf Co. built two wooden terminal elevators in Portland for the Grand Trunk in 1896. Metcalf, *Grain Elevators*, 28-29.

³⁶ The Grand Trunk's subsidiary, the Grand Trunk Pacific, completed its transcontinental line in 1915 before declaring bankruptcy. In anticipation of the grain traffic on their new line, the Grand Trunk Pacific also built large storage terminal elevators on Georgian Bay, at Tiffin, in 1907 (designed by the Metcalf Co.) and at Fort William (now Thunder Bay), in 1910. Metcalf, *Grain Elevators*, 54-55 and *Plans of Grain Elevators* (Chicago: Grain Dealers Journal, 1913), 8, 17.

voice in the building programme, and closely monitored the construction.³⁷ The contract for the design and construction of a fire-proof steel elevator capable of unloading both rail cars and ships was awarded to the John S. Metcalf Co.

Between 1903 and 1906, Metcalf erected the first element of the ensemble; the steel elevator, known simply as the "B."³⁸ The structure was built length wise along the pier, between the New Canal and Windmill Point basins. The orientation was dictated in part by the narrow lots on the end of Windmill Point, as well as by the necessity of aligning the elevator structure with the GTR's tracks, which brought grain trains directly into to the elevator to unload their contents (Fig. 5).³⁹ Large fixed and mobile towers clad in corrugated iron housed the extendible "legs" that were lowered into the holds of grain boats docked in the basins that bracket Windmill Point.⁴⁰

John Metcalf designed a self-supporting steel structure with four levels (the equivalent to twelve storeys in an office building), each serving as a

³⁷ Groupe de Recherche sur l'Histoire du Port de Montréal, *Construction des élévateurs à grain du Port de Montréal, 1885-1970* (Montréal: Port de Montréal, 1981), 25; "Annual Report," 1903 to 1906, APM.

³⁸ The 1906 elevator was probably named "B" as a complement to the Montreal Warehousing's grain and flour warehouse on Wellington Street, named "A" and its 1872 wooden elevator, known as "C", which stood nearby on Mill street. Montreal Warehousing Co, Prospectus, 1916. Typescript, APM.

³⁹ The rail cars were manually unloaded into "receiving sinks" whose contents were transferred into the scales by interior elevator legs. By 1922, elevator "B" was equipped with a new, patented system known as the "Metcalf Car Dumper." The mechanism lifted the open-ended rail cars, pouring the grain directly into the receiving tanks. "The Dumper" could unload up to 7 cars an hour, an addition that doubled the elevator's efficiency. See John S. Metcalf Co., *Grain Elevators*, 114-120.

⁴⁰ Two mobile towers known as "Marine legs", or "loose legs" are mounted on rails that allowed the structures to move along the pier and access the different storage holds of the ships docked in the basins. A fixed tower had originally been attached to the façade facing the Lachine canal but were removed after the eastern end of the Lachine Canal was closed in 1965.

component or a stage in the mechanized system for moving, sorting, weighing, and storing grain. His choice of building materials reflects the lateral functioning of the machine; each level is faced or built with a different material (Fig.6). On the first level above ground, brick was used as facing material over the steel structure, in typical factory vernacular, to enclose the two stories of open space below the silos where rail cars arriving from the Lakehead on the Grand Trunk's trans-continental line entered directly into the structure. Their contents were emptied through grates in the floor into basement collectors. From there the grain was elevated to the top of the building, transferred into small interim silos to be weighed and graded, and then distributed to the appropriate bins. The stored grain was emptied through the bottom of the bins for expedition. As with elevator No.1, the grain bins were not enclosed in a protective structure; instead, the steel envelope acted both as a structural element and as the facing of the building, the riveted boiler plate providing the compressive strength to contain the mercurial nature of free-flowing grain. However, unlike the cylindrical steel bins of the No.1, elevator "B" was constructed according to Metcalf's patented rectangular bin system, where the shape of the steel silos dictated the simple, box-like form of the building.⁴¹ The bins were surmounted by a three-storey *head house* or *cuppola*, which housed the system for weighing and inspecting the grain received from the boats via the exterior marine legs and from trains through the internal

⁴¹ Published in Milo Ketchum, *The Design of Walls, Bins and Grain Elevators* (New York: The Engineering News Publishing Company, 1911), 373. The experiment of the square bin design does not appear to have been repeated by Metcalf, perhaps because the straight angles inhibited the free flow of grain.

elevation system. The grain was emptied into small bins and weighed using a surprisingly primitive scale based on iron weights. Once weighed and checked, the grain was siphoned from the scale bins through giant, articulated funnels with a limited radius that could pivot from one silo opening to the next. For the headhouse, the steel frame was clad in corrugated iron, the inexpensive and relatively fire-proof solution for unheated industrial buildings, and was punctured with rows of tilting windows for evacuation of grain dust.⁴²

In 1906, the port of Montreal boasted two terminal elevators on the waterfront facing the city. Both structures far exceeded the city's building height restriction of ten storeys and both were built in close proximity to the low structures and densely-built urban fabric of the old city north of de la Commune Street. Only elevator "B" could be observed in operation from the city; elevator No. 1's conveyor galleries and warehouses stretched out over the piers in the river and its working mechanisms turned their back to the city.

Between 1910 and 1912, The John S. Metcalf Company, by then the principal advisors to the Harbour Commission in matters of grain handling, built a second elevator for the Harbour Commissioners on a site facing the historic Bonsecours Market (Fig.8). Elevator No.2 had a capacity of over 2,500,000 bushels and could unload 25 railway cars an hour. It towered 12 storeys above the adjacent urban landscape. Its importance must also be measured by its demonstration of the adoption of reinforced concrete as the favoured building

⁴² The complexity of the grain weighing and transfer systems created a Byzantine network of machines and functions. Today, Metcalf's 1906 elevator is testament of a somewhat inefficient approach to the problem of the rational harmonising of systems and efficient use of space.

material for elevators in the 19-teens. According to the Metcalf Company's own history of the structure, the "Elevator no.2 was constructed entirely of concrete from the foundations to the roof, and was, at the time of its erection, probably the largest and highest concrete building in existence."⁴³

By 1912, the Port of Montreal handled an average of over 38 million bushels of grain a year, and was second only to the Port of New York for its exports. The boom in grain production prior to the First World War underlined the need for additional storage and handling facilities. The Metcalf Company designed a one million-bushel-capacity storage structure for elevator "B." Known as the "Annex," the new building was a square grouping of 28 reinforced concrete silos built along side the old steel "house" and connected to its headhouse by an elevated and enclosed conveyor belt, known as a "gallery." The Annex's heavy, cylindrical bins contrast sharply with the austere, rectangular form of the "B" elevator and illustrate the revolution in form, inside of a decade, brought on by the adoption of reinforced concrete as the standard for elevator construction in the 19-teens.

In 1923, the "B" and its Annex were purchased by the Harbour Commission from the Montreal Warehousing Company shortly after its parent company, the Grand Trunk Railway was declared insolvent. The elevator continued to be known as "B" until 1963, when it was renamed "No.5," in

⁴³ John S. Metcalf co., *Grain Elevators*, 114-120.

sequence with the Port's other terminal elevators.⁴⁴ The GTR was acquired by the federal government and re-established as the Canadian National Railway, the new publicly-owned, national railway.⁴⁵ The acquisition of elevator "B" allowed the Commissioners to finally consolidate their control over the grain-handling system in the port. By the 1920s, the increasing demand for North American grain in post-war Europe and the modernization of the grain transportation network in Canada and the U.S. had begun to cause serious congestion in Montreal's port. This situation created the conditions for new campaign of elevator construction and modification.⁴⁶

The John S. Metcalf Company was called upon to carry out a series of modifications on elevator "B" in 1923. Changes included adding a new set of concrete silos to the Annex in order to expand its capacity storage by a third, constructing a second mobile marine tower to service the Windmill Point Basin and erecting a new set of elevated galleries running the length of Windmill Point. The work on Windmill Point was concurrent with the construction of a new three-million-bushel elevator in the port's relatively undeveloped eastern sector in the Maisonneuve district. Based on designs by the Metcalf Company, Elevator No.3 was built by the Canadian Vickers company, whose shipyard was a major tenant in the port's eastern sector. Completed in 1924 and expanded in 1928, the No. 3

⁴⁴ Elevators "B" and "B-1" which had previously functioned separately, were connected by an elevated gallery and the entire complex was then re-named Government Grain Elevator No.5.

⁴⁵ For a chronology of the events leading to the dissolution of the Grand Trunk Railway, see Christopher Andreae, "Railways," in Norman R. Ball, ed., *Building Canada, A History of Public Works* (Toronto: University of Toronto Press, 1988), 94.

⁴⁶ Groupe de recherche, *Construction des éleveurs*, 40-45

was a steel and concrete hybrid that included all the latest grain-handling and explosion proofing technology.⁴⁷

Private property

During the boom years of the 1920s, the Port of Montreal moved over 211 million bushels of grain in a year, more than any port in the world.⁴⁸ The port had realized the ambitions of its creators and had become, the “greatest exporter of grain in the universe.”⁴⁹ However, this era also signalled the end of Montreal industrialist’s control over the evolution of the port. Under the administration of C.D. Howe, federal Minister of Transport, the Harbour Commission was dissolved in 1936 and the administration of Canada’s major ports were brought under the central control of the federal government’s new National Harbours Board.⁵⁰ The loss of Montreal’s voice in the affairs of the port exacerbated the sense of alienation between the city and the port.

The fence built along the division line between port and city lands to guard against wartime sabotage and theft materialized the longstanding estrangement. The sign “Entrée interdite sauf par affaires” was posted at each

⁴⁷ Ibid., 59-68

⁴⁸ This record was achieved in 1928. “Old Files, F-I, Grain Statistics” (1933), APM.

⁴⁹ *Annual Reports*, 1924, 61, APM.

⁵⁰ Benoit Brouillette, “Le port de Montréal, hier et aujourd’hui,” *Revue de Géographie de Montréal* XXI, no. 2, (1967), 229.

entrance (Fig. 9).⁵¹

The final element of the No. 5's ensemble, the "B-1," was completed in 1958. By the early 1950's the engineering firm C.D. Howe Co. had become the principal designer and consultant on grain-handling matters for the Port of Montreal, replacing the John S. Metcalf Company. The firm, founded by in 1916 by William Decatur Howe, who went on to become federal Minister of transportation in the Mackenzie King government, specialized in the design and construction of grain elevators.⁵² The "B-1" was part of an overall plan proposed by the C.D. Howe Co. in 1954 for the improvement of the grain-handling facilities of the port. This new wave of modernization was an optimistic response to the impending changes in the nation's transportation network. A new system of modern canals and shipping channels dredged out of the St Lawrence river would replace the 19th-century network of waterways between the Montreal and the Great Lakes. Completed in 1959, the St. Lawrence Seaway was "built to improve inland navigation, facilitate ocean shipping on the Great Lakes and exploit the hydroelectric potential of the St. Lawrence."⁵³ The draft of the new Seaway was deep enough to allow many ocean-going vessels to navigate into the Great Lakes without the expense of trans-shipping their cargo at Montreal. Speculation centred on whether expensive ocean liners might replace the smaller, efficient "Lakers"

⁵¹ Denis, Masse, "Le port: 'entrée interdite sauf par affaires,'" *La Presse* (Montreal), Saturday, 5 June; Monday, 7 June; Wednesday 9 June, 1965.

⁵² *The Canadian Who's Who*, vol. VIII, 1958-60 (Toronto: Trans-Canadian Press, 1960), 530, 531.

⁵³ Christopher Andreae, *Lines of Country: An Atlas of Railway and Waterway History in Canada* (Erin, Ontario: Boston Mills Press, 1997), 108.

that carried western grain to Montreal.⁵⁴ Either in anticipation of an increased flow of grain through the new Seaway, or as a defensive measure to maintain the city's competitive edge with west coast ports, the Port of Montreal undertook a final modernization campaign of its grain handling-system in 1954.⁵⁵

The 1954 plan called for the construction of two new elevators. The first was an extension to elevator "B" to be constructed on the eastern tip of Windmill Point. Designed by the C.D. Howe company and completed under its supervision in the summer of 1959, the "B-1" reflects technological innovations of post-war elevator construction. The square groupings of heavy cylindrical volumes that characterize the earlier annex silos were replaced in the "B-1" with a long, narrow assembly of 115 reinforced concrete silos with "quarter silos" grafted in between the full size cylinders.⁵⁶ These "quarter silos" increased the storage capacity without changing the total volume of the structure. With elevator "B-1," the C.D. Howe Co. had refined the silo form into an elegant undulation that underplays the strictly functional nature of this solution (Fig.10).⁵⁷

⁵⁴ Both these positions were advanced as arguments for a pro-active approach to the construction of the seaway. *The Port of Montreal and the St. Lawrence Seaway, A Two Part Discussion Sponsored by the Montreal Board of Trade, April 25 and May 2, 1957.* (Montreal: Board of Trade, 1957, typescript), 8-9.

⁵⁵ According to the findings of the Groupe de Recherche sur l'Histoire du Port de Montréal, there were conflicting opinions on the potential impact of the Seaway on Montreal's grain trade. The president of the National Ports Council, B.J. Roberts, expressed reservations about the need for new elevators. The planned expansion went ahead with the endorsement of the President of the Port of Montreal, the Canadian Wheat Board and C.D. Howe, founder of the engineering company and former Minister of Transportation. Groupe de recherche, *Construction des éleveurs*, 82-90.

⁵⁶ Jaqueline Hallé, *Analyse Architecturale: Élévateur No.5 - Port de Montréal*, unpublished report produced for the Bureau d'examen des édifices fédéraux du patrimoine (Parcs Canada, 1995), 10.

⁵⁷ Despite its functional nature, the stripped down, simplicity of the "B-1" is so much in keeping with what was by then the well-established functional aesthetic of International Style Modernism,

The functional and stylistic qualities of the “B-1” were reprised in the C.D. Howe Company’s design for elevator No.4, which was completed four years after the “B-1.” Responding again to the modernization of nation’s shipping infrastructure, the port of Montreal built on its longstanding strength: infrastructures. Elevator No.4 was the height of grain elevator technology.

Well into the late 1960s, the Port of Montreal harbourfront facilities continued to be a major force in the city’s economy and a vital link in the nation’s trade structure. During most of the 20th century, as the port’s commercial nature and the size and complexity of its infrastructures increasingly isolated the harbour’s activities, which remained obscure to ordinary citizens. Thus, in the 20th century, the citizens’ relationship to the elevators would be one of determined increasingly by sight rather than first-hand experience.

that it is possible to believe that the relationship between European Modernism and American engineering had come full circle.

Chapter Two

The Symbolic Landscape

The previous chapter followed the development of a separate landscape within the city that became increasingly difficult for Montrealers to apprehend, as it grew in scale and complexity. During the first decades of the 20th century, commercially produced images of the grain elevators played an important role in inspiring a fascination for the display of technological progress while dispelling the lingering Victorian anxiety over the ill effects of industrialization. Locally, these pictures created an alternate vision of the port and its elevators. In the form of postcards, images of North American industrial buildings and infrastructures travelled the world, influencing the thinking of a generation of young architects in Europe. This chapter considers the development of parallel iconographies of the grain elevator, from local to international, and their effect on the general understanding of form, function, and landscape.

The postcard

The first widely circulated images of Montreal's elevators were printed in the city's newspapers. The *Montreal Daily Star*, for example, chronicled the construction of elevator No.1 on its society page, alongside news of the Vanderbilt wedding (Fig. 11).⁵⁸ Photographs showed the huge steel silos of the

⁵⁸ "New elevator on water front as it now appears," *Montreal Daily Star*, April 11 1903.

spectacular, if alien, building form rising on the city's waterfront doorstep. These pictures reported on a changing landscape, an event unfolding in time. True to the ephemeral nature of newspapers themselves, the images generally entered and left public consciousness. The more pervasive, and ultimately more influential medium for disseminating images of the Port of Montreal and its elevators was the postcard.

Originating in Austria in 1869, postcards were first introduced as an inexpensive alternative to stamped and sealed letters. Government postal agencies adopted them all over Europe and they quickly proved to be a vastly popular means of communication. They were first published in Canada in 1871 by the Federal Post, as one cent "Canada Post Cards." By 1897, the Canadian government had relinquished its monopoly of postcard production, although it continued to regulate production standards. Private printers were then allowed to produce illustrated cards, the most popular of which were architectural subjects. The "Greetings from" or "Souvenir of" card would typically offer a view of an urban centre, considered characteristic or "typical" of the place.⁵⁹ Carole Scheffer remarks that "basic communication needs were rapidly surpassed by the desire to acquire postcards for the pictorial information of the world they provided."⁶⁰ The almost global enthusiasm for consuming these inexpensive "information capsules" through sending, receiving, exchanging and above all, collecting,

⁵⁹ Carole Scheffer, *Architectural Postcards and the Conception of Place: Mediating Cultural Experience*. (Ph.D. dissertation, Concordia University, 1999), 5; Jacques Poitras, *La carte postale Québécoise, une aventure photographique* (Laprairie: Editions Broquet Inc., 1990), 27.

⁶⁰ Ibid., 6.

ensured that popular understanding of foreign places was largely mediated through postcards in the late 19th and early 20th centuries. The influence of these images was compounded by the “documentary” nature of photography, widely perceived as a truthful and unbiased recording of fact.

Recognizing the potential of the new medium to communicate identity and place, both government and the railroad companies used the postcard as tool for the marketing and promotion of a new sense of Canada. Scheffer suggests that “[a]s part of a system of signification, the architectural image in postcard form contributed to the marketing of “essential” features intended to create abroad positive national, regional or urban personae.”⁶¹ As with the construction of the national transportation system, outlined in the previous chapter, the production of this sort of architectural image can be seen as a dual political and corporate strategy. Through the production of postcards depicting the landscapes and monuments of a progressive nation, picturesque yet definitely modern, governments and railroad companies sought to replace the rustic, unsophisticated image of Canada.

Imagined as a way to promote its transcontinental line for the burgeoning tourism industry, the CPR built a series of luxury hotels in the major cities and natural attractions along its line throughout the late 19th and early 20th centuries. The construction of the Banff Springs Hotel (Bruce Price, 1888) introduced a building style that transposed stylistic elements the French Loire Valley châteaux-styled architecture onto a contemporary structure as a deliberately “picturesque”

⁶¹ Ibid., 131.

strategy; this was architecture designed to be viewed by tourists (Fig.12).⁶² The “Château Style” was reprised by the CPR for all its major tourist hotels and was adopted by the company’s rival, the GTR, for the hotels it erected along its national line. The dramatic architecture, deliberately positioned in the landscape for its photogenic appeal, was heavily publicized at home and abroad, primarily through postcards. Although the campaign to create a new sense of place was ultimately for corporate benefit, its success at home broadened into sense of national identity built around the power of these iconic images.⁶³

Parallel to the creation of a “picturesque” architecture in Canada, postcard manufacturers also chose to publish photographic postcards that represented another side of the progressive nation. Railway stations, bridges, roundhouses, dams and grain elevators were popular subjects, testament to both the unexpected authority of these structures to evoke a sense of place and the intensity of the allure of technology in North American society.⁶⁴ David E. Nye explains this fascination for the spectacle of technology as a sublime experience:

For almost two centuries, the American public has repeatedly paid homage to railways, bridges, skyscrapers, factories, dams, airplanes and space vehicles. The sublime underlies this enthusiasm for technology.... In a physical world that is increasingly desacralized, the sublime represents a way to

⁶² Ibid., 136-40; France Gagnon-Pratte, *The Banff Springs Hotel, The Castle in the Rockies* (Québec: Editions Continuité, 1997), 20.

⁶³ The “Château Style” was adopted for government, corporate, civic, and prestigious buildings across the country into the 1950s. It came to be identified as the “national” style.

⁶⁴ Produced by publishing houses for a variety of interests, postcards with engineering and industrial subjects occupy an important place in archived collections, such as that of the Bibliothèque Nationale du Québec and in vintage postcard trading shows.

reinvest the landscape and the works of men with transcendent significance.⁶⁵

The attraction for the mystery and the monumental nature of the machine was reflected in the public appetite for consuming its image in picture-postcards. Because identification of the point of origin of the image is intrinsic to nature of postcards, no bridge or roundhouse was “homeless,” and the great works of engineering became landmarks, as instrumental in defining place as views of architectural monuments (Fig.13).

Here, the lessons of constructing images for the “tourist gaze” were applied in reverse.⁶⁶ The reality of the complicated landscapes of industry and infrastructure could be made photogenic through controlled compositions and colour schemes that underplayed the complexity of systems and highlighted the monumental nature of the structures (Fig.14). It can be said that postcards were tools for the fabrication of a commercial and ideological image, and that pictures of the elevators of the harbour of Montreal aptly illustrate this conscious “re-engineering” of the image. Photographs of elevators were taken from atop other elevators or, more typically, from the ends of the harbour piers or from a boat in the river, vantage-points inaccessible to most citizens. A card entitled “View of the port of Montreal from the Grand Trunk elevator” places elevators No.1 and No. 2 as monumental landmarks towering over their environment (Fig.15). The

⁶⁵ David E. Nye, *American Technological Sublime* (Cambridge, Massachusetts: the MIT Press, 1994), xiii.

⁶⁶ John Urry, *The Tourist Gaze, Leisure and Travel in Contemporary Societies* (London: Sage Publications, 1990).

surrounding landscape has been tinted sombre colours, that shroud the busy details of the city and port in contrast with the white and bright orange of the elevators. In most grain elevator postcards the structure is centred tightly in the frame. Due their close proximity to the city and to each other, capturing the scale of the machines from ground level imposed plunging views at a 3/4 angle. These circumstances help to shape the dramatic convention of framing the elevator in a view that excluded the surrounding context (Fig. 16). In these images, the scope and complexity of the national grain-handling system are distilled into a simple image of the grain elevator form, both as a landmark for the city and a transcendent symbol of technology.

As consumer items for tourists, correspondents and collectors, postcards of Montreal's grain elevators would have been widely available in the city, offering a new perspective of a familiar sight. Images of elevator "B" would have been available in the GTR's Bonaventure Station and in those on its major lines connecting to the city.⁶⁷ Like the grandeur and prestige of the "Château Style" hotels, the symbolic image of the elevator, with its positive implications of modernity and commercial success, proved to be a compelling emblem of identity.

⁶⁷ Jacques Poitras elaborates on the relationship between the railways and the private postcard producers engaged in the mass-production of the views tourists sought. The Chisholm family of Montreal held a quasi-monopoly over the distribution of postcard and tourist guides in rail and maritime transports in Canada and the north-eastern United States. In Portland, Maine, the Grand Trunk's eastern maritime terminal, they sold views of Canadian railway destinations to potential tourists. Poitras, *Carte postale*, 44-45.

By the early 1920s, the silhouette of the terminal grain elevator, stripped down to its geometric essentials, had been introduced into a shared civic and commercial iconography that equated the machine aesthetic with progress and affluence. The centrepiece of the city of Montreal's City Council Chambers, a series of five stained glass windows (Charles O'Shea, circa 1922) apparently inspired by the formal conventions of religious stained glass art. These vitrines depict a classicized landscape of Montreal culminating in the central panel representing the GTR's elevator "B" (Fig. 17). As in many of the postcard representations, the elevator dominates the composition as a stylized monolithic form; here, it triumphantly crowns the Mayor's chair. Perhaps because of the medium, the austere modernity of the elevator takes on the formal and even spiritual connotations of a classical temple, particularly when late afternoon sun shines through the glass. And so the iconography of modern beauty coexisted with what truncated views could be had from the city of the graceless but "necessary" reality.

Reception in Europe

In 1913, German architect Walter Gropius (1883-1969) published an article in *Jahrbuch des Deutschen Werkbundes* in which he took a polemical stance on the state and future of industrial architecture in Europe.⁶⁸ In "Die Entwicklung moderner Industriebaukunst," Gropius stood on the solid factory design legacy of

⁶⁸ Walter Gropius, translated as "The development of Modern Industrial Architecture," reprinted in Benton, Benton and Sharp, eds, *Form and Function: A Source Book for the History of Architecture and Design 1890-1939* (London: Crosby Lockwood Staples, 1975), 53-55.

his mentor, Peter Behrens, but looked to America, “the home of industry,” for the true nature of industrial architecture.

The compelling monumentality of the Canadian and South African grain silos, the coal silos built for large railway companies, and the totally modern workshops of the North American firms almost bears comparison with the buildings of Ancient Egypt. Their individuality is so unmistakable that the meaning of the structure becomes overwhelmingly clear to the passer-by. But the impact of these buildings does not depend on their superior material extent. That is not where to look for an explanation of their monumental originality. It seems rather to lie in the fact that American builders have preserved a natural feeling for large compact forms fresh and intact.⁶⁹

Gropius’s thesis, which opposed functionalist engineers with historicist architects, expressed common concepts of the moment that were “shot through with the cultural contradictions of the world of architecture in the first decades of the present century.”⁷⁰ However, the article’s true impact lay in the examples he relied on to build his argument, drawn from a series of 14 images published in the opening pages of the journal. The illustrations included pictures of daylight factories in Cincinnati and Detroit and examples of grain elevators from South America, Buffalo, Fort William (Thunder Bay) and Montreal’s elevator No. 2.

Having not yet been to America, Gropius’ descriptions of the virtues of American industrial building, of what is “overwhelmingly clear to the passer-by,” were predicated on his observation of a collection of images sent to him from

⁶⁹ Ibid., 54.

⁷⁰ Banham, *A Concrete Atlantis*, 9.

North America.⁷¹ Although the images may not all have been postcards, they filled the role of “capsules of information” from abroad, providing photographic proof to support his modernist position.⁷² However, in this case, the illustrations did not serve to establish a sense of place, as Gropius had published the images without identification. Rather, they served as anonymous representations of sublime form, held up for comparison with the buildings of Ancient Egypt and other works of men reinvested with “with transcendent significance.”⁷³ In fact, his pictures took on a significance, if not a life, of their own; they were repeatedly reprinted in European architectural publications throughout the 1920s, with no apparent thought to identifying, updating, or replacing them. With the publication of Swiss architect Le Corbusier’s (1887-1965) highly successful polemical work *Vers une architecture* in 1923, a selection of the same images travelled the world, cementing their role as “icons of modernity and architectural probity.”⁷⁴

Much has been written about the fact that Le Corbusier was also the first to deliberately manipulate what had become canonical images. For instance, he carefully removed the dome of the Marché Bonsecours from the lower right-hand side of his reprint of Montreal’s elevator No. 2 (Fig. 18). Reyner Banham

⁷¹ Banham suggested that Gropius had solicited these pictures “from various sources in America and Canada for over a year during the preparation of the article.” Banham, *A Concrete Atlantis*, 11.

⁷² William J. Brown traced one of Gropius’ pictures back to Buffalo: “His picture of the Dakota Elevator, for example, was reprinted from a garishly coloured picture-postcard published in 1903 by the *Buffalo Evening News* ...” William J. Brown, “Walter Gropius and the Grain Elevators, Misreading Photographs,” *History of Photography*, Vol. 17 (1993), 306.

⁷³ Nye, *American Technological Sublime*, xiii.

⁷⁴ Banham, *A Concrete Atlantis*, 15.

commented that this manoeuvre had cost Le Corbusier an opportunity to make a rhetorical point by juxtaposing old and new, illustrating his assertion that “les ingénieurs Américains écrasent de leurs calculs l’architecture agonisante.”⁷⁵ However, Le Corbusier’s manipulated images had a more subtle and pervasive impact: inasmuch as they further de-contextualised the form, thus creating a more effective propaganda tool. Taking away particularities of place, function, and ownership further reduced the images to the essential form that served Le Corbusier’s declaration “... les ingénieurs d’aujourd’hui font l’emploi des éléments primaires et, les coordonnant suivant les règles, provoquant en nous des émotions architecturales, faisant ainsi résonner l’oeuvre humaine avec l’ordre universel.”⁷⁶ He took the form further still, establishing familial ties between the ‘unambiguous’ primary shapes of American engineering and those of architecture’s historical monuments, such as the Pyramids, the Pantheon and the Coliseum. The dialogue between polemics and images in *Vers une architecture* effectively cast the grain elevator as a modern monument, an inspiration to a new generation of architects. It had an immediate and lasting influence on architects, one which “seems to have insured these arguments, these images, an enduring validity and an extraordinarily long life beyond the polemical needs of the time when they were first produced.”⁷⁷ The success of the book also brought the

⁷⁵ Le Corbusier’s reprints of grain elevator images in *Vers une architecture* first appeared in his essay titled “Trois rappels à MM. les architectes” written for *L’Esprit nouveau* 1 (October 1920).

⁷⁶ Le Corbusier, *Vers une architecture* (Paris: G. Crès et Cie., 1924), 20.

⁷⁷ Banham, *A Concrete Atlantis*, 225.

images full circle, returning them to North America, where they lent intellectual weight to the self-congratulatory iconography of progress.

There is a mythic quality to the Gropius images: they were so seductive as to drive all thoughts of function from the minds of architects, substituting “photographic truth” for reality and form for function. The iconography of the elevator, both European and North American, contributed to the creation of a symbolic monument to modernism that coexisted with Montreal’s functioning machines in the 1920s. While Le Corbusier named them “magnifiques prémices du nouveaux temps,” the spout of Canada’s granary, the terminal elevators of the port, were moving more grain than any other port in the world.⁷⁸ Ironically, the truthfulness of the photographic representation of the elevator, which had played such a large part in elevating the machine to the level of art, was first challenged by artists.

Reception at home

Adrien Hébert (1890-1967), the Paris-born son of sculptor Louis-Philippe Hébert, divided his formative years between France and Montreal. Struggling to express modernity in a figurative and regional way, Hébert was among the first of his generation to define and to depict urban life as the essence of modernity.⁷⁹ The port of Montreal became a focal point of his investigations into the spectacle of

⁷⁸ Le Corbusier, *Vers une architecture*, 20.

⁷⁹ See Jean-René Ostiguy, *Adrien Hébert, Premier interprète de la modernité Québécoise* (Saint-Laurent: Editions du Trécaré, 1986), 33.

mechanisation. Hébert and contemporaries such as Marc-Aurèle Fortin, Sylvia Daoust, Henri Lebel, and Henri Bélisle crossed into the port as reporters, recording the traffic, smoke and noise, as well as the anonymous human labour contributing to the mechanized system of the port. In works such as *Elévateur à grain no.3* (c. 1930, Fig. 19) and *Elévateur no.1* (1930, Fig. 20), Hébert mingled human activity into “la grande symphonie des chargeurs et des déchargeurs à grain.”⁸⁰ His compositions revealed what had become invisible to the city: the nature of the elevator as both a machine for moving grain and as a place of work.

Unlike the formal and symbolic compositions of American Precisionist painters Charles Sheeler and Charles Demuth, Hébert’s explorations of modernity were centred on the machines as content in modern life rather than elements of a symbolic vocabulary. In Hébert’s work, function and context are meaning, and for this reason he found himself excluded from the dominant currents of Canadian art. His vision challenged the central iconography of Canadian painting, the natural landscape, which was an implicit rejection of the “alien” industrial landscape. Yet, for all its modern challenge, it is clear that Hébert’s work was not visible enough to seriously influence the gap between the symbolism and reality of grain elevators. Sequestered in museums and art galleries frequented by an elite clientele, paintings had generally functioned as objects for private consumption. It was not until fine art was mechanically reproduced for mass consumption that was it truly integrated into popular iconography. Thus, the first effective “remise

⁸⁰ Adrien Hébert, “Un point de vue”, *L’Action universitaire*, Vol.1, No. 5 (April 1935), 10-11, as quoted in Esther Trépanier, *Peinture et modernité au Québec 1919- 1939* (Montreal: Editions Nota bene, 1998), 165.

en question” of Montreal’s grain elevators would only come decades later, from an architect relying on the mediation of photographs.

Revision

In July of 1967, *Architectural Design*, an international architecture magazine published in Britain, devoted an entire issue to Montreal.⁸¹ Guest-editor Blanche Lemco van Ginkel assembled a number of young Montreal architects to comment on the architecture of the World’s Fair and national centennial exhibition, Expo ’67, and on the past, present, and future of the city hosting the event.⁸²

Companion to the discussion about the architecture of Buckminster Fuller and Moshe Safdie, transplanted onto the man-made islands in the St-Lawrence River, was an article by artist and architect Melvin Charney on the grain elevators of Montreal.

Only among architects, where the Gropius and Le Corbusier’s images were still current, did the grain elevator maintain its status as an icon.⁸³ In the brief season when Montreal was the centre of modern architecture, with “The Grain Elevators Revisited,” Charney chose to return to the elevators in order to

⁸¹ *Architectural Design* 37, no. 7 (July 1967).

⁸² Principal of van Ginkel Associates, Architects & Planners, of Toronto, since 1957, Blanche Lemco van Ginkel was educated at McGill University (B. Arch, 1945) and Harvard University (M. City Planning, 1950). André Boisvert, “Une entrevue avec Blanche Lemco Van Ginkel,” *cahier spécial Pionniers de l’Ordre des Urbanistes du Québec, Urbanité* 4, no.1, (spring 1999), no page numbers.

⁸³ Vincent Scully published an incorrectly captioned reprint of Le Corbusier’s image of elevator No. 2 in Montreal in his volume *American Architecture and Urbanism* (New York, Praeger, 1969), 123.

evaluate their true contribution to architecture. By introducing contemporary photos of functioning elevators, cross-sections from elevator plans and aerial views of the ports of Montreal and Thunder Bay, images that contradicted the canon of the anonymous, functionless and placeless elevator, Charney confronted modern architecture's infatuation with the image of technology (Fig.21). For one of the first times in architectural discourse, the complexity of the machine and its network were addressed in terms of history, context, function, and the first-hand experience of place. Arguing that the real influence of the elevator lay in the genius of the system that generated the form, Charney called for architects to learn from the machine, to "opt for an understanding of the complexity of the organization rather than a simple appraisal of the design image. ... In this way the grain elevators may yet again suggest to architects a way out of their self imposed limitations."⁸⁴

Although "The grain elevators revisited" had moved the imagery and polemics about elevators away from mythology and into reality, this discussion was conducted in a narrow circuit between architects, critics and historians. By 1967, the image of the elevator was no longer celebrated in the Montreal, in fact, the first steps were taken towards rendering the elevators of the harbour invisible. Following an agreement between representatives of the city, the organizers of Expo and the Port of Montreal, the elevators, galleries, towers and sheds of the

⁸⁴ Melvin Charney, "The grain elevators revisited," *Architectural Design* 37 (July 1967), 331. Charney was himself inspired by the organization of the grain-handling system. His proposed design for the Canadian pavilion at the Osaka World's Fair of 1970 was reproduced in the pages of Reyner Banham's *Megastructures. Urban Futures and the Recent Past* (London: Thames and Hudson, 1976), 118.

harbour were painted varying shades of neutral grey that were chosen to attenuate the visual barrier between the city and the water.⁸⁵ The North American fascination for the technological sublime had graduated from the spectacle of the towering machine to that of the of the rocket launch and lunar exploration, proving that “[u]ltimately, the constant is not the technological object *per say*, it is the continual re-deployment of the sublime itself, as a preferred American trope.”⁸⁶ Here the parallel iconographies of commerce and art deviate. In the heightened atmosphere of progress and present-mindedness generated by Expo’67, the elevators represented the unlovely and undesirable presence of obsolete technology for many Montrealers. For architects, critics, and those raised on the polemics Le Corbusier, the grain elevator had become sacred to the history of the modern movement. In 1986, when Reyner Banham published *A Concrete Atlantis* a critical reconstruction of the development of both the grain elevator and its influence on European modernism, he admitted that the shock of these images had not entirely worn off.⁸⁷ In fact, he echoed Le Corbusier’s effective use of ‘photographic truth’ his own text, juxtaposing archival photographs of the elevators of Buffalo in their prime with contemporary pictures of their decaying forms (Fig. 22). Banham’s present-day pictures acted as a visual reply to Le Corbusier’s intentional mystification of the grain elevator. And yet, his spectacular views of the unexplored inside of the structure, revealing complex

⁸⁵ Gilles Lesage, “L’apparence du port sera améliorée pour l’Expo” *Le Devoir*, vendredi, 11 novembre 1966, “Newspaper clippings, general – Port II,” APM.

⁸⁶ Nye, *American Technological Sublime*, xiv.

machinery and strange, compelling spaces, had introduced an entirely new vision, - grain elevator as ruined monument (Fig. 23).

These images would continue to have a profound effect on the development of the physical landscape of the port. Expo '67 signalled the beginning of a new cycle of modernization for Montreal's harbour. The lasting influence of the grain elevator image is a subtext to the process of the re-appropriation of Montreal's waterfront by its citizens.

⁸⁷ Banham, *A Concrete Atlantis*, 225.

Chapter Three

Landscape Reclaimed

The transformation of the Port of Montreal's harbour from a restricted, densely built industrial zone into the open, civic space of the "Vieux-Port," was a project that grew from a public consultation, funded and framed by the federal government. The citizens of Montreal were given an unprecedented voice in the process of place-making at a time when a grassroots heritage movement was beginning to reclaim the built history of Old Montreal. The act of building a new post-industrial landscape confronted the ideals of progress with those of preservation. Chapter three considers the process of creating the "Vieux-Port" as a landscape of leisure, and its impact on the elevators of the harbour.

Expo '67's man-made islands, created from the excavations of the new Métro system, were the stage for an exhibition about the height of international modern architecture and technology. Ironically, the widely reported triumph of this modern landscape, designed for the consumption of the international cultural tourist, was concurrent with the beginnings of a grassroots movement to reclaim the past and restore the heart of the city's built environment.

Old Montreal is generally defined by the walled settlement of the 17th and 18th centuries bounded by St-Antoine and de la Commune Streets to the north and south, McGill street to west and Berri Street to the east. Through the 19th and early 20th centuries the area evolved into the centre of city's financial and

commercial activities until they moved north to the city's new "downtown" on the "upper terrace." By the early 1960s, the historic homes and commercial buildings of Old Montreal were under-used or abandoned. With the exception of the activity surrounding the City Hall, the courthouses of Notre-Dame Street, and the old bank buildings on St Jacques Street, the zone was considered a wasteland populated primarily by the homeless who frequented the area's shelters. The movement to re-inhabit, or to "re-colonize" Old Montreal began with the efforts of individuals like music critic Eric McLean, who bought, restored, and lived in the 18th-century "Maison Papineau" in the early 1960s. The movement was given official support in 1962, when the City of Montreal instituted the Commission Jacques-Viger to oversee the conservation and restoration of Old Montreal.⁸⁸ In 1964, the provincial government named Old Montreal the first "arrondissement historique"(historic district), conferring the protection of heritage status to area of the old city.

This new movement to reclaim and reconstruct the city's memory from the familiar narratives of Old Montreal's vernacular structures ultimately came into conflict with the unknown and dehumanized scale of the landscape of the harbour.⁸⁹ The different groups and individuals involved in the "renaissance" of

⁸⁸ The northern limit of the "Arrondissement historique" was revised to Notre-Dame street in 1965. In the early 1990s, the provincial government expanded the boundaries of the protected area to include the port.

⁸⁹ The idea that the harbour's territorial integrity could be permeable had been suggested as early as 1960, in a study conducted by VanGinkel Associates for the federal government, which recommended moving the port installations to the east and urbanising the harbour. The study also recommended the continued use of the grain elevators of the harbour.

Old Montreal began to question the separation of port and city.⁹⁰ Suddenly, the harbour and its immense machines were very visible. In 1965, the scrutiny of the media confirmed that the port was indeed a separate landscape, physically fenced off from the city, with access denied to all but those who would go there on business.⁹¹

For the first time in the 20th century, there was an open questioning of what geographer Dennis Cosgrove characterizes as “the secure establishment of industrial capitalism [and] the relationship it had long posited of a separation of the individual from the land and its private, personal consumption through sight, [which] had become a way of being, experienced in urban life”⁹² The public demand for access to the city’s waterfront challenged both this relationship and the traditional territorial independence of the port. As early as 1966, there were calls in the press for a “window on the river,” an expression that would later become the slogan of the popular campaign to reclaim the waterfront. It is interesting to note that the desire to reconnect with the waterfront was still being expressed in terms of spectatorship, with the suggestion that the port become a frame through which the river could be seen from the city.

⁹⁰ Champoux, Roger, “Le fleuve derrière un mur,” *La Presse*, 12 novembre 1966, Newspaper clippings, General, part 12, APM. Champoux’s editorial concludes with this prophetic statement “Une ville est en perpétuel devenir. En l’an 2000, notre métropole aura un nouveau visage, qu’on le veuille ou non. C’est à nous, citoyens de 1966, de tracer les voies conduisant à une recherche esthétique.”

⁹¹ Masse, Denis, “Le port: ‘entrée interdite sauf par affaires,’” *La Presse*, 5 June, 1965; 7 June, 1965; 9 June, 1965, “Newspaper clippings, General – Port II,” APM.

⁹² Dennis E. Cosgrove, *Social Formation and Symbolic Landscape* (Madison: University of Wisconsin Press, 1998), 270.

The administrators of the port had also begun to reconsider the harbour's position in the heart of the city and its relationship to Old Montreal.⁹³ The shared territory of these two areas constrained the functional needs of the Port; the narrow streets of the old city were un-accommodating to the heavy trucks that were becoming an increasingly large part of the shipping network. Modernization, the key to the continued evolution and financial security of the Port, could not continue counter-current to Old Montreal, where time was slowing down and history had become the imperative.

In the summer of 1974, the Ministry of State for Urban Affairs and the National Harbours Board commissioned a study on the potential re-development of the harbour. The plan was predicated on the assertion of the Port of Montreal's that the "Vieux-Port," or the harbourfront between the Victoria and Jacques Cartier bridges, was densely built up with obsolete structures; that the proximity of the Vieux-Port to Old Montreal gave the lands an "unexploited value," and that public desire for access to river could potentially be accommodated within the framework of the port's activities.⁹⁴ The position of the Port of Montreal regarding the future of the harbour area and its structures must also be seen in the context of the steady decline of grain-handling in the port during the 1960s and '70s.

⁹³ Desmond Allard, "Closing of port a threat" *The Montreal Star*, 29 March 1969; John Eyre, "The aging [sic] waterfront between Jacques Cartier and Victoria bridges must be abandoned," *The Gazette*, 24 March 1969, Newspaper clippings – general (1620-00-00) vol.15, APM.

⁹⁴ Michel Lincourt, et al, *Vieux Port de Montreal: Étude de remise en valeur* (Montréal: Société générale des systèmes urbains, 1975), 1-2. The "plan Lincourt's" recommendations for a dense urbanization of the waterfront were not pursued.

The impact of St. Lawrence Seaway, changes in federal grain shipping policies, and shifts in international grain markets were slowly eroding Montreal's dominance in grain-handling in Canada. Crushed by competition from the Seaway, the eastern entrance to the Lachine Canal was closed and infilled in 1965 in order to facilitate access to the site of Expo'67.⁹⁵ Montreal also began to loose traffic to larger ocean-going ships that were now able to load their grain further inland at the terminal elevators of Thunder Bay. However, the greatest impact on Montreal's position in the grain trade was the declining demand from Canada's traditional European clients and the rise of Asian markets that favoured the country's Pacific ports, particularly Vancouver. This advantage was strengthened when the Crow Rate subsidies, that had covered all grain transportation by rail within Canada, were integrated into the "Western Grain Transportation Act" (November 1983) and then abolished entirely in November 1984, under the Mulroney government.⁹⁶ The WGT Act subsidized railways to move grain from the Prairies only to the ports of Vancouver and Prince Rupert on the Pacific and Churchill and Thunder Bay in the east.⁹⁷ As a result, the Port's administration began to consider sites to accommodate the most recent advance in shipping technology, the container port. In the mid-1970s, the managers of the Port of Montreal had begun to prepare a container port site in the harbour, filling in the

⁹⁵ "Lachine Canal – Closing Of," 1360-05-00 vol.1, APM.

⁹⁶ See footnote 17.

⁹⁷ For further information on Canadian grain policy and changes in the grain market, see Murray E. Fulton, *Canadian agricultural policy and Prairie agriculture* (Ottawa: Minister of Supply and Services Canada, 1989), 7-8, 36-37.

basin between the Jacques Cartier and Victoria piers. However, the project was unpopular and seen detrimental to the renaissance of Old Montreal.⁹⁸ The construction of the Louis-Hyppolite-Lafontaine tunnel in 1967, sealed the fate of this project as an engineering miscalculation on the tunnel's depth resulted in a draft too shallow for many newer container ships, making the harbour nearly inaccessible to them. Ultimately, the container port was established in the Port's modern east-end facilities in 1976.

An area of 54 hectares of harbour lands, from the former entrance of the Lachine Canal to the foot of Berri Street, were open for redevelopment. However, the Port retained control over its passenger terminal on the Alexandra pier, the harbour rail line, and the activities of its western sector on the Bickerdike Pier, and Windmill Point. This area would retain its industrial identity and elevator No. 5 would continue to function in this micro-landscape while its contemporaries, elevators No.1 and No. 2, became part of an experiment in place-making.

The "Vieux Port" as a public process

In the late 20th century, waterfront restructuring projects became commonplace in many North American port cities. With the transition from an industrial to post-industrial economy, waterfront land was reclaimed for commercial and residential development as historicized civic space. In the conflict between commercial

⁹⁸ Dave Mullington, "Problem for the city's Port Authority," *Montreal Star*, 16 April, 1977, Newspaper clippings – general (1620-00-00) vol.15, APM.

development and the preservation of a site's history, the imperatives of function and profit had typically prevailed. The harbour of Montreal was originally developed according to national interests in conjunction with those of an elite group of Montreal's commercial bourgeoisie. Its second incarnation was also a political project, but one profoundly influenced by the participation of a cross-section of Montreal citizens. In this unusual context, the people of Montreal were confronted with the challenge of a legacy of colossal industrial structures.

On December 8, 1977, André Ouellet, federal Minister of Urban Affairs and Otto Lang, Minister of Transport, announced the "Vieux-Port" redevelopment project, to be implemented with the participation and support of the citizens of Montreal. This announcement came one year after the election of the Parti Québécois to the Provincial Assembly. The new provincial government, elected on a nationalist platform of independence from the federation, had positioned itself from the beginning as a movement philosophically and culturally opposed to the traditional ruling alliance of bourgeois business and politics. In the political context of the 1970s, the Vieux-Port project and its open process can be understood, in part, as an attempt by the federal government to connect directly to the concerns of Montreal citizens in order to counteract the perception of a hierarchical and unrepresentative authority. The proposed plans for the new waterfront park, included the demolition of elevators No.1 and No. 2.⁹⁹

The mandate to conduct the public consultation process was given to "Association Le Vieux Port." The Association assembled a broad coalition of

⁹⁹ Patrick Finn, "Port renewal slated for city", *Montreal Star*, December 9, 1977.

over 1,000 individuals, including representatives from citizen and heritage groups, unions associated with port activities, delegates from the municipal and federal governments as well as planners and architects. Conscious of the need to represent the people of the city as an independent voice, the Association was careful to avoid “those [public consultation] techniques preferred by government officials (because they are easily controlled) [that] suffer from lack of public credibility.”¹⁰⁰ During the two-year consultation process, which began in May 1978, the coordinators, led by architect and urban planner Mark London, implemented a “participation methodology” that included the solicitation of briefs, public conferences, and bi-monthly meetings of the Association’s board.

In September 1978, before the “Association Le Vieux-Port” had held its second meeting, the National Harbours Board ordered the demolition of the No. 2 elevator facing the historic Bonsecours market, as the promised first act of the transformation of the harbour’s industrial landscape. The elevator was characterised as a colossal interruption of the historical continuity, a barrier between citizens and their history. Despite the initiation of a consultative process, the government proceeded to demolish elevator No.2 before the public consultation reports were published. The rapid demolition of elevator No.2 was understood to be a precedent for the future removal of elevator No. 1.

In 1979, the project was transferred to a different government agency, the Central Mortgage and Housing Corporation (CMHC), and the consultation moved from broad issues to the specifics. Four redevelopment options of varying density,

¹⁰⁰ Introduction to public consultation report. “Vieux Port – PH7-1, tome 2,” H M.

proposed by the firm of Desnoyers, Mercure, architects, working in collaboration with architect Moshe Safdie, were reviewed.¹⁰¹ The proposals offered options for “minimal development”, “maximal development”, “mixed development” and “Lachine Canal Basin,” and a plan featuring a large central basin for swimming and boating. Questioning the fact that all four options treated the waterfront as a *tabula rasa*, a cleared space ready for new construction, the Association responded by returning to the existing site and confronting the difficult question of what should be done with the harbour’s industrial structures.

The final report on the public consultation was published in March 1980. It proposed a strategy for redevelopment that would “incrementally” transform the site over a number of years, an idea that subverts the standard of the master plan. Further, the report rejected all plans for housing or commercial development on the site, proposing instead that the Vieux-Port should be redeveloped as an open public space traversed by a series of linear parks with a network of pedestrian and cycle paths. The document specified that “this does not mean preserving the area as a museum or an artificial recreation of a lost age. The requirements of renewed public access and increased open space can be integrated into the existing context. The future should be an extension of the past.”¹⁰²

The “existing context” was comprised of eight railway lines running parallel to de la Commune Street, a reinforced concrete cold storage warehouse,

¹⁰¹ Desnoyers, Mercure, Gagnon, Sheppard and Moshe Safdie, *Le Vieux Port de Montréal. Un projet du Ministère d'État aux affaires urbaines* (Montréal: Desnoyers, Mercure, Gagnon, Sheppard, and Moshe Safdie, 1979).

¹⁰² Introduction to public consultation report. “Vieux Port – PH7-1, tome 2,” H M.

and two sets of steel-framed and corrugated iron clad sheds on each of the harbour's three remaining piers, two of which were fitted with grain conveyor galleries connected directly to elevator No.1.¹⁰³ The Association made no direct recommendations about the value of grain elevator No.1, admitting that "[t]he future of this structure is one of the most controversial topics dealt with by the *Association*." The report summarized the opposing positions in the debate this way:

Many people felt that it [the No.1] was nothing but an ugly barrier between the city and the water, and, as a structure completely out of scale with the historic district, should be demolished as soon as possible. Others felt that the elevator with its conveyors is historically important as an example of avant-garde modern architecture and presents some reuse possibilities.¹⁰⁴

The authors of the report suggested that the elevator was perhaps caught in the lag of time required for society to accept and embrace the buildings of its recent past. The "time-taste" gap had been kinder to industrial structures contemporary to the grain elevators, such as daylight factories, which were more easily recycled and reintegrated into the built environment. The nature of the grain elevator, being itself a machine rather than a structure housing machines, ensured that public acceptance would never be a simple matter of time.

¹⁰³ The cold storage warehouse was built for the Harbour Commissioners at the foot of Berri street in 1923, by the John Metcalf Co.

¹⁰⁴ L' Association le Vieux Port, *Une stratégie de réaménagement pour le Vieux-Port de Montréal: un programme réalisable proposé par l'Association le Vieux-Port, A redevelopment strategy for Le Vieux-Port de Montréal* (Montréal: Association le Vieux-Port, 1979), 20.

Preservation vs. progress

Montreal's heritage movement began to take shape in a formal way in 1973, forged in the heat of the battle to save the Van Horne mansion from demolition. A broad coalition of citizens had spoken out against plans to demolish imposing Sherbrooke Street mansion of the former CPR Chairman. People, incensed by the potential eradication of the historic home of a national hero and the fall of other such city landmarks to the modern real estate market formed advocacy groups such as Save Montreal and Heritage Montréal. The overnight razing of the Van Horne mansion galvanized the ad-hoc groups into more permanent preservation advocacy groups and awareness-raising coalitions that increasingly spoke out on a number of issues concerning Montreal's built environment. However, the idea of preserving grain elevators challenged some of the basic principles of North American preservation philosophy of the 1970s.

From its origins, the movement has been locked in a constant struggle against the transient nature of North American building. This struggle is based on the idea that history, identity and continuity are constructed on a foundation of formal and vernacular monuments that sustain memory and promote permanence. Permanence counteracts the North American penchant for novelty and re-invention, creating order and stability from the unplanned and the haphazard. Mitchell Schwarzer remarks that the heritage movement has always sought to

“transcend the social fragmentation resulting from industrialisation and the commodification of architecture.”¹⁰⁵

The preservationists, who had begun by defending the traditional monuments and sites of national history, soon expanded their interests to encompass vernacular neighbourhoods and streetscapes. Although the movement had come to embrace industrial architecture as part of this expanding frame of reference, this basically humanist view of the built environment could not easily absorb a landscape built by the rules of technological progress, or transience.

In essence, the harbour was a proto-modern landscape. Its buildings, the grain elevators particularly, evolved outside the historic continuum of architecture, following functional rather than stylistic imperatives. Propelled by advances in building and handling technology, the elevators existed in anticipation of progressive change rather than in the fixed form and meaning of symbolic architecture. Thus the landscape of industry, abiding by its own sense of history, represented as great an interruption to the urban fabric as the skyscrapers and elevated expressways built in the centre of Montreal in the 1960s and ‘70s.

The very idea of preservation presented difficulties for most architects educated in the modernist environment of Canada’s postwar architecture schools, which dismissed it as a pointless obstruction to the creative freedom of modern architecture and urbanism. Nevertheless, the demolition of elevator No.2, whose image had travelled the world on the pages of *Vers une Architecture* was harsh

¹⁰⁵ Mitchell Schwarzer, “Myths of Permanence and Transience in the Discourse on Historic Preservation in the United States,” *Journal of Architectural Education* 48, no.1 (September 1994), 2.

reminder to many architects that their city's remaining monuments to modernism would have to be defended against the forward movement of innovation and reinvention that Modernism espoused. Architectural historians were equally reticent about the preservation movement's political and confrontational use of history and architecture. Historians had traditionally "constructed and maintained the canon" of architecture, but they did not reshape history.¹⁰⁶ Yet, the grain elevator was now part of the canon; introduced by Le Corbusier as a form descended from the great architecture of the past.

In 1983, the Société du Vieux-Port de Montréal gave a mandate to Lavalin-DMA/Denvencore Group to manage the planning for the site. Two consultants, the firm of Poirier-Cardinal (later Cardinal-Hardy at associés), urbanists and architects, and Peter Rose, architect, were chosen to produce plans. The linear waterfront park proposed by Peter Rose was chosen. In anticipation of this new construction, the Société du Vieux-Port called for submissions for demolition of elevator No.1 in the winter of 1983. Many architects, urbanists and historians supported preservationists in forming a coalition with the labour unions associated with the port.¹⁰⁷ Heritage Montreal, Save Montreal, and the Association Le Vieux-Port joined l'Union des producteurs agricoles, le Syndicat national des employés du Port de Montréal (CSN) and la Fédération des producteurs de cultures commerciales du Québec in denouncing the destruction of

¹⁰⁶ Daniel Bluestone, "Academics in Tennis Shoes, Historic Preservation and the Academy," *Journal of the Society of Architectural Historians* 58, no.3 (September 1999), 301.

¹⁰⁷ In August 1981, the Port of Montreal had completed a new 32 silo annex added to elevator no.4 which would replace the storage capacity of elevator No.1.

elevator No.1. The unions condemned the demolition of a viable structure, the loss of 60 jobs and the reduction of storage space for local grain. Heritage groups denounced the loss of history, a symbol of a time when Montreal was the most the important grain port in the world.¹⁰⁸ The calls for a study of the situation and for further public discussion went unanswered. ElevatorNo.1 was demolished between July and October of 1983 (Fig.24). The site was then cleared for re-interpretation.¹⁰⁹

Designing the landscape of leisure

The Société Immobilière (Le Vieux-Port de Montréal) Ltée., created in 1981 to administer the development of the harbourfront, proceeded to implement the key recommendation voiced in the public consultation process: landscaping the linear park and cycle path through the former sites of the elevators. In the years that followed, the site was divided into geographical sectors, each the subject of separate and largely unrelated development proposals, most of which advocated new residential and commercial constructions. Because this approach introduced the problem of private property in a public zone and clearly contradicted the stated public desire for absolute access to the re-appropriated space, none of these plans came to fruition.

¹⁰⁸ See Jacques Benoit, "Front commun pour sauver le silo no.1," *La Presse*, __January 1983 and Peter Lanken, "Practical reasons demand reprieve for grain elevator," *The Gazette*, 16 February 1983, "Vieux Port – PH7-1, tome 2," H M.

¹⁰⁹ The demolition cost \$1,770,000. "On démolit au Vieux Port" *La Presse*, 21 July 1983, "Vieux Port – PH7-1, tome 2," H M.

Seeking a guiding vision for the project, La Société du Vieux-Port returned to the public consultation process, creating the “Consultative Committee on the Vieux-Port of Montreal” in the summer of 1985. The Committee held hearings in September and December of that year and accepted briefs from a diverse mix of citizens and groups including Heritage Montreal, Daniel Van Ginkel of Van Ginkel Associates, Save Montreal, the Port of Montreal, the Commission Jacques Viger, Action Vieux Montréal, and l’Association des propriétaires du Vieux Montréal. A final report based the Committee’s analysis of the hearings was submitted to the Board of Directors of the Vieux-Port and to the Minister of Public in the winter of 1986. The recommendations reiterated the first consultation’s assertion that the Vieux-Port should be exclusively “a public place for leisure and recreational activities,” emphasising that the design and architecture should express both the historic nature of the site and its intimate relationship with Old Montreal.¹¹⁰

The long process of alternating government-sponsored development plans and public consultations culminated in 1992, the year of the 350th anniversary of the founding of Montreal, with the completion of the project designed by the firm of Peter Rose in association with Cardinal, Hardy et associés. True to the public’s vision, the new landscape had become an open space, a negative image of the dense fabric of the early 20th century harbour. The interconnected shipping and handling system was replaced by a linear green space, framed by a network of

¹¹⁰ The Consultative Committee of the Vieux-Port of Montreal, *The Vieux-Port of Montreal, Public Consultation Final Report*, (Montreal: Société du Vieux-Port de Montréal, 1986).

pedestrian and cycling paths, designed to accommodate the flow of people from the connected areas of the Lachine Canal cycling path and Old Montreal. The ideal of the Vieux-Port is in many ways the antithesis of the port: the process of its creation was generally transparent, inclusive and democratic; its space open, empty and ready to receive all citizens without differentiation.

The design process for the park merits closer attention as an example of the new philosophy of place-making that became prevalent in the post-modern era. Behind the creation of a public space is a late 20th-century concern for interpretation of history and building of public memory. This approach has had a major impact on the remaining buildings of the site and on the continuing activities in the western sector of the Port of Montreal. In their elaboration of the master plan, the team of Cardinal, Hardy and Peter Rose focused on three main themes: the site of “history and belonging,” the port, and the public space.¹¹¹ The design process can be understood as an exercise in accessibility: the harbour lands were physically opened to the city while a visual and historical identity was developed to would allow the public to truly re-appropriate the Vieux-Port. This agenda imposed a selective archaeology: digging out and re-figuring the topography of the past from the levelled terrain created by decades of demolition.

The entrance to the Lachine Canal, which had been infilled during 1965 to provide space for expansion, was unearthed. The walls of the canal were partially reconstructed, both canal basins were exposed and locks No.1 and No. 2 were

¹¹¹ Aurèle Cardinal, “Lieu d’appartenance historique: pour réaménager le Vieux-Port de Montréal, authenticité vaut mieux que fausse nostalgie.” Montreal (21 May 1991): 3. Annotated draft document, Vieux-Port, 7H1, tome 2, HM.

restored to their functional state prior to the canal's closure. The land surrounding the basins was transformed into a "jardin romantique" called *le Parc des Éclusiers* (Fig.25).¹¹² On the King Edward Pier and the Alexandra Piers, parallel sets of storage sheds were left standing with strict guidelines controlling their future re-use. The slim Pier No.1, which had serviced elevator No.1, housed the last remaining element of the elevator's ensemble, a lone elevator tower. The visual appearance of both the sheds and the tower were to remain unaltered as they are considered to be testimonies to the port's industrial past. The infill between the Jacques Cartier Pier and Clock Tower Pier was partially excavated to reveal the Victoria Basin, which was reconfigured to allow boating in the summer and skating in the winter.

The functioning elements of the Port of Montreal, including the railway connecting the east and west-end facilities, docking space for lakers along the King Edward and Alexandra Piers, the passenger terminal of Alexandra quai, the bulk cargo sheds of the Bickerdike pier and grain elevator No. 5 on Windmill Point are all carefully incorporated into the overall plan. Integrated into the staged historical setting of the Vieux-Port, these functions have become illustrations of living history, part of the spectacle. The restructuring of the landscape, a change as fundamental as the rise of the industrial port, raises questions about the social and economic underpinnings of the Vieux-Port and their impact on the way the history of the port is "packaged."

¹¹² Cardinal, Hardy et Associés and Peter Rose, *Vieux-Port de Montréal Plan directeur d'aménagement* (Société du Vieux-Port de Montréal, 1990), 61.

The dual objectives of creating a natural procession from the city to the water and resurrecting a history from the *tabula rasa* are best illustrated by the rediscovery of elevator No.2. The partial foundation of Metcalf's 1912 concrete structure, buried only a decade before, was revealed through a landscaping strategy that ground down the layers of recent infill into a gentle slope, laying bare the ruins in the manner of an archaeological dig (Fig. 26). The site is identified and explained by a didactic panel that briefly outlines in English, French, and Spanish, the former elevator's history, its function, and, with the help of Gropius' iconic image, its place in architectural history. The panels appear at intervals along the main artery of the Vieux-Port, uniting the varying topographies of the site with a narrative built around the maritime, industrial, and commercial histories of the port.

The original communal project of claiming a public space has become the late 20th century project of creating a site for collective public memory, what Aurèle Cardinal called "un lieu historique d'appartenance."¹¹³ The strategy for the interpretation of the Vieux-Port, as described in the *plan d'aménagement*, suggests that visitors to the waterfront should be made "unconsciously" aware of the site's history in order to find the sort of "psychological security that would allow [the visitor] to be immersed in the continuity of socio-economic history."¹¹⁴ Historian M. Christine Boyer characterizes this approach as a product of the post-modern preoccupation with the reconstruction of the historical continuity of the

¹¹³ Cardinal, "lieu d'appartenance," 3.

¹¹⁴ Cardinal, Hardy, Rose, *Plan directeur*, 89, translation by author.

city, which has been fractured by the anti-historical intervention of International Style architecture and urbanism.¹¹⁵

Through the government-mandated demolition of elevators No. 1 and No. 2 and their connected sheds, marine towers and conveyor galleries, the most problematic elements of the recent past were erased. In the words of landscape historian John Bickerhoff Jackson, “the old order has to die before there can be a born again landscape.”¹¹⁶ The remaining structures have been preserved and incorporated into a visual display, heightened by the use of professional scenographic lighting at night, as part of the Société du Vieux-Port’s official mandate to commemorate the industrial, commercial, and maritime history of Montreal’s port. In the Vieux-Port, the re-contextualization of industry as history has created the necessary distance from the recent past to smooth the disruption of the urban fabric into an interesting and entertaining scene. It is in this sense that the Cardinal, Hardy and Peter Rose design for the Vieux-Port creates the “psychological security” that allowed the public to truly re-appropriate the harbour. The preservation of industrial artifacts in order to establish a site of collective memory also serves the Vieux-Port’s second mandate, the promotion of cultural tourism.

¹¹⁵ M. Christine Boyer, *The City of Collective Memory: Its Historical Imagery and Architectural Entertainments* (Cambridge: MIT Press, 1994; reprint 1998), 4.

¹¹⁶ John B., Jackson, *The Necessity of Ruins* (Amherst: The University of Massachusetts Press, 1980), 102.

Tourism

The conjuncture of tourism and historic preservation is not strictly a late 20th-century phenomenon. For those who could afford the journey, the Grand Tour of Europe gave 19th-century travellers a chance to “discover” the remains of the Classical age. Over time these vestiges were preserved, conserved and sometimes reconstructed for the patronage of future “tour-ists.” In the wake of post-industrial decline, tourism has become one of the leading urban industries. Consequently, recent trends in urban design reflect a preoccupation with “improving the city’s marketability by enhancing its imageability, livability and cultural capital.”¹¹⁷ Urban waterfronts and historic neighbourhoods have become the focal point of inner-city regeneration programmes shaped around the revenues generated by local and foreign tourism. In this sense, the buildings and steetscapes of Old Montreal, restored by civic initiative, did much to reinforce the unique sense of place so attractive to tourists.

The design of the Vieux-Port builds on the old city’s “cultural capital,” proposing a new site that is both historic and bucolic. The online promotional literature of Société du Vieux-Port describes the park this way:

A masterpiece of harmony between the site’s historical and recreational aspects, the redeveloped Vieux-Port incorporates green spaces and parks that highlight the remains of former industrial buildings, as well as areas for strolling, relaxing or taking in historical points of interest. It’s a success in every sense of the word! Equipped with a permanent infrastructure, featuring an unobstructed view of the river and city, and enlivened by events and

¹¹⁷ Boyer, *City of Collective Memory*, 4-5.

entertainment - often of an international calibre - the Vieux-Port of Montréal has quickly become a widely-known tourist attraction.¹¹⁸

The revenues from tourism are tangible: according to its 1999 annual report, the Vieux-Port attracted 7 million visitors who spent \$27 million in the area, and generated 440 jobs on the site.¹¹⁹

However, the blend of history and entertainment inevitably raises issues of cultural conservation. Re-interpreting places and events for a transient audience of tourists tends, it has been argued, to preclude depth, nuance and complexity, and can reinforce selective, narrow thematic approaches.¹²⁰ What has been omitted from the historical narrative is significant. There is little evidence of the social and political complexity of the port's history; including the relationship between the small group of industrial entrepreneurs who formed the Harbour Commission and the correspondingly large group of industrial working-class employees who laboured as part of the shipping system, and the relationship between the small group of politicians and railway owners and the grain farmers of the West. Nor is there any investigation of technology for its own sake. The idea of celebrating the genius of systems and the people who created them, the grand spectacle of colossal machines and the pragmatic and functional modernity of North American engineering, though relatively new to North America, has become a part of late 20th-century culture. The concept of the Vieux-Port has effectively depolitized

¹¹⁸ "The Old Port of Montreal, A masterpiece of harmony" [electronic file] [cited 21 August 2000], available from <http://www.oldportofmontreal.com/>; INTERNET.

¹¹⁹ Ibid.

¹²⁰ Garrett Eckbo, "The landscape of tourism," *Landscape* 18, no.2 (Spring-Summer 1969), 29-31.

the harbour's history and divorced it from the ongoing activities of the modern port in east-end Montreal.

As a functioning element of the Port of Montreal, elevator No. 5 disrupted the concept of the Vieux Port. At the time of its construction, the elevator's place on the end of Windmill Point was pragmatically determined by the site's proximity to both the GTR's yards and to the eastern entrance to the Lachine Canal. At the end of the 20th century, elevator No. 5 stands on the border between two opposing landscapes. To the north, Windmill Point slices into the Vieux-Port's Parc des Écluses. The landscaped terraces of this park slope down from the foot of the silos of the "B-1," and surround the reconstructed basins and locks at the entrance of the Lachine Canal, assuring the visual continuity between the cycle and pedestrian pathways of the Vieux-Port and those of the canal's "Heritage Corridor," managed by Parks Canada. Elevator No. 5 stands at the processional end of Old Montreal's grand boulevard, McGill Street, which at the intersection of de la Commune, opens onto the Vieux-Port's wide public plaza. To the south, Windmill Point and neighbouring Bickerdike Pier are among the last holdings of the of the western sector Port of Montreal. Elevator No. 5's elevated galleries physically connect it to the functioning elevators of ADM Mills (Arthur Daniel Midland Co., formerly the Ogilvie Mills Co.) on Mill Street and to Canada Maltage Limited on Riverside Drive. Mill Street, which runs almost the length of Windmill Point, links the port to the flour mills, ADM, the abandoned silos of the former Rozon mill, and on to the meat-packing plants and other nearby industries. The railway of the Port of Montreal still links east-end and west-end facilities,

passing through the gap between elevator No. 5's "B" elevator and the Annex silos. As a focal point in the landscape, elevator No. 5 has been assigned a didactic panel and is thus integrated into the setting of the Vieux Port, if only as a *defacto* exhibit (Fig. 27).

During the long process of designing the Vieux-Port, elevator No. 5 was not addressed in the debate over the legitimacy of conserving the harbour's elevators. While it continued to be used a for grain storage by neighbouring grain transformation industries, elevator No. 5 remained invisible and its right to exist unassailable. However, the transformation of the landscape surrounding the No. 5 has decontextualized the elevator, metaphorically stranding it in a no-man's land between the port's industrial and post-industrial identities.

CHAPTER FOUR

The Monument

In the winter of 1994, the Port of Montreal ceased all activities at elevator No. 5, which remained unused until the summer of 2000. With the end of its industrial function, the identity, role and future of the elevator were put into question. Chapter four explores the implications of the divide between the form and the function of the grain elevator as expressed in the opposing views and strategies concerning the functionless structure. From this stalemate, a third perspective, embracing the obsolescence of elevator No. 5, has emerged in the projects of conceptual artists. The most recent of them, the Silophone project, is examined in detail.

Public interest

By 1994, grain-handling in the Port of Montreal had declined to the point where all grain was being moved through the most modern of the remaining elevators, the No.4. As of 1991, elevator No. 5 was partially closed; only the B-1 section continued to serve as a storage annex for local grain businesses such as Canada Maltage Ltd., and the ADM Mills. When the revenues generated no longer covered the tax expenditures, the silos were emptied, and its operation ceased entirely in December 1994.

The disconnection of elevator No. 5 from the shipping network, its *raison d'être*, raised an important question: to which landscape does the functionless elevator belong? Was it, by nature and by right of ownership still a part of Windmill Point's maritime/ industrial micro-landscape, in which it was now an obsolete piece of machinery, or would it become integrated, *defacto*, into the exhibition of industrial remnants in Vieux Port's landscape of leisure?

The initial position of the Port of Montreal was true to the institution's traditionally pragmatic approach to its equipment. The economic imperative that had created and perfected the original building form in the space of a generation would dismantle it with equal efficiency. However, the economic imperative had shifted away from improving or replacing its obsolete equipment to a consideration of the value of its waterfront land.¹²¹ In a newspaper article published shortly after the closure of the elevator, the opinions of Port of Montreal President Dominic Taddeo were presented as being aligned with those of a representative of No.1 McGill, a recent condominium project facing elevator

¹²¹ The voice of the residents of Old Montreal is a new factor in the debate. With the Vieux-Port's official inauguration in 1992, it had become clear that the popular movements to re-inhabit the marginalized precincts of Old Montreal and to claim the waterfront as public space have served as the foundation for the emergence of the post-industrial city. In the late 1990s, Old Montreal is in the process of becoming both a revitalized and a gentrified area. The efforts of citizens, preservationists and the Commission Jacques Viger to protect and promote the historic life of Old Montreal have encouraged the re-use and restoration of many under used or abandoned buildings. The renovation of public attractions such as the Marché Bonsecours and the Place Jacques-Cartier, have bolstered tourism. Most significantly, the "window on the river" has encouraged the recycling of derelict waterfront warehouses and the construction of new luxury condominium buildings such as the No.1 McGill at the corner of de la Commune street. The unexpected result of the re-appropriation of Old Montreal was a new tension between public and private space. Condominium owners voiced proprietary rights, in terms such as "when you spend \$600,000 for a condominium and you have a view of concrete, it's not very interesting, people absolutely want it gone." Ingrid Peritz, "Waterfront grain elevator: blight or heritage site?" *The Gazette*, 5 August, 1995, "Vieux-Port" PH7- 1, tome 3, HM.

No. 5 across de la Commune Street. Taddeo stated that he was not in favour of preserving the structure, commenting that: "The elevator is just sitting there doing nothing....It has served its time," and adding "... it's a part of Montreal that the city should exploit." Patricia Jasmin, a sales representative for 1 McGill spoke in terms of "visual pollution" and asserted that "people absolutely want it gone." These statements reflect both the implacable logic of the market, they are symptomatic of the growing abhorrence of obsolescence in North America. Thus, the triumphant symbol of economic and technological progress described in Chapters One and Two could now be read as a corruption and failure of the original ideal. Clearly, as was the case with elevators Nos.1 and 2, the No. 5 inspired puzzlement or hostility from a large section of the population. Without function, the No. 5 was widely understood to be of no value or virtue.

Articulating the opposing view, Heritage Montreal's Director of Programmes, Dinu Bumbaru, described the elevator as being a part of the city's "historic landscape" like Mount Royal, an immutable landmark.¹²² For those concerned with preserving elevator No. 5, it was clear that the elevator would need a new function, preferably one that would anchor it in the city's imagination. Fortunately, the prohibitive cost of demolition, estimated at between \$3 and \$5 million, allowed time for reflection.

In the winter of 1995, the Port of Montreal administration voluntarily mandated a consultant for Parks Canada to produce a heritage evaluation of the

¹²² Ibid.

No. 5 elevator to determine the intangible value of the structure.¹²³ The report by architectural historian Jaqueline Hallé, outlined the historical and contextual importance of the building as well as the unique qualities of the machine. Its conclusion recommended that any development altering the visual or physical integrity of the ensemble should be avoided. As a result, elevator No. 5 was designated as an “recognised building,” by the Federal Heritage Buildings Review Office. This status normally implies that changes to the structure should respect its heritage value, but it does not protect the structure against demolition. Furthermore, the Port of Montreal, as a “société d’état” is exempt from the implications of this status. However, the deeper implication of this process is that for the first time, a recognized communal value had now been assigned to the machine, not simply to its image.

Meanwhile, a coalition of heritage groups led by Heritage Montreal and l’Association québécoise pour le patrimoine industriel (Aqpi) assembled to consider how best to build to a post-function identity for elevator No. 5.¹²⁴ On 4 October 1997, the coalition organized a public colloquium to explore the possibilities of a new role for the elevator. Participants included representatives from the Vieux-Port, Parks Canada, and the City of Montreal, architectural historians and speakers from Toronto, the United States and Argentina. The historical context of elevator No. 5, its built history and the relationship of the

¹²³ Jaqueline Hallé, *Analyse Architecturale: Élévateur No.5 - Port de Montréal*, unpublished report produced for Le Bureau d’examen des édifices fédéraux à valeur patrimonial, 1995.

grain elevator to European Modernism were laid as the foundation of the building's historical importance. The intricacies of the dilemma concerning the elevator were discussed from the point of view of each of the governmental agencies responsible for managing the surrounding landscape: the Société du Vieux-Port, Parks Canada, and the City of Montreal. In a presentation entitled "Elevateur No. 5: un atout ou une contrainte?," Vice-President of the Port of Montreal, Michel Lesage, stated the owner's position. In accepting to participate in a colloquium on the problematic issue of elevator No. 5, the Port of Montreal entered into an unprecedented public dialogue about its business.

Lesage recognized that the transformation of the surrounding landscape had complicated the otherwise relatively simple issue of obsolete equipment. Because of the development of the Vieux-Port, the revitalization of Old Montreal and the projected re-opening of the Lachine Canal to leisure boating, the land on Windmill Point was a now valuable commodity, ripe for redevelopment. Citing the results of the report that granted elevator No. 5 recognized heritage status and warned against structure-altering modifications, Lesage also accepted that a cultural aspect had entered into the equation. Nevertheless, he identified a number of economic and logistical constraints that seemed to outnumber the potential benefits of recycling the elevator. Possible options open to the Port, according to Lesage, included conserving elevator No. 5; selling it to the Société du Vieux-Port, opening it to bids from promoters and individuals, and finally, full or partial

¹²⁴ Founded in 1988, l'Association québécoise pour le patrimoine industriel promotes the conservation of the industrial heritage of Quebec through a range of activities including research, publications and conferences.

demolition. He concluded that the Port would continue to use their surrounding properties on Windmill Point and Bickerdike Pier for maritime and industrial activities, and would study the potential of recycling the No. 5 with the ultimate goal of profiting from the potential of the site.¹²⁵

Recycling and adaptive re-use, the preservationist strategies for housing a new function in an old building present challenges in the case of grain elevators and elevator No. 5 is no exception, given the particularities of its physical context as outlined above. The organization of the interior space is vertical rather than horizontal, with a vast amount of space occupied by steel and reinforced concrete silos, making the conversion to living or working space particularly difficult.

The possibilities of re-use were addressed in a presentation by two American experts in the field of recycling industrial structures, Thomas Leary and Elisabeth Scholes of Industrial Research Associates, based in Buffalo, N.Y. Leary and Scholes identified two typical strategies for grain elevator preservation. In a city like Buffalo where the grain trade is closely identified with the city's history and there are a large number of both functioning and abandoned elevators, a logical approach is preservation through tourism. As part of a projected revitalization plan for the Buffalo waterfront, the machines could be made accessible, at a safe distance, to industrial heritage tourists through special heritage walking trails and boat tours.

¹²⁵ The published proceedings of the October 4th colloquium were launched in January 1999 at an event that furthered the discussion between members of the local and European heritage community, the Port of Montreal and Old Montreal residents. The launch coincided with a series of lectures on industrial heritage held at the Canadian Centre for Architecture in the winter of

Buffalo's minimalist approach to intervention and interpretation reflects the huge and costly task of waterfront revitalization and the challenge of conserving of so many abandoned elevators. Tourism is also the focus of the more active interpretation project for the elevators and flour mills in the "West-Side Milling District" of Minneapolis, Minnesota. The Washburn-Crosby Mill's 1908 ensemble of buildings, are a part of redeveloped complex of industrial buildings, including two elevators, one of which has already been recycled into office space.¹²⁶ Like the ruins of elevator No.2 displayed in the Vieux Port, the "West-Side Milling District" incorporates the vestiges of partially destroyed elevators in a landscaped area called the "Mill Ruins Park." Similar to the concept of the Vieux Port, this solution allows for the selective preservation of an ensemble of related structures based on a thematic framework.

Leary and Scholes were careful to identify the different challenges faced by Buffalo, Minneapolis, and Montreal. Noting that while large collections of elevators provide an opportunity to create a thematic tourist attraction, lone concrete silos have often "served as a challenge to the architect to find entirely new uses for the silos that are unrelated to their productive life."¹²⁷ This observation underlined the fact that, although elevator No. 5 is surrounded by functioning elevators, the ADM Mills, the Canada Maltage plant, and remnants of

1998. AQPI, Héritage Montréal, *Le silo no.5 du port de Montréal et son secteur, le passé, l'avenir* (Montréal, September 1998), 31-37.

¹²⁶ "From rags to riches: Ellerbe Becket invests glamour in a grain elevator," *Architecture Minnesota* 15, no. 1 (Jan-Feb, 1989), 22-25.

¹²⁷ AQPI, Héritage Montreal, *Silo no.5*, 61.

the former Rozon Mill, its size, geography, and lack of function set it apart from its industrial surroundings, indeed that of the urban fabric as a whole.

The most recognized example of a single urban elevator conversion, the 1930 Quaker Oats elevator in Akron, Ohio, which was transformed into the Quaker Square Hilton Hotel in 1990 (Fig.28, Fig.29). This involved gutting the interior of the complex's 120-foot-high and 24 foot diameter silos and cutting window openings into the remaining exterior shell.¹²⁸ Argentinean architect and historian Horacio Torrent outlined his proposal for the 1928 La Plata Cereal Co. elevator in the port city of Rosario, Argentina. Based on the premise that "the logical re-usage for these huge grain containers is the preservation of their attributes, whether keeping the use they were intended for or creating a similar usage that replaces the former one," Torrent proposed a project of minimal intervention and a certain functional continuity.¹²⁹ In keeping with the traditional storage function of the elevator, the structure would be refitted to receive the municipal archives; documents would be stored and conserved within the silos and the open space of the head-house re-imagined as reading room. The difficulties of obtaining funding for such preservation projects, and of finding the right architects and clients to assume the challenge of recycling such daunting structures were described by Marisa Williams of Heritage Toronto, in the case study of the abandoned Canada Malting Co. elevator on Toronto's waterfront.¹³⁰

¹²⁸ AQPI, H ritage Montr al, *Silo no.5*, 68.

¹²⁹ Ibid., 58.

¹³⁰ Ibid., 71-77.

Tourism and adaptive re-use ensure the continued presence of the elevator form. Through a renewed function and an economic contribution to the community, the elevator can take on an identity that allows it to become recontextualized and incorporated into the city. Thus, the disturbing and alien nature of the elevator can be subsumed into the new identity and neutralized. In this sense, the approach mirrors that of the concept of the Vieux Port, where selective preservation and interpretation is linked to insuring the “psychological security” of the public. The consequences are the de-naturing of the machine and an irrevocable alteration of the meaning of the surrounding landscape.

In the closing presentation of the colloquium, Heritage Montreal President Gérard Beaudet considered the options of demolition and adaptive re-use for elevator No. 5. He refused both, questioning whether the public interest was truly served by a process predicated solely on economic viability. Instead, he suggested that the elevator could be transferred into the public domain, and thus become the subject of public appropriation in the same manner as the Vieux Port. Noting how truly vulnerable industrial structures are, how rarely they are conserved for themselves, Beaudet argued that not even the provincial government status of “monument historique” could save elevator No. 5 if its intrinsic value was not recognized by the community. Rather than a radical transformation by demolition or grafting an acceptable function into the form, Beaudet advocated a gradual construction of a civic identity that would ensure the elevator’s permanence.

Calling for emptiness, and for functionlessness, he advocated that the No. 5 become part of the civic, public space of Vieux-Port.¹³¹

In essence, Beaudet proposed that the public adapt to the alienating reality of the elevator and integrate it into the historic continuity of the city. Acceptance would be bred through close contact, as the accessible spaces inside the No. 5 would be opened to the public. In this way, the elevator would acquire heritage value through a process of progressive public appropriation. The radical idea of conserving an abandoned industrial structure of this scale intact, with no other purpose than to be appreciated for its history and its form, poses a novel challenge of heritage interpretation. This approach suggests that the persistent dilemma of public acceptance of the elevator's place in the city could be addressed through monumentalising the No. 5.

In his 1903 essay *The Meaning of Monuments and their Historical Development*, Austrian art historian Alois Riegl conducted a prescient study of the nature and meaning of monuments, which still provides an invaluable frame of reference for understanding the changing meaning of buildings.¹³² Riegl defined the monument as an intentional memorial, a structure designed to evoke and therefore preserve the memory of people or events. They are catalysts for memories of a shared past and are therefore a stable and unifying element in the community and the landscape. "Unintentional monument" was the name Riegl

¹³¹ Ibid., 81-84.

¹³² Alois Riegl, "The Cult of Modern Monuments, Its Character and its Origin," translation, Kurt W. Forster and Diane Ghirardo, *Oppositions* 25 (Fall 1982), 24.

gave to structures that are markers of a less formal memory; works that were never destined to be commemorative become appreciated for themselves and their value defined by the beholder rather than the maker. As in the case of the No. 5, such structures often represent a break with the past rather than continuity, an advance or a deviation; their worth as a monument is predicated on this unique difference.

For those who invest it with the ideals of modern architecture or recognize it as the documentary evidence of history, elevator No. 5 is easily defined as an unconscious monument. However, as Kurt Forster remarked in the introduction to his translation of Riegl's work, the unintentional monuments, even those recognized by state cultural organizations, are those most vulnerable to revision:

Their modern status as "monuments" and "landmarks" entails a loss of practical usefulness and a halt to further transformation. They become, in effect, the homeless of history, entrusted to public and private guardians. Changes in the economic conditions and shifts in interest and taste make them easy victims. What is "saved" in one time may just as easily be "condemned" at another.¹³³

Clearly, there is an inherent danger that a narrow and subjective appreciation of the elevator for its symbolic and built history would not be universally shared.

G rard Beaudet's proposal of integrating the No. 5, unaltered into the public space and civic ideal of the Vieux-Port suggests the broader appeal of the ruin; a structure that functionlessness has rendered permeable, open to the

¹³³ Kurt W. Forster, "Monument/Memory and the Morality of Architecture," *Oppositions* 25 (Fall 1982): 2.

interpretations and speculations of the beholder. As Michael Roth explains, “when we frame an object as a ruin, we reclaim that object *from* its fall into decay and oblivion and often *for* some kind of cultural attention and care that, in a sense, elevates its value.”¹³⁴

Opening the elevator to the public would reveal the amazing complexity of the machine, the unimagined interior space and view reflecting back on the city. It would also reveal the dormant dangers of the buildings; the narrow metal staircases that climb 30 meters, the Byzantine network of early 20th century machinery, the crude covers over the shear drop of the silos. A share of the attraction of emptiness would then become the mystery of the ruin and the arrested danger of the form; the sublime feeling of awe and fear.¹³⁵ Paradoxically, the consequences of this “cultural attention and care” imply altering the structure. Secure staircases, guard rails and safety exits would have to be installed within a limited perimeter in order to allow the safe public access to the interior. Such modifications and limitations could lead to the “museumification” of the machine.

Ephemeral solutions

In the years following the shut down of elevator No. 5, artists living in and working with the derelict industrial area facing the elevator interpreted elevator

¹³⁴ Michael S. Roth, Claire Lyons, and Charles Merewether, *Irresistible Decay: Ruins Reclaimed* (Los Angeles: Getty Research Institute for the history of Art and the Humanities, 1997), 1.

¹³⁵ In her reading of Richard Haag’s landscape design for Gas Works Park in Seattle, Elizabeth K. Meyer sites the monumental nature of the machines and the latent fear of the site’s toxic history as the dual triggers of the post-modern feeling of sublime. William S. Saunders, ed., *Richard Haag. Bloedel Reserve and Gas Works Park* (New York: Princeton Architectural Press, 1998), 6-28.

No. 5 in ways that challenged the established parameters of the debate over its legitimacy.

Founded in 1993 by the directors of the French “Usines éphémères” project, “Quartier éphémère” investigates the cultural possibilities of post-industrial sites. Functioning with short-term leases on abandoned industrial buildings, Quartier éphémère transforms derelict structures of the Faubourg des Récollets, the historic industrial suburb adjacent to Old Montreal, (just west of McGill Street), into centres for cultural diffusion. Moving transiently from one site to the next, the cultural association also produces projects and interventions by young artists in and around the neighborhood. In the summer of 1997, Quartier éphémère launched “Panique au faubourg,” an event that showcased a variety of in-situ works interpreting the then un-reclaimed area.¹³⁶ Elevator No. 5 was drawn into this third landscape, an ephemeral zone of long-term industrial decay and momentary artistic transformations, by the work of the architects Atelier In Situ. During the “Panique au faubourg” event, In Situ used the undulating wall of the B-1 elevator as a surface for projected images, poetic allusions to the elevator’s function and to its credentials as architectural monument (Fig. 30).

“Projections” was a reflection on place of elevator No.5 in the city, the paradox of its commanding physical presence and its strange absence from collective memory. In Situ first magnified the traditional popular understanding of the elevator as a visual experience “a screen a screen which stops the gaze,” then

¹³⁶ “Panique au Faubourg” [electronic file] [cited 25 January 2001], available from http://www-mtl.look.ca/~ephemere/main_e.html; INTERNET.

questioned the security of this knowledge by dematerializing the structure.¹³⁷ The massive scale of these luminous projections, emanating from a forgotten industrial zone, temporarily disrupted the established meanings of both the Vieux-Port and the port as a whole by literally throwing the spotlight on elevator No. 5.

Quartier éphémère produced a second, more ambitious large-scale project involving the No. 5 in the summer of 2000. Controversial for the \$100, 000.00 grant the project received from the Canada Council, the “Silophone” proposed to temporarily re-claim the elevator for use as a sort musical instrument. The project was proposed by the artist’s collective [The User], a collaboration between composer Emmanuel Madan and architect Thomas McIntosh. In previous works, [The User] had explored the implications and possibilities of obsolete technology in contemporary society. The Silophone concept continued in this stream, questioning the modern ideal of progress as a cycle of consumption and disposal, construction and demolition. By redefining what is “obsolete,” the project proposed to lend elevator No. 5 an entirely new and unsuspected function, one that would ideally “open” the elevator to the public without altering the structure. The “sonic inhabitation” of elevator No. 5 consists of sound broadcast into the concrete silos of the B-1 where a note can reverberate for up to 20 seconds. The transformed sound is then captured by microphones and is diffused through a range of communication channels such as the Internet, the radio, telephone lines and a high-quality audio line on site, known as the “sonic observatory.” The

¹³⁷ Magali Guyon, “Metamorphoses of a District,” in *Panique au Faubourg: Catalogue published by Quartier Éphémère on the occasion of the exhibition Panique au Faubourg, Montreal, May 22 – June 29 1997*, by Quartier Éphémère (Montreal: Quartier Éphémère, 1997), 10.

public not only receives these sounds, but is invited to create them through the same means. The programming for this one-year project anticipates the dissemination of music composed for the Silophone both by [The User] and invited artists through national radio broadcasts and international Internet broadcasts. Thus, the public is invited to experience the interior space of elevator No. 5 through the highly suggestive medium of sound (Fig. 31)

The Silophone concept challenges the traditional relationship, predicated on sight and proximity, between people and the elevator. Offering the structure's interior space to sonic exploration introduces a viable function, one that maintains the impermeable integrity of the structure while "opening" it to a potentially international audience. In this sense, the sounds of the Silophone, broadcast through divers communication channels, play the same role as the postcard. But messages are both sent and received. Through the inter-action of people and the instrument, there is an invitation to inhabit, to claim the structure from a distance. Thomas McIntosh remarked: "appropriating a building for a cultural use which doesn't actually touch the building whatsoever, you sort of infuse the place with cultural meaning and then it becomes valuable to people and ceases to be a discussion about whether its ugly or not."¹³⁸

Although conceived strictly as a sonic experiment, the project has grown into an investigation of the potential of cultural uses for elevator No. 5, framed by activities initiated by heritage groups such as the Aqpi, Heritage Montreal, and

¹³⁸ Thomas McIntosh. Thomas McIntosh, interview by author, Montreal, 12 May, 2000.

DoCoMoMo Quebec.¹³⁹ The urbanistic implications of the Silophone connect with aspirations of the heritage movement; that act of re-investing in the emptiness of obsolete technology with function and identity could bring the elevator into the public domain. But can ephemeral uses bring the elevator into the collective memory of the city?

¹³⁹ DoCoMoMo or Documentation and Conservation of the Modern Movement is an international organization, founded in 1990, to promote the recognition and preservation of the significant works of the modern Movement; "Silophone, events calendar" [electronic file] [cited 21 August, 2000], available from <http://www.silophone.net/eng/event.html>; INTERNET.

Conclusion

In 2001, elevator No. 5 stands at the convergence of three very different landscapes, each exerting some measure of influence over its fate.

As long as the Port of Montreal maintains ownership of Windmill Point and the surrounding lands, elevator No. 5 will remain in the landscape of industry. Chapter One described the repeating cycle of modernization that created the port of Montreal, in which the terminal elevators were a natural consequence of the politics and economics of grain transportation and advances in engineering. In the early 20th century, obsolete components of the port's system would simply have been replaced with newer technology, however, the value of this land has been strongly influenced by the post-industrial economy.

Waterfront land is no longer the site of exchange with the wider world, rather, it is returning to city as the landscape of leisure, where the allure of "quality of life" and a "window on the river" has sparked a residential and commercial renaissance in Old Montreal. The value of elevator No. 5 for the Port of Montreal is now unclear. In the years since the shut down of the elevator, the Port has collaborated with artistic and preservationist activities surrounding the elevator and participated in discussions about elevator No. 5's future. Nevertheless, the institution continues to be ruled by the same the market forces that have shaped it over the centuries. The Port has indicated its openness to an economically viable development of the land and the building. Thus, projects involving radical alterations to the nature and structure of the machine, as outlined

in Chapter Four, have not been discounted as options, nor has outright demolition. In Chapter Two, this pragmatic understanding of the elevator is shown to have been challenged by the development of an iconography that conferred heroic qualities upon the machine. These images and the rhetoric that surrounded them have given the urban terminal grain elevator a myth, a symbolic life that has influenced and sustained the movement to preserve elevator No. 5.

Chapter Three examined the port's transition from private to public and from an industrial to a post-industrial space. Elevator No. 5's position in the Vieux Port, the landscape of leisure, is uncertain. It occupies an important place in the scenery of the park, yet the relationship between the machine and the interpreted vestiges of port is an uneasy one. Unlike elevator No. 2's remains, now artificially framed as "industrial archaeology," elevator No. 5 remains whole, a disturbing, even alienating, reminder of the recent past of the site. Even in its present derelict state, this elevator does not fit easily into the landscape of "reassurance" of the Vieux-Port.

Chapter Four outlines the different solutions explored by the participants of the "Silo No. 5" colloquium on the future of the elevator. In contrast to the varying degrees of compromise imposed by adaptive re-use came the proposal for the No. 5 to remain empty and become public property. The idea that the elevator could be given identity and meaning through a gradual public appropriation is inspired by the public process that created the Vieux Port, elevator No. 5 could take its place in the city as both a public space and Modern monument as Le Corbusier had unknowingly projected in *Vers Une Architecture*. However, the

populist spirit of the reclaimed landscape of the Vieux-Port has been losing ground to the increasingly commercial activities of the Vieux-Port in recent years.

The five-year plan of the Vieux-Port Corporation, for 1998-2003 calls for “full operational self-sufficiency.”¹⁴⁰ As a result, there has been a progressive increase in its of commercial and cultural infrastructure such as the IMAX theatre (built in 1992), the ISci Science Museum (built in 2000), and the seasonal Mosaïculture exhibition flower exhibition, installed in the Parc des éclusiers (summer 2000). Some of these activities claim the public space of the Vieux-Port for private benefit. In the case of the Mosaïculture event, actual physical barriers were erected around the Parc des éclusiers to enclose and control the view of the site, thus imposing a “pay-per-view” situation on public land. With these new amenities has come more rigid policing of the site as a whole. In these subtle ways, the Vieux-Port reverts back to industrial port’s isolationism, the policy of “entrée interdite sauf par affaires.” If the issue of the erosion of the public domain in this area is not addressed, it will be increasingly difficult to imagine the preservation of elevator No. 5 as monument or as a maintained ruin for the free use and access of the public.

Finally, elevator No. 5 belongs to the intangible landscape of the Faubourg des Récollets described as Chapter Four. Through the post-industrial artistic works produced by Quartier éphémère, elevator No. 5 has become bound to a community of derelict structures that have been opened to interpretations and speculations of a kind that subvert discussions of economic viability and

redemption through conservation. The Silophone project allows elevator No. 5 to retain its physical integrity and to remain “present” in the city. This is, of course, a temporary reprieve. By the end of the summer of 2001, elevator No. 5 will return to being a disturbing element in the urban landscape that interrupts rather than sustains the familiar patterns urban life. Can we imagine preserving a derelict monument for the sake of its provocation?

¹⁴⁰ “The Old Port of Montreal” [electronic file] [cited 15 February, 2001], available from <http://www.oldportofmontreal.com/>; INTERNET

Bibliography

Unpublished Sources

"Annual Report, 1884," Archives du Port de Montréal.

"Annual Report, 1903," Archives du Port de Montréal.

"Annual Report, 1904," Archives du Port de Montréal.

"Annual Report, 1905," Archives du Port de Montréal.

"Annual Report, 1906," Archives du Port de Montréal.

"Annual Reports, 1924," Archives du Port de Montréal.

Cardinal, Aurèle. "Lieu d'appartenance historique: pour réaménager le Vieux-Port de Montréal, authenticité vaut mieux que fausse nostalgie." Montreal (21 May 1991): 3. Annotated draft document, "Vieux-Port," 7H1, tome 2, Heritage Montreal.

Hallé, Jaqueline. *Analyse Architecturale: Élévateur No. 5 - Port de Montréal*, unpublished report produced for Le Bureau d'examen des édifices fédéraux du patrimoine, Parcs Canada, 1995.

"Lachine Canal – Closing Of." 1360-05-00 vol.1, Archives du Port de Montréal.

"Montreal Warehousing Co, Prospectus." Typescript, 1916, Archives du Port de Montreal.

"Old Files, F-I, Grain Statistics," 1933, Archives du Port de Montréal.

"Procès Verbaux, 1898," Archives du Port de Montréal.

"Procès Verbaux, 1899," Archives du Port de Montreal.

Published Sources, Articles

Allard, Desmond. "Closing of port a threat" *The Montreal Star*, 29 March 1969.

Banham, Reyner. "Catacombs of the modern movement." *Archetype* 1, no.4 (Winter 1980): 43-47.

Benoit, Jacques. "Front comun pour sauver le silo no.1." *La Presse* (Montreal), January, 1983.

Bergeron, Louis. "les Etats-Unis, berceau de l'architecture des silos à céréales." *L'Archéologie Industrielle en France* 28 (June, 1996): 31-32.

Bluestone, Daniel. "Academics in Tennis Shoes, Historic Preservation and the Academy." *Journal of the Society of Architectural Historians* 58, no.3 (September 1999): 300-307.

Boisvert, André. "Une entrevue avec Balnche Lemco Van Ginkel." *Urbanité* 4, no.1 (printemps 1999): 5-9.

Burckhart, Lucius. "The Blast Furnace as Cultural Heritage." *Daidalos* (December 1995): 130-135.

Brouillette, Benoît. "Le port de Montréal, hier et aujourd'hui." *Revue de Géographie de Montréal*, vol. XXI, no. 2, 1967.

_____. "Le port de Montréal, cet inconnu." *La Presse* (Montreal), Tuesday, 30 March, 1965.

Brown, William J. "Walter Gropius and the Grain Elevators, Misreading Photographs." *History of Photography*, Vol.17 (1993): 304-307.

Borruet, René. "Le silo d'Arenc à Marseille: épave ou monument?" *L'Archéologie Industrielle en France* 28 (juin 1996): 40-49.

Champoux, Roger. "Le fleuve derrière un mur." *La Presse* (Montreal), 12 November 1966.

Charney, Melvin. "The grain elevators revisited." *Architectural Design* 37, (July 1967): 328-331

Cromley, Elizabeth C. Review of *A Concrete Atlantis: U.S. industrial building and European modern architecture, 1900-1925*, by Reyner Banham, *Society of Architectural historians Journal* 46, no.3 (September 1987): 301-302.

Eckbo, Garrett. "The Landscape of Tourism." *Landscape* 18, no.2, (Spring-Summer, 1969): 29-31.

Eyre, John. "The aging [sic] waterfront between Jacques Cartier and Victoria bridges must be abandoned." *The Gazette* (Montreal), 24 March 1969.

Finn, Patrick. "Port renewal slated for city." *Montreal Star*, December 9, 1977.

"Fireproof Grain Elevators in North America." *Engineering News* XLVI (July 18, 1901): 42.

"From rags to riches: Ellerbe Becket invests glamor in a grain elevator." *Architecture Minnesota* 15, no.1 (Jan-Feb, 1989): 22-25.

Forster, Kurt W. "Monument/Memory and the Morality of Architecture." *Oppositions* 25 (Fall 1982): 2.

"Grain elevator conversions could ease prison overcrowding." *Commercial Renovation* 11, no.6 (December 1989): 16.

Guyon, Magali. "Metamorphoses of a District." In *Panique au Faubourg: Catalogue published on the occasion of the exhibition Panique au Faubourg, Montreal, May 22 – June 29 1997*, by Quartier Éphémère, 9-10. Montreal: Quartier Éphémère, 1997.

"La "fenêtre" s'entr'ouvre." *La Presse*(Montreal), 8 August 1983.

Lanken, Peter. "Practical reasons demand reprieve for grain elevator." *The Gazette* (Montreal), 16 February, 1983.

Linteau, Paul-André. "Le développement du Port de Montréal au 20ième siècle." *Historical Papers/ Communications historiques* (1972): 203.

Lowenthal, David. "Material Preservation and its Alternatives." *Perspecta* 25 (1989): 68-77.

Masse, Denis. "Le port: 'entrée interdite sauf par affaires.'" *La Presse*(Montreal), Saturday, 5 June; Monday, 7 June; Wednesday 9 June, 1965.

"Montreal aspires to be the great grain shipping port of the western world." *The Buffalo Daily Express*, January 21, 1899.

Mullington, Dave. "Problem for the city's Port Authority." *Montreal Star*, 16 April 1977.

"New elevator on water front as it now appears." *Montreal Daily Star*, 11 April 1903.

"On démolit au Vieux Port." *La Presse* (Montreal), 21 July, 1983.

Peritz, Ingrid. "Waterfront grain elevator: blight or heritage site?" *The Gazette*(Montreal), August 5, 1995.

Riegl, Alois. "The Cult of Modern Monuments, Its Character and its Origin." translation, Kurt W. Forster and Diane Ghirardo, *Oppositions* 25 (Fall 1982): 24.

Rosenberg, Elissa. "Public Works and Public Space: Rethinking the Urban Park." *Journal of Architectural Education* 50, no.2 (1996): 89-103.

Schwarzer, Mitchell. "Myths of Permanence and Transience in the Discourse on the Historic Preservation in the United States." *Journal of Architectural Education* 48, no.1 (September, 1994): 2-11.

Sijpkens, Pieter. "Landmarks are lost with demolition of obsolete structures." *The Gazette* (Montreal), 8 December 1990.

Sonne, Wolfgang. "The City and the act of Remembering." *Daidalos* (December 1995): 90-101.

Thayer, Robert, Jr. "Pragmatism in Paradise, Technology and the American Landscape." *Landscape* 30, no.3 (1990): 1-11.

_____. "Beyond Landscape Guilt: Technologies Revolutionize the Landscape." *Landscape Architecture* 74, no.6 (Nov./ Dec. 1984): 49-55.

Turner, Drexel. "Our Egypt: the ARI rice elevators." *Cite: a publication of the Rice Design Alliance* (Fall 1987): 14, 15.

Vervoort, Patricia. "Industrial Building in the West: The dominion Government Elevators at Saskatoon, Moose Jaw and Calgary." *SSAC Bulletin* 16, no.3 (September 1991): 62-71.

Published Sources, Books

AQPI, Héritage Montréal. *Le silo No. 5 du port de Montréal et son secteur, le passé, l'avenir*. Montréal, September 1998.

Andreae, Christopher. *Lines of Country: An Atlas of Railway and Waterway History in Canada*. Erin, Ontario: Boston Mills Press, 1997.

Ashworth, G.J., Tunbridge, J.E. *The Tourist-Historic City*. London: Belhaven Press, 1990.

L' Association le Vieux Port. *Une stratégie de réaménagement pour le Vieux-Port de Montréal: un programme réalisable proposé par l'Association le Vieux-Port, A redevelopment strategy for Le Vieux-Port de Montréal*. Montréal: Association le Vieux-Port, 1979.

Bairstow, Frances, ed. *The Dynamics of Change – Labour Relations on the Montreal Waterfront*. Montreal: Industrial Relations Centre McGill University, 1970.

- Ball, Norman R., ed. *Building Canada, A History of Public Works*. Toronto: University of Toronto Press, 1988.
- Banham, Reyner. *A Concrete Atlantis, U.S. Industrial Building and European Modern Architecture, 1900-1925*. Cambridge, Massachusetts: MIT Press, 1986.
- _____, *Theory and Design in the First Machine Age*. Cambridge, Massachusetts: The MIT Press, 1994.
- Beaudet, Gérard. *Le pays réel sacrifié*. Montréal: les Editions Nota bene, 2000.
- Bélisle, Jean et al. *Regard sur un paysage industriel*. Montréal: Centre Canadien d'Architecture/Canadian Centre for Architecture, 1992.
- Benton, Tim, Charlotte Benton, and Dennis Sharp, eds. *Form and Function, a source book for the History of Architecture and design 1890-1939*. London: Crosby Lockwood Staples, in association with the Open University, 1975.
- Bothwell, Robert, Kilbourn, William. *C.D. Howe, A Biography*. Toronto: McClelland and Stewart Limited, 1979.
- Boyer, M. Christine. *The City of Collective Memory: Its Historical Imagery and Architectural Entertainments*. Cambridge: MIT Press, 1994; reprint 1998.
- Brand, Stewart. *How Buildings Learn: What Happens After They're Built*. New York: Penguin Books, 1994.
- Brouillard, Pierre. "Le développement du Port de Montréal, 1850-1896." M.A. thesis, Université du Québec à Montréal, 1976.
- Canadian Who's Who*. vol. VIII, 1958-60. Toronto: Trans-Canadian Press, 1960.
- Cardinal, Hardy et Associés and Peter Rose. *Vieux-Port de Montréal Plan directeur d'aménagement*. Société du Vieux-Port de Montréal, 1990.
- Chambers, Ernest. *The Book of Montreal, A Souvenir of Canada's Commercial Metropolis*. Montreal: The Book of Montreal Company, 1903.
- Chodos, Robert. *The CPR, A Century of Corporate Welfare*. Toronto: James Lewis & Samuel, 1973
- Consultative Committee of the Vieux-Port of Montreal. *The Vieux-Port of Montreal, Public Consultation Final Report*. Montreal: Société du Vieux-Port, 1986.

- Cosgrove, Dennis E. *Social formation and symbolic landscape*. Madison: University of Wisconsin Press, 1998.
- Cosgrove, Dennis E., Stephen Daniels, eds. *The Iconography of Landscape, Essays on the symbolic representation, design and use of past environments*. Cambridge: Cambridge University Press, 1988.
- Currie, A.W. *The Railway of Canada*. Toronto: University of Toronto Press, 1957.
- Dempsey, Hugh A., ed. *The CPR West, The Iron Road and the Making of a Nation*. Vancouver: Douglas and McIntyre, 1984.
- Desnoyers, Mercure, Gagnon. Sheppard, Moshe Safdie. *Le Vieux-Port de Montréal. Un projet du Ministère d'État aux affaires urbaines..* Montréal: Desnoyers, Mercure, Gagnon. Sheppard, Moshe Safdie, 1979.
- Gagnon-Pratte, France. *The Banff Springs Hotel, The Castle in the Rockies*. Québec: Editions Continuité, 1997.
- Gournay, Isabelle, Vanlaethem, France, eds. *Montréal métropole, 1880-1930*. Montreal: Les Editions du Boréal, 1998.
- Grain Elevators*. John S. Metcalf co. Limited, 1926.
- Growth of a Great Port*. Montreal: Harbour Commissioners of Montreal, 1927.
- Gross, David. *The Past in Ruins, Tradition and the Critique of Modernity*. Amherst: The University of Massachusetts Press, 1992.
- Groth, Paul and Todd W. Bressi, eds. *Understanding Ordinary Landscapes*. New Haven: Yale University Press, 1997.
- Groupe de Recherche sur l'Histoire du Port de Montréal. *Construction des élévateurs à grain du Port de Montréal. 1885-1970*, 1981.
- Forget, Madeleine. *Les Gratte-Ciel de Montréal*. Montréal: Les Editions du Méridien, 1990.
- Fulton, Murray E. *Canadian Agricultural Policy and Prairie Agriculture*. (Ottawa: Minister of Supply and Services Canada, 1989.
- Innis, Harold A. *A History of the Canadian Pacific Railway*. Toronto: University of Toronto Press, 1971.
- Jackson, John B. *Discovering the Vernacular Landscape*. New Haven: Yale University Press, 1984.

- _____. *The Necessity of Ruins*. Amherst: The University of Massachusetts Press, 1980.
- Keefer, T.C. *Philosophy of Railroads*. Toronto: University of Toronto Press, 1972.
- Ketchum, Milo. *The Design of Walls, Bins and Grain Elevators*. New York: The Engineering News Publishing Company, 1911.
- L'Allier, Paul. *Adrien Hébert*. Québec: Musée du Québec, 1993.
- Leacock, Stephen. *Montreal, Seaport and City*. Garden City, New York: Doubleday, Doran & Company, 1942.
- Le Corbusier. *Vers une architecture*. Paris: G. Crès et Cie., 1924.
- Lewis, Robert. *Manufacturing Montreal, the Making of the Industrial Landscape 1850 to 1930*. Baltimore and London: The Johns Hopkins University Press, 2000.
- Mahar-Keplinger, Lisa. *Grain Elevators*. New York: Princeton Architectural Press, 1993.
- Miles, Malcolm, Tim Hall, Iain Borden, eds. *The City Cultures Reader*. London and New York: Routledge, 2000.
- Marsan, Jean-Claude. *Montréal en Évolution: historique du développement de l'architecture et de l'environnement urbain montréalais*. Montreal: Editions du Méridien, 1994.
- _____. *Sauver Montréal, Chroniques d'architecture et d'urbanisme*. Montreal: Les éditions du Boréal, 1990.
- Morgan, Henry James, ed. *Men and Women of the Time, a Handbook of Canadian Biography*. Toronto: William Briggs, 1898.
- Nye, David E. *American Technological Sublime*. Cambridge, Massachusetts: The MIT Press, 1994.
- Ostiguy, Jean-René. *Adrien Hébert, Premier interprète de la modernité Québécoise*. Saint-Laurent: Editions du Trécaré, 1986.
- Plans of Grain Elevators*. Chicago: Grain Dealers Journal, 1913.
- Poitras, Jacques. *La carte postale Québécoise, Une aventure photographique*. Laprairie: Editions Broquet Inc., 1990.

The Port of Montreal and the St. Lawrence Seaway, A Two Part Discussion Sponsored by the Montreal Board of Trade, April 25 and May 2, 1957. Montreal: Board of Trade, 1957. Typescript.

Report on the Works for the Improvement and Maintenance of the Harbour of Montreal for the Year 1911, Port of Montreal, 1911.

Robinson, Bart. *Banff Springs, The Story of a Hotel.* Banff: Summerthought, 1973.

Roth, Michael S., Lyons, Claire and Charles Merewether. *Irresistible Decay.* Los Angeles: Getty Research Institute for the history of Art and the Humanities, 1997.

Saunders, William S., ed., *Richard Haag, Bloedel Reserve and Gas Works Park.* New York: Princeton Architectural Press, 1998.

Scheffer, Carole, *Architectural Postcards and the Conception of Place: Mediating Cultural Experience* unpublished dissertation for the Humanities Program, Concordia University, 1999

Scully, Vincent , *American Architecture and Urbanism.* New York Praeger, 1969.

Stelter, Gilbert A., Alan F.J. Artibise, eds., *Shaping the Urban Landscape, Aspects of the Canadian City-Building Process.* Ottawa: Carleton University Press, 1982.

Tombs, Laurence Chalmers, *National Problems of Canada: The Port of Montreal* Toronto: Mcmillan Company of Canada, 1926.

Trépanier, Esther. *Peinture et modernité au Québec 1919- 1939.* Montreal: Editions Nota bene, 1998.

Tulchinsky, Gerald J.J., *The River Barons, Montreal Businessmen and the Growth of Industry and Transportation, 1837-1953.* Toronto and Buffalo: University of Toronto Press, 1977.

Urry, John, *Consuming Places.* London: Routledge, 1995.

_____, *The Tourist Gaze, Leisure and Travel in Contemporary Societies.* London: Sage Publications, 1990.

Wilson, C.F., *A Century of Canadian Grain, Government Policy to 1951.* Saskatoon: Western Producer Prairie Books, 1978.

Wrede, Stuart, William Howard Adams, *Denatured Visions: Landscape and Culture in the Twentieth Century.* New York: the Museum of Modern Art, 1991, reprint 1994.

Interviews

Madan, Emmanuel, Composer, member of [The User] artists' collective. Interview by author, 12 May 2000, Montreal. Tape recording.

McIntosh, Thomas, Architect, member of [The User] artists' collective. Interview by author, 12 May, 2000, Montreal. Tape recording.

Electronic Sources

"The Old Port of Montreal, A masterpiece of harmony" [electronic file] [cited 21 August, 2000]; available from <http://www.oldportofmontreal.com/>; Internet.

"The Old Port of Montreal"[electronic file] [cited 15 February, 2001]; available from <http://www.oldportofmontreal.com/>; Internet.

"Panique au Faubourg" [electronic file] [cited 25 January, 2001]; available from http://www-mtl.look.ca/~ephemere/main_e.html; Internet.

"Silophone, events calendar" [electronic file] [cited 21 August, 2000]; available from <http://www.silophone.net/eng/event.html>; Internet.



Figure 1

“Havre de Montréal, un port fluvial, 1830 à 1858.” Map.
Illustration from Cardinal, Hardy et Associés and Peter Rose,
Vieux-Port de Montréal Plan directeur d’aménagement.
(Société du Vieux-Port de Montréal, 1990), 9.



Figure 2: "Havre de Montréal, un port internationale, 1859 à 1899." Map.
Illustration from Cardinal, Hardy et Associés and Peter Rose,
Vieux-Port de Montréal Plan directeur d'aménagement.
(Société du Vieux-Port de Montréal, 1990), 10.



Figure 3: "Naissance du port moderne, 1900 à 1930" Map.
Illustration from Cardinal, Hardy et Associés and Peter Rose,
Vieux-Port de Montréal Plan directeur d'aménagement.
(Société du Vieux-Port de Montréal, 1990), 11.



Figure 4 : "Montreal harbor"
Postcard
Archives Nationales du Québec
CP 30

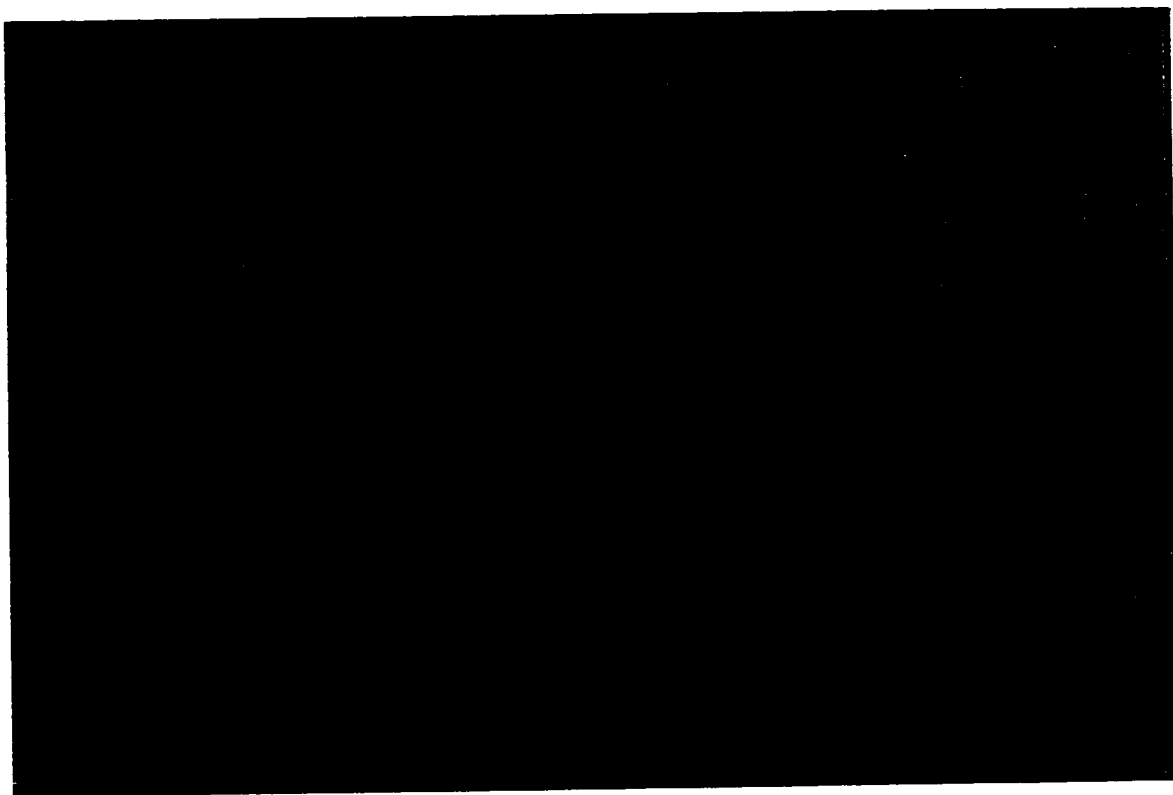


Figure 5: "Montreal, General view of the harbor"
Postcard, c.1910
Archives Nationales du Québec
Collection Michel-Bazinet
CP 5661

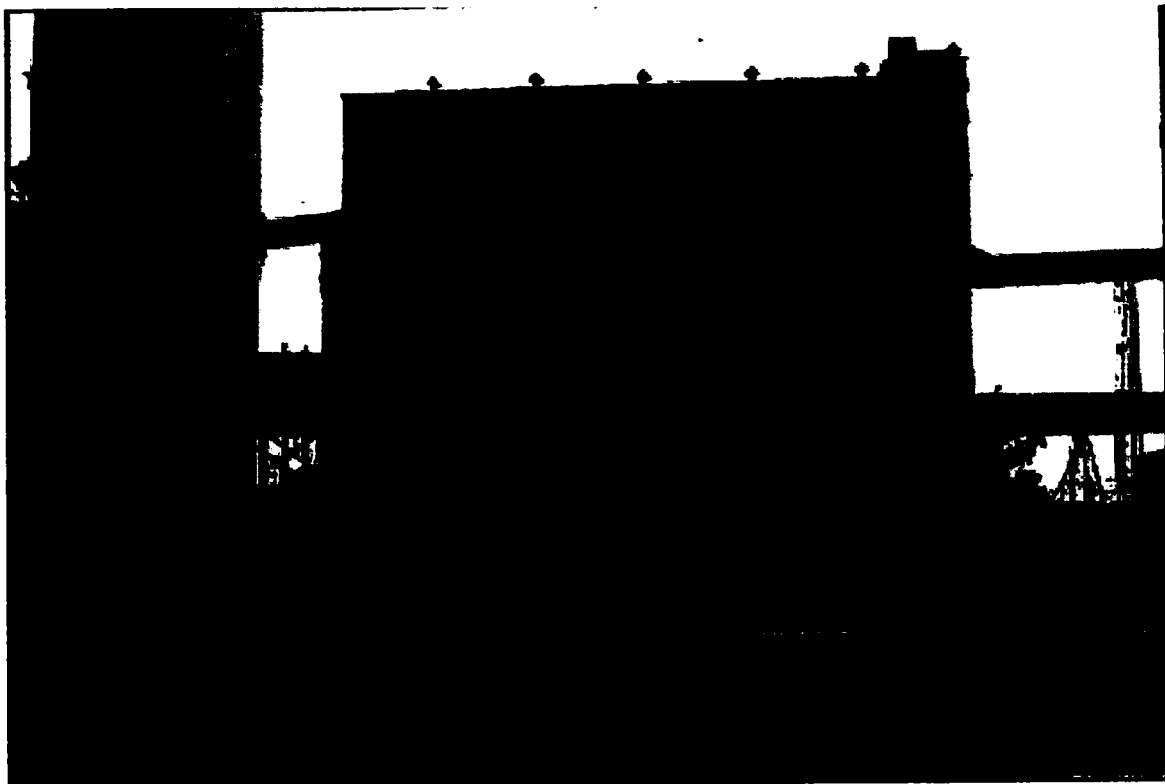


Figure 6: Building "B" (1903-1906), elevator No.5.
Summer 1999
Photo by author



Figure 7: D.W. Hatch

"View looking south west from the tower of Notre-Dame-de-Bonsecours at various activities happening on the wharves of the port of Montréal, Québec"

1903

Gelatin silver print

Centre Canadien d'Architecture/Canadian Centre
for Architecture

PH1989.0141

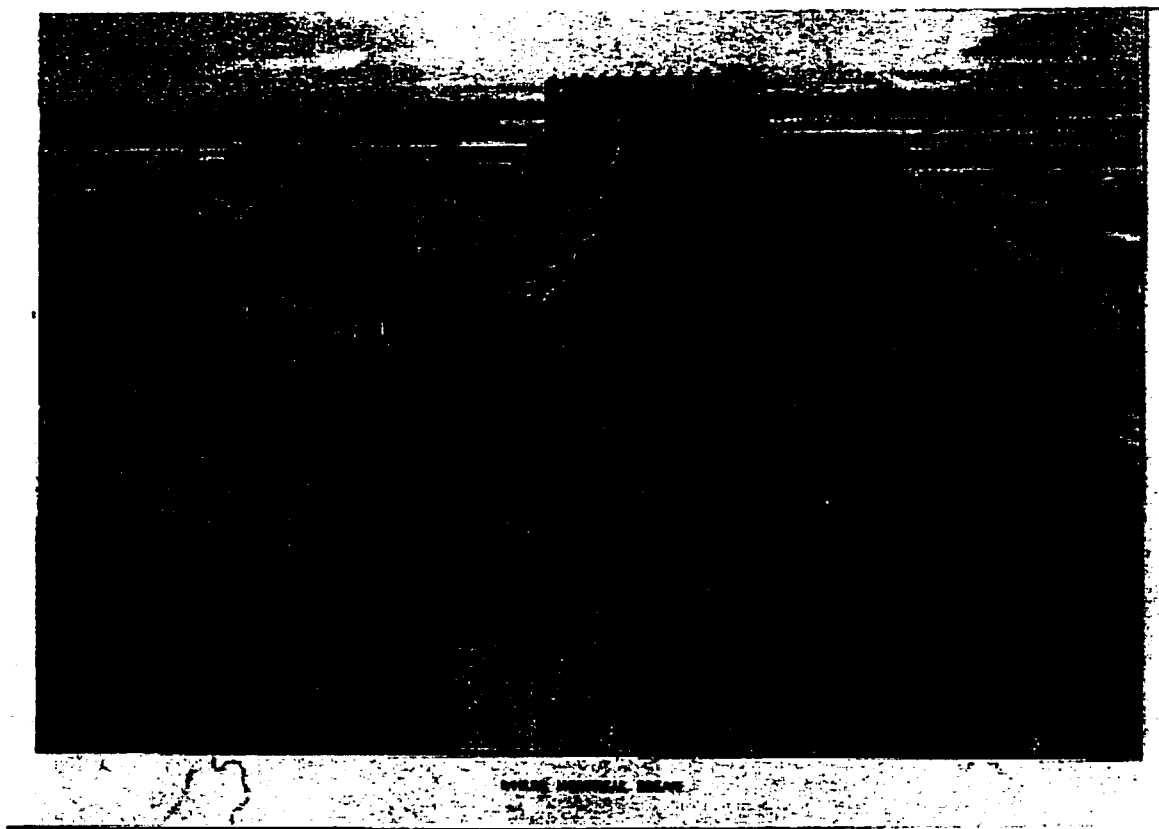


Figure 8: "Where Montreal Began"
Historic Montreal, Past and Present
(Montreal: Henry Morgan & Co, no date)
No page number.

LE PORT

"Entrée interdite sauf par affaires"

La police du port puise chaque année \$20,000 chez les visiteurs indus

— 1 —

par Denis Masse

Bon an, mal an, les infractions commises par les automobilistes dans le port de Montréal, rapportent à l'administration quelque \$20,000. L'an dernier, elles ont même totalisé près d'un millier de dollars de plus, soit exactement \$20,930.

En billets de cinq dollars, ce montant équivaut à 4,188 contraventions. Pour atteindre ce chiffre, il a fallu que chaque policier du port en distribue en moyenne 52. Cette action s'est exercée dans une période de huit mois — la saison de navigation — et encore faut-il soustraire les samedis et dimanches alors que le public est ordinairement toléré. Le tout sur un terrain d'une dizaine de miles de longueur, soit l'équivalent de la seule rue St-Laurent.

Ces infractions vont de la "circulation sans affaires" ou "stationnement interdit".

Elles ne comprennent pas les arrestations entraînant des condamnations en cour et dont le nombre s'est élevé à 323 au cours de la saison 1964. Ces accusations sont de crimes qui pleuvent chaque jour dans une métropole; elles varient du simple vol au vagabondage.

Les policiers savent qu'un montant de \$20,000 est approprié aux prévisions budgétaires au compte des infractions. Ils ne doivent donc d'ouvrir l'oeil; la loi — et l'obéissance — leur interdisent de fermer les yeux sur les infractions quotidiennes. Ils ont même parfois

à ce propos, l'aide d'agents extérieurs comme les administrateurs même du port.

Cette chasse de tous les jours dans la zone clôturée du port de Montréal, s'appuie sur deux motifs indéracinables: d'abord, une loi stricte qui donne au Conseil des ports nationaux des prérogatives très larges dans ce domaine et aussi le fait qu'à l'exception des villes où il est permis de stationner partout sans avis contraire, il est plutôt interdit de stationner où que ce soit dans le port, sauf aux endroits permis et encore ces endroits sont-ils plutôt

rare et sélectionnées selon des catégories d'usagers.

La loi ne laisse aucun échappatoire.

La zone la plus affairée du port de Montréal s'étend de la rue McGill à la rue Yvon, en bordure de la rue de la Commune, puis à la rue St-Laurent.

tre-Dame. Toute cette zone est ceinturée d'une clôture percée ici et là de fenêtres qui servent d'entrées et de sorties. A l'intérieur de cette clôture, le visiteur n'est plus en territoire municipal: il se trouve sur un terrain qui relève de la loi fédérale.

Voir PORT en page 4



Cette panoplie d'interdictions, c'est la décoration extérieure du port. Sur un treillis métallique qui ceinture la zone affairée du port, des enseignes multicolores rivalisent de sévérité à l'endroit de l'intrus qui ose enfreindre la loi.



Le policier du port distribue plus de 4,000 billets de contravention au cours d'une saison, sur un territoire moins long que la rue St-Laurent.

Figure 9: "Le Port: 'Entrée interdite sauf par affaires'"
La Presse (Montreal), 5 June 1965



Figure 10: B-1 Building (1958), elevator No.5
Summer 1999
Photo by author

No. 1 yesterday at Out-

made in the charter of
trust, and
the... of... and bill...
the authority to the City
last... however, and
petitioners are aware that
in operation in a few
of the Empire for a time
that the expression of
against it was so strong
medical testimony showed
it was not obtained,
system had been fully test-
cases the Imperial Legisla-
to abrogate the obnoxious

where such an attempt to
in question would not be
entire, but, on the con-
trary, it, as it would
incur the and the protec-
and
... that such a require-
ment be contrary to the
and subversive of
true morality, and
believe that the adoption
out would injuriously af-
fect of our city not only
the British Empire, but
of the civilized world, and
where, with one of Eng-
land's... on such mat-
the law fails to regulate
it utterly away, it neces-
sarily establishes an
... humbly pray
lightened action of the
Legislative Assembly of
Quebec, the objectionable
passed from the proprie-
to the charter, and thus
be humiliation of being
... the
... will ever, as in-
... pray
... of the Protestant Min-
... .

ers have expressed a willingness to meet
the request of the men, but they say
they are unable to do so at once owing
to the attitude of the small contractors.
The men are taking every precaution
to avoid the serious mistake they made
in 1884, when they went on strike without
the sanction of their International Union.

Ferde says he has a large amount of
work under way, most of which was
contracted for at the rate of wages that
prevailed last year. He is prepared to
pay as high wages as any other contrac-
tor for the coming building season, but
he strongly objects to be singled out in
this manner.

in no country
so radical a cur-
ring from the 19
century. People
is hard to read
England and it
they it is easy
the other; but
Scotland was a
fishermen came
went to Engla-
comprised two
and speaking
was occasional
lands and the I
cult to get fire
to the other.
his military re-
one would not
impossible to
sufficient to m
the road.

COUNTRY

Professor W.
Johnson's Jon-
... of...
by the few pro-
for among oth-
speaks of the
ing a "cullen p-
white. Oliver
and rocks inter-
ing from a de-
lecturer gave at
people.

PER

Mr. Septimus
Miss Ethel
from Ste. Agathe
Mr. Edwin
for this afternoon
Mr. Greenham
the guest of Mr.
Rev. A. J. De
week at Ste. Ag-
Mr. and Mrs.
turned to town
Mrs. J. F. Fere
early in March.
Mrs. E. A. E
Quebec, are spe-
cial.
Mr. Felton G.
guest of Mrs.
street.

Mr. James
Kearney with his
to Quebec.
En. Ald. Williams
has been visiting
to Ottawa.

Mr. A. G. B.
Township Clerk
in Sherbrooke.

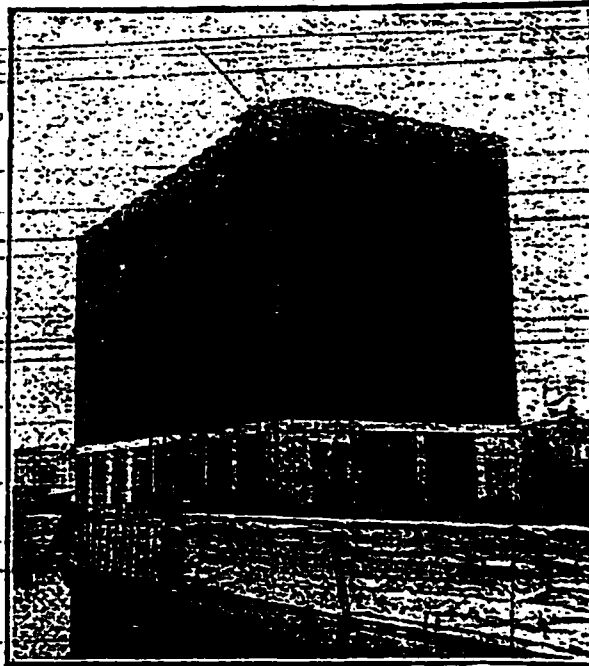
Miss Deserres
Chapman, of Ott
for a fortnight.

Miss Mary
spent Easter week
in Sherbrooke.

Miss Nora St-
guest of Miss M.
broken for a re-

Mrs. Chas. A.
York, are the ge-
tes, Sherbrooke.

At the university
Sherbrooke Hall.



(Photo by J. G. Gendron.)

NEW ELEVATOR ON WATERFRONT AS IT NOW APPEARS

The million bushel grain elevator in front of the city is now considerably more
than half completed, and work upon the marine leg has begun.

The work so far done on the structure is estimated at \$175,000, while the ma-
terials on hand and ready to put in place as soon as needed are estimated to be
worth \$25,000.

During the high water this spring there was a week's delay in the construc-
tion, as the men could not get the materials over the miniature island on which
lapped about the sturdy foundations to a depth of several feet. By August it is
expected that the elevator will be practically complete, though what is to be done
respecting grain conveyers has not yet been decided upon. These conveyers are
not a portion of the original elevator contract, and as no plan has yet been de-
cided upon for the permanent sheds over which they will eventually run, it will
naturally be some time before anything beyond a system of temporary conveyers
will be put into use.

It is expected that the Harbour Commissioners will some time this week meet
the members of the Government at Ottawa, to make arrangements for the neces-
sary funds for the building of the sheds and conveyers.

THE VANDERBILT MARRIAGE TO-DAY

Uncle Mr. Frederick Gebhard, Her four
bridesmaids were Miss Isabelle May, of
Washington, Miss Florence Tremblay, a
cousin of Mr. Vanderbilt, Miss Evelyn
Parsons, and Miss Nathalie Schenck.

The bride was dressed in heavy white
silk with a veil of pure lace, leaving her

Figure 11: "New elevator on waterfront as it now appears"
The Montreal Daily Star, April 11 1903



Figure 12: "One of the old White buses on a sight-seeing trip stops to view the "new" Banff Springs, late 1920s."
Illustration from Bart Robinson, *Banff Springs The Story of a Hotel* (Banff: Summerthought, 1973), 79



Figure 13: "Greeting from Montreal"
Postcard
Archives Nationales du Québec
CP 3049

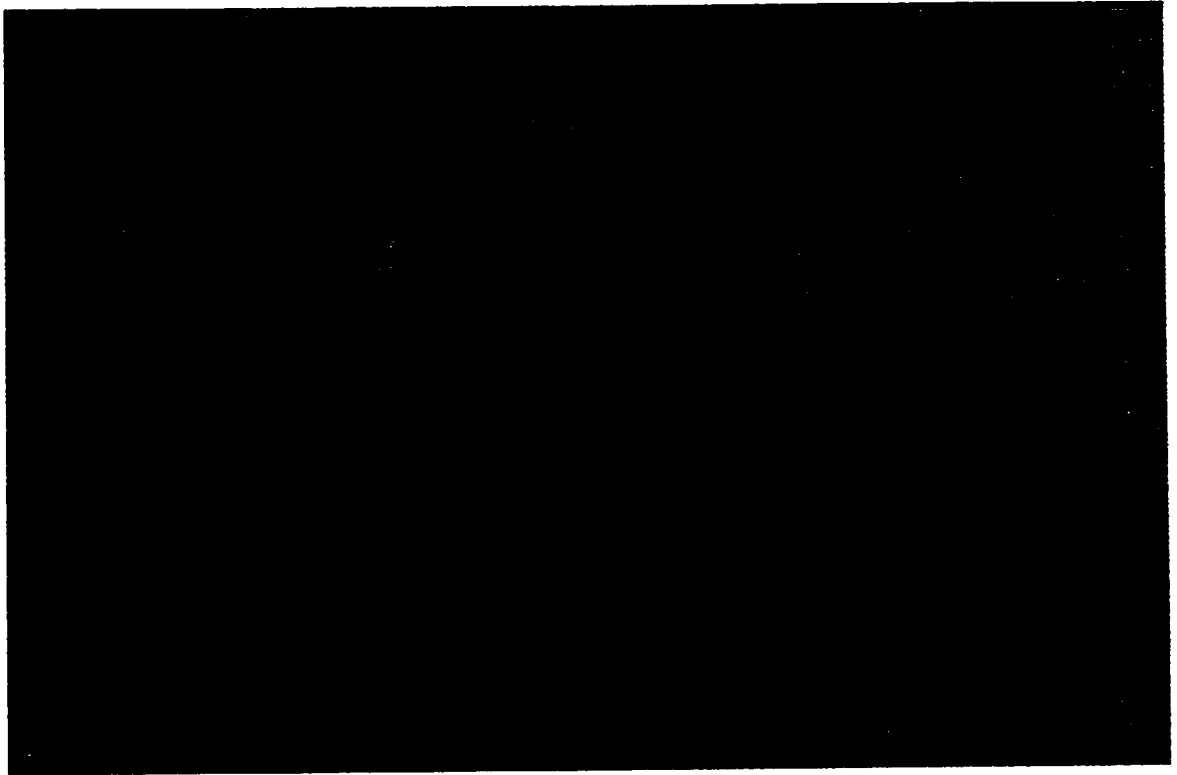


Figure 14: "Montreal, New Grain Elevator, Harbor"
Postcard
Archives Nationales du Québec
Collection Michel-Bazinet
CP 5674



MONTREAL HARBOR FROM GRAND TRUNK ELEVATOR.

Figure 15: "Montreal Harbor from the Grand Trunk Elevator"
Postcard
Author's collection

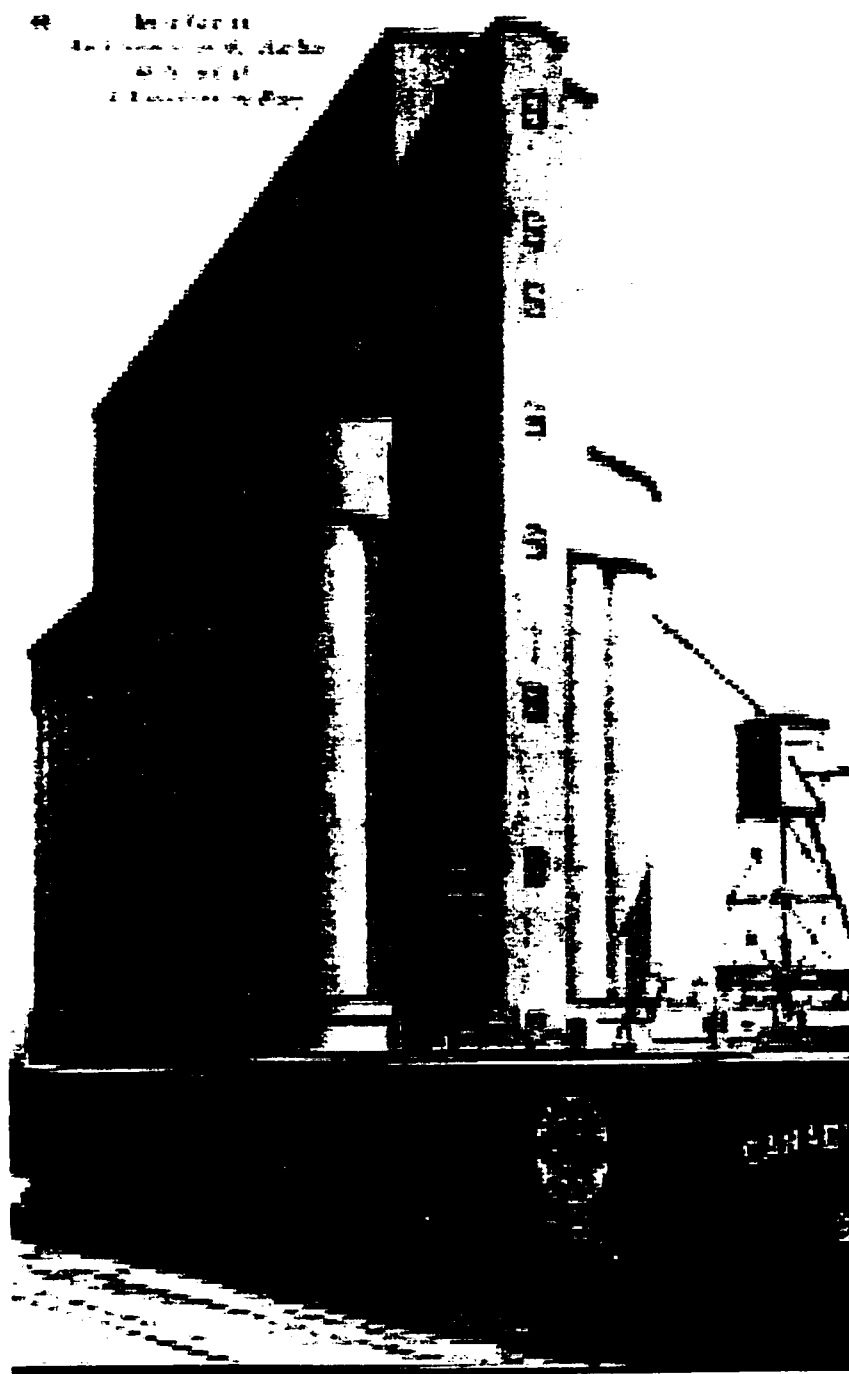


Figure 16: "Montreal – an elevator in the harbor"

Postcard

Archives Nationales du Québec

Collection Michel-Bazin

CP 6577

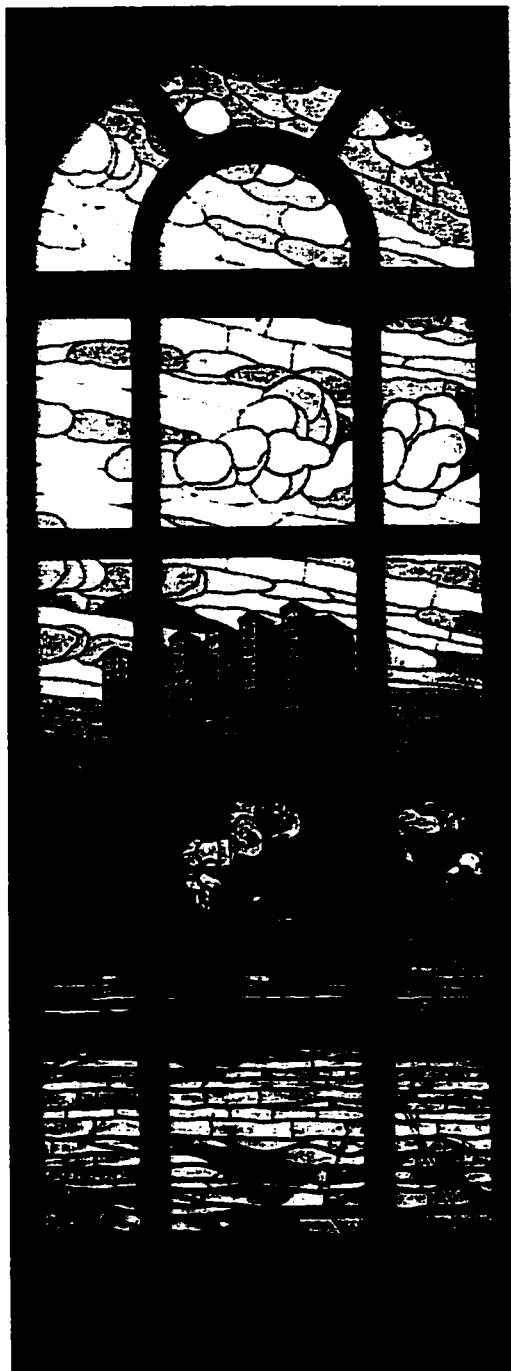


Figure 17: Charles O'Shea,
"Port of Montreal with elevator No.5"
Stained-glass window, c.1922
City Council Chambers, City Hall, Montreal
Archives de la Ville de Montréal
U-1145-12

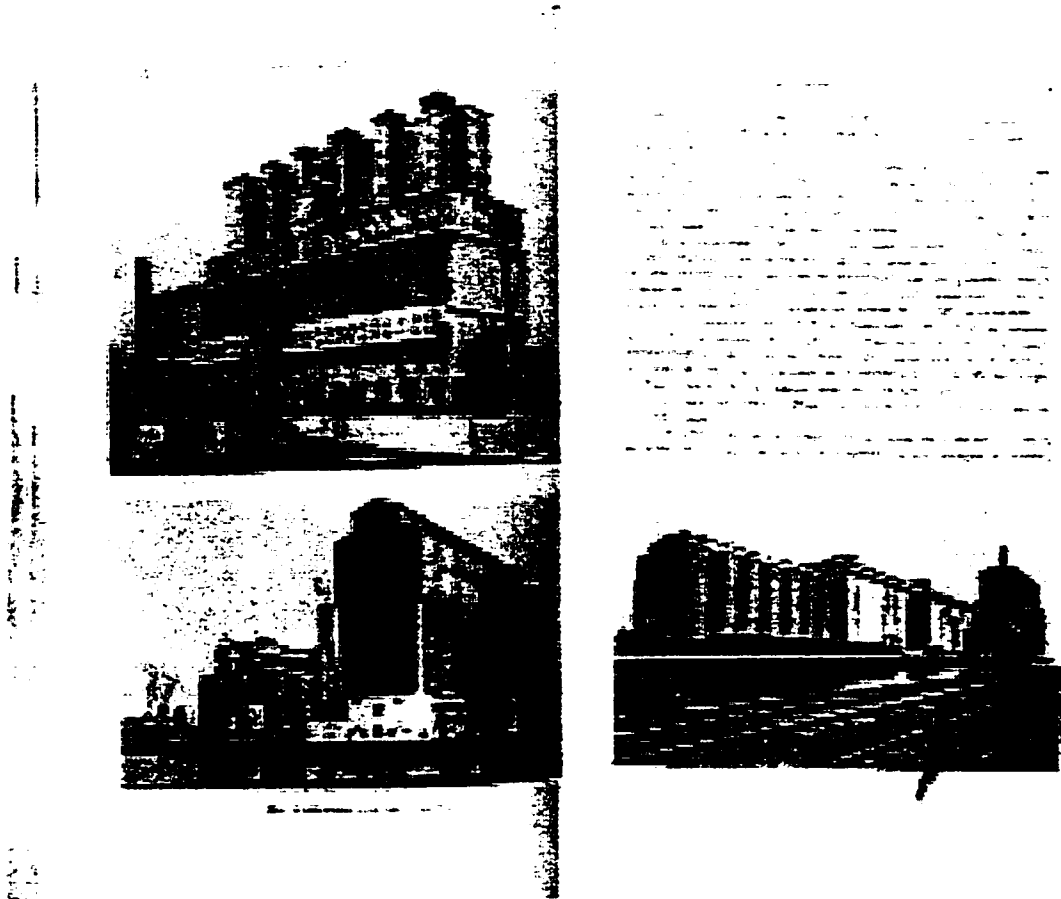


Figure 18: "Grain elevators of North and South America"
 Illustrations from Le Corbusier, *Vers une Architecture*
 (Paris: G. Crès et Cie., 1924), 20.

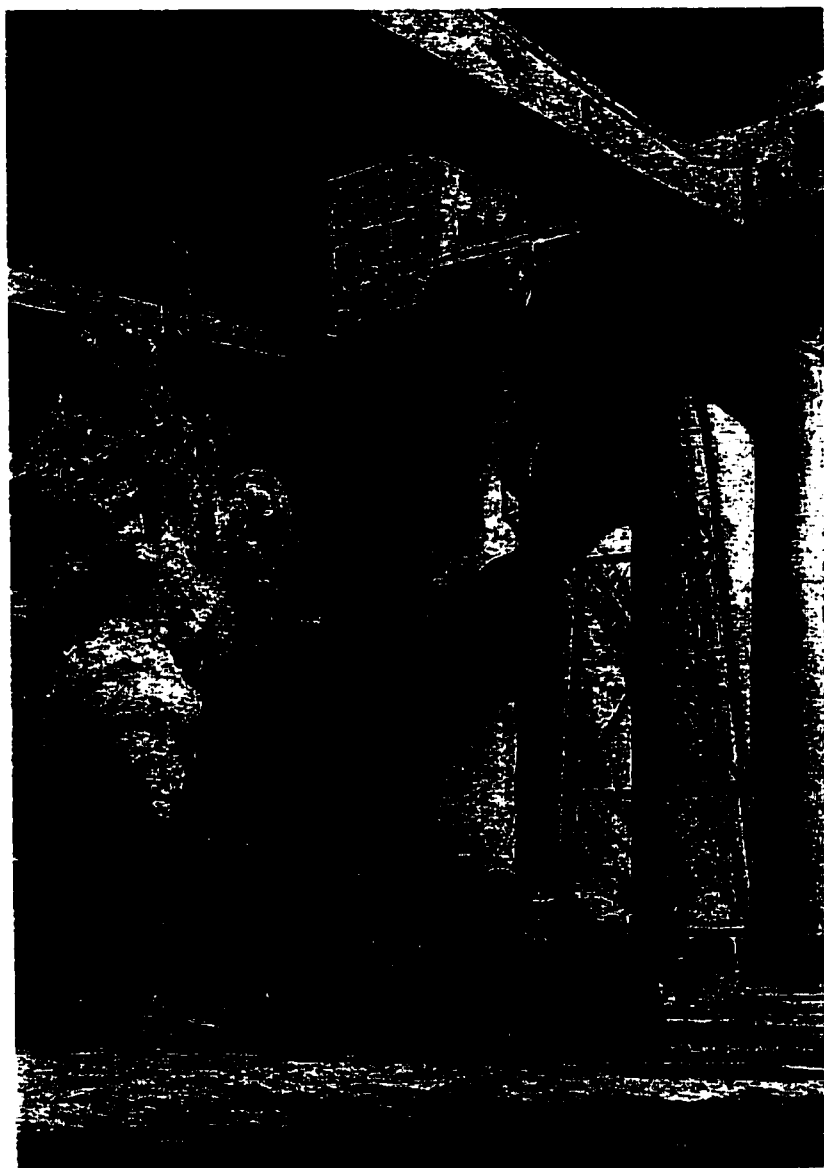


Figure 19: Adrien Hébert (1890-1967)
"Elévateur à grain no.3"
Oil on canvas, c.1930
Illustration from Paul L'Allier, *Adrien Hébert*
(Québec: Musée du Québec, 1993), 45

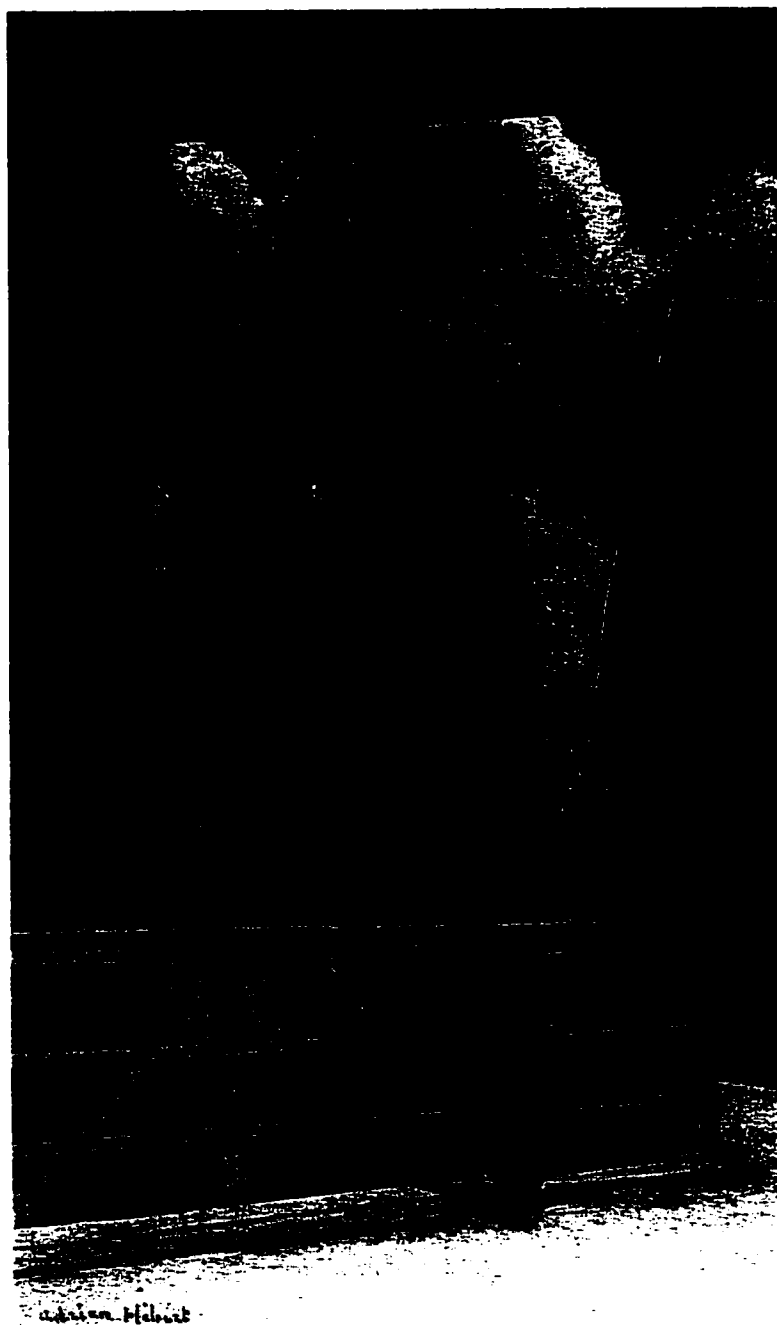


Figure 20: Adrien Hébert (1890-1967)

"Elévateur no.1"

Oil on canvas, c.1930

Illustration from Paul L'Allier, *Adrien Hébert*

(Québec: Musée du Québec, 1993), 49

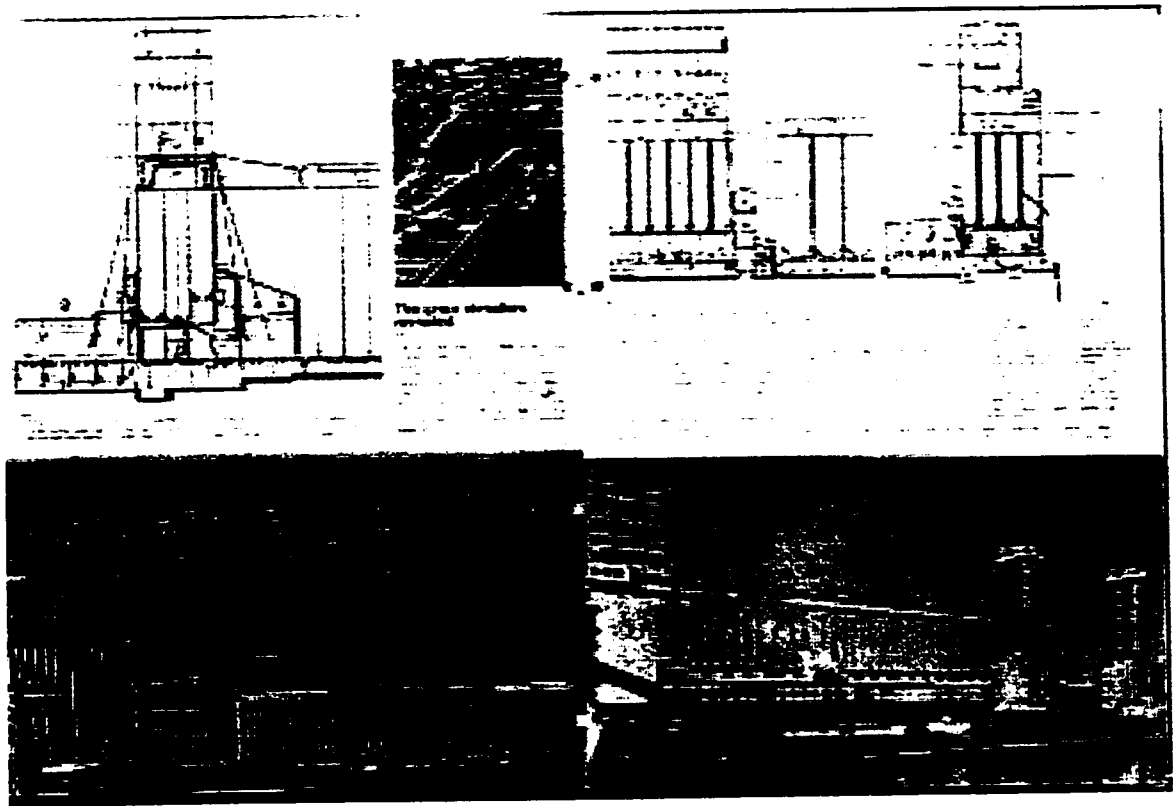


Figure 21: Photographs and plans of elevators
Illustrations from *Architectural Design* 37,
no. 7 (July 1967), 328, 329

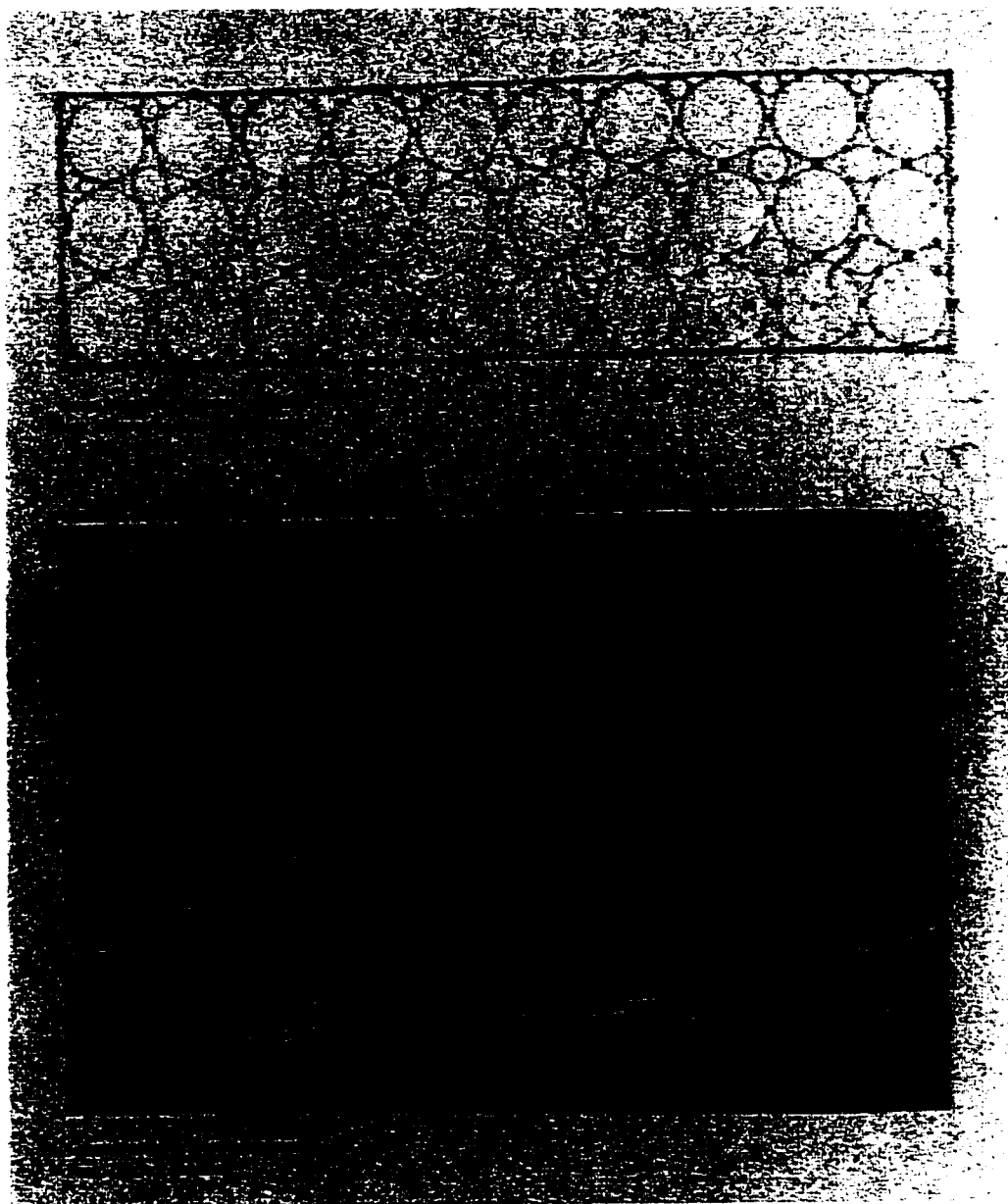


Figure 22: "Great Northern Elevator, plan" and "Great Northern Elevator, ground floor"

Illustrations from Reyner Banham, *A Concrete Atlantis: U.S. Industrial Building and European Modern Architecture* (Cambridge, MA: MIT Press, 1986), 120

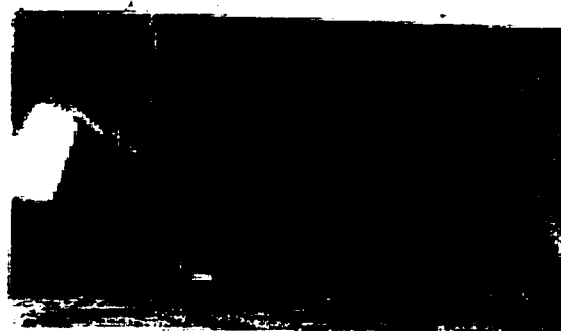


Figure 23: "Marine A, bin bottoms" and "Marine A, cleared basement"

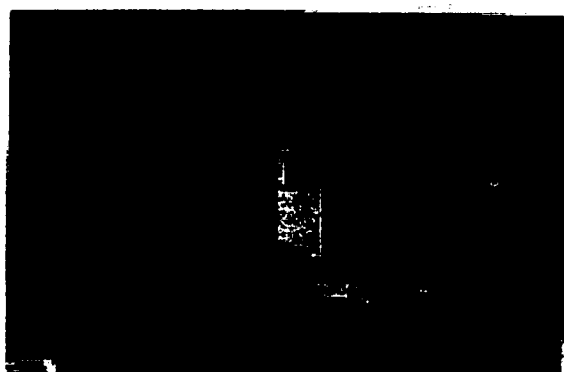


Figure 23: "Marine A, bin bottoms" and "Marine A, cleared basement"

Figure 23: "Marine A, bin bottoms" and "Marine A, cleared basement"
 Illustrations from Reyner Banham, *A Concrete Atlantis: U.S. Industrial Building and European Modern Architecture* (Cambridge, MA: MIT Press, 1986), 159



12-10-83
The Gazette
Wreckers 'open a window'
The wreckers' ball has been swinging
over the clock tower in the Old Port.
Construction of the building will cost \$2.3
million. It's part of the federal govern-
ment's responsibility for restoring proper-
ty destroyed after the 1970 explosion. The
Place Royal. Removal of the rest of the
tower is scheduled to start a window of
the restoration of the Montreale.

Figure 24: "Wreckers 'open a window.'"

The Gazette (Montreal), 12 August 1983.

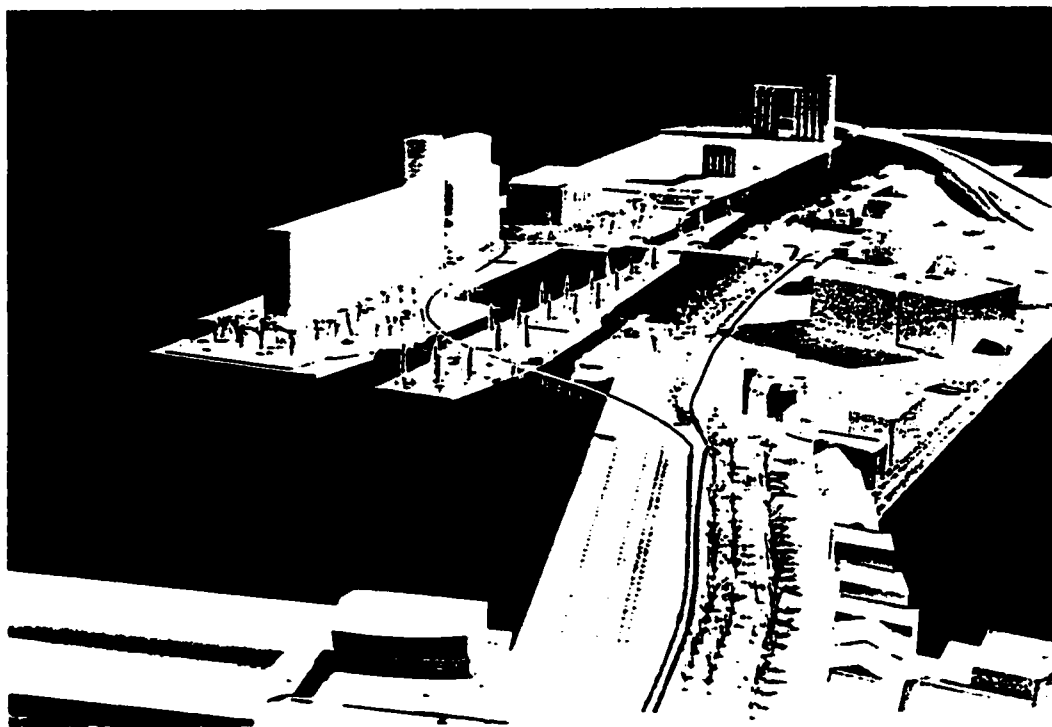


Figure 25: "Secteur ouest, le canal Lachine." Model.
Illustration from Cardinal, Hardy et Associés and Peter Rose,
Vieux-Port de Montréal Plan directeur d'aménagement.
(Société du Vieux-Port de Montréal, 1990), 39.

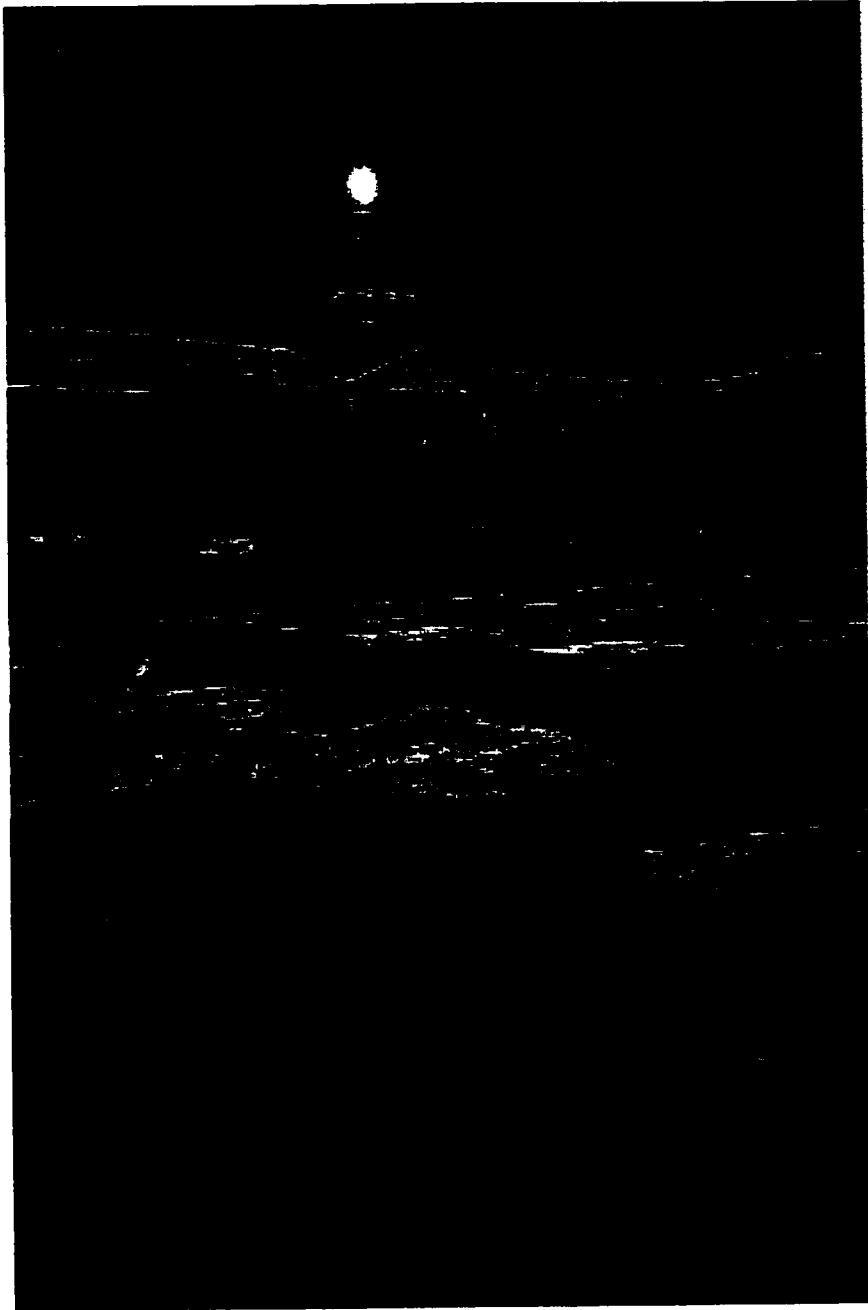


Figure 26: Marché Bonsecours and ruins of elevator No. 2
Summer 1999
Photo by author

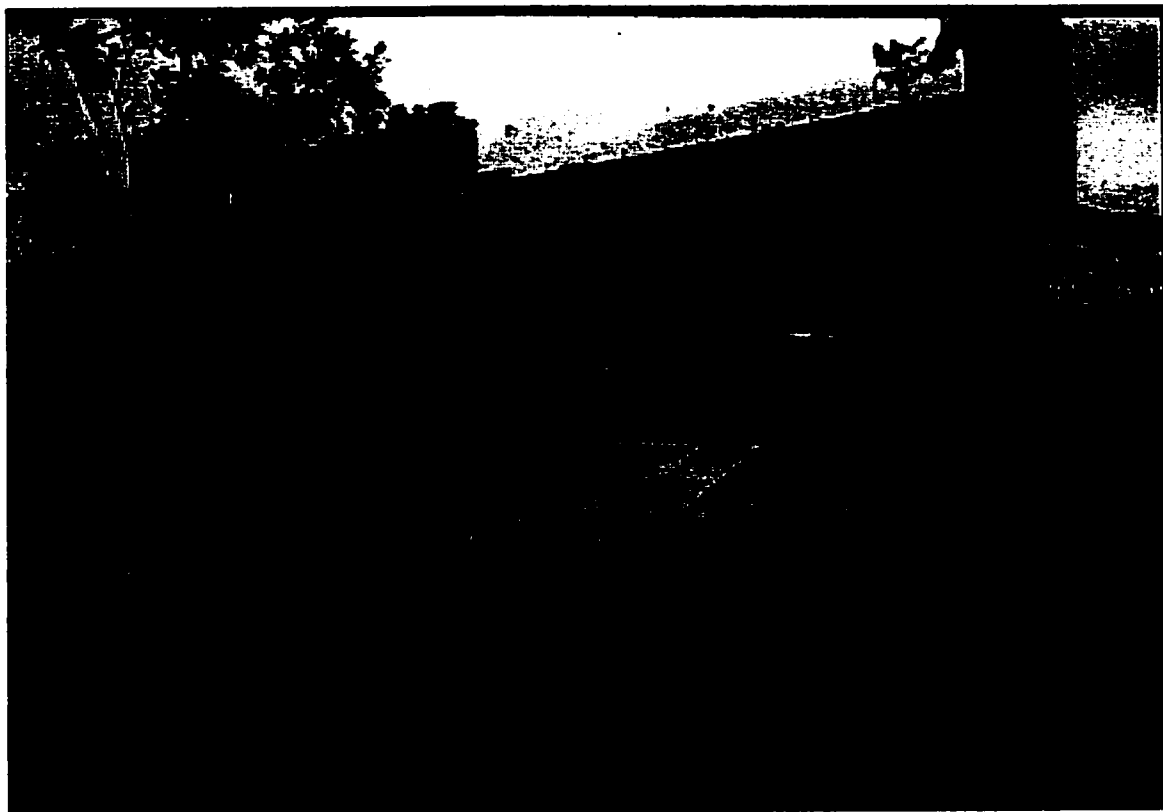


Figure 27: Elevator No.5 and didactic panel
Summer 1999
Photo by author



Figure 28: Abandoned Quaker Oats silos, Akron, Ohio.
Illustration from Stewart Brand, *How Buildings Learn:
What Happens After They're Built* (New York:
Penguin Books, 1994), 105

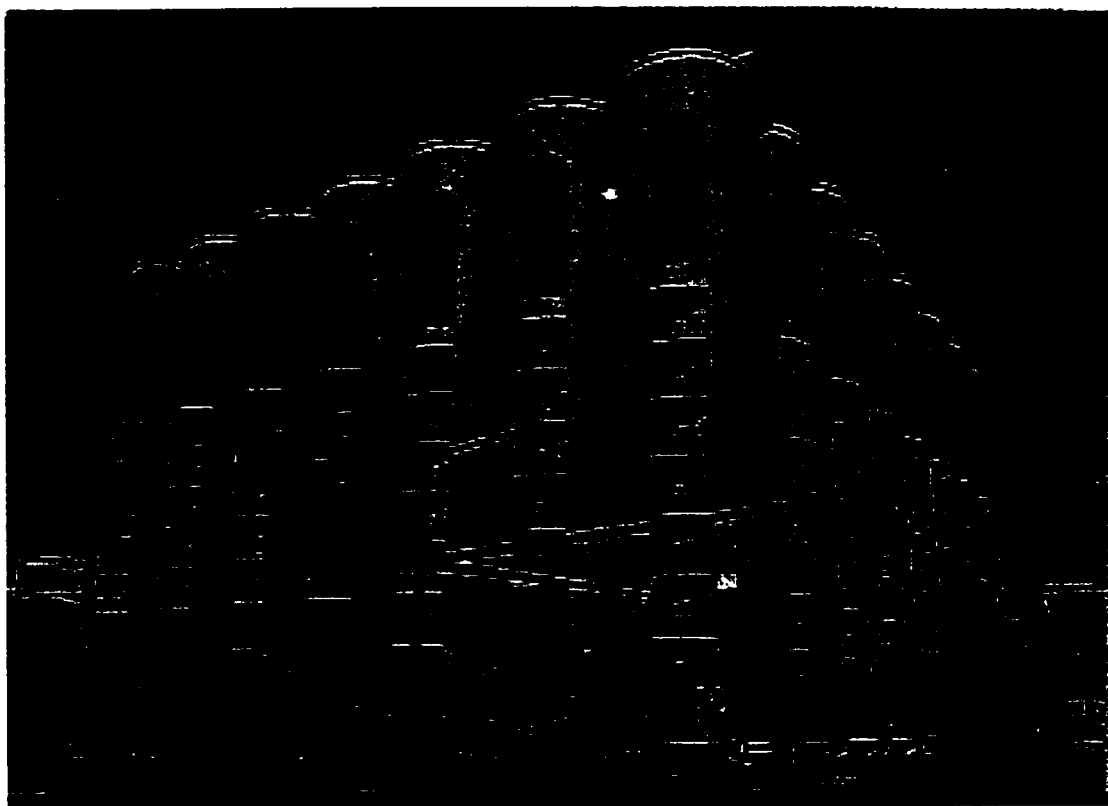


Figure 29: "The Quaker Hilton", Akron, Ohio
Illustration from Stewart Brand, *How Buildings Learn:
What Happens After They're Built* (New York:
Penguin Books, 1994), 105

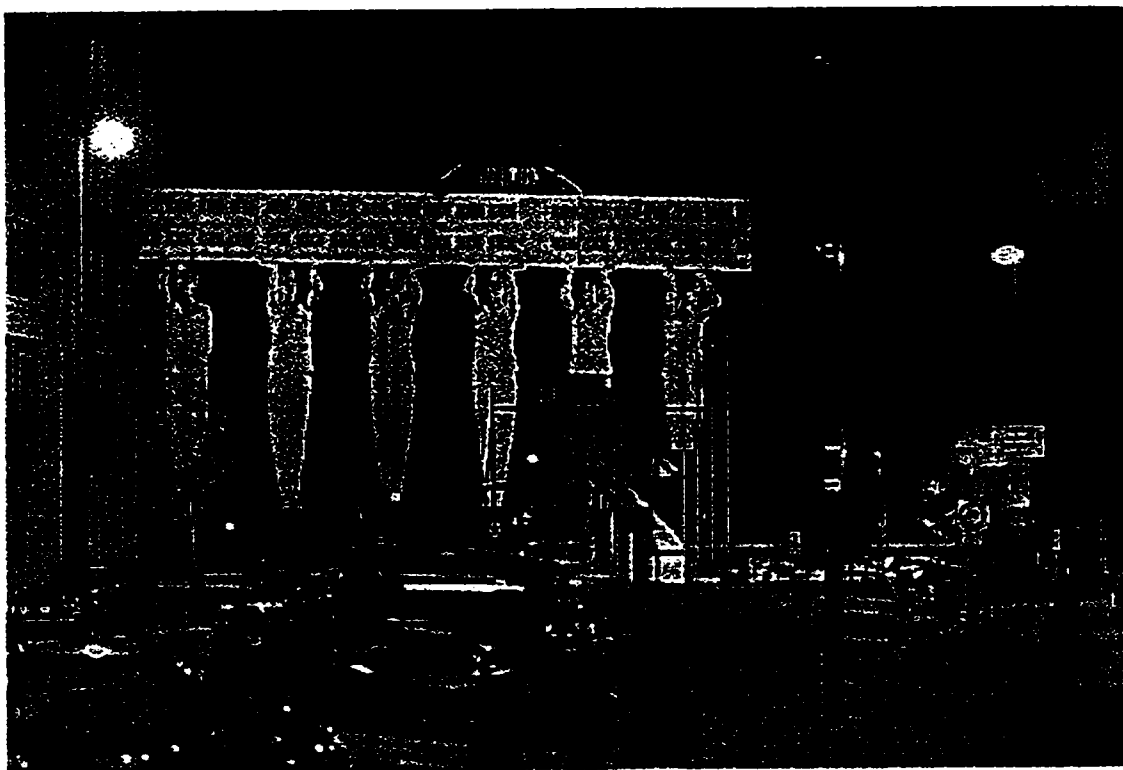


Figure 30: "Silos – Atelier in situ"

Illustration from *Panique au Faubourg*: Catalogue
published on the occasion of the exhibition

Panique au Faubourg, Montreal, May 22 – June 29 1997,
(Montreal: Quartier Éphémère, 1997), 4

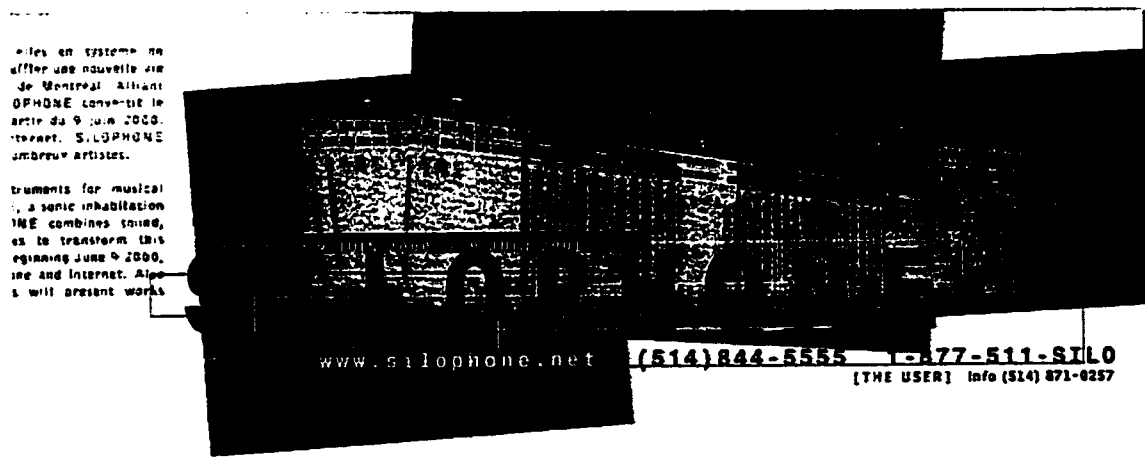


Figure 31: Invitation to the inauguration of the Silophone,
 June 2000
 [The User]