

FROM DISPOSABLE ARCHITECTURE TO INDUSTRIAL MONUMENT – THE CONCEPT OF
CONTEMPORARY INDUSTRIAL HERITAGE IN QUEBEC AND IN GERMANY

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This is to certify that the thesis prepared

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complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Abstract

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This dissertation stems from a simple question: how do western societies, shaped by continual industrialization, form a heritage concept when confronted with their contemporary industrial building stock? The purpose of comparing Quebec's attitude towards its contemporary industrial heritage to that of Germany was done to understand what effects were at play that led to different outcomes even though a number of significant parameters seemed very similar in both locations. The first two chapters of this thesis will show that both Quebec and Germany look back to a century old tradition in commemorating historic industrial sites, but the motivation to do so was coming from very different directions. This indicated that the two countries started their involvement in industrial heritage protection from differing positions. In Germany, not only was legal preservation of industrial sites gaining continued strength after it was re-established in the 1970s, but in most of the German Länder preservation curators included industrial machinery (technical or mechanical equipment) both inside and outside of the buildings, when adding an industrial site to their heritage list. The case studies show that the country's curators have integrated already contemporary industrial sites in their protection demands. They treat these sites as historic records that store valuable information in the material itself and should therefore be treated with care, specifically when economic considerations requested to convert these sites.

Quebec's officials hesitated for a much longer time to include industrial sites in their legal monument protection program, and when they did, it was implemented in a more arbitrary fashion. Quebec listed more than anything else small rural workshops to represent the province's contemporary industrial heritage. The more representative large industrial complexes of the post-World War Two era remained without recognition. These sites are increasingly coming to the end of their intended life. Even if they have outstanding historical, artistic or technical qualities, they face demolition long before any possible heritage value could be addressed. This will lead to a gap in Quebec's historic narrative in the future. Germany seems, in regard to contemporary industrial heritage recognition, some steps ahead of Quebec. Can Germany therefore be an inspiration for Quebec? This dissertation shows that there is no easy answer to that question but that an analysis by the reader of this thesis helps to guide, in a fruitful direction, the much needed discussion in Quebec.

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List of Abbreviations

AG/Akt.-Ges.	<i>Aktiengesellschaft</i> , Joint-stock company
Aqpi	Association québécoise pour le patrimoine industriel
Arido	Association of Registered Interior Designers of Ontario
BEWAG	<i>Berliner Städtische Elektrizitätswerke Akt.-Ges.</i> , Berlin's city owned electrical power plants
CCA	Canadian Centre for Architecture
CLC	Canada Land Company
CPM	<i>Conseil du Patrimoine de Montréal</i>
CPR	Canadian Pacific Railway
CUM	Communauté urbaine de Montréal
Docomomo	also written do.co.mo.mo; documentation and conservation of buildings, sites and neighbourhoods of the modern movement
ERDF	European Regional Development Fund
ERIH	European Route of Industrial Heritage
ESB	<i>Energieversorgung Südbaar</i> , energy company Südbaar
FERDIE	Fonds d'Études et de Recherches en Design d'Intérieur de l'Est
FHBRO	Federal Heritage Buildings Review Office
FICCM	First International Congress of the Conservation of Industrial Monuments
FRM	<i>Forschungsreaktor München</i> , research reactor Munich
GHS	<i>Gesellschaft für Hafen- und Standortentwicklung</i> , corporation for harbor and location development
GRD	German Democratic Republic
HHLA	<i>Hamburger Hafen- und Logistik AG</i> , Hamburg harbor and logistic corporation
HSMBC	Historic Sites and Monument Board of Canada
IBA	<i>Internationale Bauausstellung</i> , International Building Exhibition
Ibs	<i>Ingenieurbüro für Bauwesen Schweizer</i> , engineering office Schweizer
ICOMOS	International Council on Monuments and Sites
KG	<i>Kommanditgesellschaft</i> , limited partnership
LEED	Leadership in Energy and Environmental Design
MCCCF	Ministère de la Culture, des Communications et de la Condition féminine
NSBDT	<i>NS-Bund deutscher Technik</i> , Nazi-Federation of German Technology
NSDAP	<i>Nationalsozialistische Deutsche Arbeiterpartei</i> , National Socialist German Workers' Party
O-I	Owens Illinois Inc.
PDF	Portable Document Format
SICCIM	Second International Congress on the Conservation of Industrial Monuments
TICCIH	The International Committee for the Conservation of Industrial Heritage
VDI	<i>Verein Deutscher Ingenieure</i> , Association of German Engineers

The industrial landscape is a misunderstood heritage: at worst, urban rustbelt, dangerous, a toxic wilderness; at best, an outstanding historical resource to be re-used, regenerating communities, offering real richness and opportunity, reinforcing cultural identity and creating new commercial prospects. But it can also be a vivid reminder of how today's world came to be the way it is, when industry employed whole communities and provided the heartbeat for many towns and cities. In this respect these historic industrial landscapes deserve our closest attention.

Neil Cossons, 2012¹

Introduction:

The industrial heritage of Quebec or Germany has not attained much academic attention, particularly in the humanities where it has been practically ignored. Industrial heritage is the discipline which studies the history of industrial landscapes in a wide array of aspects. The exclusion of the discipline on the academic level is not unusual even internationally, schools and universities seldom teach industrial heritage.² The question why the study of our industrial past has remained so sparse may be its contentual vastness that does not fit in one single discipline. Not much earlier than after the second millennium did Germany attempt to establish industrial heritage as an academic discipline; in Canada this has not yet taken place.³ The young discipline shows many areas where even basic ideas still do not have established definitions. The Nizhny Tagil Charter for the Industrial Heritage⁴ declared, for instance, that

The historical period of principal interest extends forward from the beginning of the Industrial Revolution in the second half of the eighteenth century up to and including the present day, while also examining its earlier pre-industrial and proto-industrial roots.

¹ Neil Cossons, "Why Preserve the Industrial Heritage?" in *Industrial Heritage Re-tooled: The TICCIH guide to Industrial Heritage Conservation*, ed. by James Douet (Lancaster: Carnegie Publishing Ltd, 2012), 14.

² Györgyi Németh, "University Training," in *Industrial Heritage Re-tooled*: 211-215.

³ TICCIH offers an updated list of university courses available at <http://www.ticcih.org/university.htm>. Germany had two courses listed in January 2013, one at the Institute for the History of Science and Technology, Technical University and Mining Academy of Freiberg/Saxonia under Helmut Albrecht, another one at the Dekanat der Fakultät Bauwesen, University of Dortmund under Uta Hassler. No courses are listed for Canada.

⁴ "Nizhny Tagil Charter for the Industrial Heritage," TICCIH, accessed January 22, 2013, http://www.ticcih.org/industrial_heritage.htm.

Specifically experts from countries other than Britain challenge this definition, preferring to relate the content of industrial heritage to the concept of mechanically powered fabrication, standardization and mass production.⁵ With this alternative definition, it is not Britain's steel and textile industry which would be the starting point of the discipline but sites such as late medieval mints using water wheels to power rolling machines that imprinted coins from strips of metal (fig. 01), which developed in central Europe,⁶ or military shipbuilding facilities from the Gothic era in Spain and so forth.

Studying subjects related to a country's industrial heritage offers much more than just an understanding of a specific site. The industrialization process did not stop at the walls of factories; this industrialization was rather like thick ether extending and penetrating into every corner of our lives. Our industrial heritage is not so much a site or a building that had been built at one time in the past; this part of heritage belongs to every aspect of our individual and social culture. But without the material remains of industry, including the most recent examples, an understanding of our society may be at best fragmentary. Why is it, one must ask, that much of academia, including the discipline of art history, treated subjects related to industry, and in particular, contemporary industry so perfunctorily? Could it be that the reluctance to include industrial heritage be related to the roots of the concept? The first steps of a new discipline inevitably determine the main direction this discipline will take and any later direction change requires conscious effort.

The author decided to analyze first the forming of an industrial heritage idea not so much as a global but as a national event in a comparison between the province of

⁵ Ian Stuart, "Is Industrial Heritage Greater than or Equal to the Heritage of the Industrial Revolution?" *TICCIH Bulletin* 51 (1. Quarter 2011): 1.

⁶ "Mint History," and "Minting Technologies," Association Friends of the Segovia Mint, accessed January 2, 2013, <http://www.segoviamint.org/english/history.htm>.

Quebec, Canada, and the western or “old” Länder of Germany. This analysis is followed by a look how this idea is applied in the case of contemporary sites in the two places. Not only is the timeframe, from 1940 onwards, so far widely left out of the discussion when talking about industrial heritage, the buildings of the last seventy or so years also disappear shockingly fast as soon as they become obsolete (fig. 0.2 -0.4). The public sees them often as ephemeral constructions and judges them as standing outside of “desired” architecture.

With this thesis, the author tries to prove or challenge no pre-existing academically presented statement, but based her thesis rather on a simple observation and a question related to it. The observation was that after the Second World War, in these two western societies, as in many other industrialized countries, industrialization continued to be the most defining factor on a variety of levels, cultural and social ones included. The author questioned if the way we currently preserve our heritage can reflect this relationship between our industry and our society and culture? Do we respect our social responsibility to leave enough speaking tools in the form of monuments to ourselves and our future generations to explain the development of our world?

At the end of the 1980s, citizens started to discuss and vividly defend public and vernacular buildings of the post-World-War-Two period. In 1988, in the Netherlands the International Committee for Documentation and Conservation of Buildings, Sites and Neighbourhoods of the Modern Movement (Docomomo) formed. The discussion touched also Germany. One of Munich’s most remarkable Modernist office buildings of the 1950s by Hans and Wassili Luckhardt (fig. 0.5+0.6) was slated for demolition, which public

protests during the summer of 1989 tried, unsuccessfully, to prevent.⁷ This event, in which the author took part, gave the idea of the time frame to survey. The author worked since 1994 in Hamburg as editor for two publishing companies that both used former historic industrial sites. The first employer had just moved into an office in the recently converted ship propeller factory Zeise (fig. 0.7+0.8), the second publishing house had transformed a former gasworks into their office building in which they moved in 1999. While the older Zeise factory showcased its industrial link, the conversion of the more recent gasworks had no such aspiration. People embrace modern buildings and historic factories. However, contemporary industrial buildings have found, neither in Germany nor in Quebec, public acceptance as heritage.

The purpose of the thesis was to raise awareness for this misbalance between being an industrial society or, to some extent a post-industrial society and the limited interest by the public towards the material remains related to the post-Second-World-War industrialization process. The author further sought to determine whether reasons existed as to why even experts in the field of industrial heritage did not focus attention on these contemporary sites.

The Industrial Revolution found broad interest in scholarly studies, specifically in Great Britain which was a forerunner in this subject, later followed by other European countries and North America. However, historians, technical historians or architectural historians seldom studied the most recent industrialization process. The petrochemical industry, the development of industrial computer systems and personal computers, robots, nuclear power, biotechnology and so forth largely impacted societies during the last few

⁷ Wolfgang Jean Stock "Ein Markstein der Münchner Moderne - "Landesversorgungsamt Bayern" der Brüder Luckhardt zwischen Sanierung und Abriss," *Bauwelt* 80/19 (1989): 885-888.

decades. The effects of the far reaching consequences, coming out from these new developments, remained to most parts unknown.⁸ Meanwhile, the buildings and sites that had witnessed the industrial development following the Second World War started to disappear at a fast pace – following the overall trend of our consumer society.

Prior to the work on the thesis, the author had no expertise in the subject of industrial heritage protection. She decided to familiarize herself to the subject of industrial heritage by an historical survey, which seemed the most promising way to gain an understanding of the concepts and mechanisms at play in each country. For that reason, the author divided the thesis in two parts, the first looks at the historic development of already preserved industrial heritage projects; the second is composed of case studies of contemporary sites. Each part is further split in two chapters with sub-chapters, first looking at Quebec and then at Germany. The first chapter of the first part therefore looks at the development of the concept of industrial heritage in Quebec. A literature review revealed that Quebec had not yet produced a general survey on this subject; scholars in Quebec interested in the development of industrial heritage relied mostly on research undertaken in other countries, such as Britain, the United States or France. The author attempted to close the gap by extracting exemplary sites to show some key moments in the development of Quebec's appreciation of industrial heritage, which started far earlier than the Industrial Archaeology movement of the 1950s in

⁸ There are academic teachings to shed more light on the effects of technology, science and industry on society in a few university programs, one at the McMaster University in Ontario under the name Engineering and Society directed by Brian Baetz, Concordia University, Quebec, established the Center for Engineering in Society under the chair of Deborah Dysart-Gale in 2010. Dalhousie University in Halifax, Nova Scotia, offers likewise courses in Engineering in Society; in all instances, the programs run from the department of engineering. Similar university programs exist in Germany. In general, the programs are guided by engineering departments, sensitizing engineers on further implications of specific technologies on society.

Britain.⁹ In the second chapter, on Germany's development of a concept of industrial heritage, the author could rely on information given in the comprehensive publication by Uta Hassler and Alexander Kierdorf, *Denkmale des Industriezeitalters*¹⁰ (Monuments of the Industrial Era). They researched the development of Germany's concept of industrial heritage, based on historic texts by mostly German experts, who had debated problems related to the preservation of industrial sites. Their chronological survey started with texts from the 1820s which described the early impressions of new industrial landscapes in England from a German point of view, and ended shortly before the twenty first century with a critical projection on an increasingly de-industrialized German society for which industrial facilities would belong to a past era that required historical documentation. The authors grouped the texts in eight sections according to historic periods and accompanied each section with analytical introductions.¹¹

Because texts describing the German situation had not been translated into English and also because during the past twelve years since Hassler and Kierdorf had published their book newer research became available, the author decided to not just summarize but to elaborate on their view for an English speaking public. The first interest in industrial heritage stirred up in Germany before the British texts on Industrial Archaeology. The early appearance of a concept of industrial heritage in both studied

⁹ Awareness towards the historic dimension of industry and technology is also in England, France and the United States older than the forming of the Industrial Archaeology movement. It starts ever since technologies were collected following world exhibitions and shown in museum settings such as the Victoria and Albert Museum in London. Henry Ford's museum in Dearborn, constructed since 1929, showcased the history of America's industry to the broad public. However, Industrial Archaeology was the first movement in this sector becoming international.

¹⁰ Uta Hassler and Alexander Kierdorf, *Denkmale des Industriezeitalters: Von der Geschichte des Umgangs mit Industriekultur* (Tübingen: Wasmuth, 2000).

¹¹ Hassler and Kierdorf, 6, borrowed their methodology from the earlier publication on Germany's monument protection in more general terms: Norbert Huse ed., *Denkmalpflege. Deutsche Texte aus drei Jahrhunderten* (Munich: C.H. Beck, 1984).

countries supported the decision to look in detail at the starting point of this subject in each country instead of relying on Britain as model. Both chapters of part one finish with a summary that analyzes how far the historic process may be helpful in understanding the way the two countries look at their contemporary industrial sites.

The first chapter of the second part deals with case studies conducted in the province of Quebec. Most of the sites were found on or neighboring the Island of Montreal, Quebec's largest and most industrialized metropolis. The unexpectedly large number of inner-city factories developed into a longer study, which challenged the common assumption that after the Second World War Canadian industries generally set up new facilities in suburbs. In contrast to the bounty of inner-city sites, the author included only one site from the remote North Shore area. Baie Comeau, a company town,¹² that had developed mostly after the Second World War. The reason for selecting only one was due mainly to the difficulty of exploring these areas, and not due to lack of potential sites.¹³ The building dates cover the timeframe from 1940 to 1971. The second chapter of the second part presents the case studies in Germany, located in four different provinces. The author selected sites comparable to those in Quebec, that is in the inner

¹² The most detailed account of Quebec's company towns is to date (2012) still *Villes industrielles planifiées* from 1996, published by the Canadian Centre for Architecture in connection with an exhibition to the same subject titled "Énergie et aménagement: Villes industrielles planifiées" and shown in Montreal from March 6 to May 29, 1996, in Temiscaming in summer 1996, in Jonquiere from March 9 to June 1, 1997, in Sept-Îles from September to November 1997 and from October 1998 to January 1999 in Shawinigan. The show and book concentrate on the timeframe 1890-1950. The North Shore was not part of their study. Yet, the often ambitious building activities in these remote industrial settlements would deserve more of our attention. Lucie K. Morisset, Luc Noppen and Patrick Dieudonné's architectural guide "Patrimoines modernes: L'architecture du vingtième siècle à Chicoutimi" (Saint Foy: Presses de l'Université du Québec, 2004) offers a rare insight of the richness and wealth in architectural expressions in Northern Quebec.

¹³ The *Répertoire du patrimoine culturel du Québec* had not offered a searchable databank in 2009 in the way it became available since October 2012. Therefore, the selection of sites was done independent of those sites entered in the governmental database.

city, in the suburbs and in remote rural areas. The constructions dates span from the late 1940s until 1983.

Researchers studying in industrial heritage will come to the conclusion that the subject is multidisciplinary and should be best approached in an interdisciplinary way. An individual researcher working alone will inevitably be biased by the discipline the scholar is coming from. It is therefore important to position the author of this thesis as her background guides her views and ideas related to the subject. An archaeologist or a historian of technology may have used different methods and examples to the author who is a trained art historian. In the initial stage of the thesis research, the author's interest focused mainly on the architectural aspect of industrial heritage. In the author's country of origin, former West Germany, such a view had an academic tradition as it was the German Bauhaus that related modern design to the rationality of factory buildings expressed over their functional architectural look. The architectural view, however, became challenged with time after the author visited historic and contemporary industrial sites in person, realizing how much of the overall understanding of the industrial architecture depended on the technical setup of production equipment, production flow, development of more humane working conditions according to changing theories and changing production methods (fig. 0.9+0.10). The idea that contemporary factories are adaptable shells, flexible in their usage, with the main purpose to provide a weather shelter for the industrial equipment proved an overtly simplistic but widely accepted view on the subject. However, as long as this idea is not challenged, it allows conservation authorities, whose staff has commonly an architectural, historical, urban planning or art-

historical background, to separate the exterior from the interior, erasing important historical links for the understanding of our societies' industrial development.

The author gained her master's degree at the Ludwig-Maximilians-Universität in Munich, Germany. During her studies she participated in several seminars conducted by German monument curators, for instance, by the curators of the *Bayerisches Landesamt für Denkmalpflege* (Bavarian Provincial Conservation Authority), Klaus Kratschmer, and Astrid Debold-Kritter, today, professor for Monument Protection (*Lehrstuhl für Denkmalpflege*) at the Technical University in Berlin, however, she never practiced in the heritage protection field herself. The author's position, outside heritage and preservation organizations, has its advantages. It allows her to look at the subject without preset goals and therefore in ways and with methods a conservation curator may disregard. Her German roots certainly influenced the selection of projects the author included in the case studies. At one hand, the selection of contemporary sites in Quebec could not be based on buildings already listed as heritage, as was the case in the German case studies, because too few sites were known that had gained any official recognition at the time the selection had taken place (summer 2009). Therefore, the author followed ideas that were based on her German experiences rather than trying to imitate Quebec's selection practices for two reasons; first, the Quebec heritage law, which since 2007 was in a process of revision, moved with its heritage criteria catalogue closer to that of the heritage laws practiced in Germany's Länder. Since October 2012, Quebec's law included scientific and technical significance in its criteria catalogue similar to German laws. Second, the monuments that Quebec's government included in their heritage listing did not seem to follow strict selection rules as observed in Germany but were rather selected on a case by case

practice. Public involvement, for instance, was sometimes the decisive factor;¹⁴ the public opinion, however, cannot be easily predicted for the selection of future sites. On the other hand, the author included sites that fell outside of the understanding of industrial heritage in Quebec, in particular, structures related to infrastructure such as a train station (in the historic part) and a gas-service station (as case study). In Germany, these structures are part of industrial heritage because their technical function is a defining factor and fall under heritage protection. In Quebec, however, industrial heritage is focusing more directly on structures of industrial production or the handling of goods such as factories and grain elevators.

The aspect of “places used for social activities related to industry such as housing, religious worship or education,” that the Nizhny Tagil Charter listed, has found in both cultures a place in industrial heritage but the author left this subject out in her writing because these sites pose preservation issues similar to those of non-industrial character in contrast to industrial sites.

The methodology in the four parts of the thesis differed. To write the historic chapters in the case of Quebec the author based her observations to a large extent on written sources available for each single site, published or publicly accessible, such as governmental reports. Also the small number of inventories on industrial heritage was included, and in some cases she consulted local city officials. As mentioned above, the author did not need to do the same basic ground work for most parts of the industrial heritage movement in Germany. Here online-research helped her to find answers, for instance, on the conduct of organizations involved in industrial monument protection during the Nazi-era that Hassler and Kierdorf had left out. However, to bring the subject

¹⁴ As in the case of Montreal’s Windsor Station.

up to date – Hassler’s and Kierdorf’s book left the scene before the year 2000 – site visits and consultations with local authorities took place. A tour through Saxony including sites of the building exhibition Fürst-Pückler-Land (2000-2010) in Fall 2009 provided the author with detailed and unpublished information on the most recent steps a German state government had taken in the field of industrial heritage.

For the case studies the author visited all selected sites, did extensive archival research, contacted local authorities, collected information material on each site, consulted experts that had taken care of these sites or were assigned with caretaking. She included newspaper coverage, youtube posts, online-blogs, in short, whatever was available and could help to explain the heritage value or potential heritage value of sites, hints how officials cared or did not care about them and the public reaction to preservation measures. Where possible, a literature review was added to each case study, including texts that touched the selected industrial sites during or after the closing and heritage evaluation process. In some cases, information was confidential and therefore not cited to the full extent.

In Germany the research was done during two study tours of two weeks each, the first in Fall 2009, the second three years later in Summer 2012. Despite the time restraints, the author was able to visit all of the sites, all but one of the municipal archives or those of the conservation authorities and meet with people involved in the protection process. The research in Quebec was much more labour intensive and time consuming for two reasons. First, the provincial or federal government had not inventoried most sites included in the case studies as in their repertoire and therefore research had not been conducted or was not done in detail or in a relevant way for the subject for this thesis.

Secondly, in the few cases that buildings had already been surveyed by a municipality, they stored information in numerous locations and not all parties showed a high interest in collaborating with the author's research. The process was further delayed by several months by slow responses to phone calls and emails. In other instances, however, the warmth and enthusiasm of people – in Quebec as well as in Germany – to share information on these industrial sites was an experience that touched the author and demonstrated that many of those directly associated with contemporary industrial sites care greatly for the future of these places.

Working in three languages simultaneously (English, French and German) was surprisingly challenging beyond the mastering of the spoken and written word because terminology, when translated from English to German or French to German or vice versa could also change the meaning of the concept related to the terms. "Heritage" or "*patrimoine*," for instance, is not synonymous to "*Denkmalschutz*," but it is the closest in terms of what the Germans use in the context of monument protection.¹⁵ "*Denkmalschutz*" and the related concept of "*Denkmalpflege*," monument preservation, are both only used in the context of the built environment or material manmade culture. Heritage with its wide meaning in Quebec of material and immaterial culture of both natural and manmade provenience, however, does not easily translate into the practical pursuit of acting upon heritage. The definition of heritage in Quebec is broader than that of *Denkmalschutz* in Germany but when it comes to heritage protection Quebec practices heritage preservation in a much narrower sense. For instance, Quebec protects commonly the exterior architectural remains of industrial sites and commemorates industrial

¹⁵ Further, Sigfried Lenz's novel *Heimatmuseum* (local museum) was likewise translated as *Heritage* demonstrating that the English term is of a far wider reach than the term "*Denkmalpflege*."

production only in the form of photographic images, often placed in the buildings' foyers.¹⁶ This relevant difference between industrial heritage preservation in Quebec and Germany is an effect of the interpretation of a heritage site which Germans see as an historic record; the author realised that Quebec does not share this concern. Quebec's heritage experts, for instance, discussed in 2011 retrofitting historic sites to look like their original appearances in spite of the risk of tampering with the site; this practice contradicts the German principal of preserving monuments in their current state to retain all layers of their historic authenticity.¹⁷

Some other of the frequently used but not always clearly defined technical terms should be briefly explained to clear their meaning and their usage in this thesis:

Contemporary: The sites of the case studies were all from the time after the outbreak of World War Two (1939), the author referred to them as “contemporary” in contrast to “historic” for sites or buildings from before the war. This use differs from the common usage of the term in art history or history. Art history defines contemporary commonly as of the most recent past, historians uses the term for the period after 1918, respectively the end of World War One.

Industrial site, industrial complex and industrial building: The author used the three terms synonymously but preferred “site” and “complex” when she referred to more than just one building or to the general concept of industry. Either term relates to places of the

¹⁶ The author observed this for instance in Salaberry de Valeyfield's Dominion Textile Building or in Montreal's Cold-Storage Warehouse in the old port, both converted to residential or other functions. Their interior kept little original substance but had framed photographs of the sites while active on walls. In both cultures, oral accounts of former workers, books on specific industries or other forms of commemoration exist that are, however, in general detached from sites and not readily available to the visitors of sites.

¹⁷ See for instance: Mechtild Manus, “La région de la Ruhr: Berceau de l'industrie Européenne,” *Bulletin Aqpi* 23/3 (2012), 7: “La question de savoir si l'évolution historique doit être visible dans les monuments ou si ces derniers doivent être remis dans leur « état original » se retrouvait continuellement au centre des débats entre les interlocuteurs allemands et québécois.”

industrial production process defined by mechanization, standardisation and mass-production. In contrast to non-industrial architecture, a conceptual characteristic of industrial buildings and sites is the inclusion of modifications according to spatial and technological needs. From the beginning, planning was made for the enlargement of buildings, additions, modifications or removal of structures or parts of them. In the Nizhny Tagil Charter for the Industrial Heritage to industry belongs

buildings and machinery, workshops, mills and factories, mines and sites for processing and refining, warehouses and stores, places where energy is generated, transmitted and used, transport and all its infrastructure [...].¹⁸

The author included administrative buildings if they shared the site of the production and formed a spatial unit with the other production facilities. In Quebec, sites of “transport and all its infrastructure,”¹⁹ such as passenger train stations or gas service stations, are not understood as industrial monuments.

Industrial Heritage and Industrial Archaeology: The British view is to limit the term “industrial heritage” and the activity of “Industrial Archaeology” to sites built after the Industrial Revolution that is 1750.²⁰ The author did not follow this definition because in an international study it seemed unreasonable to anchor a definition to an era and geographical location instead of to a concept.²¹ The term “Industrial Archaeology” caused and still causes misunderstandings; it can and often is used synonymously with “industrial heritage”. Some authors understood it as a field of archaeology,²² more commonly it is seen as part of the history of technology. In Germany scholars often relate

¹⁸ “Nizhny Tagil Charter for the Industrial Heritage.”

¹⁹ Ibid.

²⁰ See for instance: Stuart B. Smith, “The work of TICCIH,” in *Industrial Heritage Re-tooled*, 222.

²¹ To the discussion of defining industrial heritage see also: Ian Stuart, “Is Industrial Heritage greater than or equal to the Heritage of the Industrial Revolution?” 1.

²² For instance E. G. Grant, “Industry: Landscape and Location,” in *Landscape and Culture: Geographical and Archaeological Perspectives*, ed. by J. M. Wagstaff (Oxford, New York: Blackwell, 1987): 96-117.

the term “Industrial Archaeology” to the academic study of industrial heritage whereby “industrial heritage” refers to practical preservation, but not exclusively.²³ The author preferred to use in all instances “industrial heritage” except when the subject touched the British movement starting in the 1950s and known as “Industrial Archaeology” with reference to Michael Rix’s introduction of the term in 1955.²⁴

The comparison between Quebec, one of ten provinces of Canada, and the western part of Germany may sound arbitrary. In comparison of policy, Britain, France and the United States are usually the point of reference for Canada²⁵ and Quebec. Canada relies on the historical relationships formed between these three nations. In the field of heritage protection and how its legal system is embedded at the level of provincial law, none of the three choices are comparable as these three countries have national organizations taking care of their historic monuments. Only the United States has a federal governmental system while France and Britain are governed centrally.²⁶ The Federal Republic of Germany, in contrast, shares not only the federal system but likewise gave the responsibility of heritage protection to its sixteen Länder that have close to full autonomy on this subject in a similar manner as Quebec. These rulings are in both places based on a civil law code. These similarities were the initial reasoning for the choice of comparison between Quebec and Germany. The two destinations share several other parallels which support the argument for this comparison. Monument protection relates

²³ The meaning and definition of the terminology used in industrial heritage and Industrial Archaeology was discussed at least since the Second International Conference on the Conservation of Industrial Monuments 1975 in Bochum.

²⁴ Michael Rix, “Industrial Archaeology,” *The Amateur Historian* 2/8, (1955): 225-228.

²⁵ Canada is likewise perceived as similar to Britain and the US from the exterior view, see for instance: David Adams, Christopher De Sousa, and Steven Tiesdell, "Brownfield Development: A Comparison of North American and British Approaches," *Urban Studies* 47/1(January 2010): 75-104.

²⁶ Britain’s transformation to a partly decentralized system since 1997 and aspirations to govern heritage issues on a decentralized level seemed too recent to consider it as a influential model for Quebec.

closely to the forming of national identities and both Quebec and Germany had to re-establish a new national identity after they formed or became part of a nation at more or less the same time. Quebec joined Canada's confederation in 1867, Chancellor Otto von Bismarck united Germany's many principalities in 1871. The nation building process accelerated the industrialization in these countries that had in both places gained momentum only in the middle of the nineteenth century. Neither Canada²⁷ nor Germany²⁸ experienced a degree of deindustrialization as the United States²⁹ and Great Britain had since the 1960 where industries declined rapidly and sunk to a low level. In the US the deindustrialization process accelerated even more dramatically after the end of the Cold War.³⁰ Nevertheless, in Quebec and Germany, factories are closing in a large variety of industries, asking for a broad approach to the subject of industrial heritage not only for the historic sites but also for contemporary examples.

There may be further points that could be analyzed to support the choice of comparison. In 2011, the urbanization rate was similar in both places with rates of seventy four percent in Germany compared to eighty percent in Quebec.³¹ One can also mention that the climate in the areas that are hosting most industries shows similarities to

²⁷ Jason Kirby, "Manufacturing Dissent," *Maclean's* 120/42 (October 29, 2007): 42-43, accessed December 19, 2012, *Business Source Complete*, EBSCOhost.

²⁸ There is a lack of articles on this subject for West Germany and the western part of Germany after 1990 in databases for economic scholarly journals suggesting that deindustrialization has not been of major concern to Germany's economy. See also: Daniel Lind, "A Deindustrialized Europe?" *Social Europe Journal*, accessed January 23, 2013, <http://www.social-europe.eu/2011/11/a-deindustrialized-europe/>.

²⁹ Barry Ashby, "The De-Industrialization of America." *Industrial Heating* 78/1 (January 2011): 14. *Business Source Complete*, accessed December 19, 2012, EBSCOhost. Likewise: Andrew B. Bernard, and J. Bradford Jensen. "Firm Structure, Multinationals, and Manufacturing Plant Deaths." *Review of Economics & Statistics* 89, no. 2 (May 2007): 193-204. *Business Source Complete*, accessed December 19, 2012, EBSCOhost.

³⁰ Nicholas Crafts, "Deindustrialisation and Economic Growth," *Economic Journal* 106/434 (January 1996): 172-183, *Business Source Complete*, accessed December 19, 2012, EBSCOhost.

³¹ "World Urbanization Prospect, the 2011 Revision," United Nations Department of Economic and Social Affairs, accessed January 23, 2013, <http://esa.un.org/unpd/wup/Wallcharts/wall-chart.htm>.

a much higher degree than with many parts of the United States or the mild maritime climate of Britain. The social market economy gives both governments strong regulating powers in national and provincial issues; government involvement is not foreign to their societies. Up to a certain point, the situation of Quebec with its strong will to increase its sovereignty mirrors Bavaria's situation as a German "Freistaat" (free state) with a request of widened autonomous powers in politics and economics³² including the expression of a distinct Bavarian identity in comparison to the other west German Länder, however, without separation politics.

The specific situation of East Germany before as well as after the fall of the Iron Curtain in 1989 seemed for a comparison with Quebec less suited. The author sketched in a short chapter a rough historic image of the idea of industrial heritage during the communist era and explained the difficulties after the re-unification but did not include any site from that part of the country in the case studies. However, the international building exhibition in the Fürst-Pückler-Land in Saxony (fig. 0.11+0.12), which took place from 2000-2010 and which followed the model of the earlier international building exhibition of Emscher Park in North Rhine Westphalia was included as part of the historic survey while it could have qualified as a case study of contemporary industrial sites. The size of the building exhibitions and the fact that it was a lignite mono-industrial landscape with no comparable contemporary site in Quebec spoke against its inclusion.

The pending closing of asbestos mining in the southern Quebec region since the political

³²The political or economic freedoms of a Freistaat are not as significant as the idea behind the term may suggest. Bavaria remained some privileges such as having its own border-police force ("Bayerische Grenzpolizei nach dem Zweiten Weltkrieg," Universität Passau, accessed, January 23, 2013, <http://www.geschichtsbausteine.uni-passau.de/unterrichtsbausteine/eiserner-vorhang/sachinformationen/grenzschutz.html>). Being Germany's oldest Freistaat gave Bavaria a tool to create a distinct local identity recognized in the rest of the Republic. Sachsen and Thüringen declared their territories Freistaaten after the Bavarian model in 1990 and in 1993.

shift in summer 2012, however, may have justified a more detailed look. Other scholars will hopefully introduce to the Canadian public this example in the depth and detail it deserves.

After having realized the similarities, the differences between Quebec and Germany should be likewise addressed as far as the author saw them as relevant for her subject. Most noticeable is the difference in size (fig. 0.13) and population. Germany (fig. 0.14) has over ten times the population of Quebec on a quarter of its land mass. Interestingly, the population of each Land, how Germany's states or provinces are called, is closer to that of Quebec than one would expect. Baden Wurttemberg and Bavaria have ten to 12.5 million habitants, North Rhine Westphalia has with close to eighteen million the largest population of all Länder (this is the plural form of Land), Hamburg counted 1.8 million (all numbers from 2011).³³ Statistics Canada reported the number of people living in Quebec to just under eight million.³⁴ The language singularity of Quebec, since 1974 an officially French speaking province with a significant English speaking minority, has no equal in any of Germany's Länder but plays a large role in the search for identity of the province. Further, the geopolitical position of Quebec and Germany is diametrically opposed. Architectural historian, Annmarie Adams, described Canada's location as a condition on the edge of larger cultural centres which influenced the development of the country certainly in more than only architectural terms³⁵ which is

³³ "Gebiet und Bevölkerung, Fläche und Bevölkerung," Statistische Ämter des Bundes und der Länder, accessed January 2, 2013, http://www.statistik-portal.de/statistik-portal/de_jb01_jahrtab1.asp.

³⁴ "Focus on Geography Series, 2011 Census – Province of Quebec," Statistics Canada, accessed January 2, 2013, <http://www12.statcan.gc.ca/census-recensement/2011/as-sa/fogs-spg/Facts-pr-eng.cfm?Lang=Eng&TAB=1&GK=PR&GC=24>.

³⁵ Annmarie Adams and Martin Bressani, "Canada: The Edge Condition," *Journal of the Society of Architectural Historians* 62/1 (March 2003): 75-83, accessed December 19, 2012, DOI 10.2307/3655084, <http://0-www.jstor.org/mercury.concordia.ca/stable/3655084>.

even intensified in Quebec over the language particularity. Germany, in contrast, forms the geographic and cultural centre of continental Europe. The historic background of both geopolitical areas under consideration was also important. Canada's past as a French and later as a British colony led consequently to Quebec's belonging and close ties to the British Commonwealth. The long lasting dependence to other cultures made the forming of an identity in Quebec complicated and difficult to comprehend in particular in the implications it may have on the thesis subject. After the middle ages, Germany has neither been a significant colonial power nor was it colonized. However, the uneven path Germany had taken during the twentieth century including occupation complicated the evaluation that the nation's history had in forming a concept of industrial heritage, as well.

Despite the differences and the difficulties related to such an undertaking, the comparison of Quebec with Germany has a methodological advantage. Both countries had developed heritage policies and the understanding of industrial heritage independent from one another; we can therefore expect to find also two original views, not one that has formed out of the other. However, because many circumstances are relatively similar, we may find grounds for differences caused by underlying, less evident reasons or by details easily overlooked.

Part 1:

A HISTORICAL SURVEY OF

THE CONCEPT OF

INDUSTRIAL HERITAGE IN QUEBEC AND GERMANY

Recognizing Industrial Heritage in Quebec and Germany

Germany and the Canadian province of Quebec, like many other industrialized parts of the world, developed their understanding of heritage from their situation in relation to their national or provincial histories. Perceptions have changed and evolved over time to respect, but also correct older traditions and lead to regulations that account for shifts in scientific, social, economic and political circumstances. The different traditions of heritage protection in each place have an impact on how contemporary industrial architecture is recognized as part of history and culture. The motivation of Germany's states to include historic industrial sites after World War Two in the heritage listing may differ from the situation in Quebec, where the state is more hesitant in listing sites, with different results. The initial reasons for conservation may undergo modification as time passes. For example, developing a local tourist-site may have been a strong motivation for listing the mining facilities in the Ruhr region and requesting the building's public display and therefore safe access. When North Rhine Westphalia preserved the machine hall of Zeche Zollern II/IV in 1969,³⁶ the state was unaware that the former mine building would act from 1989 on as access to a regional restructuring project, the Emscher Park International Building Exhibition (IBA Emscher Park). In another instance, industrial sites have been preserved by their own industry to support a national-economic image; the nationalized Hydro Quebec seems to have started maintaining its historic structures for this reason but now promotes its sites more as

³⁶ "Zeche Zollern II/IV," Regionalverband Ruhr, accessed February 28, 2013, <http://www.route-industriekultur.de/ankerpunkte/zeche-zollern/>.

tourist attractions, encouraging the public to visit the impressive power stations while they are fully operational and therefore only partly accessible.³⁷

Analysis of the historical development of industrial heritage concerns can help in understanding today's approaches towards contemporary industrial heritage by private, public and governmental heritage groups and organizations, and aid in tracing the interests of the different groups involved in this issue in Quebec and Germany. Both these countries had been involved in safeguarding industrial sites for a long period of time, starting around the turn of the nineteenth to the twentieth century. The popular "Industrial Archaeology" movement that started in Britain in the mid-1950s was in Quebec and in Germany reinforcement for their already existing heritage projects, and an opportunity to (a) collaborate on an international level and (b) to develop a broader idea of industrial heritage as an independent, albeit interdisciplinary, field of study. In the last thirty to forty years, Industrial Heritage has come to be understood and treated in a more holistic way, illuminating the many facets of industrial development in our societies. Academics and professionals are realizing its potential as a distinct field of study and extending the borders of our understanding.³⁸ Nevertheless, when it comes to the recognition and protection of industrial sites as part of our heritage, the period after the Second World War seems to have been a high-water mark; more recently constructed industrial sites have been listed in low numbers compared to religious, public and private buildings of that time; this despite the fact that many important developments in the

³⁷ "Visites guidées gratuites," Hydro Quebec, accessed October 19, 2012, <http://www.hydroquebec.com/visitez/index.html>; and "Industrial Tours in Quebec," Quebecgetaways.com, accessed October 21, 2012, http://www.quebecgetaways.com/industrial-tour_suggestions.

³⁸ See for instance: Hilary Orange, "Industrial Archaeology: Its Place Within the Academic Discipline, the Public Realm and the Heritage Industry," *Industrial Archaeology Review* XXX/2 (2008): 83-95, accessed November 20, 2012, doi: 10.1179/174581908X347292.

culture of industry and industrial material have taken place since then, and are worth studying. The fast pace at which we are destroying the material remains of the more recent industrial past is a serious concern which should not only alarm historians. This loss will leave a hole in our recent past which we need if we want to understand our history and our current society. The Austrian-German historian Franz Borkeuau, co-founder of the Frankfurt School, wrote, even before Britain became attentive of its close relationship to the event of the Industrial Revolution:

The assertion of one's individuality in society is intimately related to the assertion of one's individuality against nature. And just because the Western technological revolution proceeded from "within," from a cultural spiritual drive to know the universe and master it, and was not prompted solely by necessity, for that very reason it became, not peripheral, but central to the whole history of the West. And now stands as its greatest achievement. Precisely because of the deeply spiritual character of this technological revolution, precisely because of the intimate connection between technology and freedom, because of the inseparability of Western (and *only* Western) technological, economic, and political development, all aiming at freeing the life and spirit of the individual, it is an offense against our most precious values to exalt other aspects of our culture, such as literature, art, and religion, *at the expense* of science, technology, and the advancement of knowledge generally.³⁹

The relationship between Quebec's and Germany's society and industrial development is generally recognized but few scholars analyze it in its depth.

From 1840 to 1850, industrial development in what is today Quebec and Ontario ran fairly parallel to the industrialization of Germany's states, anticipating, demanding and fostering nation-building processes. Canada's confederation took place in 1867; Germany united as a nation shortly after, in 1871. Around the same time, the governments in these two countries started to develop an interest in heritage, an issue, they hoped, that would help in the creation of a national identity. Germany's intent was

³⁹ Franz Borkeuau, "Will Technology Destroy Civilization?" (1951) in *End and Beginning. On the Generations of Cultures and the Origins of the West*, edited with an Introduction by Richard Lowenthal (New York: Columbia University Press, 1981), 455.

the propagation of national unity.⁴⁰ On the other hand, Quebec glorified its French roots to remind the rest of the country of Quebec's important role in the forming of Canada, which had become less prominent after eastern and western provinces were added to the nation. An important underlying intent of heritage in Quebec was to encourage empathy for the uniqueness of this province's culture and history within Canada.

Germany and Canada however shared similar reasons for the nation building process as both had to react to changing economic – and military – realities caused by ongoing industrialization. Germany lessened restrictions for shipping goods that were produced in larger numbers for a broader market than that of the small principalities after the production shifted from workshops to factories, Canada enabled the financing of a railway-transportation network which would serve as the country's economic spine and become the cradle of its agricultural and heavy industry. To focus heritage interests on industrial sites as carrier of a unifying power could have been a logical consequence, but the politicians involved in unification pronounced the forming of their nations as a political success, not an economic necessity and used more conventional sites (churches, public buildings, military sites) to create a national identity. The first recognition of industrial heritage grew out of a nostalgic notion on both sides of the ocean when traditional workshops and proto-industrial production were replaced with more modern models at the beginning of the twentieth century. Reflection on the important role that industrial development had on the emergence of both nations and the social shift of their societies would not take place for another half a century. In the following two decades

⁴⁰ Otto von Bismark the "designer of the German nation" was cited in the editorial article of the first issue of the journal "Die Denkmalpflege" from 1899, to justify his support for the preservation of national monuments to give anew the importance of a living link between the German peoples and their common roots. (Norbert Huse, ed., *Denkmalpflege. Deutsche Texte aus drei Jahrhunderten* (Munich: Beck, 2006), 106).

industrial facilities began to be included in heritage discussions. In Germany, the process of commemorating or preserving industrial sites or technical monuments started in 1907, fifteen years prior to the first attempts in Quebec, as the first province in Canada; but future developments in this field were hindered by the Great Depression in Canada and the two World Wars in Germany.

Despite an early implementation of heritage legislation in both countries, the current heritage regulations in (West) Germany and Quebec only took shape in the mid 1970s. How industrial sites should be integrated into the heritage protection programs was debated in both countries with some years of delay to the more traditional issues and followed closely the model of Great Britain. Britain, whose national image suffered after the Second World War since it lost its world power and its industrial forerunner position, discovered its industrial heritage because Britain had at least given birth to the Industrial Revolution.⁴¹ The narrative of having been the cradle of industrialization which changed the face of Europe and the rest of the world gave back some kind of pride to Great Britain. Fewer academics than technical enthusiasts created a field of study known as “Industrial Archaeology.” The time frame British industrial archaeologists set as a starting date for the study of Industrial Archaeology was 1750, after Thomas Savery (1650-1715) invented the steam engine and coke replaced charcoal in the production of iron.

⁴¹ How strong this identity in Britain is between the commemoration of the Industrial Revolution and national identity could be observed in the opening ceremony of the London Olympic Games in 2012, see further: Orange, “Industrial Archaeology,” 85. More on the subject of Britain’s role in the creation of the research field of Industrial Archaeology, see: Keith Falconer, “Industrial Archaeology Goes Universal” *Industrial Archaeology Review*, XXVII, 1 (2005): 23-26.

Large scale industrialization came to Germany and Canada with a hundred years delay. Not only in Germany but in all European societies, industrialization caused social change on a large scale. The nobility lost most of its political and economic power which shifted to industrialist and political professionals. However, in the young and small societies of the Dominion of Canada and the independent United States, industrialization went hand in hand with a population growth composed of industrialists as the upper class and workers as most of the lower class. Industry formed the backbone of North America's societies. A power-shift did not take place as in Europe. The countries' developments under the influence of industrialization could have led to a general theoretical discourse on potential industrial heritage sites, but no such discussion surfaced. The entire field of Industrial Archaeology was for the longest time generally weak on theoretical debate; object based research and practical aspects dominated.⁴²

In Germany, as the historical survey will show, the emergence of civil engineering as a profession was a motivation by this sector of society to be involved in its technical and industrial history and, newly inspired in the 1970s, West German curators could act promptly when Industrial Archaeology emerged. The holding of the Second International Congress on the Conservation of Industrial Monuments (SICCIM) in 1975 in Bochum and the growing network of the Route of Industrial Heritage initiated by

⁴² At the Second International Congress on the Conservation of Industrial Monuments (SICCIM) in 1975 in Bochum, Germany, Robert Angus Buchanan remarked that the English-speaking delegates offered very little "on theory and social aspects" (article in: "Conference Reports Second International Congress on the Conservation of Industrial Monuments: Bergbau-Museum, Bochum, Germany, September 3-9, 1975," *Technology and Culture* 17/2 (April 1976): 246. The German contribution to theoretical subject touched mostly the terminology of Industrial Archaeology and Industrial Monument. How little had been resolved in this debate showed the re-emergence of the same question in 2006 by Ulrich Bauche, founding member of Hamburg's Museum der Arbeit (a museum concerned with the social aspects of the work environment) in a paper from 2006 ("Industriearchäologie und Industriekultur. Zwei Begriffe heutiger Kulturaktivitäten," accessed September 7, 2012. http://www.kultur.uni-hamburg.de/volkskunde/Texte/Vokus/2006-2/25-48_vokus2006-2-3.pdf)

Germany's Land North Rhine Westphalia demonstrated this clearly. Quebec, in contrast, seemed to show less enthusiasm for this cause up to the present day. It cooperated with Ontario to hold a congress of The International Committee for the Conservation of Industrial Heritage (TICCIH) in 1994 but continued to treat its historic industrial sites as real estate with little respect to their past.

The author considered it important to first understand the reasons for such a different appreciation of the two countries' industrial heritage, in practical as well as in legal terms, before analyzing the current situation, assuming that relevant answers for this divergence in the historical development of the industrial heritage concern would be not the only but eventually the most significant indicators. The author conducted a historical survey, looking first at Quebec before studying the situation in Germany, analyzing how industrial heritage was treated from the beginning of the nineteenth century, selecting sites predating World War Two. The historical survey will serve as foundation for the case studies of contemporary sites which the second part of this thesis will compile.

Chapter 1

INDUSTRIAL HERITAGE IN QUEBEC

1.1 The Concept of Industrial Heritage in the Province of Quebec, Canada

In Quebec, scholars have given little thought to the history of the province's industrial heritage preservation efforts. To fill some of this void and to create a basis for case studies of contemporary sites, the author analysed the situation of industrial heritage protection throughout the twentieth and beginning of the twenty-first century in Quebec with regard to selected examples dating prior to 1940. The examples will not exhaust the subject of the development of industrial heritage in Quebec⁴³ but are selected to show some significant moments in which the author sensed a change in the understanding of industrial heritage and subsequent adjustment in legislation.

Canada's provinces are responsible for the preservation of heritage, including industrial heritage, and each province has ratified its own heritage law. Quebec did this with its Cultural Heritage Act/*Loi sur le patrimoine culturel* which was last revised in 2012,⁴⁴ to replace its 1972 Cultural Property Act/*Loi sur les biens culturels*.⁴⁵ Quebec's government sought reform because by 2008, the responsibilities of several ministries overlapped.⁴⁶ The government wished to make the law more effective and facilitate the

⁴³ In Quebec, the understanding of what belongs to industrial heritage differs in some publications to that of Germany and other countries. A wider array of structures is part of industrial heritage in the United States, England and Germany, such as transportation infrastructure and related buildings, such as train stations and gas service stations while they are not always understood in Quebec as industrial heritage.

⁴⁴ It was ratified in October 19, 2011 by the *Ministère de la culture, communication et condition féminine* as "*Loi sur le patrimoine culturel*," this law came into effect on October 19, 2012, accessed September 30, 2011,

<http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=5&file=2011C21F.PDF>.

⁴⁵ "Cultural Property Act (L.R.Q., chapter B-4)," last modified October 19, 2012, accessed January 16, 2013, http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=2&file=/B_4/B4_A.html.

⁴⁶ "...cultural heritage protection [...] is exercised erratically under the CPA [Cultural Property Act] and four other acts: the Act respecting land use planning and development, the Environmental Quality Act, the Natural Heritage Conservation Act, and the brand new Sustainable Development Act. Over time, the legal framework has grown increasingly complex and comprehensive in response to changes in the concept of

administration of protection. The inclusion of the new evaluation criteria of technical and scientific value may increase the inclusion of industrial sites but the new law did not align the quality of preservation in the field of industrial monuments to that developed by TICCIH and its “Nizhny Tagil Charter for the Industrial Heritage.”⁴⁷ Recommendations by the *Association Québécoise pour le patrimoine industriel* (Aqpi) fell mostly on deaf ears.⁴⁸ The situation of industrial heritage will most likely not change significantly in future years, keeping the results of this study relevant even under the changed circumstances of the new heritage law. Quebec has, according to the author’s research, still significantly fewer classified industrial heritage sites compared to Britain or Germany. No case came to the author’s attention where the provincial or municipal government preserved or supported actively the preservation of an industrial building keeping its “functional integrity” by preventing the removal of “machinery or components” and “maintain[ed] original patterns of circulation and activity”⁴⁹ with the exception of still operating hydro electrical power plants.

The first indications of future heritage discussion about Canada’s built environment appeared with the confederation in 1867 when Quebec also insisted on keeping many of its old traditions and laws in place, specifically the seigneurial system which was connected to exclusive rights for Quebec’s population and the civil code of New France, instead of ratifying the common law of Upper Canada; this sat Quebec apart

heritage.” Government of Quebec, *A Fresh Look at Cultural Heritage, Workbook* (Quebec[?]: Gouvernement du Quebec, Ministères des Communications, 2008), 9.

⁴⁷ The Nizhny Tagil Charter for the Industrial Heritage can be found online, for instance over ICOMOS: <http://international.icomos.org/18thapril/2006/18april2006.htm>.

⁴⁸ Aqpi published its suggestions for the 2011 heritage law reform in “Mémoire sur le projet de loi 82: Loi sur le patrimoine culturel,” dated November 2010, on the organisation’s internet site, accessed November 23, 2012, <http://www.aqpi.qc.ca>.

⁴⁹ Cited after the *Nizhny Tagil Charter for the Industrial Heritage*, point 5: “Maintenance and conservation.”

from the rest of Canada.⁵⁰ Quebec's early archivists and historians such as Édouard-Zotique Massicotte (1867-1947), Pierre-Georges Roy (1870-1953) and Gérard Morisset (1898-1970, fig. 1.1.3)⁵¹ dedicated much of their work to keeping links to the French-Canadian past visible, which was also a main aim when creating an early monument protection program in Quebec. For Quebec it was clearly imperative to have control over heritage matter. Under these circumstances it is not surprising that Quebec ratified the Law for the Conservation of Monuments in 1922 as the first such law in Canada. When finally all the other provinces had created their heritage laws in the 1970s and 1980s, Quebec advertised its forerunner role with pride.⁵² Canada's provincial governments claimed responsibility for all sites that were not crown owned properties; heritage protection of the latter fell into the hands of the federal government. Quebec borrowed ideas on how to formulate its heritage law, what to include in the definition of "monument" and how to set up an official heritage organization, to a large extent to practice in France while the other Canadian provinces and the federal heritage administration of Parks Canada was inspired by England's National Trust and America's

⁵⁰ Sheila McLeod Arnopoulos and Dominuque Clift, *The English Fact in Quebec* (Kingston, Montreal: McGill-Queen's University Press, second ed. 1984), 13.

⁵¹ The biographical exhibition catalogue "A la découverte du patrimoine avec Gerard Morisset," published by the Ministère des affaires culturelles in 1981 is one of the early publications focusing on French-Canadian heritage in Quebec; the open or subtle concern of the province's identity is further found in Richard Handler's *Nationalism and the Politics of Culture in Quebec* (Madison, Wis.: University of Wisconsin Press, 1988), and in *Quebec and the Heritage of Franco-America*, by Iwan W. Morgan (London: Institute for the Study of the Americas, [2010]); the fast growing number of books and articles on Quebec's religious heritage can be counted into this category as well.

⁵² For instance: Alain Duhamel is quoted in *Le Devoir* in 1986 with the statement that "Le Québec a été le premier gouvernement à adopter une loi sur la protection du patrimoine, en 1922." (Cited after: *Assises 1990 sur le patrimoine du Grand Montréal*, conference publication, (Montreal [?]: Héritage Montréal, Loisir Ville, La Fédération des sociétés d'histoire du Québec, 1990), n.p.). Also, the Ministre de la Culture et des Communications du Québec joined in this praise: "*La province de Québec devient la première province canadienne à protéger par voie législative son patrimoine culturel.*" (Accessed September 24, 2012, <http://www.mcccf.gouv.qc.ca/index.php?id=1905>).

National Park Service.⁵³ That all these countries, France, England and the U.S.A. had the heritage legislation centralized at a national level with regional branches, while Canada had given the responsibility of heritage preservation to its provinces, found no noticeable mention in the literature despite the fact that the size of an organization and its hierarchical structures may affect critically heritage issues.

In 1922, Quebec's government created the *Commission des Monuments Historiques de la Province du Québec* in the form existing in France since 1837. It was an advisory board to select and classify objects based on criteria related to their historic or artistic importance. Their recommendation offered the *Conseil exécutif*, also known as the Executive Council of Quebec, a basis for deciding on the classification of a site. This cabinet, of course, had a political mandate and changed depending on the outcome of elections. From the French model the law also adopted the need for the consent of the property owner before classifying a building as a historic monument. However, as soon as a building was listed, the law obliged the owner to ask the provincial secretary for authorization before any changes could be made to buildings or sites. In France, owning a protected monument had certain drawbacks, too, as all renovation and construction activities required the supervision of an official, but the benefits seem to have outweighed the disadvantages as France's government offered generous grants of up to forty per cent of the up-keep costs. Because only sites of national significance entered the list, owners

⁵³ "Like most Canadian predecessors, standards [...] in Canada draws very heavily and is modelled quite directly on the United States government's landmark publication, the Secretary of the Interior's Standards for the Treatment of Historic Properties, with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings (1995) and The Secretary of the Interior's Standards for the Treatment of Historic Properties, with Guidelines for the Treatment of Cultural Landscapes (1996)." See: *Standards and Guidelines for the Conservation of Historic Places in Canada*, Parks Canada, 2003, VI.

could associate a high prestige to their historic property.⁵⁴ Contrary to many European countries, owners of classified properties in Quebec received no financial compensation until 1972.⁵⁵ This may explain why so few people agreed on the listing of their building. Seven years after the ratification of Quebec's first preservation law, the law protected officially only three buildings: the Château de Ramezay in Montréal, in Quebec City the church of Notre-Dame-des-Victoires and the Maison des Jésuites de Sillery (fig. 1.1.1+1.1.2), all of which were classified in 1929.⁵⁶ The government later decided to change this part of the legislation. The list of classified heritage sites continued to grow disproportionately slowly in Quebec compared to Germany or other European countries.

In spite of the rarity of protection actions, the federal and provincial governments as well as private organizations nevertheless gave commemorative plaques to many places of historic importance.⁵⁷ From early on, those plaques also commemorated some industrial sites, specifically the first establishments of key industries – the first iron forge, the first pulp and paper mill, the first dairy factory.⁵⁸ However, a preservation interest in

⁵⁴ Biagia Bongiorno, "Von der französischen Denkmalpflege lernen?" (Paper presented at the Symposium *Nachdenken über Denkmalpflege*, Hannover, Germany, November 3, 2001) in *kunsttexte.de* 2/2002-1, accessed December 21, 2010, <http://edoc.hu-berlin.de/kunsttexte/download/denk/bongiorno.PDF>.

⁵⁵ Alain Gelly, Louise Brunelle-Lavoie and Cornéliu Kirjan, *La Passion du Patrimoine : la Commission des biens culturels du Québec, 1922-1994* (Sillery, Quebec : Septentrion, 1995), 187.

⁵⁶ "Historique de la Loi sur les biens culturels," Government of Quebec, accessed December 8, 2010, <http://www.mcccf.gouv.qc.ca/index.php?id=2398>.

⁵⁷ Robert W. Passfield, "Industrial Heritage Commemoration in the Canadian Parks Service: Part I," *IA The Journal of the Society for Industrial Archaeology*, 16/2 (1990): 15.

⁵⁸ Quebec's government gave heritage recognition to many sites that were commemorated before with a plaque, the two actions were nevertheless independent from each other. There are still many sites with plaques without being listed and other sites made it onto the list but no plaque was ever received: The hydroelectric site of St. Narcisse had its first plaque in the 1920s and again a plaque by 1954 and was then classified in 1963. Quebec's government placed in following cases plaques before or without listing the site: Plaque de la locomotive Roberval-Saguenay in 1968, Plaque de la première beurrerie au Canada in 2004 (?); Plaque de l'industrie de la potasse en Nouvelle-France at 940, rue Saint-Vallier Est in Quebec City in 2001, Plaque de l'usine de pâtes et papiers de Windsor in the Estrie region (date not available); Plaque du premier moulin à papier au Canada in Saint-André-d'Argenteuil in 1951. Earlier plaques by private organizations must have existed but are not officially listed.

the historic sites and the production processes did not emerge from those commemorations. The gap between commemoration and heritage listing narrowed only slowly. The idea of what was part of Quebec's heritage was slowly broadened to include other sites beside French colonial dwellings, churches and public buildings. The *Loi sur le bien culturel* included by 1985 immovables of historic interest for their use or their architecture, movables with aesthetic or historic value, and natural and man-made landscapes for aesthetic, legendary or scenic interest. It was only in 2011, that the government decided to include intangibles, and widen the scope of evaluation to criteria related to "scientifique ou technologique" values.⁵⁹ With the latter, Quebec's government for the first time consciously recognized in its heritage law values aimed specifically at industrial sites that so far had to meet historic, aesthetic or environmental values⁶⁰ – fifty years after the criteria of scientific and technological significance had been introduced in German and other European protection laws.

Publications mentioning the historical progress of monument preservation in Quebec focused on the process it took to design this provincial law, how it related to the different levels of administration and the procedure involved in creating inventory lists. Scholars looked at the regulations and all the transformations that had occurred over time, commonly including an analysis of the apparatus responsible for preservation and its results,⁶¹ these reflections are relevant also when dealing with industrial heritage sites.

⁵⁹ See: "Loi sur le patrimoine culturel," chapter 1, point 2.

⁶⁰ Service de la planification du territoire de la Communauté urbaine de Montréal, *Répertoire d'architecture traditionnelle sur le territoire de la communauté urbaine de Montréal – Architecture industrielle*, (Montreal: Communauté Urbaine de Montréal, 1982), X: The criteria mentioned are "intérêt architectural", "intérêt historique", "intérêt urbanistique."

⁶¹ For instance: *À la découverte du patrimoine avec Gérard Morisset*, exposition catalogue (Quebec: Ministère des Affaires culturelles, 1981); Dinu Bumbaru, "Montréal – Patrimoine et métropole – Conservation et concertation," *The Place of History: Commemorating Canada's Past: Proceedings of the*

But, when approaching this methodology, authors put aside that their study of the provincial heritage law reduced the discussion to objects only touched by the legal system of the province. The first book on Quebec's industrial heritage followed this pattern. It was a provincial overview on the status quo by Louise Trottier, with her outstanding knowledge of the subject, commissioned by Quebec's government, which led in 1985 to the slender publication *Le patrimoine industriel au Québec*.⁶² This book gave the province's government the tools to establish foresighted preservation of its industrial heritage. Trottier gave understandingly less attention to those industrial heritage sites that would fall under federal legislation. It is clear that this approach could not achieve an unmitigated understanding of heritage policies specifically for industrial heritage because it excluded many sites that were not covered by Quebec's heritage laws. Industrial heritage sites that were under federal legislation, of which there are several, were generally excluded.

Only through inventories can researchers gain a more complete overview of the province's industrial sites. In the earliest repertory⁶³ of historic industrial sites in Montreal,⁶⁴ produced in 1982 by the *Communauté urbaine de Montréal (CUM)*,⁶⁵ a

National Symposium Held on the Occasion of the 75th Anniversary of the Historic Sites and Monuments Board of Canada, ed. by Thomas H.B. Symons (Ottawa: Royal Society of Canada, 1997): 139-155; Claude Reny, *Principles et critères de restauration et d'insertion: Le patrimoine architectural d'intérêt public au Québec* (Quebec: Gouvernement du Québec, Ministère des affaires culturelles, 1991).

⁶² Louise Trottier, *Le patrimoine industriel au Québec* (Quebec: Bibliothèque nationale du Québec, 1985).

⁶³ Montreal's repertoire covered the time from 1800 - 1930; it was part of a 12 (planned were 14) volume *Répertoire d'architecture traditionnelle sur le territoire de la communauté urbaine de Montréal*, which became available starting in 1982. Some information of the repertory can be accessed online, however by January 2011 the online information was only basic (name of building, address, construction date and name of architect) and not comparable with the wealth of information found in the print version which is available in local libraries, only.

⁶⁴ On the City of Montreal's service website: <http://services.ville.montreal.qc.ca/rat/presratf.htm> it is stated that this *repertoire* should not be seen as an official inventory, it is rather a selection of noteworthy sites to which more may or must be added.

⁶⁵ The CUM existed from 1970 till 2001, it was replaced by the merged City of Montreal in 2002.

distinction between provincial and federal sites was not made, buildings of Montreal's harbor that belonged to the crown, for instance, were included, because the volume would serve to give the municipalities on Montreal's island as complete an overview of the historic buildings in their territory as possible so that the twenty or so municipalities could prepare to participate actively and efficiently in heritage preservation after the law reform of 1985. Ten years later, Nicole Dorion compiled for the *Association québécoise pour le patrimoine industriel* (Aqpi) a list (together with more detailed information on index cards, which are not published) of industrial sites with heritage character, including federal property.⁶⁶ The same year, she collected statistical information on historic industrial production sites sorted in thematic chapters with short introductions to all key industries in Quebec which was published by the provincial Ministry of Culture and Communication to offer governmental and non-governmental researchers, organizations and municipalities a tool to gain a fast overview on the subject.⁶⁷ But, it touched only sites of production which are commonly in private ownership and therefore under provincial legislation. In 2009, Gisèle Piédalue offered a reflection on the more current situation of Quebec's industrial heritage inventories, published under the title *Patrimoine archéologique industriel du Québec*⁶⁸ and conducted for Quebec's *Ministère de la Culture, des Communications, et de la Condition féminine*. Piédalue faced the problem that the subject of Industrial Archaeology and industrial heritage had widened and

⁶⁶ Nicole Dorion, *Inventaire des sites industriels patrimoniaux au Québec* (Montreal: Association québécoise pour le patrimoine industriel, October 1996).

⁶⁷ Nicole Dorion and Françoise Dubé, *Bilan des interventions ministérielles: fonction industrielle : série 2000 and série 3000* (Quebec: Gouvernement du Québec, Ministère de la culture et des communications, 1996).

⁶⁸ Gisèle Piédalue, *Patrimoine archéologique industriel du Québec* (Quebec: Ministère de la Culture, des Communications, et de la Condition féminine, 2009). The slightly redundant name of the publication combining the overlapping terms "patrimoine industriel" and "archéologie industrielle" tried to stress that Piédalue included in her inventories also industrial sites of which only archaeological traces remained.

evolved in many different fields over the last two decades while Quebec's officials had mostly resisted following these different threads in their heritage discussion. This became clear in the disproportion between a two page list of industrial sites extracted from the *Répertoire des biens culturels du Québec* facing a twenty pages long list of "installations hydroélectriques du Québec" and an impressive fifty seven pages of historic wind and water mills. For the first time, docks, shipwrecks and archaeological industrial remains were included in inventory lists. Piédalue mentioned the federal responsibility over train stations and harbor facilities in the text part of her publication but excluded these sites in the inventory lists.

In general, despite exhaustive discussion in Quebec on widening the understanding of heritage in all possible ways so as to include all aspects, the idea of industrial heritage in Quebec has not evolved further than the architectural shell of production sites. When the *ministère de la Culture, des Communications et de la Condition féminine* discussed selection criteria for heritage sites in the process of creating a new law in 2011, they made reference to less recognized or discriminated minorities such as aboriginal culture or the representation of women, and also included less known fields such as underwater archaeology. An open discussion that would help to develop methodologies to preserve industrial sites in more meaningful and complete ways with their technological and social context intact and interpreted on site, as discussed for some time by The International Committee for the Conservation of Industrial Heritage (TICCIH),⁶⁹ have not entered wide circles in Quebec.

⁶⁹ TICCIH's ambitions go as far as including industrial contamination and earth works, work flow and working conditions as part of the industrial heritage. They are part of the interdisciplinary character of

TICCIH was established in Canada shortly after the first congress at Ironbridge, England in 1973. Of the sixty participants at this conference, four came from Canada.⁷⁰ TICCIH became in 1988 part of the International Council on Monuments and Sites (ICOMOS) with the mandate to increase the recognition of industrial heritage in all its member countries. In 1994, TICCIH held its ninth international conference under the motto “From industry to industrial heritage” in Montreal and Ottawa, however, no branch of TICCIH is to date active in Quebec. Also the Society of Industrial Archaeology, which hosted its annual conference in Montreal in 2003 and produced an issue for the *Journal of the Society for Industrial Archaeology* (fig. 1.1.4),⁷¹ left otherwise little mark in this province. Up to the present date, redundant industrial sites are treated as real estate. Developers recycle historic factories, if feasible, in increasing numbers into office or residential space. Newer sites and those where soil contamination is too severe, are demolished to open space for new development.⁷²

Quebec’s low interest on the subject of industrial heritage was also felt by the *Association québécoise pour le patrimoine industriel* (Aqpi). The suggestions by Aqpi in November 2010⁷³ when the heritage law reform was in the consultation stage, to ensure, for instance, that at least one of the twelve representatives of the new *Conseil du patrimoine culturel du Québec* must possess an expertise in industrial heritage, found

industrial heritage. Because the author of this thesis focussed on aspects related to architectural history, the mentioned aspects played a marginal role in this context and the thesis disregards them.

⁷⁰ Eberhard G. Neumann, *Gedanken zur Industriearchäologie. Vorträge – Schriften – Kritiken* (Hildesheim, Zürich, New York: Georg Olms Verlag, 1986), 12.

⁷¹ IA *The Journal of the Society for Industrial Archaeology* 29/1, 2003.

⁷² This was, for instance, done in Montreal’s Glen Yard in 2009/2010.

⁷³ “Mémoire sur le projet de loi 82 Loi sur le patrimoine culturel, présenté dans le cadre de la consultation générale et des auditions publiques sur le projet de loi no 82,” L’association québécoise pour le patrimoine industriel, Novembre 2010, published online by Aqpi, accessed October 15, 2012, <http://www.aqpi.qc.ca/dossier.html>.

little support.⁷⁴ The problem of missing expertise occurred less when looking at historic religious heritage, at early public buildings or private residences because people concerned with this kind of heritage initiated the law and tailored value evaluations accordingly. Academics provided further ample studies to this set of buildings. Quebec's industrial heritage sparked only humble academic interest. More commonly either the government or public or private interest groups produced research on historically important industries and their sites in the province which were not always published.

The following chapters portray selected industrial heritage sites built prior to the Second World War in the province of Quebec and analyze them one by one from the angle of industrial heritage. The sequence in which the author presents the examples follows the chronological order in which official circles or private interest groups first discussed them. True to the belief that Quebec's industrial heritage comprises all sites on Quebec territory, independent of the agencies responsible, the author chose both sites recognized or classified at the provincial level as well as at the federal level, as long as the sites had gained some kind of official heritage status. However, as the following examples will show, the reasons for recognition or classification differed as much as the criteria for preservation and the way in which those sites were presented to the public. Following these separately researched cases, an attempt will be made to present— for the first time – a more complete narrative of Quebec's concept of industrial heritage in its historic context. This will create the basis for the case studies on Quebec's contemporary industrial heritage sites.

⁷⁴ The consultation took place between January 18 and February 16, 2011. Aqpi was participating in the last sessions in front of the parliamentary commissions, however, their suggestions as stated in their recommendations from November 2010 was not reflected in the published law. See: "Architecture et paysages du Québec," Action patrimoine, accessed October 21, 2011, <http://www.cmsq.qc.ca/Commissionparlementairesurleprojetdeloisurlepatrimoineculturel.htm>.

1.2 The Commemoration of the Forges du Saint Maurice

Farewell my dearest Ironworks. I had known you in the days of your glory and I had promised to give you your well deserved place in history. I am writing these last lines in front of your ruins that will soon disappear. Your memory is already a vague legend that the next generation will know nothing of. I will save you from oblivion, you will live again in the minds of Canadians who are fascinated by the study of the past.⁷⁵

Benjamin Sulte, 1920

Historian Benjamin Sulte (1841-1923, fig. 1.2.1) did not sing this swansong in vain. It led to the first recognition of a historic industrial site in Canada, marking the change away from a proto-industrial society.⁷⁶ The ironworks in Saint Maurice (fig. 1.2.2), north of Three Rivers in Quebec, were the country's first iron producing industry and first industrial settlement. In the *Blackwell Encyclopaedia of Industrial Archaeology*, published in 1992, it reads:

The remains of the first Canadian iron making industry, which operated from 1729 until 1883, are preserved within the historic park of the Forges du St. Maurice, 13 km North of Trois-Riveres. The importance of this site was recognized as early as 1919 by the Commission for Historic Sites and Monuments National Board.⁷⁷

In *Denkmale des Industriezeitalters*, a source book on Germany's industrial heritage understanding, Uta Hassler and Alexander Kierdorf⁷⁸ found the recognition so outstanding that they mentioned it in their publication as an early example of

⁷⁵ Benjamin Sulte, *Les Forges Saint-Maurice* (Montreal: G. Ducharme, 1920), 195. The translated English version of the original French text is on public display in the interpretation centre of the National Heritage Site Forges du Saint Maurice.

⁷⁶ The term "proto-industrial" refers to production sites before industrialization had taken place. *The Blackwell Encyclopedia of Industrial Archaeology* (Barrie Trinder, ed., Oxford, UK: Blackwell, 1992) defines the term as "a phase of economic activity in which production is typically organized in cottage workshops in the countryside, in pastoral rather than arable regions, by families combining manufactures with agricultural activities."

⁷⁷ *The Blackwell Encyclopedia of Industrial Archaeology*. The ironworks was already mentioned in Trottier *Le patrimoine industriel au Quebec*, 45.

⁷⁸ Hassler and Kierdorf, *Denkmale des Industriezeitalters*, 39/40: "Zu den ersten geschützten technischen Denkmälern gehört auch die Eisenhütte „Les Forges du St. Maurice“ von 1729 in Kanada, die bereits seit 1919 als frühes historisches (und archäologisches) Monument der Besiedlung des Landes erhalten wird." (Canada's "Les Forges du St. Maurice" from 1729 belonged to one of the first protected technical monuments, safeguarded already since 1919 as early historic (and archaeological) monument for the colonization of the country. (Author's translation)).

international preservation activity of an industrial site, along with the aspirations of Sweden and Poland where industrial sites were under survey and protection as early as the 1920s. This may lead readers to the mistaken conclusion that Quebec, at this early point, protected industrial buildings and worked on listing these sites. This was not the case: in 1923 the Canadian Council for Monuments and Sites placed a plate to commemorate the Forges du Saint Maurice which did not include any form of direct protection of the site.⁷⁹

Today, many publications,⁸⁰ governmental documents, online sources and the Forges' interpretation centre give information on the historic background of the Forges du Saint Maurice. Canada's first furnace was set up in 1729 by François Poulin de Francheville, seigneur of Saint Maurice under the French regime, to supply the French Navy with iron for fitting out ships.⁸¹ The iron was mostly shipped to France but some of it stayed in Canada where it was urgently needed for cannons and ammunition because of the conflict with the fast growing British colonies in the west and south of the North American continent. For that purpose, a royal shipyard operated in Quebec City at the same time, served by the ironworks. The debut of siderurgy opened a new chapter in Canada's history. With the exploration of iron mines the whole industry of metallurgy and advanced shipbuilding developed in the province. For the first time, miners, blacksmiths, charcoal-burners, and other specialized craftsmen entered Quebec society, to

⁷⁹ Information given by the interpretation centre of the Forges du Saint Maurice.

⁸⁰ Roch Samson, *Les Forges du Saint-Maurice: Les débuts de l'industrie sidérurgique au Canada 1730-1883* (Quebec: Les Presses de l'Université Laval, 1998); Réal Boissonnault, *Les Forges du Sainte-Maurice, 1729-1883, 150 Years of Occupation and Operation* (Quebec: Parks Canada, 1983); François de Lagrave and the Corporation communautaire de Saint Michel-des-Forges, *Au pays des Cyclopes* (Three Rivers: Corporation communautaire de Saint Michel-des-Forges, 1990); Albert Tessier, *Les Forges Saint-Maurice* (Montreal, Quebec: Les Éditions du Boréal Express, 1952).

⁸¹ "Forge du Saint-Maurice National Historic Site of Canada," Parks Canada, accessed December 14, 2010, <http://www.pc.gc.ca/eng/lhn-nhs/qc/saintmaurice/natcul/natcul2.aspx>.

date mostly composed of clerics, farmers, trappers and merchants. Saint Maurice ironworks enabled the colony to produce its own basic goods that until then had to be shipped in from Canada's mother country France and later England. Allowing primary and secondary industries in colonized land was a delicate decision because it easily led to a loosening of ties and even independence at a time when the mother countries tried to keep colonies dependent to better direct profit back into their own economy.

Iron production at the Forges du Saint Maurice became profitable by 1738; more forges were erected and the village around the workshops grew. After the British conquest of New France in 1760 the military demand for iron products diminished. The royal ironworks served instead the growing domestic needs by producing agricultural tools, stoves, ovens, and similar things (fig. 1.2.5). The crown leased the enterprise to a private merchant who enjoyed privileged conditions for a long time. The decline of the company started when it was sold without its former privileges to another private entrepreneur in 1846. By then, industrialization in Canada had started on a large scale. Other mines had opened and their ironworks produced the same goods, creating a competitive market. After decades of struggle, the operations at Canada's oldest iron industry ended in 1883. The still usable building material was shipped to other construction sites, and the place was abandoned for the next forty years during which it deteriorated into a picturesque state of ruin. It was rediscovered in 1919⁸² first by

⁸² The dates for the commemoration is sometimes given as 1919, referring to the recognition, in other sources it is given as 1923, the date of the first commemoration plaque. On the Parks Canada website, the date for the plaque is given with 1923: "The historian Benjamin Sulte, who had lived at the Forges during his childhood, published the first historical study of the company in 1920. That same year, he persuaded the Historic Sites and Monuments Board of Canada to lay a commemorative plaque at the site, a gesture it effectively carried out in 1923." "Forge du Saint-Maurice National Historic Site of Canada," Parks Canada, accessed December 14, 2010, <http://www.pc.gc.ca/eng/lhn-nhs/qc/saintmaurice/natcul/natcul2/c.aspx#old>.

Benjamin Sulte who grew up in Saint Maurice's industrial village and wrote the first book on the ironworks history and then by other local enthusiasts such as the priest and film making pioneer of Quebec, Albert Tessier (fig. 1.2.3), and Conrad Godin (fig. 1.2.4), a dentist who was later awarded the Order of Canada for his contribution towards instilling interest in regional history. In 1923, the Commission for Historic Sites and Monuments placed a bronze plaque on the site⁸³ with which it was officially commemorated as the country's first metal industry under the French regime (fig. 1.2.6).

⁸⁴ The Commission had placed similar plaques on sites of battlefields, and places connected to significant events or persons from the early history of Canada's colonization. The commemoration did not include the preservation of any site, be it for the purpose of tourism or as an educational tool. It aimed to prevent development or removal of whatever was left, but interference with property rights remained minimal. The active protection of a site was rather unusual and dependent on government-held ownership of the site. However, for a long time Canada including Quebec followed the model of the United States National Parks Service and focused on the acquisition of properties that could become national parks, not on historic sites.⁸⁵

Finally, in 1963, the *Chambre de Commerce* in Three Rivers proposed the rebuilding of the site of the Saint Maurice Forges to increase the city's touristic

⁸³ This commemoration by the Commission for Historic Sites and Monuments was one of the organization's first actions after its establishment by the Advisory Board in the fall of 1919. The organization's first meeting was held in Ottawa.

⁸⁴ The first commemoration plate reads after the same text in French: "St. Maurice Forges./These forges,/established in 1730,/ by Poulin de Francheville,/were the foremost industry/under the French Regime/and continued in operation/until 1880." The plaque is displayed at the interpretation centre of the National Heritage Site Forges du Saint Maurice.

⁸⁵ "Historic Sites and Monuments Board of Canada," Parks Canada, accessed October 15, 2012, <http://www.pc.gc.ca/clmhc-hsmbc/comm-board.aspx>.

attraction.⁸⁶ Two years earlier, the federal government had started reconstructing the old fortification of Louisbourg in Nova Scotia (fig. 1.2.7) as an interactive open air museum; something similar was certainly envisioned for the Forges site. Likewise, south of the Canadian border, the ironworks on the Saugus (fig. 1.2.8), near Boston, had been reconstructed in the 1950s to commemorate the founders of America's steel industry

by setting up a faithful replica of 'Hammersmith,' the mid-seventeenth-century plant in which the successful, sustained, and integrated production of cast and wrought iron was first achieved within the limits of the United States.⁸⁷

To gather data for the reconstruction at Saint Maurice, the Quebec Ministry of Cultural Affairs employed archaeologists to conduct research but progress was slow. In 1973, the Canadian Government took over responsibility of the site's investigation, preservation and restoration. Instead of buying the site from the province, a long term exchange of properties took place.⁸⁸ A national park with a historic mill west of Montreal was given by the crown to the province and the Saint Maurice site came in federal hands. Between 1973 and 1976, a team of archaeologists recovered the forges' foundations (fig. 1.2.10). It became Canada's earliest industrial archaeological undertaking and "the largest archaeological excavation area in Canada."⁸⁹ The province recruited senior archaeologists from sites of military remains, but for this large area, more hands were needed and a group of younger professionals were trained here as Quebec's first

⁸⁶ "Forges du Saint-Maurice National Historic Site of Canada," Parks Canada, accessed January 15, 2013, <http://www.pc.gc.ca/lhn-nhs/qc/saintmaurice/natcul/natcul2/c.aspx#life>.

⁸⁷ E. N. Hartley, *Ironworks on the Saugus* (Norman, OK: University of Oklahoma Press, 1957, second ed. 1971), VII.

⁸⁸ Jean Bélisle was so kind to inform the author of following detail: The federal government did not purchase the site from the Province of Quebec but exchanged a parcel of land with a historic windmill west of Montreal without actual changing ownership. See: "The park history," Parc historique Pointe-du-Moulin, accessed October 15, 2012, <http://www.pointedumoulin.com/en/history> and "Les Forges ressuscitées," Parks Canada, accessed October 15, 2012, <http://www.pc.gc.ca/fra/lhn-nhs/qc/saintmaurice/natcul/natcul2/c.aspx#aujourd>.

⁸⁹ "Forges du Saint-Maurice National Historic Site of Canada."

industrial archaeologists.⁹⁰ Over the next years, the research results allowed the reconstruction and repair of some buildings and structures. The collected findings filled an on-site interpretation centre and offered an insight into the site's past after the archeologists had analyzed the remains. The Forges opened as a National Historic Site of Canada. Contrary to what was envisioned at the beginning, most of the buildings at Saint Maurice were never rebuilt. However the key role that the forges and other early ironworks in the area⁹¹ played in the birth of Canada by enabling its population to be self-sufficient was a more pronounced part of the park's narration than at the site of the ironworks on the Saugus. Parks Canada re-erected only the *Grand Maison* (fig. 1.2.11) in its original look, based on plentiful documentation. For the rest of the site's dwellings, they made only the excavated foundations visible. For a contemporary reconstructive work on the main blast furnace, the government commissioned the architects Jean-Marie Roy and Laurent Goulard from Quebec City. The architects covered the space of the furnace with a low building but shaped with new structural elements composed of a steel space-frame the original outline of the furnace building (fig. 1.2.12). The realization of

⁹⁰ According to Jean Bélisle, he himself and several others, such as Louise Trottier worked in the archaeological research team of the Forges Saint Maurice from 1973 on for different periods of time. Beside Bélisle and Trottier, following people were involved in research subjects concerning the Forges du Saint Maurice: Monique Barriault, Pierre Beaudet, Michel Bédard, André Bérubé, Bruce Bevan, Réal, Boissonnault, Nicole Casteran, Céline Cloutier-Nadeau, Johanne Cloutier, Simon Courcy, Marchel Tardit, Richard Cox, Jacques Dorion, Pierre Drouin, Alain Rainville, Françoise Dubé, Roxanne Renaud, Michel Fiset, Tan Vo Van, Marie-France Fortier, Allan Greer, Camille Lapointe, Alayn Larouche, David Lee, Alison McGain, François Miville-Deschênes, Claire Mousseau, Marcel Moussette, Pierre Nadon, Heather Nicol, Françoise Niellon, Serge Saint-Pierre, Mario Savard, Yves Tremblay, Henry Unglik, Luce Vermette and Daniel Villeneuve; source, "Travaux de recherche et études conceptuelles réalisés par Parcs Canada, Recherche historique et archéologique," in *Les Forges du Saint Maurice, Plan Directeur* (Ste-Foy: Parcs Canada, c. 1982), 69-72.

⁹¹ Several ironworks had set up their business beside the Forge Saint Maurice with mixed success: Forges Batiscau (1798-1814), Forges Radnor (1853-1910), Forges L'Islet (1856-1878), Forges Saint-Tite (1868-1872), and Forges Grondin (1877-1881). See: Benoît Gauthier, *La Maurice à l'âge du fer*, (Three Rivers: Corporation pour le patrimoine sidérurgique de la Mauricie, 1991), back-cover page.

their design took place between 1982 and 1983.⁹² This approach of visually outlining former lost structures instead of a historical– eventually falsifying – recreation, followed the 1964 guidelines of the Venice Charter on the Restoration and Conservation of Historical Monuments and Ruins and broke with the traditional approach of stylistic restoration, which in Quebec was until 1970 promoted and exercised in numerous cases by Gérard Morisset,⁹³ “*l’une des plus grandes figures du domaine culturel du Québec.*”⁹⁴ The *Ordre des Architectes en Québec* awarded the project of the Forges of Saint Maurice *Le Prix d’Excellence en Architecture 1985* and a year later it won the Governor General’s Medal for Architects in 1986. The ironworks became a popular heritage site, also because a French TV series by Radio Canada, “Les forges du Saint Maurice,” made it popular over 108 episodes that ran from 1973-1975, dramatizing the life and work of its former inhabitants.⁹⁵

At a relatively early date the forges had entered the group of other French-Canadian heritage sites that the Quebec government cherished for their historic value.⁹⁶

The process of Canada’s political consolidation towards the West left French Canada in

⁹² Jean Marie Roy and Laurent Goulard, “Les Forges du Saint-Maurice Blast Furnace Complex,” *Bulletin of the Association for Preservation Technology*, 18, 1/2 (1986): 35. The American architect and architectural historian Robert Venturi sought a similar solution for the demolished house of the American President Benjamin Franklin (fig. 1.2.9) in 1976; it certainly served as an inspiration for the Quebec architects.

⁹³ *À la découverte du patrimoine avec Gérard Morisset*, 81-86.

⁹⁴ “Qui était? Gérard Morisset (1898-1970),” *Gouvernement du Québec*, accessed October 24, 2011, http://www.prixduquebec.gouv.qc.ca/eponyme/c-morisset_gerard.htm.

⁹⁵ The script was written by Guy Dufresne; Louis Bédard and Richard Martin directed the series. Andre Gagnon composed the title song “Les forges du St-Maurice,” still available on Youtube, accessed November 27, 2012, <http://www.youtube.com/watch?v=kuBThuHdkmE>.

⁹⁶ Diane Joly found an emergence of a patrimonial identity in Montreal as early as 1917 with the 275th anniversary of the city. The commemoration took place in form of guided visits of Old Montreal. See: Diane Joly, “Montreal 1917: L’émergence d’une identité patrimoniale,” in *Patrimoine et patrimonialisation du Québec et d’ailleurs*, ed. Martin Drouin (Québec: Éditions Multimondes, 2006); Heritage Montreal saw the beginning of a heritage awareness starting in 1862, celebrating the 150th anniversary in 2012, “June 28 2012 - Press release: 150 years of action,” Heritage Montreal, accessed October 15, 2012, <http://www.heritagemontreal.org/en/june-28-2012-press-release-150-years-of-action/>.

the position of a shrinking cultural minority. Even before the Quiet Revolution the *Commission des biens culturels* argued that preservation of Quebec's French sites through law was essential,

*pour le Québec puisqu'elle lui [la loi] permettra de protéger efficacement ses richesses historiques et de renforcer son rôle de gardien de la culture française en terre d'Amérique.*⁹⁷

The Forges du Saint Maurice went through several stages of heritage understanding during the last ninety years. After the time of the Quiet Revolution, the provincial and federal governments pursued changing ideas of commemorating the ironworks. Concepts developed at other heritage sites and money played a major role in the outcome. During the time of the first archaeological digs in 1962, the Quebec government was already engaged in restoring lavishly the central Place Royale in Quebec City, which would become their priority, stressing the province's cultural budget. With the federal government's take-over of the site,⁹⁸ which they initiated in 1965 and finalized in 1976, financial options opened in a scale the provincial government had not been able to provide.⁹⁹ After the restoration, the National Heritage Site, flagged with the maple leaf, was welcoming visitors from the four corners of the world¹⁰⁰ who visited not Quebec's but Canada's first ironworks. Parks Canada renovated the ironworks in, at that time, a new modern fashion, applying strict scientific methods based on archaeological results, stressing education over entertainment for tourism, which had been the Provinces vision. Quebec however, re-appropriated its history, not the site itself, by using an even

⁹⁷ *Le Soleil*, 15 décembre 1951, cited after: Gelly, Brunelle-Lavoie and Kirjan, *La passion du patrimoine*, 68.

⁹⁸ Jean Bélisle pointed out to the author that it was more precisely under Northern Affairs's Minister and later Canada's Prime Minister, Jean Chretien.

⁹⁹ Passfield, "Industrial Heritage Commemoration in the Canadian Parks Service: Part I," 17.

¹⁰⁰ "Forges du Saint Maurice, National Historic Site of Canada, Management Plan," Parks Canada (2007), 41, accessed October 6, 2011, <http://www.pc.gc.ca/lhn-nhs/qc/saintmaurice/plan.aspx>.

more modern approach – television. The French-language TV series used the many results of the research to breathe life into Quebec’s oldest ironworks. For many people in Quebec listening to the Händel-inspired title-music composed by André Gagnon is all that is needed to revitalize fond memories of the Forges du Saint Maurice.

The early commemoration of the Forges du Saint Maurice seem to have had little impact on the development of Quebec’s concept of industrial heritage at the level of government. More important was the period of the federal excavation mostly because it created an early opportunity to educate a fair number of young Canadian archaeologists in the still new field of Industrial Archaeology. Many of these archaeologists actively promoted in their later careers the subject of Industrial Archaeology in Quebec and other provinces.¹⁰¹ They were furthermore able to supply the government of Quebec and Canada with well researched and skillfully analyzed information on Quebec’s industrial sites and history where no other information was available, forming most of today’s understanding concerning Quebec’s process of industrialization.

¹⁰¹ Specifically Louise Trottier should be named here, she became the main organizing force behind the 1994 TICCIH conference. Others of the group entered governmental organizations such as Parks Canada, researching further sites or sought academic careers, teaching on the subject, often doing both such as Jean Bélisle.

1.3 Hydro-Quebec and the Classification of the Saint-Narcisse Power Plant as Historical Monument

In 1963, the province classified one of Quebec's oldest hydro-electrical plants, the Saint Narcisse power station, built in 1897, as a provincial historic site.¹⁰² The plant harvested a waterfall on the Batiscan River and sat isolated roughly twenty kilometres north-east of Three Rivers and the same distance east of Shawinigan. It was after the Forges du Saint Maurice the second listed industrial site in Quebec. As Alain Gelly remarked

*[L]e caractère isolé de ce geste incite à croire que ce premier classement est fortuit et qu'il ne peut être considéré comme un élément d'un programme de classement des témoins de l'histoire industrielle québécoise.*¹⁰³

However, the provincial government classified the Saint Narcisse power plant in the same year that they started the excavation of the Forges du Saint Maurice. Despite this activity on historic industrial sites, it was not, as Gelly pointed out, the start of an industrial heritage movement. But one should not assume that the commemoration and listing of Saint-Narcisse was an arbitrary act either, even if, or rather because, the reason for classification was surprisingly weak. The Saint Narcisse Power Plant can count neither as Canada's nor as Quebec's first hydro-electric development nor was it the site of a ground breaking invention, inventor or historic event. What was therefore the underlying reason for this listing?

The site of the plant is humble if not ordinary. It belongs to Hydro-Quebec but must be accessed by entering through the private campground, Parc de la Rivière Batiscan (fig. 1.3.1). A low roofed stone structure of small size (fig. 1.3.2), that dated

¹⁰² The early date is remarkable. Other Canadian provinces did not save hydro-electrical sites before 1980, Ontario's first hydro-electric power station site was protected in 1984.

¹⁰³ Gelly, Brunelle-Lavoie and Kirjan, *La passion du patrimoine*, 111.

from 1904 is its only visible remains. The original building (fig. 1.3.3) from 1897 adjoined this building to the south but did not survive. The building sits beside a dirt road and its rear part is built into a ditch, the former riverbed. Old photographs show the building surrounded by water drawn from the Batiscan River. Had the deep reaching stone foundation not two arched openings that once allowed water to flow through underneath the building, there would be no hint of its specific purpose. In the 1950s, the older part of the building was removed and the open side of the extension closed with a concrete wall. The design of the house had much in common with pre-industrial facilities of the eighteenth and nineteenth century, showing no architectural innovation. Today, the interior of the building is bare of technical equipment; it is used as an assembly hall and exhibition space. Some distance away, hidden in the woods visitors can search for the remains of Canada's oldest hydro-electrical dam that once regulated the water-flow to the building. From a historic-technological point of view Saint Narcisse was only outstanding in so far as it may represent the last example left in Canada still showing the experimental stage of a hydro-electrical complex imitating the set-up of older mechanical water-mills.¹⁰⁴ The preliminary report for restoration of the site in 1990 mentioned this singularity of the site's engineering but in the conclusion stressed overtly the anachronistic fact that in

*Mauricie comme ailleurs au pays, c'est vraisemblablement le seul exemple d'un barrage et d'une central qui aient été entièrement construits en maçonnerie et, ne serait-ce que pour cette raison, ce patrimoine revêt un intérêt national.*¹⁰⁵

¹⁰⁴ "Annexe de l'Ancienne-Centrale-Hydroélectrique-de-Saint-Narcisse," Répertoire du patrimoine culturel du Québec, accessed June 20, 2011, <http://www.patrimoine-culturel.gouv.qc.ca/RPCQ/detailBien.do?methode=consulter&bienId=110509>.

¹⁰⁵ Romain Baril and George Hamelin, *Le premier barrage Saint Narcisse (1897 – 1926)*, (Quebec: Les Éditions du Spectre, 1990), 75.

At that time, industrial sites in Quebec City and Montreal preferred steel and brick as more convenient building materials. For several decades after classification, no action was taken to preserve the structure. In winter of 1985, due to decay, the roof collapsed, after which Hydro-Quebec took care of restoration and rebuilt the roof.

The Saint-Narcisse plant produced power from 1897 till 1928, first for the North Power Company, and then from 1907 on, for the Shawinigan Water and Power Company. The owner sold the electricity to the nearby city of Three Rivers, roughly 30 kilometers further south-west, which distributed it for lighting streets and private homes. This distance was a minor accomplishment in the history of electricity. Canada's first hydro-electrical generator had been established sixteen years earlier, in 1881 at the Chaudières Falls, by Ottawa Electric Light Company to power street lights and local mills in their vicinity. In 1885 the province of Quebec generated electrical power at the Montmorency Falls (fig. 1.3.6) and transmitted it to street lights of the Terrasse Dufferin in Quebec City, ten kilometers distant. In both cases direct current was used. Theoretically, Quebec's many waterfalls and rapids offered an endless supply of hydro-electric energy if the transmission problem could be solved, which was done in 1891 in Europe, by switching to alternating current, running at a tension of ten thousand volts and seventy five percent efficiency. While Saint Narcisse was not the first hydro-electric plant in Quebec, it became known for the first long-distance transmission of electricity not only in Canada but in the British Empire, transporting alternating current over twenty seven kilometers¹⁰⁶ at approximately twelve thousand volts, with only fifteen percent loss,

¹⁰⁶ "Hydropower in Canada: Past, Present and Future," Canadian Hydropower Association, accessed January 31, 2011, <http://canadahydro.ca/pages/hydro-facts>.

which at that time may have been standard in continental Europe.¹⁰⁷ The small building that had housed the equipment to accomplish this task in 1897 needed an extension in 1904 to increase efficiency. In 1926 a new dam was built a hundred meters further up the river with a larger power plant which made the old hydro-electrical site obsolete. After the company demolished the older part of the historic building, local enthusiasts preserved some of its stones to erect a stele for a granite plate (fig. 1.3.4) donated by Shawinigan Water and Power in 1954.¹⁰⁸ Except for one turbine wheel (fig. 1.3.5), the owner had, as customary, reused or sold the equipment as scrap metal if not immediately then during the Second World War.

Quebec's government listed the site as a historic monument in 1963, possibly for the very same achievements that were stated on the plaque from 1954; at least, scholars discussed no further aspects. In the most recent evaluation from 2009, Saint Narcisse's heritage value was justified by its age and the specific detail of long-distance transmission of hydro-electricity, without which the development of Quebec's hydro-electrical industry could not have succeeded.¹⁰⁹ However, Saint-Narcisse only applied already existing technology, developed outside of the British Empire. If, beside its age, Quebec's government considered the first application of a foreign technical development

¹⁰⁷ The plant at the Montmorency Fall transported electricity over a distance of approximately 11 km, and is claiming the same historic position as first long distance transmitting hydro-electrical facility at its onsite interpretation centre.

¹⁰⁸ Baril and Hamelin, *Le premier barrage Saint Narcisse*, 31. The plaque on the site reads: *1954/erigé par/La Compagnie Shawinigan Water and Power/à l'occasion du centième anniversaire de/la fondation de la paroisse de Saint-Narcisse/pour commémorer le parachèvement, en 1897, de/la première ligne de transmission/sous haute tension/dans l'empire Britannique./Reliant Saint-Narcisse aux Trois-Rivières,/cette ligne avait 17 milles et demi de longueur/et une tension de 12 000 volts./Ces pierres proviennent de la première centrale de Saint-Narcisse.*

¹⁰⁹ "Annexe de l'Ancienne-Centrale-Hydroélectrique-de-Saint-Narcisse," Répertoire du patrimoine cultural du Québec, accessed September 26, 2012, <http://www.patrimoine-culturel.gouv.qc.ca/RPCQ/detailBien.do?methode=consulter&bienId=110509>.

important enough to justify a site's commemoration and preservation, especially when the original site of this event has ceased to exist, then technical enthusiasts could use this justification to promote the preservation of many other sites in Quebec.

The specific circumstances in Quebec's political and economic life at that time may relate more convincingly to the classification of the Saint Narcisse site. A period of political unrest started in the 1960s in Quebec, known as the Quiet Revolution. Tension had built up after Ontario continued to gain economic power while Quebec's largest economic center Montreal fell back. This was due to several events, one of which was the opening of the Saint Lawrence Seaway, allowing ocean-going ships direct access to the Great Lakes without a transfer of goods to smaller ships in Montreal; another was the on-going shift of the American market towards the west.¹¹⁰ Quebec's government had already tried to boost its economy by increasing its control over the energy market. It took over Montreal Light, Heat and Power and Beauharnois Light, Heat and Power in 1944 to form its own Quebec Hydro-Electric Commission, commonly known as Hydro Québec. The older Hydro-Electric Power Commission in the neighboring province Ontario was since 1906 government controlled with positive spin-off effects of prospering local economies and independence from foreign coal markets. While the power companies in Quebec had been the most flourishing service-enterprise of their time, their monopoly in a key industrial position interfered with Quebec's industrial progress.¹¹¹ Their price politics led to the paradoxical situation that in many cases

¹¹⁰ McLeod Arnopoulos and Clift, *The English Fact in Quebec*, 119-123.

¹¹¹ *"l'image de M[ontreal].L[ight].H[eat]. & P[ower].Cons. auprès du public fut toujours controversée, notamment au sujet de la tarification et de la qualité de ses services. Son attitude face aux revendications de sa clientèle fut telle que devant les pressions de la population et de certaines personnalités politiques, le gouvernement Taschereau institua la Commission d'enquête sur l'électricité (mieux connue sous le nom de Commission Lapointe). Les révélations qui en découlent conduisent à l'expropriation et à la prise de*

Montreal's industries preferred "home-made" steam-powered electricity produced by burning imported coal, adding an uncontrollable cost factor, over local hydro-electrical power.¹¹²

In 1963, René Lévesque (fig. 1.3.7), who was Hydraulic Resources Minister before becoming Quebec's Premier, completed the nationalization deal. Premier Jean Lesage (fig. 1.3.8) promoted this hostile take-over under the motto: "Maîtres chez nous" (fig. 1.3.9) to fight the strong external influences in Quebec, specifically the private businesses from Ontario and the United States.¹¹³ Hydro electricity became a positive symbol of Quebec's economy. The designation of the Saint-Narcisse site, situated between Shawinigan and Quebec City, occurred only a few months before the take-over by Hydro-Quebec was finalized. The classification of the Saint Narcisse hydro-electric plant as a historic site appears less random when this political context is considered. With the classification of this historic hydro-electrical power station, Quebec's government also appropriated a historic link to this industry. This is remarkable because other, similarly important hydro electrical sites in Quebec did not enter the heritage listing at that time even though many were more suitable for technical or architectural reasons.¹¹⁴

possession de la Compagnie et de la Beauharnois Light, Heat and Power Company par la Commission hydroélectrique de Québec le 15 avril 1944." "Fonds Montreal Light, Heat and Power Consolidated," over Le Réseau de diffusion des archives du Québec (RDAQ), accessed February 2, 2011, <http://rdaq.banq.qc.ca/>.

¹¹² Alain Gelly, "A Precipitous Decline, Steam as Motive Power in Montreal: A Case Study of the Lachine Canal Industries," *IA, The Journal of the Society for Industrial Archaeology* 29/1 (2003), accessed January 31, 2011, <http://www.historycooperative.org/journals/sia/29.1/gelly.html>.

¹¹³ John H. Bradbury, "State Corporations and Resource Based Development in Quebec, Canada: 1960-1980," *Economic Geography* 58/1 (1982): 45-61. See also: McLeod Arnopoulos and Clift, *The English Fact in Quebec*, 82.

¹¹⁴ Quebec's first hydro-electrical generation station at the Montmorency Waterfalls, for instance, was only recognized in 1994 as part of the larger historic site of the waterfalls.

The interest in Saint-Narcisse's power-plant lasted only for the short time that the government celebrated the subject of hydro-electricity as the most remarkable provincial success. The reason why just this site was chosen may have been the lack of knowledge of more appropriate hydro-electrical key buildings; it may have been the only historic electrical power plant that Hydro Quebec could purchase at that time or the site offered a good option for a future interpretation centre, as it was later realized with the Electrium, Hydro-Quebec's electricity museum (fig. 1.3.10), which opened in 1991. Whatever it was, the listing marked Hydro Quebec's beginning in safeguarding its historic stock of buildings and may have led to the idea to offer the public access to Hydro-Quebec's power-plans to promote its industry.

1.4 Public Involvement and Legislation to Save Canadian Pacific's Windsor Station in Montreal

Around 1970, Canadian Pacific Railway's development enterprise, the Marathon Realty Company, planned to demolish CPR's central train station in Montreal, which the "Friends of Windsor Station" could prevent. The protection of the Windsor Station¹¹⁵ led to new federal legislative regulations for historic railway stations, and it initiated a culture of grassroots movements in Quebec and specifically in Montreal.¹¹⁶ But neither the governments nor the public realized Windsor Station as an industrial monument. Therefore, the iconic Montreal train station could not spark a public interest in industrial heritage protection in the way the demolition of London's Euston Station kicked off Britain's public interest for this field of study ten years earlier.¹¹⁷ It popularized the general discussion on Quebec's heritage and also offered an example of how federal and provincial heritage responsibilities were shared for entire groups of buildings related to Quebec's infrastructure. This recognition focused mainly on the architecture of the station, whereas the function of the site mattered little, the link to the railway system being weakened continuously. In the 1990s the government allowed a partial demolition

¹¹⁵ Most of Quebec's inventories for industrial heritage disregard railway stations (for instance: Service de la planification du territoire de la Communauté urbaine de Montréal. *Répertoire d'architecture traditionnelle – Architecture industrielle*, with the exception of Nicole Dorion's *Inventaire des sites industriels patrimoniaux au Québec*, while Britain, Germany and many other countries give these structures a key position as part of the industrialized infrastructure. Britain's Industrial Archaeology gained early public interest after the unsuccessful fight to save London's Euston Station. (See for instance, Peter Neaverson and Marilyn Palmer. *Industrial Archaeology: Principles and Practice* (London, New York: Routledge, 1998), 2) The author of the thesis decided to include train stations as well as gas service stations into the discussion of industrial heritage. Following an interpretation that relates Industrial Heritage to production sites, Quebec excluded these structures from the group of Industrial Heritage.

¹¹⁶ Further reading to this subject were pointed out by Cynthia Hammond: Martin Drouin, "Un autre paysage urbain à valoriser et à sauvegarder," in *Le Combat du patrimoine à Montréal, 1973-2003* (Quebec: Presses de l'Université du Québec, 2005), 33-58.

¹¹⁷ For instance in Kenneth Hudson's "The Growing Pain of Industrial Archaeology," *Technology and Culture* 6/4 (1965): 621-626. Also Orange stressing the key role of the Euston Arch for the Industrial Archaeology movement in Britain in her article "Industrial Archaeology: Its Place Within the Academic Discipline, the Public Realm and the Heritage Industry," 83-95.

of service buildings for the station to make space for a hockey arena to which a residential tower named after Montreal's hockey team, the "Tour des Canadiens," will be added in 2013. Mostly for marketing reasons, the new residential development will stress its connection to the hockey world instead of re-establishing a link to the historically important train station on which former ground it will stand.

In 1969, Montreal's architect Michael Fish (fig. 1.4.1) initiated the "Friends of Windsor Station" with the sole goal to save Montreal's Canadian Pacific Windsor Station complex.¹¹⁸ The official founding act of the group took place in early 1972.¹¹⁹ The "Friends of Windsor Station" were among Quebec's earliest grass root movements. The activists based their heritage claim on a variety of factors: they saw it as a historic witness to Canada's growth as a nation,¹²⁰ a Montreal landmark, a place of sentimental memories shared by many and they recognized the building's pronounced style as significant for Canada's architectural history.¹²¹ The train station became one of the earliest and most prominent protected buildings in Quebec that could not be linked to established traditional French-Canadian heritage criteria. Maybe not surprisingly, the federal government kept responsibility over the site, not the provincial government.

¹¹⁸ The Friends of Windsor Station published in 1973 a small volume titled: "Windsor Station - La Gare Windsor" in which they established the heritage value of the site. For the founding of the group, see: "A brief Chronology," Heritage Montreal, accessed January 19, 2011, <http://www.heritagemontreal.org/en/category/heritage-montreal/historique/>.

¹¹⁹ Michael Fish gives on his personal web-blog (accessed October 17, 2012, <http://michael-fish.ca/>) the earlier date, in the publication of the Friends of Windsor Station the later date is given for their founding.

¹²⁰ See to this subject: Harold Innis, *A History of the Canadian Pacific Railway* (Toronto: McClelland and Stewart 1923).

¹²¹ Friends of Windsor Station, *Windsor Station*, 20.

Bruce Price (fig. 1.4.4), an American architect from New York, had built Windsor Station (fig. 1.4.3) between 1887 and 1889 for William Van Horne (fig. 1.4.5),¹²² then vice-president of the CPR Company. The multi-storey, block-sized sandstone building was an early example of the Richardson style, a richly decorated neo-Romanesque architecture which would become increasingly popular in Canada; later extensions to the complex added mannerist details. A fifteen-storey office tower from 1911 increased the station's visibility throughout the neighborhood. Extensions were added until the 1950s in an increasingly modern style.

Price had quickly become CPR's preferred designer for its many railway stations and railway hotels. Early on in his career he had patented a parlor train car with bay-windows combining his interest in railroads and his love for comfort. He first designed CPR's Banff Springs Hotel in Alberta and later became well known for the spectacular CPR Hotel Chateau Frontenac on Dufferin Terrace in Quebec City, completed in 1893. The eclectic design he chose for these buildings became known as the "Canadian Railroad Chateau Style", a "truly national style".¹²³ Contrary to many train stations from the steam-engine era in Europe, Windsor Station featured no known engineering accomplishments.

Neither the province nor the city acted on behalf of the train station because the building belonged to the Canada-wide railway infrastructure, which fell under the responsibility of the federal Heritage Ministry through the federal transportation law,

¹²² The demolition of Van Horne's mansion on Montreal's Sherbrooke Street in 1972 was the next prominent case that led to the foundation of citizen groups, with support of architect Phyllis Lambert (fig. 1.4.2) to fight for its preservation. Heritage Montreal and Save Montreal both sprung up in this instance. They are still active in 2013 in the field of heritage protection on Montreal's island.

¹²³ Friends of Windsor Station, *Windsor Station*, 20

even if the crown did not own the railway. At that time, however, nobody in the federal government had felt the need to protect this kind of structure. So far, railway companies had maintained their stations well because they were in operation. In 1975 the federal government declared Montreal's Windsor Station a national heritage site,¹²⁴ a solitary act that gave the site a status of recognition and the federal government some kind of control over its condition. Realizing, though, that the threat of demolition hung over many other historic railway stations the government decided to create the Heritage Railway Stations Protection Act in 1984. The parliament agreed upon the act in 1988 and put it into effect by August 1990.¹²⁵ With this specific act, owners of train stations that fell under Canada's Transportation Act had to ask the federal government's permission for any physical change or change of ownership concerning their station. Windsor Station became the first train station protected by the new law.¹²⁶

In 1993, Molson, Montreal's oldest beer company, who owned Montreal's hockey team at that time, built a new hockey arena at the western part of the block, requiring the removal of the train tracks and the demolition of newer extensions from the 1930s and 1950s. The federal government agreed to these modifications and diminished the area of protection accordingly. In particular the removal of the train tracks¹²⁷ but also the willingness to part with the newer service-buildings demonstrated that the government

¹²⁴ The same year, the provincial government designated the station as well. No new legislation or change in treatment of industrial heritage came from this designation. For that reason this designation will not be further discussed in the chapter.

¹²⁵ "Part II - Activity Policies: Heritage Railway Stations Policy," Parks Canada, accessed February 25, 2011, <http://www.pc.gc.ca/docs/pc/poli/princip/sec2/part2g/part2g1.aspx>; and "Heritage Railway Station Protection Act," Minister of Justice, accessed March 1, 2011, <http://laws.justice.gc.ca/PDF/Statute/H/H-3.5.pdf>.

¹²⁶ According to the McCord Museum's information: "view-1947.1 | Windsor Station, Montreal, QC, 1889," McCord Museum, accessed March 2, 2011, <http://www.mccord-museum.qc.ca/en/collection/artifacts/VIEW-1947.1?Lang=1&accessnumber=VIEW-1947.1>.

¹²⁷ A short span of one of the tracks was left in place.

understood train stations as public buildings unrelated to the station's link to the transportation function which would be a major point for any protection by industrial heritage curators.

As long as CPR owned the property, the federal government continued to be responsible for its protection. It did not matter that in 1993 Windsor station lost its function as a railway station. Yet, when in August 2007 the Toronto based private developer Cadillac Fairview Corporation Limited bought the complex,¹²⁸ the Parks Canada Agency¹²⁹ had to retreat from its active safeguarding because the Heritage Railway Stations Protection Act was only valid for properties held by railway companies.¹³⁰ The Quebec government had to be asked to take over the heritage protection responsibility the moment the sale was finalized. This was accomplished on February 12, 2009 when the province classified the station as a heritage monument. The federal government must have formulated the ruling of the Heritage Railway Stations Protection Act in this restrictive way to avoid a conflict with the province's general control over heritage issues.

Shifting responsibilities between two levels of government can lead to problems and change in protection maintenance; the following three may be the most apparent: (1) The shift in responsibility caused by the sale of large heritage properties, such as CPR's former train station, can put an unforeseen burden on the provincial government which is

¹²⁸ "Canadian Pacific launches process for sale of Windsor Station," CNW Telbec, accessed March 2, 2011, <http://www.newswire.ca/fr/story/120239/canadian-pacific-launches-process-for-sale-of-windsor-station>.

¹²⁹ Parks Canada is run by the Parks Canada Agency which was established in 1998. It reports to the Ministry of Environment Canada.

¹³⁰ "When a designated railway station is sold to a party not subject to the Railway Act, the province or territory within which the station is situated will be asked to apply its historic resource protection legislation to the station." Cited after "Part II - Activity Policies," see point 2.9.

suddenly asked to support the up-keeping of a historic building or at least offer programs to ease the burden to the owners for a building that formerly benefitted from federal financial support.¹³¹ (2) Although, any demolition permit depends on approval by the culture ministry of the province in coordination with the city, not Canada's federal government, the municipality may realize a direct financial benefit beyond its heritage protection mandate. To date, developers plan the demolition of a second 1950s section of the station to allow the erection of more residential and office towers in the near future for which the city had already adjusted the zoning of the area.¹³² The large development will generate high tax revenues for the city. City officials may argue with the province to reduce the heritage value of the former train station to a smaller area – to just the parts of the station built in the “Chateau-style” – and put fewer obstacles in the way of demolishing newer extensions of less architectural appeal – although those were indispensable for the functioning of the railway station.¹³³ (3) Tension between the provincial's Francophone majority and the Anglophone society abroad¹³⁴ may override

¹³¹ Trottier, *Le patrimoine industriel au Québec*, 62. Trottier explained the options of financial help for private corporation by the *Ministère des Affaires culturelles* which are financial contributions for preservation work instead of tax cuts which is the more common support for private, non-commercial property.

¹³² “Cadillac Fairview unveils plans for new and exciting development in Montreal,” Cadillac Fairview, March 30, 2011, accessed November 28, 2012, http://www.cadillacfairview.com/Notesdata/HR/CF_LP4W_LND_WebStation.nsf/page/Cadillac+Fairview+unveils+plans+for+new+and+exciting+development+in+Montreal.

¹³³ Information received by Heritage Montreal. The office development should not be confused with the Tour des Canadiens, planned for 2013 on the west side of the complex.

¹³⁴ In 2009, a re-enactment of the 1759 battle on the Plains of Abraham in Quebec City in which the British forces defeated the French had to be cancelled after protests from local citizens. See: “Plains of Abraham re-enactment cancelled,” The Star Com, accessed October 17, 2012, <http://www.thestar.com/News/Canada/article/588670>. Matthieu Paradis was cited in the article “All is quiet on 1812 front,” from June 25, 2011 published in *The Montreal Gazette* with his remark: “It's as if our history stopped in 1760 and started again in 1960,” reflecting on Quebec's difficulty to relate to its history after the 1760 conquest. On the same subject, see: “1812s 200th ignored in Quebec,” Vancouver Sun online, accessed October 17, 2012: <http://www2.canada.com/vancouvernews/news/archives/story.html?id=24163e36-ebed-4697-81dd-068fa53e18fb>.

former federal heritage ideas in Quebec, depending on the prevalent political atmosphere (fig. 1.4.6 + 1.4.7).¹³⁵ There is further a willingness by the provincial's officials to give recognition to places that please aesthetically and that find for that reason the support of a large part of the population.

The problems outlined are not only specific to the Windsor Station or those sites that change from federal to a provincial heritage protection; many historic industrial sites may be affected similarly. By their building date, Quebec's industrial structures are less likely to be related to the province's French identity, the practical benefits compared to the burden of up-keep may seem out of balance when industrial significance would need to be highlighted, and because of size and location of many historic industrial sites, the pressure on governmental officials for more feasible redevelopment may be stronger than for most other heritage sites.

¹³⁵ With the election victory by the separatist *Parti Québécois* in October 2012, French-Canadian heritage may receive stronger support over non-French-Canadian sites than during the government of Quebec's Liberal Party with a federal oriented political program.

1.5 The Politics of Federal Property and Public Awareness: Montreal's Grain Elevators – Demolition or Protection?

The case of Montreal's centrally-located terminal grain elevators is an example of differing federal, provincial and municipal views on industrial heritage. The city's wish for a clear view from the old centre of Montreal onto the Saint Lawrence River led to the demolition of two of these impressive structures after they became redundant in the mid 1970s, while the federal government saved one which operated till 1995. In the intervening time, a shift in the appreciation of these buildings took place at the local level. By 2017, a non-invasive conversion of the remaining grain elevator will take place as part of the government's program to celebrate hundred fifty years of Canada's confederation.

Historian Alain Gelly remarked in 1995 that until 1980, in Quebec "*la définition des composantes du patrimoine industriel n'était toujours pas clairement établie.*"¹³⁶ Awareness and interest for industrial heritage and its many facets in Quebec only began noticeably forming in the middle of the 1980s. The case of Montreal's three terminal grain elevators,¹³⁷ of which the city demolished the first in 1978, the second in 1983, and only kept the last one, shows the progress in the acceptance of industrial heritage by Quebec's officials and the public over a twenty year period. While Saint Maurice's ironworks and the Saint Narcisse hydro plant were in remote areas and built in traditional style and the Windsor Station had no obvious resemblance to an industrial site, one could

¹³⁶ Gelly, Brunelle-Lavoie and Kirjan, *La passion du patrimoine*, 245.

¹³⁷ Terminal or marine elevators are those grain silos that are located directly at the waterfront to serve the ocean-going vessels. Prairie silos and storage silos are other types of grain elevators. This study looks only at those grain elevators that were part of the Old Port Heritage district, which was classified in 1964. Two of Montreal's terminal grain elevators are located at the east part of the port, and were not included in this heritage district.

not deny that the large and plain steel and concrete structures of the grain elevators in Quebec's largest port were industrial objects.

Montreal's first modern terminal elevators were erected at the beginning of the twentieth century, to store grain from the prairies that had to be transferred from trains or river boats to ocean-going ships. Three gigantic grain-elevator complexes dominated Montreal's downtown waterfront. In the eastern part of the harbor, out of view from the historic centre, the Port Authority of Montreal, a federal governmental body, had built two more elevators. Four of these five structures were built directly for the Port Authority and one was built for the Grand Trunk Railway Company, but later taken over by the Port Authority.¹³⁸ John S. Metcalf (fig. 1.5.1) and his Montreal office designed most of these elevators. He was a leading engineer in the field of silo construction. Born in Sherbrooke, Quebec, in 1847, he opened his main office in Chicago from where he operated an international enterprise. Metcalf established branches in Sydney, Australia, in London, England and in 1907 in Montreal to serve eastern Canada. After his death, the Montreal office continued to take care of necessary extensions to his local constructions up to World War Two.¹³⁹

In 1902, the port commissioned Metcalf to build Elevator No 1 (fig. 1.5.3) for the Harbor Commission in Old Montreal. Metcalf constructed a steel structure which was

¹³⁸ The Grand Trunk Railway Company was nationalized in 1923 as a result of the railway's economic bankruptcy including all railway owned facilities of which the grain elevator was one.

¹³⁹ Most information on John S. Metcalf is taken from "John S. Metcalf Company," Vieux Montréal, accessed June 27, 2011, http://www.vieux.montreal.qc.ca/inventaire/fiches/fiche_conc.php?id=303; further from the online blog to William J. Brown's book *American Colossus: The Grain Elevator 1843 to 1943* (Brooklyn, NY: Colossal Books Publisher, 2009, accessed October 17, 2012, <http://american-colossus.blogspot.ca/>), and Christopher Andreae, *Heritage Impact Assessment, Canada Malting Complex, Former Canada Malting Co. 5 Bathurst Street* (Delaware, Ontario: Historica Research Limited, 2007, accessed October 17, 2012, http://www.toronto.ca/maltingsilos/pdf/heritage_impact_assessment.pdf).

finished in 1904. In 1906 a second steel elevator (fig. 1.5.4) was erected by Metcalf for the Grand Trunk Railway on Windmill Point, situated west of his first silo, called Elevator B¹⁴⁰ and later renamed Elevator No 5. These first two silos were among the few grain elevators built in metal, replacing the former wood design (fig. 1.5.2) and anticipating concrete silos. In Chicago Metcalf had constructed his first reinforced concrete elevator for the Burlington Northern Santa Fe Railway in 1906 (fig. 1.5.5). In 1912, Montreal's Port Authority commissioned him to construct Grain Elevator No 2, a much improved version of reinforced concrete construction,¹⁴¹ with the large storage capacity of 2.5 million bushels of grain.¹⁴² When he had it finished, the company celebrated North America's most modern elevator and photographs of it began circulating widely.

North America's grain elevators and specifically Montreal's elevator No 2 grew instantly to international fame. The young German architect Walter Gropius collected and studied with great interest photographs of American industrial architecture which influenced heavily his architectural design. Gropius' buildings were among the earliest example of European Modernism. Also one of the photographs of Montreal's new silo (fig. 1.5.6) found its way into Gropius collection. He took this photograph and thirteen other images of American factories and grain elevators to publish them in the 1913 yearbook of the *Deutsche Werkbund* which had a wide audience of engineers, architects, artists and industrialists. Montreal's grain elevator was the first image the viewer was

¹⁴⁰ Grand Trunk had an older warehouse complex on Wellington Avenue, called A, explained the Canadian Land Company in their online information "Pointe-du-Moulin" (accessed October 1, 2012, <http://www.pointedumoulin.ca/history-pointe-du-moulin/construction-silo-5/elevator-b-1903-1906>).

¹⁴¹ A detailed history on the functioning of grain elevators can be found in Brysson Cunningham, *Port Studies – with special Reference to the Western Ports of the North Atlantic*, (London: Chapman and Hall, 1928).

¹⁴² This converts to approximately 75,000 metric tons.

confronted with. In the adjoined article Gropius enthusiastically evaluated these enormously large American structures as his age's equivalence to the great structures from old Egypt.¹⁴³

This enthusiasm, which quickly spread to other European architects, was unleashed by the size and visual appearance of the structures which for the architects represented pure functionality, whereas Quebec's architects found no inspiration in Montreal's concrete grain silos. The many technical innovations connected to these structures would alone have provided ample reason for admiration, but nobody outside of engineering circles noticed them for a long time. Metcalf's office had refined the method of continuous casting of concrete silo bins in Montreal,¹⁴⁴ which was probably the earliest use of slipform construction in Canada. For the elevators a several-meter high negative mold was designed on site in the form of the footprint of the conjoined bins. Reinforcement-bars were anchored inside the mold into which concrete was poured to create the first layer of the structure. As soon as the concrete had set but not fully dried, workers moved the mold upwards and installed the next row of reinforcement bars so that another level could be poured and unite with the previous layer. This was repeated until

¹⁴³ "Die Getreidesilos von Kanada und Südamerika, die Kohlsilos der großen Eisenbahnlilien und die modernsten Werkhallen der nordamerikanischen Industrietrusts halten in ihrer monumentalen Gewalt des Eindrucks fast einen Vergleich mit den Bauten des alten Ägyptens aus." Walter Gropius, "Die Entwicklung moderner Industriebaukunst," *Jahrbuch des Deutschen Werkbundes* (1913): 22. ("The compelling monumentality of the Canadian and South African [sic] grain silos, the coal silos built for the large railway companies, and the totally modern workshops of the North American firms almost bears comparison with the buildings of Ancient Egypt." Translation taken from: *Form and Function. A Source Book for the History of Architecture and Design 1890-1939*. (Crosby Lockwood Staples, London, 1975), 53-55).

¹⁴⁴ Reyner Banham in *A Concrete Atlantis* (Cambridge, Massachusetts: The MIT Press, 1986) points to Frank H. Peavey and Charles F. Haglin as inventors of slipform construction for an experimental grain bin, constructed in 1899 in Minneapolis. Metcalf used the same idea but experimented with different forms. The No 2 elevator, for instance, had square bins which needed stronger reinforcements to withstand the grain pressure, specifically the strong forces during the emptying process. Metcalf further included pressure openings in this slipform forms to allow pressure release in the case of dust explosions.

the final height was reached. The building formed a high strength monolith without joints. In 1976, engineers used the same technique to erect the CN Tower in Toronto (fig. 1.5.8). Metcalf's Montreal office, later adapted the design of the sturdy undulated silo bin-walls to building pier walls at Windmill Point.¹⁴⁵ This idea served as the model for several American harbor piers as a very durable solution to extend structures into water.

Gropius' image of Montreal's No 2 Elevator reappeared in 1923 in Le Corbusier's much read *Vers une architecture*, which was translated into English and published in 1931 under the title *Towards a New Architecture*.¹⁴⁶ Corbusier modified the image of the silo slightly; he eliminated via retouch the old Bonsecours Market with its metal dome which sat behind the elevator, so that only the elevator remained in his print (fig. 1.5.7). This "falsified" picture in Corbusier's text became internationally the best known reference to Montreal's terminal elevators. Gropius' earlier text¹⁴⁷ was only recognized in Canada in more recent publications such as the 2007 report of the Federal Heritage Buildings Review Office (FHBRO) on Toronto's Former Canada Malting Co. Complex:

The FHBRO emphasized that the industrial minimalist design of the elevators have become aesthetically pleasing today. In fact, the report comments that Walter Gropius in 1913 noted the profound effect of the North American design reinforced concrete silos on the views of European architects. The North American elevator is credited as being one of the major influences in the development of the International Style. The Canada Malting silos are part of this aesthetic.¹⁴⁸

Gropius never published an image of the elevator in Toronto which was only built in 1928.

¹⁴⁵ Brysson Cunningham, *Port Studies*, 105: "The latest development is the formation of cellular walls, without the use of timber cribwork, by a special system designed and introduced by the John S. Metcalf Company, Limited, of Montreal. A wall on this principle was recently constructed for a length of about 1,200 ft. at Windmill Point Basin, being commenced in 1925 and completed in 1926 [...] Cell sections of reinforced concrete [...] consisting of cylinders 28 ft in diameter, four of which form a unit caisson, were constructed with moving forms on the floor of a graving dock [...] and towed into position."

¹⁴⁶ Published 1931 in London by J. Rodker.

¹⁴⁷ It became available in an English translation in 1975, see footnote 139.

¹⁴⁸ Andreae, *Heritage Impact Assessment, Canada Malting Complex*, 11.

The Elevator No 2 became obsolete in the mid 1970s, as the first of Montreal's silos. The city demolished it in 1978. There was no notable outcry from the public and the local press would have given the demolition little coverage had the amount of dynamite not proven to be too weak to properly destroy the bulky concrete block at first try (fig. 1.5.9).¹⁴⁹ The demolition company had to attempt a second detonation, after which they were able to remove all but the foundation walls from the site. The city first integrated the foundation visibly into a public park (fig. 1.5.10) but covered these remains later with grass for unknown reason.¹⁵⁰ The demolition happened at a time when Montreal still fostered large scale redevelopment and officials disqualified easily any old, let alone functional structures from the beginning of the century as unsightly obstacles to be removed to free space for new development.

In contrast to the local appraisal of the elevator, an evaluation paper for the federal government from 1975 already showed the highest esteem for this structure. The federal Port Authority commissioned from Michael Lincourt a report in which he stated:

Ce premier réflexe s'appuyait sur la conviction que l'unanimité se ferait pour ne pas démolir un tel symbol architectural de l'ère industrielle.

But he could not ignore that there were other, conflicting views.

Tous affirment que le Marché Bonsecours, situé de l'autre côté de la rue de la Commune, est le bâtiment qui doit primer. [...] Si l'élévateur No. 2 est effectivement démoli, il est sûr qu'un historien, à une époque future, parlera de ce "crime contre l'histoire" [...] nous

¹⁴⁹ Canadian Centre for Architecture, vertical file: Montreal Silos. See also: Natalia Lebedinskaia, "Framing Visibility and Access: Picturing Silo No. 2 as Montréal's Industrial Pride, Modernist Icon, and Public Space," in *Montreal as Palimpsest III: The Dialectics of Montreal's Public Spaces*, seminar paper, ed. by Cynthia Hammond (Montreal: Concordia University, 2009), accessed April 13, 2013, http://cityaspalimpsest.concordia.ca/palimpsest_III_en/papers.html.

¹⁵⁰ The date for this change has not been recorded in the consulted resources.

*apprécions la valeur historique de l'élévateur No. 2, mais nous nous plions au désir unanime de le démolir. Et nous devons tous vivre avec la responsabilité de ce geste.*¹⁵¹

Lincourt was a Montreal born architect and planner and over his professional education he must have become familiar with the role that this elevator had played in the development of modern architecture. He may also have been already aware of the changing attitudes towards historic industrial buildings coming from the USA and England and making its way to Canada. The first TICCIH conference, small but significant, had taken place in England in 1973.¹⁵² South of the Canadian border, the Society for Industrial Archeology had also formed in 1971.¹⁵³ The question of the elevator and Bonsecours Market was not a matter of preserving one over the other. But at that time, the public saw in the obsolete elevator an obstruction to making the old Market, a place where at one time the Canadian Parliament had met, more visible. The city claimed further that the recently rediscovered "Old Montreal"¹⁵⁴ would benefit from a visual link to the St. Lawrence River.

Five years after the demolition of silo No 2, the Port Authority slated the older elevator No 1 for demolition. In this short period of time, public opinion on these industrial structures had significantly changed. Some citizens still considered the unused elevator as an unpleasant obstruction of their view onto the St. Lawrence River and

¹⁵¹ Michael Lincourt et al., *Vieux Port de Montreal. Etude de Remise en valeur* (Montreal: General Urban Systems Corporation for the Ministère d'Etat aux Affaires urbaines, 1975), 148-149.

¹⁵² Neumann, "Bericht über den „First International Congress of the Conservation of Industrial Monuments," 12. Following countries were present with number of participants: England with 29, Federal Republic of Germany with 11, Sweden with 7, U.S.A. with 5, Canada with 4, Ireland with 2, the Netherlands and the German Democratic Republic each with 1. France did not participate.

¹⁵³ "Industrial Archeology," *The Canadian Encyclopedia*, accessed March 30, 2011, <http://www.thecanadianencyclopedia.com/index.cfm?PgNm=TCE&Params=A1ARTA0000272>.

¹⁵⁴ In the late 1950s, the urban planning team of Blance Lemco van Ginkel and H.P. Daniel van Ginkel created a new interest in this part of town: "When we stopped the expressway and talked about saving Old Montreal, first of all, nobody called it Old Montreal. It was just the shabby older section of the city, ..." (Marian Scott, "Saviours of our city," *The Montreal Gazette* (September 22, 2012), B 1.

supported its demolition. This idea was shared by the municipal government. But there were also other voices. By February 1983, four concerned groups protested against this demolition. They raised economic as well as cultural concerns. The first group was *Le syndicat national des employées du Port de Montréal* (CSN) who feared the loss of forty jobs by employees who would have difficulty finding other work in the region because of diminishing blue-collar employment opportunities in the province of Quebec.¹⁵⁵ The second group was the *Union des producteurs agricoles* (UPA) who opposed the demolition because the No 1 silo was the only elevator in the harbour able to transfer grain from trucks to ships, whereas all the other elevators had to be fed by train or by ship. This, so they said, discriminated against many small local farmers.¹⁵⁶ The third and fourth group were “Save Montreal” and “Heritage Montreal”, the two conservation groups that had formed during the early 1970s. They stressed the historic importance of the building as representative of its time, of modern architecture and of the technical progress that took place in Montreal.¹⁵⁷ In the end, all protest was in vain. In September 1983, the *Société Immobilière du Canada* proceeded with the demolition¹⁵⁸ because the city wished to increase the attractiveness of the historic city centre for its citizens and tourists. The officials must have seen the 1.7 million dollar cost of the demolition as a reasonable investment towards this economic goal.

The insistence at that time to proceed with the demolition was not surprising. For most of the twentieth century, Montreal’s industrial harbour was fenced off and was out of reach for its citizens, they had no positive emotional attachment to it. According to

¹⁵⁵ Canadian Centre for Architecture, vertical file: Montreal (Quebec): Silos: *Le journal du vieux Montreal*, vol. 3, No. 1, February 1983.

¹⁵⁶ *Ibid.*

¹⁵⁷ *Ibid.*

¹⁵⁸ Canadian Centre for Architecture, vertical file: Montreal (Quebec): Silos: *La Presse*, February 1983.

oral testimony of people living in Montreal at that time, city officials had made an election promise that the public would gain free access to the waterfront and that the city would again be united with the Saint Lawrence River, once the industrial port was moved to its new location towards the east of the city.¹⁵⁹ Like old fortification walls, the elevators visually defined the city's border towards the river. It would have needed the spirit of a Lord Dufferin, who saved Quebec City's fortification walls from demolition in 1874, to realize any future potential of these impressive structures for Montreal. When grain elevator No 1 was razed, the press celebrated with headlines such as: "Wreckers 'open a window'" (fig. 1.5.11) or "*La "fenêtre" s'entr'ouvre*".¹⁶⁰ Many may have hoped that removing the industrial structures, would restore the port to its former charming appearance, well known through historic prints, publications and exhibitions.¹⁶¹ But the grain elevators had not just blocked the view onto the waterfront but had also obstructed the large concrete piers that had been constructed over time. With the elevators gone, a wide strip of unsightly industrial wasteland was left between the old city and the water with a still working train track cutting through it from west to east. The view was neither charming nor was the water close by. The City of Montreal was willing to spent millions of future tax money before the port would represent their vision of an acceptable visual experience.

The decision to demolish the No 1 Grain Elevator had been in the hands of the federal government, supported by the city. But the Quebec government would have likely

¹⁵⁹ Information received with thanks from Jean Bélisle.

¹⁶⁰ Information received with thanks from Heritage Montreal.

¹⁶¹ The Montreal Museum of Fine Arts, for instance, had organized an exhibition on the harbour in 1964 under the title: "Montréal Ville Portuaire 1860-1964." Beside a number of modernist works by Adrien Hébert and Marc-Aurel Fortin depicting the industrial harbor, many images showed pre-1900 paintings and photographs.

made the same decision,¹⁶² despite their progress since the early 1980s to giving value to their industrial heritage.¹⁶³ Quebec's *Commission des biens culturels* had suggested in 1983 to create a working group, "*qui la doterait d'un outil conceptuel et lui permettrait de mieux connaître la situation au Québec en matière de patrimoine industriel.*"¹⁶⁴ From 1978 on, a growing number of industrial buildings appeared on the heritage listings in Quebec. Even factories built after 1850 found interest, such as the pulp mill in Chicoutimi (see chapter 1.6) and were classified as historic monument by Quebec in 1984. In November 1984, this newly created working group presented their report in which three aspects were pointed out that would need better understanding: 1. knowledge on the recycling of industrial architecture, 2. information on industrial tourism and 3. economic politics and history of enterprises. In 1985, Louise Trottier came to a similar conclusion with the working group in *Le patrimoine industriel au Québec* and stressed the additional need to support the archiving of company documents and the conservation of technical equipment. Trottier's report and the nomination of the working group marked Quebec's first attempt to officially recognize its industrial monuments as a heritage category in its own right. At that time some experimentation in adaptive reuse of elevators was done in the USA but did not appeal as model to be repeated in Montreal. Tourists were also more interested in the historic pre-industrial look of Old Montreal in which the elevator was judged an alien element. Old Montreal had been basically

¹⁶² Other historic structures were not preserved at that time. In 1877 "the oldest ecclesiastical structure on the Continent" (The New York Times, May 30, 1877), the Jesuit Barracks in Quebec City from 1635, were demolished after numerous attempts by the Assembly to maintain them properly, a wish, which was ignored by the appointed Commissioner. See: Ron Clinton Dalton, *The History of the Jesuite' Estates, 1760-1888* (Toronto: University of Toronto Press, 1968), chapter VII. The site was afterwards used for Quebec's Hôtel de Ville.

¹⁶³ Gelly, *La passion du patrimoine*, 200.

¹⁶⁴ *Ibid.*, 245.

abandoned when businesses moved to new office towers further north-west twenty years earlier and residents had likewise moved. The redevelopment of this part of town was done by a group of people who were not rooted in the area and therefore shared the tourists' attitude.¹⁶⁵ Of all discussed aspects, at least, the elevator's former economic importance may have given a reason for its continued existence. However, when the two reports were published, the demolition dust of Montreal's Elevator No 1 had long blown off the abandoned piers of the old port.

Other industrial areas in Montreal had by that time gained public interest as part of a local identity. The development of the former industrial neighbourhood on the fringe of the old centre in Montreal's Centre-Sud was such a case. In cooperation with the neighborhood population, a group of local historians founded the *Écomusée du fier du monde, musée d'histoire industrielle et ouvrière de Montréal* (fig. 1.5.12) in 1980, inspired by the model of the Creusot-Montceau Ecomuseum in France which had been established in 1972 as the *Musée de l'Homme et de l'Industrie*. The idea of an ecomuseum was to include the community as participants in the museum's conceptualization, with the goal of achieving a holistic view that also included the social aspects of industrialization. At its current location, the *Écomusée du fier du monde* re-used a former public working-class bath and gave equal attention to aspects of the perishing industrialized working-class society that had formed the district's distinct industrial identity. This project certainly helped reveal the esteem that citizens had developed for their district, including its industrial real estate that in itself was not considered beautiful but in which the people were rooted. In the late 1980s, another group

¹⁶⁵ The re-discovery of the merits of Old Montreal came through Blance Lemco van Ginkel and H.P. Daniel van Ginkel, see footnote 151.

came into being to support the idea of industrial heritage even more explicitly: the *Association Québécoise pour le patrimoine industriel* (Aqpi). It was founded by historians, consultants, representatives of Quebec's ministry of Culture and Communications and by museologists. This was not a grassroots movement, but rather a research group that aimed to close the research gap in this field of heritage. To help more industrial sites be considered heritage sites, Aqpi published information on old industrial sites as a link between the interested public that could participate in the publication and the government. It took over part of the mandate that TICCIH had acquired in other provinces and countries but that were not developed by any organization in Quebec for unknown reasons.

The Grain Elevator No 5 of the Grand Trunk Railway on Windmill Point was still in operation all this time. As part of the *Arrondissement historique de Montréal*, the part of the complex known as elevator B, which was the initial steel elevator, together with its first addition, Annex B, had been included in the *Repertoire du patrimoine culturel du Québec*¹⁶⁶ since 1964 – as were elevators No 2 and No 1.¹⁶⁷ For apparent reasons the provincial government now highlighted the elevators value:

*Dans le Vieux-Port, seul le silo no 5 a échappé à la démolition et une importante campagne de sauvegarde du bâtiment est mise en branle dans les années 1990.*¹⁶⁸

¹⁶⁶ “Le Répertoire présente le patrimoine protégé en vertu de la Loi sur les biens culturels, par le gouvernement ou par les municipalités du Québec, qu'il s'agisse de biens immobiliers protégés (bâtiment, structure ou secteur, d'immeubles situés dans un secteur protégé (arrondissement, site historique, site du patrimoine), ou de biens mobiliers protégés (bien archéologique, œuvre d'art, bien ethnohistorique, bien relevant du patrimoine documentaire ou des sciences naturelles).” Répertoire du patrimoine culturel du Québec.

¹⁶⁷ The official entry is given as: Patrimoine protégé par la Loi sur les biens culturels: Elevateur B, date d'attribution 1964-01-08.

¹⁶⁸ “Elevator B, information historique,” Répertoire du patrimoine culturel du Québec, accessed June 28, 2011 <http://www.patrimoine-culturel.gouv.qc.ca>.

When the silo closed in 1995, also the federal government stressed immediately the building's heritage value (fig. 1.5.13) and gave it recognition status as a national heritage in 1996:

*L'Élévateur no 5 est un point de repère important et sa présence dans le secteur ouest du Vieux-Port à l'embouchure du Canal de Lachine rehausse le caractère industriel et portuaire du secteur. Il faudrait éviter tout projet de développement qui mettrait en danger son intégrité physique ou visuelle.*¹⁶⁹

The government further recommended keeping the interior details intact to illustrate the grain handling process.¹⁷⁰ The formerly vast transportation infrastructure of above and underground conveyers, which had connected all five terminal grain elevators with all shipping piers and enabled Montreal to successfully compete with other eastern ports despite a shorter shipping season, found less interest, but the few remaining parts belonging to the Grain Elevator No 5 are so far kept in place. It should be stressed, though, that the recognition of a building's heritage value by the federal government does not give protection to it. Only when the crown owns a property, which was the case in Montreal, can it actually safeguard it.

The Quebec government recognized in 1984 the importance of the question of how to reuse former industrial structures without being more specific on heritage requirements. In 1975, Michael Lincourt had suggested converting the No 2 elevator into a youth hostel and communication centre, a solution similar to the conversion of the elevator in Akron, Ohio at that time, which was reused as a commercial and hotel space. Discussion on the No 5 elevator's conversion has been underway since its closing

¹⁶⁹ "Public Request for Proposals. Grain Elevator No. 5 and its Site on Pointe-du-Moulin Pier," Montreal Port Authority, accessed October 17, 2012, http://www.montrealsnewharbourfront.ca/en/pdf/2011-03-15_FINAL_RFP_pre-qualification_environnement.pdf.

¹⁷⁰ Ibid.

without leading to any conclusion. In the meantime, artists made temporary usage of some of the silo's features. For one night it became part of a five week long artist project called *Panique au Faubourg*,¹⁷¹ organized in 1997 by the local art centre *Quartier Éphémère*. For this project, the architectural office *Atelier In Situ* installed a slide-show "Projections no 5 building" (fig. 1.5.14), a poetic, large scale light projection onto the undulated wall of the concrete extension of the Grain Elevator No 5 that illuminated the structure during the dark hours.¹⁷² The projected images of curtains, waterfalls, spiral stair cases and caryatid-like posing women created an unexpected night view that was in sharp contrast to the building's familiar day look. *Atelier In Situ* explained:

The images' subject matter and the physical relation they establish with the building aim to metaphorically reveal the architectural potential of this ancient industrial edifice.¹⁷³

It exposed the elevator's sculptural qualities and established more than just a temporary link between the grain silo and the arts.¹⁷⁴ A second large scale installation was organized in 2000. Architect Thomas McIntosh, and the composer Emmanuel Madan converted one of the elevator's bins into a gigantic musical instrument, named Silophone (fig. 1.5.15 + 1.5.16). The duo invited the public to play with the installation either on site or via an internet link or phone connection. Here also, the artists aimed to create public awareness of the unique character of the structure. From 2000 till 2003, the Montreal branch of

¹⁷¹ "Panique au faubourg," Fonderie Darling, accessed April 4, 2011,

http://www.fonderiedarling.org/soutenir_e/evenements/panique_faubourg.html.

¹⁷² InSitu borrowed the idea from the Polish-Canadian artist Krzysztof Wodiczko, who worked with political-provocative slide-projections on buildings since the 1980, as Sarah Bonnemaïson and Ronit Eisenbach reported in *Installations by Architects : Experiments in Building and Design* (New York: Princeton, 2009), 136. In 2008, for the 400 anniversary of Quebec City, the artist and entrepreneur Robert Lepage projected an elaborate video show on Quebec City's grain elevator in a similar fashion.

¹⁷³ "Projections," *Atelier In Situ*, accessed April 4, 2011, <http://www.atelierinsitu.com/2006/projets.php?id=31>.

¹⁷⁴ This short lasting project found mentioning in publications and research, see for instance: Isabelle Velleman, "Panique au Faubourg, Quartier Éphémère, ancien Faubourg des Récollets, Montréal. Du 22 mai au 29 juin 1997," *ETC* 40 (1997-1998): 31-33 or Nancy Dunton and Helen Malkin, *A Guidebook to Contemporary Architecture in Montreal* (Vancouver, Toronto, Berkeley: Douglas & McIntire, 2008), 67.

docomomo (documentation and conservation of buildings, sites and neighbourhoods of the modern movement) and a close collaborator of ICOMOS, invited Quebec architects to appraise new functions for the building.¹⁷⁵ The suggestions included using the elevator complex as a gallery and public space (Group Dan Hanganu), as a museum with walking paths following the flow of wheat through the buildings (Atelier In Situ), as a vast public event space incorporating the still used private elevators towards the west, modeled on projects from the Emscher Park (Groupe Lemoyne Lapointe Magne), or as a public market/museum/belvedere (ouvrage collectif) (fig. 1.5.17). Docomomo suggested keeping the elevator as a monument in a public park with minimal intervention. All the projects were published as a CD-rom in 2003. In 2008, Marc Mayer, then-director of Montreal's Contemporary Art Museum, put forth the idea to convert the elevator into a new location for his museum.¹⁷⁶

In November 2010, Montreal's Port Authority under the federal Transport Canada transferred the ownership of Montreal's No 5 elevator to the federal real estate branch Canada Lands Company (CLC).¹⁷⁷ Transport Canada has the mandate to operate the harbor as a profitable enterprise. Keeping underused or unused buildings contradicted this mandate whereas ownership by the CLC opens options for private or public development of the grain elevator. Shortly after the ownership change, a consultation took place with fifty nine invited participants from all levels of government, the local economic community, the academic community, architects, and also Heritage Montreal's program

¹⁷⁵ CD-Rom: Do.co.mo.mo., *Montréal, Silo No 5, Quel Avenir?* (Montreal: Docomomo Québec, 2003).

¹⁷⁶ "Grain elevator rises above its looks," *The Montreal Gazette*, August 20, 2008, accessed November 30, 2012, <http://www.canada.com/montrealgazette/news/story.html?id=2a74dfe0-b625-419b-9a50-fbd38f6d69f3&p=1>.

¹⁷⁷ *The Montreal Gazette* reported on Tuesday, November 2, 2010, "Silo No. 5 becomes crown property."

director Dinu Bumbaru.¹⁷⁸ Industrial heritage specialists from the local group Aqqi or a representative of TICCIH were not invited, neither were international experts with experience in the conversion of industrial heritage spaces invited. With Canada's confederation hundred and fifty years ago and Montreal's 375th anniversary both nearing in 2017, the No 5 grain elevator's redevelopment targets that year to become an economically viable mixed use site to complete the "new harbor front."¹⁷⁹ Public consultation took place throughout 2011, however, most citizens could not access the site freely but only see the exterior of the structure from some distance. Heritage Montreal offered guided tours of the site as part of their annual "Architectours" (fig. 1.5.18), including a visit of some interior space during fall of 2010 and again in spring and summer of 2011. According to the organizers, more citizens were interested in these visits than Heritage Montreal was able to accommodate. Citizens can still grasp an idea of the mostly intact interior technical equipment in online-accessible images but will not experience it in its overwhelming scale and emotional impact. The wording "economically viable" in the report of the CLC, which, as a self-financing federal corporation has no direct support system of monetary funds, indicates that financial constraints will be likely and may lead to the agreement of alterations to the interior even if that conflicts the heritage value of the structure.

In the 1970s, Canadian experts could prove the feasibility of factory conversions in Canada, respecting national and provincial building regulations and incorporating the

¹⁷⁸ List of participants was published in "Exercise de visioning," Pointe-du-Moulin, accessed October 2, 2012 http://www.pointedumoulin.ca/sites/default/files/liste_des_participants.pdf.

¹⁷⁹ "Montreal new Harbourfront," Pointe-du-Moulin, accessed October 17, 2012, <http://www.pointedumoulin.ca/about-clc/montreal-new-harbourfront> and "Visioning exercise," Pointe-du-Moulin, accessed October 17, 2012, <http://www.pointedumoulin.ca/planning-process/visioning-exercise>.

country's offers for different kinds of housing programs. A. J. Diamond's Associates study *The Conversion of Industrial Buildings. Feasibility and Practice* showed in detail the structural possibilities of converting traditional mill-buildings respectively daylight factories to housing with examples of calculated prices per square foot compared with prices of new construction. Canada's well known architectural historian, Harold Kalman, who wrote the foreword for Diamond's study, stressed the fact, that the

conversion of non-landmark buildings [should only be supported by governments] if they have particular value in utilitarian respects. [...] Because such buildings have little architectural or historical significance, public agencies have no mandate to support them on cultural grounds.¹⁸⁰

Kalman's statement implied that industrial buildings of architectural or historic significance need public financial support to be preserved. In the case of a reuse of Montreal's grain elevator, the author could not find any discussion in how far public money will be made available and in what range. It seems that economic sustainability would be not just an asset but may be a mandatory requirement. To date, the conflict in the heritage discussion on industrial monuments between the demanded integrity of the exterior shell and interior equipment and the requirement of financial sustainability has not been resolved.

¹⁸⁰ A. J. Diamond Associates, *The Conversion of Industrial Buildings. Feasibility and Practice* (N.p.: n.p., study prepared for The Heritage Canada Symposium: Recycling Industrial Buildings for Residential Use, October 18, 1976), n.p.

1.6 Historic Industry in Chicoutimi: A Pulp Mill with a French Identity

Not all historic industrial heritage sites shared the same preservation difficulties as Montreal's terminal grain silos. The preservation of a pulp mill (fig. 1.6.1), also from the beginning of the twentieth century, in the provincial city of Chicoutimi, today part of the Ville de Saguenay, faced few obstacles. Demolition was refused the year Elevator No 2 was filled with dynamite and it gained federal designation the year Elevator No 1 was razed. The socio-political background of the company, the site's location and architectural style, plus the involvement of a small local community played their role in this industrial heritage preservation success.

The entrepreneur and politician Julien-Édouard-Alfred Dubuc (1871-1947, fig. 1.6.2) became the most commemorated person in Chicoutimi's region. A street, a bridge, a lake, the highest near mountain peak, an Alcan factory (today belonging to Rio Tinto Alcan) and many more places carry Dubuc's name. His name was even given to a tasty beer from a local micro brewery in this remote region, two hundred kilometres north of Quebec City. Dubuc is best known as the co-founder and director of Chicoutimi's pulp mill, which operated successfully from 1896 till 1924. The pulp and paper industry of the Saguenay region was until then for generations in the hands of Price Brothers and Company, the leader in this market. Dubuc's factory was, according to contemporary sources, Quebec's only pulp company in the hands of French-Canadians at that time.¹⁸¹ Dubuc's partner, Joseph-Dominique Guay (fig. 1.6.3), a major political and public figure in Chicoutimi, made it his mandate to foster the professional life of French Canadians in

¹⁸¹ An article in Chicoutimi's local newspaper *Progrès du Saguenay* from November 6, 1903 mentioned that all members of the management (directeurs) were French-Canadians as were most of the mechanics who fabricated large parts of the mechanical equipment. The article was published in Gaston Gagnon, *La pulperie de Chicoutimi en évolution 1896-1982* (Chicoutimi: Ville de Chicoutimi, 1983), 22-23.

his city when an economic decline threatened the citizen's well being at the turn of the nineteenth century.¹⁸² He also owned and published the local newspaper, *Progrès du Saguenay*, in which we find the most enthusiastic reports of the pulp-mill's successes and the great achievements of his French-Canadian compatriots. However, the mill's heyday was short lived. In 1924, Dubuc's pulp mill lost most of its business overseas. Because of a lack of funds, Dubuc was unable to modernize his facilities which led to the closing of the pulp mill's fading operations in 1930 together with Dubuc's other pulp related businesses when it hit the Great Depression. Julien-Édouard-Alfred Dubuc quit his enterprise in 1924 and entered politics.

The mill facilities are situated close to the centre of the city, along the Chicoutimi River at a waterfall that offered power to run the machinery for the pulp mill-stones. The earliest building from 1896 followed an austere style and used local granite stones cut from the riverbed. Archival sources name C. E. Eaton from Quebec City as the architect, supported by the German engineer Alex Wendler.¹⁸³ It is their only known work. In 1903, business at the mill picked up and ambitions concerning size and prestige grew – at the 1900 World Exhibition in Paris, the mill received a gold medal for the quality of its pulp – and the young but ambitious René-Pamphile Lemay (fig. 1.6.4), whose office was also in Quebec City, was commissioned as architect together with an American and a Norwegian engineer.¹⁸⁴ Having practice in the design of public buildings and churches in stone (fig. 1.6.5), Lemay embellished the granite façades of the new mill buildings with curved gable-roof lines and cathedral style windows. These details together with the

¹⁸² Jérôme Gagnon, *La Pulperie de Chicoutimi. Un siècle d'histoire* (Ville de Saguenay: Pulperie de Chicoutimi, 1998), 31-42, see chapter: "Joseph-Dominique Guay: aux sources de la modernité à Chicoutimi."

¹⁸³ According to Piédalue, *Le patrimoine archéologique industriel du Québec*, 132

¹⁸⁴ *Ibid*, 133.

sloped landscape and the white water of the river created one of the most picturesque industrial sites in Quebec. The elaborate architecture was supposed to impress the stockholders, which it may have done, but it did not prevent financial disaster after only twenty eight years of business. The short economic success was followed by long decay of the site during which several other companies tried to reuse the property around the old mill buildings. A hydro-electric plant was built in the 1950s to power a variety of industries that settled on the site. With time, the unused buildings became unsound and in 1978 the last owner, Union Carbide, asked for a demolition permit. The city council refused the permit after a group of citizens demanded the preservation of what was left of the buildings.¹⁸⁵ The city purchased most of the site and planned to put it in the hands of the *Société d'expansion économique de Chicoutimi*, but instead interested citizens formed a committee, overseen by two city councilors. This arrangement led to the creation of the *Corporation de la Vieille Pulperie de Chicoutimi* with a ten year mandate.¹⁸⁶ Before the term was over, the *Société de gestion de la Pulperie de Chicoutimi* replaced the *Corporation*, basically a name change, but reflecting a decreased dependence between the group and city administration. At the same time, the name change reflected a change in focus from the old buildings to include everything on the property, such as unfinished concrete additions to the property from the 1950s. Unreliable funds from the provincial government led to the founding of the *Corporation des Amies de la Pulperie* in 1980 to seek financial aid through fundraising activities.¹⁸⁷ At that time, the city of Chicoutimi produced two publications to seek classification of the site by the province of Quebec.

¹⁸⁵ Ibid, 134.

¹⁸⁶ Gaston Gagnon, "L'architecture industrielle réhabilitée, la pulperie de Chicoutimi," *Continuité* (Spring 1983): 17; and Gagnon, *La Pulperie de Chicoutimi*, 3-4.

¹⁸⁷ Gagnon, *La Pulperie de Chicoutimi*, 4.

They published the first in 1980, titled *Parc de la Vieille Pulperie – proposition d'aménagement*. Three years later, *La pulperie de Chicoutimi en évolution 1896 – 1982* presented a collection of historic newspaper articles, with short chapter introductions by Gaston Gagnon, a local historian who later became a Quebec government representative for the Saguenay-Lac Saint Jean region. Gagnon gave the following criteria to justify the heritage recognition of the pulp mill:

Comme on peut s'en rendre compte, le site de la pulperie de Chicoutimi revêt un grand intérêt architectural. L'influence classique et néo-classique qui transparait dans les bâtiments, la taille des édifices et la solidité des murs en pierre, de même que la présence de vestiges particuliers, contribuent à faire de la pulperie un des conserves au Québec et au Canada, témoin de la grande aventure industrielle des pâtes à papier au tournant du XXe siècle.¹⁸⁸

In 1983, the federal government designated the remaining factory architecture as a national historic site and in 1984 it was classified as a provincial historic site. While today the fact that the founders of the enterprise, Guay and Dubuc, were French-Canadian finds plenty of recognition,¹⁸⁹ neither Gagnon nor the first commemoration plate, erected when the mill received official recognition, mention this aspect in their reasoning.

From 1979 on, the *Société de gestion* restored the mill building structures that were mostly intact and gave them back to the public as a theatre space and museum, called *La pulperie de Chicoutimi*. They kept the parts that were too damaged to be rebuilt

¹⁸⁸ Gagnon, *La pulperie de Chicoutimi en évolution*, 74.

¹⁸⁹ *Le Répertoire du patrimoine culturel du Québec* gives as their reasons for the site's classification: "La valeur patrimoniale de la Pulperie de Chicoutimi repose sur son intérêt historique. Fondée en 1896 par Joseph-Dominique Guay (1866-1925), maire de la ville, la Compagnie de pulpe de Chicoutimi joue un rôle de premier plan dans son secteur d'activité de la fin du XIXe siècle jusqu'à 1930. Première usine de fabrication de pâte de bois fondée par des Canadiens français, la Pulperie devient le plus grand fabricant de pâte mécanique (matière première du papier journal) au Canada en 1910, sous la direction de l'industriel Julien-Édouard-Alfred Dubuc (1871-1947)." Also Piédalue's publication *Le patrimoine archéologique industriel du Québec*, 135, stressed as a major reason for the recognition of the site the French-Canadian connections: "Première usine de fabrication de pâte de bois fondée par des Canadiens français."

as free accessible architectural settings of the newly created public garden and park occupying the factory's property. In 1980, an international sculpture symposium, organized by the *Conseil de la sculpture du Québec*, offered ten artists a site in this park for an environmental work.¹⁹⁰ To help develop an interpretation centre on site to give testimony as to the factory's importance in provincial and national history, a collaboration with the *Corporation du Musée du Saguenay–Lac-Saint-Jean* took place. In 1996 the two organizations, the *Corporation du Musée du Saguenay–Lac-Saint-Jean* and *Société de gestion de la Pulperie de Chicoutimi* fused. The museum moved its collection of local artwork into the foundry-building of the pulp mill, one of Lemay's creations. To be able to use the vast space for different vocations, the interior was remodeled by adding walls and partitions while the train-tracks that run into the foyer and the open roof structure kept the memory of the former foundry alive. Most of the money for these renovations and conversions was provided by the province, up to ten percent of costs were paid by the municipality and fundraising supported up to five percent of construction activities. The federal government occasionally covered bills. In 1996, a major flood partly destroyed the recently restored mill no 1, the oldest part of the complex, and the repaired structure today is therefore not original in all its parts.¹⁹¹

In its current setting, the museum dedicated roughly a quarter of the ground-floor to the history of the pulp mill itself. This permanent exhibition explains the working conditions, the forming of the first catholic union in Quebec and the production process for pulp at Dubuc's company, which differed significantly from other pulp plants. Dubuc

¹⁹⁰ Michèle Tremblay-Gillon and Jean Tourangeau, "Le Symposium international de Chicoutimi," *Vie des Arts* 25/101 (1980-1981): 42-46.

¹⁹¹ The information on the history of the site and its rebuilding process as well as its mise en valeur were taken from: Jean-François Hébert, "La pulperie de Chicoutimi: l'émergence d'un site touristique" in Gagnon, *La Pulperie de Chicoutimi*, 3-10.

produced pulp by mechanically tearing the wood into fiber, while most pulp was produced through a chemical process. Other rooms show art by local artists and temporary exhibitions. Visitors likely leave the museum thinking they have seen the most important pulp production facility in the area. This is only true of the mechanical production process. The author needed just some additional information and a short stay in neighboring districts, to come to the assumption of a biased interpretation of historic facts in favor of Dubuc's enterprise and inflation of his importance for the region.

Dubuc's main competitor was Price Brothers and Company, a family-run national enterprise established by William Price senior, later taken over by his son William Price II and his cousin, Sir William Price or William Price III (fig. 1.6.6). It was a Quebec family of British origin that operated several mill complexes for a much longer period of time and on a larger scale in the surrounding area, with one complex in Jonquière and another in their own company town of Kénogami, which today is a district of Jonquière. The first William Price was one of the initial pioneers to develop the forest industry in the Saguenay-Lac St. Jean region and later added pulp and paper production to his empire. As common during the early years of industrialization, he exploited his workers extensively and paid them not in a currency accepted everywhere¹⁹² but in tokens that could only be used in his company stores. Over time, this abusive business practice was abandoned by the company. Price Brothers and Company fused with other pulp and paper companies and became part of what since 2007 was Abitibi-Bowater and since 2011 the Montreal based *Produits forestiers Résolu*. In 1988, the *Centre d'histoire Sir William Price* opened in Jonquière in the family's former private chapel (fig. 1.6.7), financially

¹⁹² Canada lacked a national currency before 1850.

supported by the Price family and run by *Patrimoine Saguenay*, an organization relying on public grants. Both Sir William Price and Dubuc were businessman and politician. In the small interpretation centre it is noted that Price “*sera appelé à devenir l’un des homes d’affaires les plus influents au Canada, et ce, jusqu’à sa mort tragique en octobre 1924.*”

It is striking how these two decisive personalities for the region, Julien-Édouard-Alfred Dubuc and Sir William Price, are presented differently to the public. Whereas Dubuc has very high visibility celebrating his achievements, Price is commemorated respectfully but with less public care. The Price Monument (fig. 1.6.8), a fifteen meter tall obelisk donated in 1882 to the city by the Price family and Chicoutimi’s oldest monument, crumbles away so out of sight that employees at the local tourist information centre forgot its location when the author asked for directions in August 2011.

Both museums use buildings with links to the region’s industrial past and both the exhibition at the pulp mill in Chicoutimi and the one in the little chapel in Jonquiere present the pulp and paper industry primarily through the eyes of the company’s owners. In many cases in Quebec, not only in these two cases, historic personalities or single historic events are put to the forefront at industrial heritage sites. While they explain also some general aspects of the industries, the province did not promote them as technical, science or industrial museums but as museums of local history or as regional museums without the link between these sites that could complete the picture.¹⁹³

A brief discussion of the fractured representation of the history of industrialization follows in order to explain that how we communicate industry will

¹⁹³ “Museums and heritage sites,” Government of Quebec, accessed October 17, 2012, <http://www.bonjourquebec.com/qc-en/musees-sites0.html>.

reflect on the way the public accepts this part of heritage. The Saguenay region is already rich in museums and sites related to its industries, all within an hour's travel from the Chicoutimi Pulp Mill. As well as the two museums mentioned above, the *Centre d'histoire Sir William Price* offers tours to the nearby historic pulp and paper factory in Kénogami. In Alma, the *Maison des Batisseurs* opened a museum and open-air exhibit on hydro-electricity in 2004 and the former Alcan aluminum smelter nearby established guided tours during the summer months since its closing in 2000. The abandoned industrial village of Val Jalbert, another Dubuc enterprise that ended with the Great Depression, became a classified heritage site in 1996 and opened as an open-air-museum in 2010. The city of Saguenay made parts of the industrial town of Arvida a historic site (citation status, fig. 1.6.9) as a leading model of company towns and the world's first all-aluminum bridge, built in 1950, can be visited near there. People from the region know about most of the sites but an outside visitor has to research each place individually. Some lists may exist, such as one by Aqpi which attempted to systematically present the industrial sites of a region on its website.¹⁹⁴ Unfortunately, the service is offered only in French, the list is not complete and information on the sites remains scarce. Of the four hundred or so museums in the province of Quebec, some fifty exhibitions or collections can be related to industrial production of goods, electric power or transportation.¹⁹⁵

¹⁹⁴ "05 Lieux et musées" l'Association québécoise pour le patrimoine industriel, accessed August 15, 2011, <http://www.aqpi.qc.ca/lieux.html>.

¹⁹⁵ The author identified following museums and sites representing sections of Quebec's industries: Banc de Pêche Historic Site, Paspébiac; Boréalis (Trois-Rivières), Trois-Rivières; Canadian Railway Museum, Delson; Centre culturel Le Griffon, Gaspé; Centre d'histoire Sir-William-Price, Jonquière; Centre d'interprétation de l'ardoise, Richmond; Centre d'interprétation de tracteurs antiques, Saint-Romain; Centre d'interprétation du cuivre de Murchochville, Murchochville; Chantier de Gédéon, Angliers; Château Logue, Maniwaki; Cité de l'Or, Val-d'Or; Écomusée du fier monde, Montreal; Économusée de la brasserie, Saint-Alexis-des-Monts; Épopée de Capelton, North Hatley; Forges du Saint-Maurice, Three Rivers; Fur Trade at Lachine National Historic Site, Lachine; Grange octogonale Adolphe-Gagnon, Saint-Fabien; Horse-drawn Carriage Museum, Colombourg; Lachine Canal National Historic Site, Lachine;

Surprisingly, several of Quebec's major industries, such as sugar, grain shipping, alcoholic beverages, tobacco, aluminum smelting and so on are not represented by museums, whereas smaller industrial sectors such as cheese making or bee-keeping support small exhibitions. Museums representing aspects of the province's industries do not represent the industries in proportion to their part in shaping Quebec's economy. Industrial tourism in Quebec takes place on a random basis without the support of a network and therefore has little visibility. Tourism related to industrial heritage has not been recognized as a valuable regional economic factor in and around the Ville de Saguenay. One may argue that the remoteness of this region is not favorable for such an undertaking, but even in Quebec's largest metropolis and cradle of Canada's industrialization, Montreal, the acceptance of a theme "Industrial Heritage" as a tourism attraction carries little interest, as the author experienced at a visit to a centrally located provincial tourist information office. For instance, no brochures on this subject were available in summer 2012 and the staff at the counter found nothing on this subject set up in their online information service.

Maison de Lime Ridge, Dudswell; Miellerie Lune de Miel, Stoke; Moulin à carder Grouleau, East Broughton; Moulin à laine d'Ulverton, Ulverton; Moulin Bernier, Courcelles; Moulin des pionniers, La Doré; Moulins de L'Isle-aux-Coudres, Isle-aux-Coudres; Musée de l'auto ancienne de Richmond, Richmond; Musée de la Gare, Témiscaming; Musée de la Mer, Havre-Aubert (Îles-de-la-Madeleine); Musée des ondes Emile Berliner, Montreal; Musée du Bûcheron, Grandes-Piles; Musée du costume et du textile du Québec, Saint-Lambert; Musée du fromage cheddar, Saint-Prime; Musée Edison du Phonographe, Sainte-Anne-de-Baupré; Musée J. Armand Bombardier, Valcourt; Musée Minéralogique et Minier de Thetford Mines, Thetford Mines; Musée minier Horne, Rouyn-Noranda; Musée Saint-Laurent, Trois-Pistoles; Odysée des Bâisseurs, Alma; Parc historique de La Poudrière de Windsor, Windsor; Pulperie de Chicoutimi, Chicoutimi; Site du Phare, Sainte-Madeleine-de-la-Rivière-Madeleine; Site historique de l'Île-des-Moulins, Terrebonne; Site historique Domaine Breen, Saint-Bruno-de-Guigues; T.E. Draper, Angliers; Tomcod Thematic Centre, Sainte-Anne-de-la-Pérade; Tugboat Pythonga, Maniwaki; Village historique de Val-Jalbert, Val-Jalbert; Vintage Wings of Canada, Gatineau. Extracted from "List of Museums in Quebec" published by Wikipedia, the free encyclopedia, accessed October 3, 2012, http://en.wikipedia.org/wiki/List_of_museums_in_Quebec.

1.7 Recognition of the “Lachine Canal Corridor” as an Industrial Heritage Ensemble

Industries can dominate entire districts and require appreciation as an interlinking entity. Groups of historic houses are classified by Quebec’s heritage protection law as “*arrondissement historique*.” Parks Canada established for the National Historic Site of the Lachine Canal the term “corridor,” other governmental writings call it an “ensemble.” How far are these terms defined in a legal context and have these terms relevance when it comes to the preservation of this unique Canadian industrial landscape? A second question relates to the shared or rather divided responsibilities between the waterway and the adjoining factories. The federal government has jurisdiction over the protection of the waterway, the properties on both sides of the canal fall under provincial and several municipal legislations. How does this division of responsibilities affect the project to commemorate the cradle of Canada’s industrialization?

The thirteen kilometre long Lachine Canal between the Port of Montreal and Lachine served as Canada’s leading inland waterway from its opening in 1825. When it was widened in 1843 (fig. 1.7.1), weirs and turbines were added to provide hydraulic power for production facilities. Shortly after, because of this dual set-up, the canal attracted entrepreneurs who, over the next few decades, established Canada’s first industrial district on its shores. By 1880 the factories along the Lachine Canal had created the largest and most densely industrialized area in the nation, producing almost everything that Canada’s population needed. Scholars agree that Canada’s modern industrialization process started here.¹⁹⁶ By the 1970s, the canal had closed and many

¹⁹⁶ Archemi, *Inventaire et évaluation des ressources culturelles Canal de Lachine*, (Montreal: Parks Canada), 1: 84.

industries moved out of the area. Since the early 1990s, it has been named an industrial heritage ensemble, with the aim protecting both the canal and the adjoining factories because of their interacting relationship. This was a logical concept for industrial districts and regions that other countries were also developing at that time.¹⁹⁷ Quebec did not see it as necessary to implement industrial heritage as category in the official preservation ruling because the current protection law included the option to protect also complexes of industrial character.

In the past, industrial sites had, as any other place, to possess specific characteristics to qualify as heritage. But just as for other heritage, in the case of the Lachine Canal this concept was noticeably not sufficient. The single buildings along the canal were by themselves common but as an intact set a rarity. The Venice Charter from 1964 includes groups of historic monuments in article 1 and defined them as “urban or rural settings”, where not a single site met the standards for preservation but as part of a group it gained significance. This idea was generally accepted even if the term did not find widespread usage. More commonly used in England, the USA and Canada were the terms “ensemble” or “district”; “ensemble” or “arrondissement” in France and Quebec and “Ensemble” or “Denkmalbereich” in German-speaking countries – hence ensemble became probably the most commonly used term for monument-groups.

Instead of the term “ensemble” two other terms are used in Quebec’s by-laws when the protection of a group of buildings is targeted: one is “site/*site*” and the other is “district/*arrondissement*”. A large industrial complex such as Chicoutimi’s pulp plant is

¹⁹⁷ Neaverson, *Industrial archaeology*, 25: “It was at that time that also in England research was starting to understand canals together with its industrial hinterland as a ‘landscape with its interdepending features.’”

named a “site” in Quebec’s law.¹⁹⁸ It consists of several different components: mills, a foundry, an electric power station, dams, canal systems and railways. All took part in producing and distributing paper pulp and in this case belonged to a single owner. A group of buildings owned by different companies but pertaining to the same industry may also form a “site”.¹⁹⁹ Historic industrial sites have been preserved successfully in Quebec for decades. Quebec’s law also recognizes the historic district or *arrondissement historique*. In the province of Quebec, the protection of a historic district²⁰⁰ was first practiced in 1935 with the *loi concernant l’Île d’Orleans* to save the appearance of this “traditional French jewel.”²⁰¹ In 1966, the *Loi relative à la Place Royal à Québec* was created to protect the restored facades of the houses around Quebec’s main square. A more general law pertaining to “*arrondissement historique*” took effect with the preservation law reform in 1972. It concerns preserving the history of a district by controlling the visual aspect of several distinct objects in order to preserve the original appearance of the group. Like in the Venice Charter, single buildings within a district may in themselves not qualify for preservation, but as part of a larger setting, they form a valuable unit, and as such are recognized or protected by the government. Features that are not visible to the public such as the interiors or rears of buildings are generally not included under this protection. Currently the Province of Quebec has nine classified historic districts; these consist of seven old city centers, the Island of Orleans and

¹⁹⁸ “Pulperie de Chicoutimi,” Répertoire du patrimoine culturel du Québec, accessed July 2, 2011, <http://www.patrimoine-culturel.gouv.qc.ca>.

¹⁹⁹ The Distillery District in Toronto, Ontario, is a designated National Historic Site of Canada, for example.

²⁰⁰ In Quebec’s *Loi sur les biens culturels*, “*arrondissement historique*” (historic district) is the common term for groups of historic buildings. The definition of *arrondissement historique* is: *un territoire désigné comme tel par le gouvernement en raison de la concentration de monuments ou de sites historiques qu’on y trouve [...]*. The term *ensemble* is not defined in the law but nevertheless used to group together, for instance, several buildings around the parliament district in Quebec as a National Historic Site on provincial level.

²⁰¹ Gelly, *La passion du patrimoine*, 172.

Montreal's Mount Royal Park. Industrial complexes can be part of a historic district, as is the case in Old Montreal which includes the No 5 grain elevator, but in none of these cases were industrial complexes the reason for protection.²⁰²

In the late 1990s, the federal government²⁰³ and the City of Montreal solidified their plan to protect the Lachine Canal and its bordering industrial sites as an ensemble,²⁰⁴ called the Lachine Canal Corridor. The issue with the terms “ensemble” and “corridor” is their lack of definition under the protection law of Quebec. What the terms include or exclude and how they will be legally exercised is not clear and may still evolve over time. The government pointed out the challenge it would face:

*La diversité des ressources culturelles et patrimoniales du Canal de Lachine exige un nouveau type de mise en valeur qui soit plus adaptée à un parc historique linéaire l'étendant sur 13 kilomètres, et dont la propriété des ressources est partagée entre divers intervenants. [...] Il faudra faire preuve d'une grande ingéniosité, de créativité et d'innovation dans la mise en place et la mise en valeur des différentes antennes. [...] Tout est à inventer dans ce nouveau concept.*²⁰⁵

To date, federal, provincial and municipal recognition or protection of buildings in this area has to be examined for each site separately, and only municipalities have given single buildings a heritage status.

The Lachine Canal and its borders went through several stages of differing heritage awareness. After the Saint Lawrence Seaway opened in 1959 (fig. 1.7.2), the Lachine Canal became redundant and was closed in 1970. Already, its importance as a power source had declined when electric and diesel motors became more common. The

²⁰² Toronto's Distillery District is legally a historic site; it is not in the legal sense a historic district.

²⁰³ Archemi, *Inventaire et évaluation des ressources culturelles Canal de Lachine*, 1:81.

²⁰⁴ “Cahiers d'évaluation du patrimoine urbain – arrondissement du Sud-Ouest,” Ville de Montréal, accessed October 17, 2012, http://ville.montreal.qc.ca/pls/portal/docs/page/patrimoine_urbain_fr/media/documents/12_evaluation_patrimoine_sud.pdf.

²⁰⁵ Archemi, *Inventaire et évaluation des ressources culturelles Canal de Lachine*, 1: 87

facilities to produce power by means of water-flow had disappeared or been disabled while the canal was still fully operational. In the following two decades after the canal stopped operating, adjoining factories closed; they went out of business or moved to other locations. In 1978, the crown-owned canal with its lock system and weirs was designated a national historical park and Parks Canada took over the canal's administration. Its value did not go unnoticed prior to that, as commemoration of the canal reached back to 1929 when the Historic Sites and Monument Board of Canada (HSMBC) recognized its national historic importance and in 1931, installed a plaque. During the 1970s the Department of Public Works, which was responsible for the Lachine Canal before Parks Canada took charge, had the narrow strip of land on both sides of the canal cleaned and transformed sections into a nature zone to "virtually exclude any notion of industrial heritage."²⁰⁶ A bike-path led through the park along the water. The HSMBC reiterated the canal's significance with a second plaque in 1981, without sparking any redevelopment plans by Parks Canada. In 1987, the federal government stressed its inclusion within Canada's national canal system even though sections of it had been filled in making the waterway nonfunctional (fig. 1.7.3). During the 1990s, the scope of the federal government widened. On May 4, 1993 the Canadian Government ratified the Historic Canal Regulation to monitor the restoration and use of the country's many man-made water routes. In the following years, the Lachine Canal was more aggressively promoted as the starting point of Canada's industrialization and was seen as part of a larger and more complex industrial landscape comprised of waterways, railways, roads, power lines

²⁰⁶ "Lachine Canal, Management Plan Sec. 4.7 Protecting the Natural Surroundings," Parks Canada, accessed April 25, 2011, <http://www.pc.gc.ca/eng/lhn-nhs/qc/canallachine/plan.aspx>.

and industrial complexes.²⁰⁷ This grew into the “Lachine Canal Corridor” project. The current Management Plan states:

The Lachine Canal industrial corridor bears witness to the various phases of Canada’s industrialization and the exceptional diversity of industrial manufacturing that took place along its banks. It is a reminder that the area was one of Canada’s main manufacturing centres from the beginning of industrialization in the middle of the nineteenth century until World War II.²⁰⁸

The federal government had a free hand in the way it managed the canal system. In 1995 they decided to reopen the canal and in 2002, leisure boating was once again possible passing the five restored nineteenth century locks to bridge the fourteen meter difference in water level between Lachine and Montreal’s harbour. For preservation of the industrial environment, which meant foremost conserving the industrial architecture along the canal, the federal government had to rely on the willingness of the provincial and municipal officials and of the private sector.

Preservation issues for the Lachine Canal Corridor as an ensemble involved the following bodies and people: (1) The federal Parks Canada Agency as owner of the canal, including the locks and other equipment and a canal interpretation centre, (2) the federally controlled Montreal Port Authority for the terrain belonging to the harbor at the entry to the canal, (3) the provincial government as legislative arm for the envisioned recognition or classification of the industrial sites, (4) several municipalities on the Island of Montreal through which the Lachine Canal Corridor runs and whose by-laws affect the industrial properties and (5) the owners of the buildings which were mostly in private hands. Coordination of the different governmental levels took shape slowly. Each level

²⁰⁷ The Federal Government, for instance, initiated a large evaluation of all historic industrial sites along the canal. See: Archemi, *Inventaire et évaluation des ressources culturelles Canal de Lachine*.

²⁰⁸ “Lachine Canal, Management Plan Sec. 2.2 Commemorative Intent,” Parks Canada, accessed April 25, 2011, <http://www.pc.gc.ca/eng/lhn-nhs/qc/canallachine/plan.aspx>.

had initiated surveys on the Lachine Canal's heritage potential including its industrial borders, with its own specific scope in mind. In 1982, the *Communauté Urbaine de Montréal* (CUM) under Bernard Ouimet from the provincial Ministry of Cultural Affairs published a broad, twelve volume study on the Island of Montreal's historic architecture, *Répertoire d'architecture traditionnelle sur le territoire de la Communauté urbaine de Montréal*, of which one volume presented industrial buildings on Montreal's island predating 1940. The study included twenty companies situated in proximity to the canal. It is the oldest inventory on industrial buildings in this area. The publication aimed to promote the richness of heritage architecture on the island of Montreal and to sensitize local authorities to this treasure²⁰⁹ because, with a new law passed in 1985, municipalities became entitled to participate in the preservation process of their territorial heritage. The study was seen as Montreal's first inventory of historic monuments and ensembles selected for their architectural, historic and urban interest. To illustrate the complexity of industrial sites in an existing example it pointed out the functional integrity of the Lachine Canal industrial zone.²¹⁰

Starting in 1990, the federal government commissioned the most detailed research to date on industrial sites along the entire length of the canal, the "*Inventaire et évaluation des ressources culturelles - Canal de Lachine*", including street furniture and industrial infrastructure. This research resulted in three volumes, printed in 1995. The

²⁰⁹ Bernard Ouimet, Directeur général du Patrimoine, Ministère des Affaires culturelles, forward to *Repertoire d'architecture traditionnelle, Architecture Industrielle*.

²¹⁰ Ibid, X (Introduction).

To engage the participation of municipalities in matters of heritage protection, the province commissioned also the *Bilan des interventions ministérielles : Fonction industrielle : Série 2000 and Série 3000* for the *Série Dossier: Les biens culturels du Québec classés ou reconnus au 1er janvier 1981*. The Bilan covered all of Quebec's territory, however, in way of an empiric survey with short introductions on single industries, not by geographic location.

survey was conducted as a collaboration among several local research teams: Archemi, Maître d'oeuvre de l'histoire Inc., Histobec and, last but not least, Chantal Prud'Homme who studied the landscape aspect. This inventory was wider in its historic scope than the CUM survey because it included old archaeological remains, but the mandate was to only consider sites until 1940. A motive for this time restriction was not provided in the text of the survey and conflicted with the fact that the canal was used until 1970, a more reasonable event for an end date. A tight budget was the most likely reason for the exclusion of later sites. The Parks Canada survey aimed to gain an extensive overview of the situation along the canal borders which for the most part did not belong to the crown. Its broad view and in-depth study indicate that the federal government sought to create a better understanding of the connection between the buildings and the navigation channel for future heritage planning. The survey recommended commemorating the ensemble of the canal with the adjoining territory over its entire length and not only sections. In contrast to the preservation of the industrial district in Lowell, Massachusetts, USA (fig. 1.7.4+1.7.5) in the late 1970s, museumification was neither envisioned nor possible because many industries in the upstream neighborhoods were still active in 1995 and beyond. However, should a single site prove to qualify for classification by the federal government, it would very likely become a museum-like interpretation centre in the same way that many other classified federal heritage sites were treated, such as the historic fur trading-post in Lachine (fig. 1.7.6+1.7.7) which sits on a property boarding the canal. In contrast to the inventory of the CUM, of concern was not just the architecture of sites but also the impact of the Lachine canal's industries on the local or national economy and history. Consequently, the study set each company in context to its own industrial field

and pointed out its uniqueness within its industry, but gave less value to the significance of architecture.²¹¹

In 1996, a small study on the Lachine Canal was commissioned by the provincial government in cooperation with the Canadian Environment Assessment Agency, to produce a report on the options for decontaminating the canal prior to commencing works to re-open it for pleasure-boating.²¹² Contamination on land was not surveyed. More recently, the City of Montreal produced a paper evaluating the urban heritage of the newly merged Island of Montreal.²¹³ The paper was presented in 2004 as a support-tool for the city's new master-plan, and Lachine Canal industries from the South-West, LaSalle and Lachine areas are well represented in it.²¹⁴ Twenty-one industrial complexes in the South-West sector alone were evaluated as "*immeubles de valeur patrimoniale exceptionnelle*" and fourteen were evaluated as having "*valeur patrimoniale intéressante*."²¹⁵ This exceeded the number of potential industrial heritage sites in all former surveys. The City did not significantly extend existing research, but instead relied on previous surveys such as the Parks Canada inventory. Remarkable are a number of recommendations for the Lachine Canal area because they indicate that to date

²¹¹ The evaluation sheet for each object were organized in sections, each offering a specific amount of points, together being 90 points. The researcher could give a maximum of 35 points to criteria related to the economic history of a site, and 30 points to environmental criteria while architectural/structural aspects had a maximum of 25 points.

²¹² "Projet de décontamination du canal de Lachine– rapport de la Commission conjointe fédérale-provinciale, 13 septembre 1996," Bureau d'audiences publiques sur l'environnement Québec, accessed May 18, 2011, <http://www.bape.gouv.qc.ca/sections/rapports/publications/bape105.pdf>. It was recommended to not intervene which left most of the canal ground untouched since the canal's closure. The contamination of the waterbed may be of archaeological interest but this reason was not of concern in the report.

²¹³ The merger of all municipalities of the Island of Montreal took place in 2001; after a referendum in 2004 several of the merged municipalities demerged in 2006.

²¹⁴ "Evaluation du patrimoine urbain," Ville de Montreal, accessed May 18, 2011, http://ville.montreal.qc.ca/portal/page?_pageid=2300,2894413&_dad=portal&_schema=PORTAL.

²¹⁵ "Cahiers d'évaluation du patrimoine urbain – arrondissement du Sud-Ouest," 55 – 56.

*le statut fédéral octroyé au canal de Lachine ne l'assure d'aucune protection juridique [and that further] aucune vision d'ensemble n'a encore été élaborée de manière à assurer la conservation et le développement du canal de Lachine.*²¹⁶

The former federal study had opened up the discussion for ensemble protection, but legally it could give protection only to properties that were owned by the crown. It would be the task of the City of Montreal or the province of Quebec to establish more concrete conservation plans for this area, but by 2004 this had not been done.

Finally, in 2006, the *Société du Havre de Montreal*, a governmental non-profit organization established in 2002 to guide the redevelopment of the Old Port of Montreal, gave a mandate to the private company Maître d'oeuvre de l'histoire inc. to analyze the heritage resources of the area around the harbor basins, which is part of the Lachine Canal system.²¹⁷ Additionally, in 2007, the City of Montreal asked the consulting firm Patri-Arch to evaluate the old industrial neighborhood of Griffintown on the north side of the Lachine Canal and part of the basin area.²¹⁸ All these different surveys, while focusing on various aspects depending on the mandate, are similar in content and recommendations. This is not surprising, as the authors or co-authors for most of these publications belong to the same group of researchers. Many of Quebec's industrial archaeologists had been trained in the 1970s as young professionals at Quebec's first industrial archaeological excavation, the Forges Saint Maurice, one of them Jean Bélisle, who provided the author with this information, others worked together with one of these experts on other industrial projects. Thus, they learnt the methods developed and taught

²¹⁶ Ibid, 94.

²¹⁷ Maître d'oeuvre de l'histoire, *Portrait des ressources patrimoniales du secteur des bassins*, (Montreal: n.p.).

²¹⁸ Patri-Arch. *Planification détaillée du secteur Griffintown: Analyse du cadre bâti* (Montreal: Ville de Montréal, 2007) accessed October 17, 2012, http://ville.montreal.qc.ca/pls/portal/docs/page/arr_so_fr/media/documents/etude_patrimoine_griffintown_bati.pdf.

at the ironwork site and fostered their passion for Quebec's industrial heritage. It was this small group of experts that has provided the different levels of governmental heritage organizations with information, providing their results and recommendations with slight variations for the past twenty five years and thus shaping the idea of Quebec's industrial heritage and creating information on a pool of industrial sites that could qualify for heritage recognition. Their influence, however, was limited. The area to survey, the evaluation criteria and the time frame of building dates were dictated by the government or organization commissioning the surveys.²¹⁹ How to interpret the surveys' outcome and how to put the recommendations into action was for the past decade (2003-2012) in the hands of the Minister for Culture, Communication and the Status of Women (MCCCF).

Apart from property rights, the pending question in the preservation of the canal ensemble concerns the organization of the heritage area. For the large site that constitutes the Old Port, discussions in 2004 considered dividing the site into smaller projects:

Should it be considered as one single large area or a set of smaller district areas? In more ways than one, the political, economic and social realities of the harbourfront compel us to regard it as a set of several smaller areas, each with its own development issues. Envisaging the harbourfront as a single entry is, at the present time, a daunting challenge to the imagination.²²⁰

Compared to the harborfront, the Lachine Canal covers a much larger site with a broad diversity of former and current functions and would certainly need a similar organizational structure for the preservation of its many parts, so that the different characteristics of each section can be understood and taken into consideration for future

²¹⁹ According to Jean Bélisle; it explains why buildings of a younger date were seldom surveyed in publications while experts on industrial heritage fear a fast and complete loss of more recent factory buildings that were built after the war.

²²⁰ Richard Arteau et al., *The Montreal Harbourfront. Assessment of the Situation. The City and the St. Lawrence – Analysis of Development Issues and Potential* (Montreal: Société du Havre de Montréal, 2004), 2.

development. However, the preservation of obsolete industrial architecture of Lachine Canal's east end closest to the old city centre, which in many cases was saved, shows little sensitivity to its former diverse character. All factories that have not been demolished are now reused as office buildings or housing, gutted to the bare walls, and were either rented or sold. Where factories had been demolished or empty lots opened up for development, new residences were built imitating or citing industrial architecture to keep a superficial appearance of the industrial character of the area with little concern for the original settings. It became customary to dedicate some wall space in foyers or corridors of the former factories to historic photographs and images from the era of the sites, as was done in the Lowney apartment development (fig. 1.7.8+1.7.9) on William Street. A few pieces of equipment or the products produced were recycled into decorative elements such as fences and sculptures (Cunégunde Street) to embellish green spaces or court yards while all equipment inside the former factories were removed. At certain locations along the canal, mainly at its two ends, Parks Canada installed interpretation panels (fig. 1.7.10) with information on the canal's historic importance, its lock system and some of its adjoining factories. The way in which the canal's borders are currently being transformed by private developers and showcased by the federal government does not give citizens and visitors an understanding and experience of the size and importance that the Lachine Canal Historic Corridor had as Canada's largest industrial site of the nineteenth and first half of the twentieth century. A critical discussion on more appropriate ways to preserve these historic industries by including technical structures and machinery has not found its way into the decision-making circles.

1.8 Summary: The Development of the Concept of Industrial Heritage in Quebec

The surprisingly early concerns to preserve the ruins left on the site of the Forges du Saint Maurice exposed the profound relationship of people in Quebec towards their historic industrial culture. For the historian Benjamin Sulte, who remembered his upbringing in Saint Maurice, writing the ironwork's history was eventually more important than conserving the site's physical remains. In his days, historians just started reflecting on the possibility of showcasing historic sites as a means to create an identity for their young nation. He wrote his testimony of the place in the tradition of historic narrations for military or local history, a genre he was familiar with, yet none of his many other publications focused on the aspect of industry in Canada. Sulte's attempt to preserve the history of the Saint Maurice ironworks had a personal motivation; still, it captured enough interest to inspire some of his local companions to engage with the actual site. One might have expected that this burgeoning interest in the country's industrial emancipation process would have led to an early recognition of industrial heritage, but it did not.

There existed a profound difference between Europe, where industrialization transformed society and enforced a new social order, in which nobility lost inherited powers of leadership to professional politicians who took charge to secure a balance between the interests of the two now strongest parts of society, the industrialists and the working class – and Canada and the United States where the industrial process acted as a structure for their societies in the modern era. In Europe, industrial development was responsible for a string of destructive conflicts; in Canada, industrialization provided a large piece of a matrix for the formation of the nation and its society. However, the

European habit of regarding heritage as based on military events or on religious and historic developments in the search for an own identity continued in Canada.

Nevertheless, Canadians found their first industries important enough to honor them with commemorative plaques.²²¹ The text on these plaques named the sites as first of their industries, as every new industry diminished the economic dependence of the colony or dominion to its mother country, enabling increasing political independence. The socio-political impact of these industries, however, was not mentioned in the commemorative text. A more critical interpretation of industrial sites in Quebec only occurred after Britain related the Industrial Revolution to its own national historic narrative,²²² which led in the 1970s to discussions, now in the international sphere, on including commemoration of their social and political impact.²²³

The rare but early commemoration and preservation of industrial sites testified that Quebec's public showed a genuine interest in such places as early as some European countries which are seen as forerunners in this area, such as Poland.²²⁴ However, because in Quebec an industrial site was commemorated either symbolically as starting point of a branch of industry or for a single specific achievement without relating the site to its original purpose as an industrial production facility, we must assume that neither the

²²¹ At least, no such act came to the author's attention for the early twentieth century in the countries of France, England and Germany.

²²² Michael Rix wrote in *The Amateur Historian* on "Industrial Archaeology": "Great Britain as the birthplace of the Industrial Revolution is full of monuments left by this remarkable series of events. Any other country would have set up machinery for the scheduling and preservation of these memorials that symbolise the movement which is changing the face of the globe, but we are so oblivious of our national heritage that apart from a few museum pieces, the majority of these landmarks are neglected or unwittingly destroyed."

²²³ The "Plaque de la forge-menuiserie Cauchon" installed in 1983 stated in contrast to older plaques: "Ce bâtiment rappelle le rôle socio-économique majeur que tenaient les forgerons et les menuisiers dans les campagnes québécoises de la fin du XIXe et du début du XXe siècle."

²²⁴ Trinder, *The Blackwell Encyclopedia of Industrial Archaeology*.

public nor experts saw an industrial complex as heritage in its own right. Based on the examples studied in this chapter, one may assume that the public organizations occupied with heritage questions were not prepared to create room for this subject at that time. Trottier noted the common belief that related the pace at which industrial heritage found recognition in Quebec, starting arguably only around 1980,²²⁵ to the assumption that francophone Quebecers had participated little in the economic activities and decision-making²²⁶ of their province from the beginning of Canada's industrialization till 1960:

Comparativement à d'autres pays industrialisés, il est possible que le Québec ait démontré une prise de conscience un peu tardive face à sa culture et à son patrimoine industriels. Des historiens ont tenté d'expliquer cette situation – qui a prévalu notamment entre 1850 et 1960 – par le rôle de second plan qu'ont joué les Canadiens français dans l'établissement et la gestion d'entreprise.²²⁷

Another reason may be Quebec's orientation towards France's conservation system, where industrial heritage only formed in the mid-1980s, too.²²⁸

When Trottier conducted her survey, few industrial sites had gained official heritage status to allow her to include just those.²²⁹ Fortunately, this situation has changed

²²⁵ In the 1980s, in Quebec the work on the province's first industrial heritage inventories took place. Louise Trottier observed an increased interest in industrial heritage in Quebec leading to more publications on this subject at that time. These publications were mainly monographs on industrial sites or on local industries published in or after 1979.

²²⁶ Also Serge Courville in *Quebec : A historical geography* (Vancouver: UBC Press) 202, touched in several chapters this problem, trying to explain the reasons for the disparity between participation of French-Canadians and others in Quebec's economy without clear results. It seems that in the world of business, the belonging to a linguistic group was irrelevant; French-Canadian banks, for instance, did not automatically support French-Canadian investors, who found instead support by American banks such was the case with Quebec's government and Hydro-Quebec in 1963.

²²⁷ Trottier, *Le patrimoine industriel du Québec*, 32.

²²⁸ "Depuis 1986, la couverture du territoire par un repérage systématique du patrimoine industriel réalisé par les services en région progresse régulièrement." See: "Patrimoine Industriel," Inventaire général du patrimoine culturel, accessed October 22, 2012, http://www.inventaire.culture.gouv.fr/Chemin_patind.htm.

²²⁹ With only few exceptions such as the pulp-mill in Chicoutimi, recognition included the l'Île des Moulins in Terrebonne as an early French hydro power station from 1720, which was classified in 1973 and must be considered a proto-industrial site. The mining village Bourlamaque in Val d'Or from 1935 gained classification in 1979 but did not include the actual mining site. The Banc-de-pêche-de-Paspébiac in Baie-des-Chaleurs was given official status in 1981; it may be the oldest French fishing settlement in the

in the intervening years; today, a much wider array of recognized or protected industrial facilities exist, testifying a certain progress in this field. Trottier received her mandate from the Province of Quebec; therefore, she looked primarily at sites that were or would be under the jurisdiction of Quebec and less extensively at those under the jurisdiction of the federal heritage ministry.²³⁰ She attempted no discrimination between French-Canadian industries and those of British or U.S. background. A linguistic bias was less obvious during early times with regard to industrial heritage sites but seemed to have gained momentum with the sovereignty referenda after 1980, even if decades earlier Quebec passed language laws in favor of the French language.²³¹ Before the referenda the discussion had no noticeable ideological undertone despite strong empathy towards early eighteenth century buildings of a French style,²³² including proto-industrial sites.²³³ Typical of this era was the 1919 recognition of the Forges Saint Maurice as well as a dozen or so windmills and watermills.

After the Quiet Revolution, Quebec's opposition to its neighbouring provinces, especially to the economically growing province of Ontario, increased.²³⁴ The French provenance of Quebec's culture could become a convenient means to display the distance

Gaspésie and the classified buildings are again of proto-industrial character or, as the twentieth century cold-storage facility, excluded from protection. (source: Répertoire du patrimoine culturel du Québec).

²³⁰ Neither the Windsor Station nor Montreal's terminal grain elevators were pointed out by Trottier in *Le patrimoine industriel au Québec*, however she mentioned the Lachine Canal and Parks Canada's mandate in Quebec.

²³¹ The two decades of the 1960s and 1970s were politically dominated by several consecutive language bills which became election issues, first under Jean-Jacques Bertrand, then under Robert Bourassa and finally under René Lévesque.

²³² I am thankful to Jean Bélisle who indicated to me that the commission preferred the stone house reminiscent of Normandy over the more common Canadian wood construction as a representation of Quebec's tradition, as seen in the restoration and rebuilding of Place Royale in Quebec.

²³³ Realizing that the revival styles remained in fashion until the 1930s in Quebec, buildings of such styles may have been seen as not historic enough to qualify for official protection before 1972, when grass root movements requested their inclusion in protection actions.

²³⁴ McLeod Arnopoulos and Clift, *The English Fact in Quebec*, 109-124.

between the two provinces. Ontario embraced the idea of industrial heritage, with the founding of the Society for Industrial Archaeology in 1981. It is questionable if Quebec's orientation towards its French roots hindered the province from celebrating the achievements that occurred after the British conquest, including the astonishing process of industrialization. Only in exceptional cases could the historic progress of industrialization in Quebec be connected to French-Canadian culture, as was the case with the pulp mill in Chicoutimi. To some people today, such as Matthieu Paradis, historian at Parks Canada and site manager of Fort Lennox at St. Paul de l'Île aux Noix, it seemed as if Quebec's official history stopped with the British conquest in 1760 and only resumed in 1960 with the Quiet Revolution, leaving a gap of 200 years in the province's historical narrative, – in which industrialization took place.

Political, social and economic conditions unavoidably impinge on preservation issues. How much and in what way a zeitgeist affects heritage recognition and listing, and how groups of different social, political or economic interests can play into the decision-making process, depends much on the way the protection system is set up and anchored in the country's or province's political or administrative system. With heritage protection law reforms in 1952 and 1963 in Quebec, the main decision-making process shifted away from the *Commission des monuments historiques* towards people in political positions with executive rights, so that protection measures could be enforced by law.²³⁵ The classification of Saint Narcisse's hydro-electrical plant in 1963 may show that with this reform, heritage protection could also be employed for a political cause. So far there has

²³⁵ "L'État doit se doter d'outils d'intervention plus efficaces en matière de patrimoine." Cited after: "Historique de la Loi sur les biens culturels," Gouvernement du Québec, accessed October 17, 2012, <http://www.mcc.gouv.qc.ca/index.php?id=2398>.

been no discussion of questionable criteria that led to the site's classification as one of the few industrial examples in Quebec and the only Hydro Quebec site in the provincial inventory with the highest protection status.²³⁶ By the 1980s, the site was more or less forgotten; even an expert in the field of Canada's industrial heritage such as Louise Trotter, dismissed it in her book.

A fruitful public discussion on heritage protection started in Quebec with Montreal's Windsor Station, and led to several successful grassroots movements with a lasting impact on the city.²³⁷ The Windsor Station, and the many other buildings that followed, exemplified that for the general public by 1970, the scope of heritage had to reach beyond the official program of French-Regime, French-Canadian culture or the founding years of Quebec. At the same time, the public also became aware of the possibility of altering or hindering new urban development through heritage preservation.²³⁸ Assigning high value to older buildings allowed citizens to take an indirect but active participatory role in the shaping of the city that before was decided by businessmen and politicians. This was reflected in the law reform of 1985. What the Windsor Station did not achieve for Quebec was a public discussion on industrial heritage, as happened in England with London's Euston Station (fig. 1.8.1+1.8.2), leading to the popularization of Industrial Archaeology.²³⁹ A major difference between

²³⁶ According to Piédalue, *Le patrimoine archéologique industriel du Québec*, 26.

²³⁷ Initiative of some private enthusiasts and local groups led already earlier to the preservation of sites but did not spread further into a general movement, as in Montreal in the 1970s.

²³⁸ Moshe Safdie, the architect of the Jean-Noel Desmarais Pavilion of the Montreal Museum of Fine Arts had planned to demolish the New Sherbrooke Apartment Building from 1905 which, after public protest, was preserved as facades. See: Dunton and Malkin, *A Guidebook to Contemporary Architecture in Montreal*, 28.

²³⁹ A research committee on Industrial Archaeology was formed in England in 1959, three years before the demolition of the Euston Station with its iconic arch-entrance. The demolition caused a "public outcry" and led to the establishment of the Industrial Monuments Survey by the Council of British Archaeology

Canada/Quebec and England was that in England Industrial Archaeology had been established before the demolition of the Euston Station took place. Local industrial heritage groups could claim a lead role in this matter. In contrast in Quebec, no private or public industrial heritage group was active to lead the discussion when the demolition of Windsor Station was proposed, with consequences still noticeable today. Heritage Montreal gained a quasi monopoly in all aspects of Montreal's heritage, industrial complexes included, but is lacking direct political power. Without public support and funding, they can achieve little. Clearly, it is difficult to create public interest in lesser visible sites, which puts many of Montreal's industrial sites in a weak position. However, many other urban centres in Quebec do not even have a strong public heritage group.

Montreal's grain elevators gave occasion to a lengthy public discussion on the look of the city's waterfront from the mid 1980s on. The industrial port was federal and not accessible to the public until its closing. Montreal's citizens, in contrast to their interest in the large complex of Windsor Station or the industrial neighbourhood of the South-East, found little reason to identify with the oversized silos. The evaluation of grain Elevator No 2 by the federal owner, who recognized as early as 1978 its historic and architectural value contrasted with the low interest from the city. The two parts of governments related different ideas to Montreal's identity: an international, early modern industrial hub for grain handling by the federals versus an early colonial historical city by Montreal's officials. The second idea fitted in the long established categories for Quebec's heritage. However, in the 1970s, the federal government still ignored the integrity between the elevator's exterior shell and its interior equipment, a point they see

and the Ministry of Public Buildings and Works in 1963. See: Neaverson and Palmer, *Industrial Archaeology*, 2.

differently today, and both provincial and federal still only partly recognize infrastructural transportation lines that belonged to industrial sites. They see the Lachine Canal as relevant for the interpretation of the elevator but the conveyer system and rail tracks found less recognition in written public sources. An acknowledgement of all aspects of an industrial site is still rare in assessment of Quebec's industrial heritage. Even in Ontario the argument for the preservation of a grain elevator in Toronto stressed the building's "minimalist design" and pleasing aesthetical look as qualifying it for preservation, disregarding the unity of shell and equipment.

From early on, for security and convenience reasons, planners and entrepreneurs grouped several industries in districts or even larger terrains, creating distinct industrial landscapes.²⁴⁰ These groups of industrial sites require a consideration to count as heritage ensemble. Preservation authorities recognize this in most cases without further discussion. In Quebec, it seems public agencies first discussed the industrial ensemble in relation to the commemoration of the Lachine Canal. The ensemble character of the Lachine Canal Corridor was much less clearly defined than is usually the case for historic sites or districts. Also its multilayered distribution of responsibilities on several levels of administration was challenging. Until now, officials have struggled with the protection of the Lachine Canal's ensemble character (fig. 1.8.3). Montreal's city hall fostered the redevelopment of redundant factories along its borders allowing invasive alterations until the maximum building height was attained according to local by-laws, altering the original architecture significantly – however, none of these building has gained legal

²⁴⁰ See for instance: Barrie Trinder, *The Making of the Industrial Landscape* (London: J.M. Dent and Sons Ltd, 1982); Brian Hayes, *Infrastructure: a Field Guide to the Industrial Landscape* (New York : W.W. Norton, 2005).

heritage status. Laws covering historic districts prohibit alterations on exteriors that change the character of an ensemble. Not one of the former factories along the Lachine Canal features an intact or even partially intact original interior to showcase the history of the production of goods or the working environment which contributed so greatly to Canada's development. Well-intended information boards try to compensate for this shortcoming. Demolition of significant production sites on both sides of the waterway is ongoing.²⁴¹ Sites dating later than 1940, in some cases later than 1950, were excluded from all surveys and disappear unnoticed, without any request for even minimal documentation despite the fact that they had been as active a part of the Lachine Canal as the older factories.²⁴² Jean Bélisle, who researched much of the Lachine Canal's industrial buildings for the federal government survey in the 1990s, critically remarked ten years later: "*La vision d'ensemble disparaît au profit d'un développement anarchique.*"²⁴³ He concludes: "*Il ne semble y [the City of Montreal, the provincial and federal government] avoir aucune vision d'ensemble*"²⁴⁴

Currently, Quebec's preservation works in many cases by public demand. Municipalities and the government of Quebec respect the public's wish when it comes to protecting buildings. The safeguarding of an advertising light-installation on a historic flourmill gave impressive proof of this mechanism even in the realm of industrial culture. But again, most people seem to be satisfied with solutions that retain the visual appearance of the streetscape (fig. 1.8.4). At the same time, it is important to realize that

²⁴¹ In his article "Le Canal de Lachine : Les Métamorphoses d'un quartier" in the 96th issue of *Continuité* Jean Bélisle observed in 2003: "*Plus de la moitié des complexes industriels de Saint-Henri bordant le canal ont disparu sous le pic des démolisseurs. Ce constat est également valable pour d'autres zones du canal comme celle des écluses Saint-Gabriel. Le paysage industriel est en train de disparaître à tout jamais.*"

²⁴² Archemi, *Inventaire et évaluation des ressources culturelles Canal de Lachine*, 1:48-50.

²⁴³ Bélisle, "Le Canal de Lachine," 42.

²⁴⁴ *Ibid*, 43.

this form of public involvement ends at the exterior of factories and similar sites given that most companies' production facilities are not open to the public. As J. V. Wright, head of the scientific section of the Archaeological Survey of Canada wrote in 1975: "No loss will be felt until people appreciate what they are losing."²⁴⁵

Officials cooperate with professionals with architectural education to take care of industrial sites, whether these have heritage interest, are recognized or classified or are not recognized as part of Quebec's heritage. For practicing architects, preserving former factories has become part of their portfolio which they offer as an architectural service and which must generate income for their profession and their clients. Preservation includes therefore normally transformation, and not the protection of such a historic site per se.²⁴⁶ Should city officials wish to interfere with an architect's view where such a site is public property or publicly controlled, they need an accurate knowledge of what may actually constitute an industrial site's heritage potential, which may differ from production facility to production facility and is even for experts sometimes difficult to know. Without detailed knowledge, officials cannot offer guidance and supervision to protect industrial heritage qualities for sites for which they are responsible.

In an overall view, the subject of industrial heritage in Quebec seems so far fragmented; each studied site seemed to have been preserved for individual reasons by a wide array of groups. Governmental organizations may be involved, such as the federal

²⁴⁵ K.J. Laidler, ed., *Preserving the Canadian Heritage: a Symposium Held in Association with Heritage Canada = La préservation du patrimoine canadien : colloque tenu de concert avec Héritage Canada* (Ottawa: Royal Society of Canada, 1975), 163.

²⁴⁶ Jukka Jokilehto reflected on this problem which was already addressed in 1901 by Georg Dehio: "Architects are generally expected to leave a mark of their creativity on the building where they work, although when dealing with a historic structure the principle has been to prefer being humble and respectful instead. This approach has not been necessarily accepted unanimously." (Cited from: *A History of Architectural Conservation* (Oxford: Butterworth-Heinemann, 1999), 312.)

government with regard to the Forges du Saint Maurice, Montreal's Windsor Station and grain elevators, and the Lachine Canal, a situation that seems specific to industrial sites and that Quebec's heritage law does not specifically consider. In other cases, private groups started the preservation efforts (Forges du Saint Maurice, Windsor Station and Chicoutimi's pulp mill) and the provincial government reacted (Forges du Saint Maurice and Chicoutimi's pulp mill). In the case of the Saint Narcisse Power Station, it seems that the provincial government was the initiator. It is likely, that Quebec will continue to treat more contemporary sites on a case by case basis, without a catalogue of criteria that defines clearly an industrial site's heritage significance.

Chapter 2

INDUSTRIAL HERITAGE IN GERMANY

2.1 The History of Industrial Heritage in Germany

In the previous chapter, the author has portrayed the development of Quebec's concept of industrial heritage over the last century on the basis of recognized or classified examples of industrial heritage sites. For the history of industrial heritage in Germany, literature already existed on which to base much of the study. However, the author has also selected some exemplary sites to stress those aspects that seem the most relevant for a comparison of the two destinations. The following eight chapters attempt to show how the concept of industrial heritage was formed and understood, and how Germany preserved industrial sites during the twentieth century and the first decade of the twenty-first century from the period before World War Two. Specifically for the earlier period, the research by Uta Hassler and Alexander Kierdorf²⁴⁷ proved useful. However, their book offered little information on the *Verein Deutscher Ingenieure (VDI)* and *Bund Heimatschutz* for the two decades of the 1930's and 1940's. The author attempts to give some insight in the chapter "Industrial Heritage During the Nazi Years" and the "Double-Standard of 'Enforced Political Conformity.'" Research on these organizations during that time period surfaced only sporadically, although the process of coming to terms with this period of Germany's past has certainly not been completed. Since the country's reunification, researchers have gained access to archives formerly out of reach, with the possibility of new insights in the future. The author found also little information on industrial monument protection in the former German Democratic Republic and the transformation process after reunification in Hassler's and Kierdorf's book and elsewhere, she included a chapter on this subject, however, it remained brief. This subject

²⁴⁷ Hassler and Kierdorf, *Denkmale des Industriezeitalters*.

may develop in future as more and more archives open for research. The international building exhibition IBA Emscher Park with its industrial landscape concept has, in contrast, received ample media attention and libraries have a large number of publications, books as well as articles in their collections.²⁴⁸ Information for the IBA chapter was provided by the German authors involved in the process of this building exhibition, as among them Roland Günter and Karl Ganser. For the most recent project in this survey, the IBA Fürst Pückler Land, which ran from 2000 to 2010, the author

²⁴⁸ For instance: Rudolf Müller, *IBA Emscher-Park : Zukunftwerkstatt für Industrieregionen* (Köln: Rudolf Müller, c1991); Szyszkowitz und Kowalski, *Räume und Freiräume : IBA Emscher Park : Wohnsiedlung Küppersbuschgelände Gelsenkirchen* (Graz: Haus der Architektur, c1999); Manfred Sack, *Siebziger Kilometer Hoffnung : die IBA Emscher-Park : Erneuerung eines Industriegebiets* (Stuttgart: Deutsche Verlags-Anstalt, c1999); *IndustrieKultur: Mythos und Moderne im Ruhrgebiet/im Rahmen der IBA Emscher Park*, ed. by Andrea Höber and Karl Ganser (Essen: Klartext, 1999); Luca Maria Francesco Fabris, *IBA Emscher Park: 1989-1999* (Torino: Testo & imagine, 2004); *Internationale Bauausstellung Emscher Park: die Projekte 10 Jahre danach*, ed. by Fachgebiet Städtebau, Stadtgestaltung und Bauleitplanung, Fakultät Raumplanung, TU Dortmund, Christa Reicher and Achim Dahlheimer (Essen: Klartext, 2008), (this title was translated into French as: *Exposition Internationale d'Architecture et d'Urbanisme Emscher Park: les projets, dix ans après*); *Visionen für das Ruhrgebiet: IBA Emscher Park: Konzepte, Projekte, Dokumentation*, ed. by Stiftung Bibliothek des Ruhrgebiets (Essen: Klartext-Verlag, c2008); Günter, Roland, *Karl Ganser: [ein Mann setzt Zeichen]: eine Planer-Biografie mit der IBA in der Metropole Ruhr* (Essen: Klartext, 2010); Christa Reicher, Lars Niemann, and Angela Uttke, *Internationale Bauausstellung Emscher Park: Impulse: lokal - regional - national - international* (Essen: Klartext, c2011).

Articles (a selection of texts in English/French): Kester Rattenburg, "Emscher Park IBA," *Architectural Review* 196 (July 1994): 9; Robert Holden, "Tales from the Riverbanks. Differing Fortunes of Emscher Park and the Thames Gateway Renewal Projects, Germany and England," *Architects' Journal* 202 (November 1995): 23-24; "In the Landscape of the Ruhr. IBA Emscher Park, Dornröschen am Mechtenberg, Gelsenkirchen, Germany" *Lotus International* 87 (1995): 66-67; Ingerid Helsing Almaas, "Regenerating the Ruhr," *Architectural Review* 205/1224 (Februar 1999): 13-14; Luca Maria Francesco Fabris, "Emscher Park: IBA Emscher Park 1989-1999 and beyond," *Abitare* 386 (July/August 1999): 99-115; Sebastiano Brandolini, "Paradise found," *Architecture* 89/11 (November 2000): 75-147; Brenda J. Brown, "Reconstructing the Ruhrgebiet," *Landscape Architecture* 91/4 (April 2001): 66-96; Robert Shaw, "The International Building Exhibition (IBA) Emscher Park, Germany: A Model for Sustainable Restructuring?" *European Planning Studies* 10/1 (January 2002): 77-97; Rainer Danielzyk and Gerald Wood, "Innovative Strategies of Political Regionalization: The Case of North Rhine-Westphalia." *European Planning Studies* 12/2 (March 2004): 191-207; Peter Zlonicky, "Strategies for Extreme Conditions: The Emscher Park International Building Exhibition," *Architectural Design* (London, England) 74/2 (March/April 2004): 54-60; Martin Franz, Orhan Güles and Gisela Prey, "Place-Making and 'Green' Reuses of Brownfields in the Ruhr," *Tijdschrift voor Economische en Sociale Geografie* (Journal of Economic & Social Geography) 99/3 (July 2008): 316-328; Sophie Trelcat, "Projektion Ruhr IBA Emscher Park—Un laboratoire urbain," *Art Press* 353 (February 2009): 81-82; Anne Raines Brownley, "Wandel durch (Industrie) Kultur [Change through (Industrial) Culture]: Conservation and Renewal in the Ruhrgebiet." *Planning Perspectives* 26/2 (April 2011): 183-207.

gathered information through brochures that were available at site, mostly because nothing could be found in book format.

The author has kept a chronological order in the historical survey. Only for the forty years of Germany's division in two states (1949 to 1989) has the author abandoned a chronological flow. The author set the chapter which considers the situation in the German Democratic Republic before the chapter on West Germany.

2.2 Engineers Take Charge: The Concept of Industrial Heritage in Germany during the German Empire and the Weimar Republic, 1900-1914

In Germany, interest for its historic production facilities, its proto-industries but also early industrial sites, and their appropriate conservation and documentation started early, at the end of the nineteenth and the beginning of the twentieth century, long before Industrial Archaeology became popular in Britain in the middle of the twentieth century. It happened at the end of a process of rapid political and economic changes. Germany had recently formed a nation allowing it to fast gain economic importance in Europe. The accelerating industrialization process in the country changed the old way of life within the period of a lifetime. Civil engineers were the first group of people to seek to preserve the historic means of production that quickly disappeared as old production methods were replaced by modern machines invented by this same group of professionals. Nostalgia for past times²⁴⁹ was not the sole basis for the engineers' enthusiasm for outdated production tools and workshops. They sought to give their own profession a historical foundation which could help to elevate their profession to the same high social status that the older profession of architecture had long enjoyed.

One of the most active protagonists of the early preservation of technology was Germany's first professional electrical engineer, Oskar von Miller (fig. 2.2.1). When von Miller was born in 1855, Bavaria had just begun a period of fast moving industrial

²⁴⁹ In: Conrad Matschoss and Werner Lindner, ed., *Technische Kulturdenkmale* (München: Verlag F. Bruckmann, 1932), 60, Otto Petersen wrote in his chapter on ironworks that with the disappearance of the old technologies disappeared also a good part of the romance and poetry which was woven into the profession of the ironworker despite the roughness of his work. ("Mit den alten Verfahren aber verschwanden auch zum guten Teil die Romantik und die Poesie, die den Hüttenmann trotz seines rauhen Handwerks umwoben hatte.")

development.²⁵⁰ By the time he reached adulthood, the old world of craftsmen and traditional workshops, of windmills and horse-gins²⁵¹ had all but disappeared. However, the products coming from German factories at that time were of low repute. In 1887, the British government put an obligation on countries importing their goods into England to have them marked with a stamp of origin so that consumers could stay away from the cheap, poorly made goods from abroad, specifically those “made in Germany.”²⁵² Germans felt this as a blow to their national pride. After the World Exhibition in Philadelphia 1876 the German government reacted by stimulating technical advancements and innovations. Success was apparent at the electro-technical exhibitions in Munich, which Oskar von Miller organized in 1882 after having visited a similar exhibition in Paris a year before. At this exhibition, von Miller in collaboration with his French colleague, Marcel Depréz (fig. 2.2.2), demonstrated the world’s first transmission of direct electrical current over a distance of fifty seven kilometers, unfortunately with a high percentage of current loss.²⁵³ Not even ten years later he organized another exhibition, this time in Frankfurt/Main, at which he proved that by switching to alternating current the distance electricity can travel could be tripled to one hundred seventy five kilometers without major loss in energy (fig. 2.2.3). The American inventor Thomas Edison failed to achieve this task when he insisted on using direct current. This demonstration resulted in advanced research in the field of electricity and it also

²⁵⁰ “Industrialisierung,” Bayerische Staatsbibliothek, accessed September 13, 2012, http://www.historisches-lexikon-bayerns.de/artikel/artikel_445121.

²⁵¹ A device to power mostly agricultural or mining machines with the help of horses, also known under the term horse-mill.

²⁵² Hans-Joachim Braun, “Billig und schlecht? Franz Reuleaux’ Kritik an der deutschen Industrie und seine wirtschaftspolitischen Vorschläge 1876/77,” *Kultur und Technik* 2 (1985): 106. The title translates to “Cheap and bad? Franz Reuleaux’s critique towards Germany’s industry and his economic-political suggestions in 1876/77.”

²⁵³ “Oskar von Miller,” Deutsches Museum, accessed September 1, 2011, <http://www.deutsches-museum.de/de/information/wir-ueber-uns/museums-geschichte/oskar-von-miller/>.

increased the acceptance of electrical energy by the general public. In Berlin and several other German towns, the first electrical street-lights were installed at the end of the same year.²⁵⁴ Now available everywhere, electrical power also transformed the world of manufacturing yet again; electrically powered motors were cheaper and smaller than steam engines or diesel motors, they ran quietly, without exhaust and could be built light enough to be carried around. Thanks to electricity, small traditional workshops also went through a fast process of modernization.

Yet civil engineers that had enabled enormous technological progress had a hard time to find social recognition in nineteenth century Germany. The reasons for this difficulty seem to be complex and related to factors such as the social background from which the majority of civil engineers came.²⁵⁵ The vocation of the engineer was born out of the military need to have professionals building fortification as well as finding ways to destroy them. During the eighteenth century, schools formed that taught engineering outside of military circles. While military engineers were socially part of military ranks, civil engineers had to establish their social relevance in a different way. The civil work of engineers became increasingly important and publicly visible. For instance, engineers developed the modern infrastructure in the first half of the nineteenth century, with

²⁵⁴ German literature and online sources give for the first German street lights the year 1882 while most English speaking sources insist that in 1884 the Romanian town of Timișoara was the first place of electric street illumination in continental Europe. See for instance: "1882 Die erste bleibende öffentliche elektrische Straßenbeleuchtung Europas" Siemens Global Website, accessed September 19, 2011, http://www.siemens.com/press/de/pressebilder/?press=/de/pressebilder/2011/corporate_communicati on/soaxx201117/soaxx201117-07.htm.

²⁵⁵ Information to the social background of Germany's civil engineers could not be found, however, the historian Hans-Werner Niemann reported that in Germany entrepreneurs of the generation of Friedrich Krupp, Ernst Werner von Siemens (born Werner Siemens) or Karl Freiherr von Stumm-Halberg (born Karl Stumm), who had in general a technical background similar or equal to civil engineers, came sixty-one per cent from working class families or small artisan circles, twenty eight per cent worked their way up from the middle class and eleven percent carried a noble title or came from the class of governmental officials, see: *Welt- und Kulturgeschichte*, Vol. 11 (Hamburg: Zeitverlag Gerd Bucerius, 2006), 446.

railroads, bridges, tunnels and steam locomotives and so forth. Engineering technologies penetrated into every aspect of life and culture, it inspired even a new genre of literature, the modern science fiction novel with Jules Verne as its most prominent early representative. Despite its large and positive impact at the economic, social and political level, the society classified engineering achievements in Germany as part of “civilization”, not as part of the more highly esteemed “Kultur” to which architecture belonged. This sublime distinction between the two terms was a specifically German matter. The widely studied Prussian philosopher Immanuel Kant argued that to participate in culture requires the will to reflect consciously on morality by defining moral and ethic principles, while someone who reacts to moral and ethic rules without contributing to their formation is merely civilized, not cultured.²⁵⁶ Culture to Kant was a precious good; civilization in contrast could be produced with less effort, or as Kant stated, “we are civilized to a troublesome degree.” In English and French speaking cultures, the two terms “culture” and “civilization” had not the dividing content but related to similar social values as both stood in opposition to the “barbaric”, the non

²⁵⁶ The terms “Kultur” and “Zivilization” in German philosophy stood in a certain sense in opposition to each other – civilization was seen as a rather natural form of progress while culture was based on the artistic creativity, suited to enlighten a well educated mind. (Kant wrote: “We are *cultivated* to a great extent by the arts and the science. We are *civilized* to a troublesome degree in all forms of social courteousness and decency. But to consider ourselves to be already fully *moralized* is quite premature. For the idea of morality is part of culture. But the use of this idea, which leads only to that which resembles morality in the love of honour and outward decency, comprises only mere civilization.” (“Wir sind im hohen Grade durch Kunst und Wissenschaft cultivirt. Wir sind civilisirt bis zum Überlästigen, zu allerlei gesellschaftlicher Artigkeit und Anständigkeit. Aber uns für schon moralisirt zu halten, daran fehlt noch sehr viel. Denn die Idee der Moralität gehört noch zur Cultur; der Gebrauch dieser Idee aber, welcher nur auf das Sittenähnliche in der Ehrliche und der äußeren Anständigkeit hinausläuft, macht blos die Civilisirung aus.” In: Immanuel Kant, *Idee zu einer allgemeinen Geschichte in weltbürgerlicher Absicht*. (1784) (Akademie-Ausgabe, Bd. 8, Berlin-Leipzig, W. de Gruyter 1912/1971) 26.) This view persisted up to the end of World War II when the term “Zivilisation” took over the English meaning as more synonym to culture or as a more general term including culture; in English and French the term “civilized” was foremost the antonym to “barbaric”.

cultured or civilized world,²⁵⁷ so that a philosophical conflict between the professional groups of engineers and architects seems not to have emerged. The fate of Germany's engineers was shared by the country's industrial entrepreneurs who were similarly socially stigmatized while they had practically taken over the position of the old nobility, but without official political influence on the national level. Both engineers and entrepreneurs were interested in fostering the status of their social class which, at the end of the nineteenth century, did not reflect their real impact on society. In 1899, the German emperor Wilhelm II took the first official step to adjust this imbalance: he gave schools of engineering the privilege of conferring doctorates. This act set engineering for the first time level with architecture, natural science and the other traditional academic disciplines.²⁵⁸

In 1903, Oskar von Miller founded the "*Deutsches Museum von Meisterwerken der Naturwissenschaft und Technik*" (German Museum of Masterpieces of Science and Technology) (fig. 2.2.4).²⁵⁹ It was a technical museum similar to those older collections in Paris or London,²⁶⁰ but with the more open and interactive approach similar to that

²⁵⁷ The complicated subject of civilization versus culture in European countries cannot be discussed in length. Important in this context is not the discussion in how far the two terms were generally defined or seen as synonymous, but the relation of the terms to a social status, as seen in German philosophy. See: Richard Velkley's chapter "The Tension in the Beautiful: On Culture and Civilization in Rousseau and German Philosophy," in *Being after Rousseau: Philosophy and Culture in Question* (Chicago: The University of Chicago Press, 2002), 11–30.

²⁵⁸ The doctoral degree meant also that research in engineering was fiscally supported by universities and not only by private capital.

²⁵⁹ In America it was also known as: "German Museum of the Technical Arts and Industries at Munich", a name established in the short article "Meeting in Germany," *The Journal of the American Society of Mechanical Engineers*, Vol. 34, Number 9 (September 1912), accessed October 25, 2010, http://www.archive.org/stream/journalofamerica3412amer/journalofamerica3412amer_djvu.txt.

²⁶⁰ London's South Kensington Museum (which became later the Science Museum) was established in 1853. Its collection was fed by the exhibits of the World Exhibition in London from 1851; Paris' Conservatoire des Arts et Métiers goes back to 1794.

which von Miller had experienced at the popular fairs.²⁶¹ Von Miller had become acquainted with a wide range of industrialists, who financially supported his museum and offered industrial equipment and products to the museum's collection. To educate was one motivation when he established the Deutsches Museum, but there was to a large extent also the social reason behind the idea of the museum. With the Deutsches Museum von Miller sought a way to demonstrate that the fruits of his own professional efforts and that of his colleagues were also important parts of the nation's cultural life.²⁶² He expressed his intention with the classical museum's architecture selected for his museum building. Further, he titled exhibits not as machines or technical instruments but as "technical cultural monuments" (*technische Kulturdenkmale*); a term that found fast acceptance in publications in the following years.²⁶³

Engineering remained a vastly practical profession; theoretical research was only slowly emerging. Research on the interaction between technology and society was done by Marx and Engels,²⁶⁴ and the technical-historical aspect specifically of the steam engine had been surveyed by the engineer Conrad Matschoss and published in 1901 (fig. 2.2.5+2.2.6).²⁶⁵ But engineers often lacked the knowledge for a more holistic view on their subject; they tried to stay in their own field of expertise. Matschoss' four hundred

²⁶¹ "Oskar von Miller."

²⁶² Wolf Peter Fehlhammer and Wilhelm Fuessl, "The Deutsches Museum: Idea, Realization, and Objectives," *Technology and Culture* 41/3 (July 2000): 517-520, as well as Hassler and Kierdorf, *Denkmale des Industriezeitalters*, 35.

²⁶³ Oskar von Miller's term of technical cultural monument was common in the publications of the Verein Deutscher Ingenieure (VDI) and was used as book title by Matschoss and Lindner in 1932: *Technische Kulturdenkmale*.

²⁶⁴ Marx refers in his texts directly to the dependence of technical progress and the form of society. For instance, in *The Poverty of Philosophy*, published in 1947, he writes: "The hand-mill gives you society with the feudal lord; the steam-mill, society with the industrial capitalist." (Chapter 2, Second Observation, cited after: Karl Marx, *The Poverty of Philosophy* (Moscow: Progress Publishers, 1955), accessed September 13, 2012, <http://www.marxists.org/archive/marx/works/1847/poverty-philosophy/>.

²⁶⁵ Conrad Matschoss, *Geschichte der Dampfmaschine: ihre kulturelle Bedeutung, technische Entwicklung und ihre großen Männer* (Berlin, 1901, reprint: Gerstenberg, Hildesheim, 1978).

fifty page oeuvre explained the technical development of the steam engine, presented its inventors and went as far as stressing the general cultural impact that the substitution of work by mechanical power had had since prehistoric times. However, he ignored or underestimated the importance of technological inventions and their industrial application on his society, and on more recent historic events.²⁶⁶ The steam locomotive's significance on the nation building process of Germany, which Johann Wolfgang von Goethe detected as early as 1828,²⁶⁷ was overlooked; to realize that impact engineers would have needed a better understanding of the interaction between the upcoming effects of globalization on an industrialized economy with the need for larger and free markets and nationalizing politics. Over the next twenty or so years, Matschoss and others continued to produce several more technical-historical surveys on specific accomplishments in the field of technology or of industrial companies, often commissioned by industries that celebrated their centennials or other important anniversaries.²⁶⁸

Timidly and only in the 1930s, a text focused on the link between technical inventions and historical events.²⁶⁹ The engineer Otto Petersen,²⁷⁰ a colleague of von

²⁶⁶ In 1980, Langdon Winner could still start his article "Do Artifacts Have Politics?" with wondering, that "there is no idea more provocative than the notion that technical things have political qualities. He claimed that the machines, structures, and systems of modern material culture can be accurately judged not only for their contributions of efficiency and productivity, not merely for their positive and negative environmental side effects, but also for the ways in which they can embody specific forms of power and authority." *Daedalus*, 109/1 (Winter, 1980): 121

²⁶⁷ "Mir ist nicht bange, daß Deutschland nicht eins werde; unsere guten Chausseen und künftigen Eisenbahnen werden schon das Ihrige thun." (I have no doubt that Germany will be united one day; our good streets and future railways will ensure this development. Author's translation.) In: Johann Peter Eckermann, *Gespräche mit Goethe in den letzten Jahren seines Lebens* (Munich: DTV, 1984), 605.

²⁶⁸ A list of titles is listed in footnote 288.

²⁶⁹ Conrad Matschoss and Werner Lindner, ed., *Technische Kulturdenkmale* (Munich: Verlag F. Bruckmann AG, 1932), 125.

²⁷⁰ Dr. Ing. Petersen had received a PhD in Engineering in 1907, which allowed him to carry the title Doctor of Engineering, which is abbreviated in German to Dr. Ing. see: "Bestände des Hochschularchivs der RWTH Aachen," Archive in Nordrhein Westfalen, accessed October 7, 2010, http://www.archive.nrw.de/LAV_NRW/jsp/findbuch.jsp?archivNr=470&tektId=0&id=06&klassId=2.

Miller, and like him engaged in the *Verein Deutscher Ingenieure*, the Association of German Engineers (VDI) became author of some of the association's publications. In his article on ironwork shops (*Eisenhüttenwesen*),²⁷¹ published in 1932, he pointed out that one of Europe's most significant events, the French Revolution, was significantly triggered by a new steel production process invented in Britain based on coke as fuel. This process, successfully introduced by the middle of the eighteenth century, put France under enormous economic stress, where the less efficient charcoal was still in use. The resulting economic crisis in France, Petersen concluded, was responsible for the great famine in the country which enraged such large parts of France's population that it led in 1789 to political uproar of dimensions never seen before. The progressive technical invention in England was therefore not only the starting point of the Industrial Revolution, but caused political shifts all over Europe. The fact that technical progress interacted directly and creatively with historic events, he argued, made it therefore an active participant in human culture and not just an act of performing "civilization".²⁷² It seems odd that after such a successful discourse this subject was not continued by engineers at that time. Missing readership outside of the circle of the technical profession for this kind of discourse may have been a reason.²⁷³ Nevertheless, German engineers at the beginning of the twentieth century explored the history of "technical artifacts" that

²⁷¹ Matschoss and Lindner, *Technische Kulturdenkmale*, 49-62.

²⁷² *Ibid.*, according to Petersen (52), the "modern age" owed as much to the revolution in the iron technology, with roots reached back into the fourteenth century, as to "Luther's hammer-blows on the door of the palace church to Wittenberg." He clearly states a "connection of *culture* and iron," not civilization and iron.

²⁷³ Hassler and Kierdorf reported that the *Technische Kulturdenkmale* sold only 3800 of its edition of 5000 in the years after its publication. Good 1200 of the books had remained in storage but disappeared during the Second World War (Hassler and Kierdorf, *Denkmale des Industriezeitalters*, 37).

created the basis on which curators would later in the 1980s be able to form their ideas of industrial heritage in Germany.

The collection of the Deutsches Museum included, besides technical equipment, also architecture when it formed an indivisible unity with the equipment, as is the case with windmills, for instance. Therefore, pre-industrial and early industrial facilities became a concern of conservation for the museums. While art historians led the *Denkmalschutzamt* (conservation authorities) and generally took care of the preservation of cultural monuments to their standards, the preservation of technical cultural monuments stood for a long time under the strong influence of engineers with their own goals on the agenda. When Oskar von Miller opened the Deutsches Museum, the conservation authorities had neither specifically included, nor excluded pre-industrial workshops or industrial buildings, they cared for windmills and watermills in the same way they treated all other architectural monuments; they were valued for their landmark character. With the inclusion of technical structures as part of the museum's collection an early institutionalization of the concept of industrial heritage had started in Germany.

Alois Riegl's (fig. 2.2.7) widely discussed value categories such as "historic value" (*historischer Wert*), "art value" (*Kunstwert*), "use value" (*Gebrauchswert*) or the "age value" (*Alterswert*)²⁷⁴ were tailored for theorizing in humanist circles about ideas of

²⁷⁴ Kunstwert or art value was one of the key values in the German heritage concept taken from Alois Riegl's *Der modern Denkmalkultus. Sein Wesen, seine Entstehung* from 1903 (Vienna and Leipzig: W. Braumüller Verlag), whereby in Quebec the aesthetic value was more commonly discussed and still persist on municipal level as criteria. Art value was chosen by Riegl to provide a term that would be neutral towards artistic styles and changing taste. Evolving stylistic preferences in one generation of art-historians posed easily destructive consequences on the stock of historic monuments, when, for example as exercised in Munich's Our Lady's Church, all Baroque alterations on an older, Romanesque or Gothic building were removed even if the later additions were of high artistic quality. Riegl was not the first who stressed the subjectivity of the identification of unintentional monuments but his argument became the best known.

intentional or unintentional monuments.²⁷⁵ But these value discussions left out the concerns of the person who acted specifically on behalf of pre-industrial and industrial facilities, with their tactile relations between machinery and buildings. The established “values” did not include important issues of industrial sites. Monument curators had no expertise in the many aspects that mattered in industrial settings, while engineers and industrialists, uneasy, though, with the humanist’s discussion, were familiar with these facilities, their size, space-logistics and more and more often also in the historic aspects of the equipment. They had their own discourses on why, what and how they wished to conserve their artifacts and historic sites. Therefore, the curators of the technical artifacts established their own methods on a case by case basis. For the technical enthusiast, the function, and therefore the functioning of the object, was the key factor in preservation. Engineers took pride in making machines work and this pride was transferred to historic sites as well: they overhauled machines and buildings, replaced missing or broken parts that they collected from other sites or reproduced; and machines were adjusted and varnished until they functioned perfectly and looked as if they had been built the day before. This violated, of course, the rules the German preservation offices had set up for the kind of monuments they cared for, specifically the concept of patina as sign of age and the imbedded historical content of the original material, but the governmental curators seldom interfered with the preservation of technical monuments. Even today, in

²⁷⁵ Georg Dehio (fig. 2.2.8), Max Dvořák (fig. 2.2.9), or Adolf Loos, for example, discussed, contrasted or based their own understanding of heritage and its values on Riegl’s “Der modern Denkmalkultus. Sein Wesen, seine Entstehung,” leading to publications such as Dehio’s “Denkmalschutz und Denkmalpflege im neunzehnten Jahrhundert” (1905), Dvořák’s “Katechismus der Denkmalpflege” (1915) or Loos’ “Richtlinien für ein Kunstamt” (1919), excerpts of these writings were published in Huse, *Denkmalpflege*, 131-139, 139-146, 175-179, and 180-181.

the field of technical equipment, the approach of making old look new is still commonly valid and only very recently questioned.

In the role as director of the *Deutsches Museum*, Oskar von Miller discussed with his engineering colleagues how to care for his technical monuments. Where von Miller shared and even surpassed the regulations of the conservation authorities was in his request for local integrity of the technical complexes, which included the building with all technical equipment on its original site. He had traveled to Europe's first open-air museum Skansen near Stockholm (fig. 2.2.10+2.2.11).²⁷⁶ Despite his admiration for the collection of houses which had been dismantled from all over Swedish territory and set up on the ground of the museum, von Miller was dissatisfied with the loss of the original site-specific aspects in the new setting, aspects which he saw to be even more important when buildings had a functional purpose. He advocated keeping industrial immovables and movables together where they had been built and used.²⁷⁷ He preferred each site to be its own small, local, open-air exhibition when possible. To facilitate the administration of these small sites, each could become associated with a larger regional technical museum.

In his quest to influence public views on the achievements of engineers as part of cultural life, von Miller had support from two large associations. One was the long established, already mentioned VDI, of which von Miller was a longstanding member. It was at a meeting of this association that the idea of a technical museum was discussed in 1903. The other organization was the popular *Bund Heimatschutz*²⁷⁸ which formed in

²⁷⁶ Hassler and Kierdorf, *Denkmale des Industriezeitalters*, 32, mentioned this visit as "before WWI" with no specific date.

²⁷⁷ *Ibid.*, 35.

²⁷⁸ The German term "Heimat" cannot easily be translated to "homeland" because it includes a wider range of ideas related to a spatial belonging and personal sentiments. The term is kept in this context

1904.²⁷⁹ Local preservation groups had founded it as their national umbrella organization. The *Bund Heimatschutz* had a more holistic approach than any other German organization. Its overreaching aim was to preserve the German landscape from unwanted intrusions of industrialization in all regions except urban centres. The charter of the organization listed “monument preservation,” “concern of traditional rural and untitled construction methods,” “preservation of existing buildings,” “protection of the visual aspects of landscapes including ruins,” “rescue of indigenous animals and plants as well as the geologic character of places,” “folk art in the field of movables,” and “costumes, traditions, celebrations and traditional clothing” as its tasks. As a result, many small associations joined the *Bund* and dedicated their activities in one of these fields. Since 1911, the German and Austrian conservation authorities invited the *Bund Heimatschutz* to participate in their yearly meetings. The *Bund Heimatschutz* introduced the other participants to the idea of a wider spectrum of heritage concerns, including vernacular and agricultural architecture, an idea that fell on fertile grounds.²⁸⁰ The *Bund Heimatschutz* also aimed to preserve pre-industrial landmark buildings such as windmills and watermills as important to a regional identity. This, too, was supported by the conservation authority. By the 1920s, however, protection of the natural environment, specifically landscapes spoiled by modern industrial development, was becoming less a concern of the *Bund Heimatschutz* because several nature protection associations had

because it includes aspects that the English term “home” or “homeland” dismisses. A detailed view is provided by Peter Blickle, *Heimat: A Critical Theory of the German Idea of Homeland* (Rochester, NY: Camden House, 2002).

²⁷⁹ Information on the role of the *Heimatbund* in the early years provide the two English written articles: Matthew Jefferies, “Back to the Future? The ‘Heimatschutz’ Movement in Wilhelmine Germany,” *History* 77/251 (October 1992): 411-420, and Christian F. Otto, “Modern Environment and Historical Continuity: The Heimatschutz Discourse in Germany,” *Art Journal* 43/2 (June 1983): 148.

²⁸⁰ Huse, *Denkmalpflege*, 150.

formed and had been united in the *Bund Naturschutz*. Since then, Germany's legal and administrative basis of the cultural and natural preservation has been separated; remarked here that in Canada governmental organizations such as Parks Canada keep both under their wings.

In English-language research, which often focused merely on the role the *Bund Heimatschutz* played in support of the ideology of the Nazi regime starting in the early 1920s, the first years of the organization are unreported. The reason for this was the later role of the first director of the *Bund*, the Nazi-architect Paul Schultze-Naumburg (1869-1949, fig. 2.2.12), a trained painter but practicing architect. Schultze-Naumburg's early fame was not based on his practical work but on his populist publications on subjects about taste, aesthetics and health, such as "the culture of the female body as concept of women's clothing,"²⁸¹ a sharp critique on the abuse of corsets (fig. 2.2.14), and specifically his nine-volume oeuvre *Works of Culture*, published between 1901 and 1917.²⁸² The very popular *Works of Culture* covered every aspect of the environment: from house design to water management and mining, with the ambitious goal of keeping the effects of industrialization in harmony with nature by using a regional historic building style and less visible sites for factory buildings. This view formed the values of the *Bund Heimatschutz*. Schultze-Naumburg's most convincing argument was the comparison of images, showing positive examples of taste side by side with unfavorable examples, whereby the picturesque and romantic impression of the pre-industrial environment represented good examples, with contemporary modern reality instead

²⁸¹ Paul Schultze-Naumburg, *Die Kultur des weiblichen Körpers als Grundlage der Frauenkleidung* (Leipzig, 1901).

²⁸² The original title of the publication is "Kulturarbeiten."

frequently embodying the negative view.²⁸³ Schultze-Naumburg was not a dreaming idealist but an assertive character, affiliating himself with organizations such as the *Bund Heimatschutz*, and also the *Deutscher Werkbund* (German Work Federation) to propagate his ideas. Today, his international reputation is commonly bound to his sympathy for the National Socialist German Workers' Party's ideology and their exhibition of Degenerate Art which was based on ideas of Schultze-Naumburg's later book *Art and Race*,²⁸⁴ where he again compared imagery, this time between art and human bodies (fig. 2.2.15). However, Schultze-Naumburg's outspoken opposition to the contemporary modern movement in art and architecture slowly radicalized and turned into a political issue only after the First World War. He hoped his view would be entirely shared and supported by the Nazis.

In 1913, a year before the outbreak of the First World War, Schultze-Naumburg left his position as director of the *Bund Heimatschutz*, which by then had developed into one of the largest interest groups in Germany with regional branches all over the German provinces. Architectural commissions filled up his time (fig. 2.2.13); his publications had made him one of the most in demand designers of his country. Schultze-Naumburg's infamous work as a Nazi architect and Nazi art propagandist makes it difficult for us today to assess the enormous influence the organization *Bund Heimatschutz* had under

²⁸³ It is an interesting observation, that the industrialization process led in most countries to a similar development as it had taken place in Germany: industrialization needed larger unobstructed markets and infrastructure which fostered the creation of national states; the search for a national identity was taking place after mass-produced goods replaced locally crafted products. Because industrialization tended to equalize local differences, aspects of a rather idealized pre-industrial world became the model after which a new identity was formed. Swedish folklore, for instance, was popularized over the Skansen Museum and formed the image of Scandinavia we have up to today, the province of Quebec discovered the vernacular stone architecture of the French Regime as its oldest pre-industrial representation able to create a distinct Quebec identity.

²⁸⁴ *Kunst und Rasse*, (Munich: Lehmann, 1928).

his leadership, crossing all political ideologies, throughout many different fields. In the *Bund Heimatschutz*, Schultze-Naumburg was succeeded by Werner Lindner (fig. 2.2.16), a thirty year old engineer. Lindner was much less of a missionary and more practical. He had completed his studies in 1912 with a doctoral thesis on the farm house of Lower Saxony at the Technical University of Berlin. Lindner, familiar with regional agricultural architecture from his thesis, put the focus of the *Bund* on pre-industrial and early industrial buildings, eventually causing frustration amongst some of the association's members.²⁸⁵ His interest in industrial buildings was rooted in his family background. Werner Lindner grew up in Eberswalde where his father oversaw a copper-foundry. In later years he described his observation of his childhood place as an "organic" and "most beautiful" environment of factory buildings, workhouses and nature.²⁸⁶ He did not share

²⁸⁵ It is not quite clear what, for instance, caused the environmentalists of the Bund Heimatschutz, to leave the federation and establish their own interest group focusing on nature only: The Bund Naturschutz. It may have been Lindner's shift into the new direction of technical monuments.

²⁸⁶ Werner Lindner and Eduard Lindner wrote in "Der Kupferhammer bei Eberswalde," in *Technische Kulturdenkmale in der Mark Brandenburg* (n.p.: Brandenburgische Jahrbücher. Part 1, 1937), 40-41 "Der Lageplan des Kupferhammers bei Eberswalde von 1778 veranschaulicht eine der schönsten unter den kleinen friderizianischen Industriesiedlungen, die am Finow-Kanal in knappen Abständen zwischen Schleuse und Schleuse aufeinanderfolgten. ... Klar ist das Gelände des Kupferhammers in sich abgerundet. Am Anfang des 19. Jahrhunderts weitete sich die Anlage durch ein in sich selbst wieder organisch geschlossenes Walzwerk aus, das ... in nachklassizistischem, der Architektur der älteren Bauten verwandtem Stile ... errichtet wurde, Die Bauten entsprachen z.T. der ländlichen friderizianischen Fachbauweise der Mark, z.T. waren sie, einige von ihnen von vornherein massiv gemauert und verputzt, andere in nachträglicher Überarbeitung der Fassaden, formalistisch biedermeierlich in derben, aber ansprechenden Formen gehalten,Heute steht nur noch ein Teil dieser außerordentlich harmonischen und seinerzeit infolge der günstigen Wassernutzung sehr rentablen Anlage," (The location of the copper hammer near Eberswalde from 1778 represents one of the most beautiful little industrial settlements of the time of Frederick II. They follow the Finow Canal in close distance to each other situated between one lock and the next lock. ... The area of the copper hammer is clearly defined. An extension from the beginning of the nineteenth century, a rolling mill, is again an organic unity by itself, which ... was built in a post-classical architectural style, similar to that used for the older buildings, The buildings represented partly the rural half-timber building method of the time of Frederick II in the Mark; some where right from the beginning constructed in stone and parched, others showed through later modifications of their facades simple neo-baroque but pleasingly lines, Today exists only a part of this outstandingly harmonic and in early times for its convenient access to water profitable complex, Author's translation.) Cited after: Barbara Banck, "Werner Lindner. Industriemoderne und regionale Identität," (PhD diss., TU Dortmund, 2007), 51.

the mindset of many in the *Bund Heimatschutz* that condemned any industrial development as a threat to the natural environment, but saw the possibility of bringing both sides together, the advocates of the traditional regional style for dwellings with the advocates that represented the opinion that industry was an inevitable part of the modern landscape which had to be integrated into the surrounding in a visible contemporary way. For that purpose, he collaborated enthusiastically with his professional colleagues from the *Deutsches Museum* and the VDI over the next twenty years. This double position towards traditional housing development, while advocating a modern engineering style for factories, distinguished Linder's view from Schultze-Naumburg's more single minded idea of aesthetics. It also became the position of the Nazi-government who employed Lindner throughout the twelve years of their regime, while Schultze-Naumburg had fallen out of Hitler's favour by 1935, at a time when Germany increased efforts to upgrade its industry for the oncoming war.

The VDI also went along with Oscar von Miller and Werner Lindner but little of its activities surfaced outside of its own organization. Through his VDI membership, von Miller became acquainted with the engineering professor Dr. Conrad Matschoss, who was the first German academic requesting that technical history should be taught at schools and universities, a subject which he had basically developed himself into an academic discipline. Both traveled in 1912 as official delegates of the VDI to the United States.²⁸⁷ This friendship was even more valuable after Matschoss had been voted to the presidential chair of the VDI in 1916. At the beginning of his career, he had surprised

²⁸⁷ The *Journal of the American Society of Engineers* reports in its issue from September 1912 in the article "Meeting in Germany" about the preparatory journey to the United States by Conrad Matschoss for the planned joined meeting in Leipzig in the summer of the following year (June 23-25 1913). Oskar von Miller travelled in 1912 likewise to the United States, as a dated photograph in the *Deutsches Museum* testified.

professional circles with the previously mentioned publication on the history of the steam engine, which he wrote 1901 while teaching at the engineering school in Cologne. As far as is known today, it was the first time in Germany that an engineer took an interest in a historic subject. From 1909 on, Matschoss published a yearbook with articles about the history of technology and industry. In the following years, enterprises and interest groups commissioned works from him to commemorate their upcoming anniversaries.²⁸⁸ Since 1921 these works were increasingly published by the VDI publishing house and sold to its members and the public. While researching the history of firms and entrepreneurs, he must have noticed that many companies treated their historic documents carelessly. He campaigned to urge owners to collect their company's historic files and documents in professionally organized, in-house archives. A strong historic self-awareness of the participants in industrialization was both necessary for Matschoss' plan to set up technical history as a new subject for schools as well as to support the claim of engineering work to be part of the sphere of "culture"; company-papers and technical drawings deserved to be archived as seriously as all other historic documents.

In the economically unstable years of the Weimar Republic (1918 – 1933), the heads of these three national or quasi-national organizations, the now called *Deutscher*

²⁸⁸ A selection of publications by Dr. Conrad Matschoss that commemorate anniversaries of enterprises or engineers are: *Geschichte der Firma Gebrüder Sulzer Winterthur und Ludwigshafen a. Rh.*, (Berlin, 1910); *Die Maschinenfabrik R. Wolf Magdeburg-Buckau 1862–1912, die Lebensgeschichte des Begründers, die Entwicklung der Werke und ihr heutiger Stand.* (Magdeburg, 1912); *Geschichte der Gasmotoren-Fabrik Deutz. Zur Erinnerung an 50jährige Arbeit*, (VDI-Verlag, Berlin, 1921); *August Thyssen und sein Werk. Zur Erinnerung an die Begründung des ersten Werkes am 1. April 1871*, (VDI-Verlag, Berlin, 1921); *Werner Siemens. Ein kurzgefasstes Lebensbild nebst einer Auswahl seiner Briefe. Aus Anlaß der 100. Wiederkehr seines Geburtstages*, (Springer, Berlin, 1925); *Ludw. Loewe & Co Actiengesellschaft Berlin 1869–1929. Die Geschichte der Ludw. Loewe & Co. Actiengesellschaft Berlin. 60 Jahre Edelarbeit 1869 bis 1929*, (Gesellschaft für elektrische Unternehmungen, Berlin, 1930). A complete list of his publications can be found at the Deutsche National Bibliothek, accessed January 18, 2013 <https://portal.dnb.de/opac.htm?query=Woe%3D116838523&method=simpleSearch>

Bund Heimatschutz, the VDI and the *Deutsches Museum*, started the large undertaking of listing all historically significant technical monuments of Germany and collecting the findings in a national archive. The project started in August 1926, when the VDI invited the readers of their weekly publication *VDI Nachrichten* (VDI news) to contribute information as to “historically valuable technical facilities.” The response to this invitation exceeded the organizers' expectations. Local enthusiasts had already gathered information on many pre-industrial sites. From 1927 on, the yearbook of technical history of the VDI was able to publish regularly on historically significant industrial sites based on research done by their members and experts from their readership.

Conrad Matschoss and Werner Lindner finally summarized the results of the survey and edited it in 1932 under the title *Technische Kulturdenkmale* (technical cultural monuments, fig. 2.2.17), citing Oskar von Miller's term. The book, however, was far from being an inventory of industrial sites. The wide range of well-illustrated articles gave rather an overview of the many facets of technical cultural monuments: machines, cranes, mills, mines, conveyer belts, drainage systems, old-steam engines, forges, foundries, blue-textile-print workshops,²⁸⁹ fortifications, custom houses, ships, mountain passes, bridges, canals, train stations and so on. Even tools of small workshops, hand looms, candle-dipping frames, and smoke huts were included. The book, however, sold fewer copies than expected.²⁹⁰

²⁸⁹ The internet offers an insight into this traditional but not often practiced textile printing technique. See: “Blauduckerei Wagner,” Blaudruckerei Wagner, accessed December 3, 2012, <http://www.blaudruck.at>.

²⁹⁰ Hassler and Kierdorf, *Denkmale des Industriezeitalters*, 37.

Old technical equipment disappeared rapidly and its loss was a great pity to many who had worked in those industries.²⁹¹ Nevertheless, neither von Miller nor Lindner nor Matschoss aimed for an uncritical save-all approach, but sought to select only the most relevant examples of past technical equipment and working methods as historic witnesses. In 1928, for the purpose of selecting the material, they founded the *Deutsche Arbeitsgemeinschaft zur Erhaltung technischer Kulturdenkmäler* (German Council for the Preservation of Technical Cultural Monuments). Two main criteria were expressed by the council: the first was the condition of the site, meaning that well preserved sites would be chosen over those out of repair; the second was the *Repräsentationswert*, the “value of representation” of a site in a historic and regionally typical way of old production facilities – a criterion certainly based on but not part of Riegl’s value catalogue. The representational value decreased with every modification to a site, specifically when a building was moved away from its site. Von Miller and Matschoss agreed that the “vital spirit” of the industrial monuments could be conserved only on the original location, where the workshop had developed often over generations.²⁹² They understood the “vital spirit” as an idiom to include all site specific aspects related to the industrial context. Industrial equipment was commonly designed for unique tasks with local material and in relation to rivers, mountain slopes, mining shafts, and so on and would seem out of place in other environments; furthermore, adjoining facilities belonged also to an industrial site. However, workers’ housing and other ancillary sites such as storage facilities were seldom in the purview of engineers. In their eyes, the integrity was

²⁹¹ Otto Petersen, in his article for *Technische Kulturdenkmale*, 60, mentioned that with the new techniques in iron forgeries, much of the romance and poetry of the craft had been lost, he cited a poem of a former forgery worker and engineer with the name Karl Kohlschütter to support his claim.

²⁹² Matschoss and Linder, *Technische Kulturdenkmale*, (second edition, Düsseldorf: VDI, 1984), introduction by Wolfgang König, XXV.

kept if a site represented the production process comprehensibly. Non-technical buildings of heritage value were the responsibility of the conservation authority.

The three organizations involved were supposed to have worked hand in hand in a systematic way to document and preserve Germany's technical monuments: The *Deutscher Bund Heimatschutz* would maintain contact with governmental offices, curators, and its local *Heimatschutz* organizations; the VDI would cultivate contact with the technical-industrial world and publish all results of their research on the industries in the already established VDI yearbook *Beiträge zur Geschichte der Technik und Industrie* (Contributions to the History of Technology and Industry); while the *Deutsches Museum* would save and sort all documents collected by the VDI in their archives and would then analyze these documents to present a list of technical cultural monuments to the government in order to give it a legal status as heritage. Every such monument was to have been supervised by a mentor. Town councils, a specific person, a company or organization could have acted as such.²⁹³ This set-up was thought through and may have worked well, but the *Deutsches Museum* lacked space and staff to handle the anticipated amount of documents. For the over seventy year old Oskar von Miller, it also took too much time to bring results. His cooperation petered out and led to the disbandment of the council in 1929, just a year after its founding. Despite the short duration of the organization, several activities had born fruit: donors provided financial support for urgent repairs to historically important sites, such as the ship-mill of Ginsheim/Mainz (fig. 2.2.18), the Fraunhofer Glassworks (fig. 2.2.19) or the hammer-forge in Ruhpolding

²⁹³ *Ibid.*

and other pre-industrial places.²⁹⁴ It became apparent that companies that worked in the same field of industry as the historic facilities would be the most likely to help in saving the historic sites.

Beside Lindner's and Matschoss' above mentioned publication *Technische Kulturdenkmale*, some more publications, focusing on regional aspects, drew from the same collection of material the VDI had gathered. In 1928-29, the head of the provincial planning and building control office,²⁹⁵ Theodor Wildeman, analyzed the Technical Cultural Monuments in the Rhineland, published in the *Zeitschrift für Denkmalpflege* (Journal for Heritage Conservation) and for the former County of Mark the same was done by governmental building officer, Wilhelm Class, in 1939.²⁹⁶ This collection, which the VDI had started in 1926 was the first and only German-wide survey of industrial historic sites before 1970. Unfortunately, the entire survey was lost during the Second World War, and the above mentioned publications were the only information to survive.²⁹⁷

²⁹⁴ Hassler and Kierdorf, *Denkmale des Industriezeitalters*, 36-37.

²⁹⁵ Ibid, 39. Wildeman's official German title was *Landesoberbaurat*. As conservator he was responsible for the lower Rhine province.

²⁹⁶ Ibid. Class' official German title was *Baurat*.

²⁹⁷ Ibid, 36.

2.3 The Frohnauer Hammer: The First Technical Monument in Germany

Extracting ore and producing metal had a long tradition in Germany, reaching back to prehistoric times. The rich silver mines of the ore mountains (*Erzgebirge*) of Saxony provided work and wealth to its region. Mining was omnipresent; artists recorded this industry on facades of the miners' homes and even on the altar of the Saint-Anna Church in Annaberg, a marvel of late gothic architecture (fig. 2.3.4+2.3.5). The so called mountain altar (*Bergaltar*), painted in 1521 by Hans Hesse, depicts all stages of the silver mining operation, from the discovery of a silver mine to the production of silver coins by a wealthy-looking silver smith. Silver mints produced the most common currency in the Holy Roman Empire of German Nations, the *Taler*, from which the English dollar got its name. Silver smiths were once common in that part of Germany until the industrialization when mining and the processing of metal came also in Saxony under the influence of the steam engine.

Sometime, between 1907 and 1908, local enthusiasts demanded the preservation of a late-medieval hydraulic forge, the Frohnauer Hammer (fig. 2.3.1) in Fohnau near Annaberg, Saxony. The site gained official historic monument status granted by the regional government which secured its survival over a pre-emptive right. The hammer mill had served for a while as a silver mint and, in its last years, was used as a local smithy. Insiders knew that the mill was a rarity and worth keeping because of its fully intact technical equipment dating from the seventeenth century (fig. 2.3.2). Prior to the interest in this site, the interiors of mills had not played a large role in preservation criteria; it was rather the landmark character that had been decisive.

The old workshop had stopped operating in 1904 and fell quickly into disrepair. The Deutsches Museum had shown initial interest in the mill²⁹⁸ and must have been relieved when a private *Heimatschutz* association, *Hammerbund*, took over the mill in 1908 and opened it as a museum in 1910. It took some years to raise money to get the mechanics back to working order. By 1917 the noisy work of the three heavy smith hammers could be demonstrated to the interested visitor.²⁹⁹ Kept as an operational site with equipment that continued to be overhauled in the way of the seventeenth century to guarantee the functioning of the mechanics, and left on its original site, the Frohnauer Hammer followed closely the recommendations of the *Deutsches Museum* as a site-specific open-air museum. From that time on, a smith demonstrates to visitors the old mechanism of the hammers, powered by the watermill, in daily guided tours. Across the street of the forge still stands the former residence of the blacksmith, a spacious half-timber house, built in the last years of the seventeenth century (fig. 2.3.3). Since the opening of the museum it has housed on the ground floor a restaurant and a small exhibition space where decorative iron works are shown, while the second floor offers a view into the blacksmith family's living conditions. The combination of cultural and culinary attractions, side by side, may have helped this ensemble to continue to be visited over the impressive duration of hundred years under varying political circumstances.³⁰⁰

²⁹⁸ Hassler and Kierdorf, *Denkmale des Industriezeitalters*, 33

²⁹⁹ "Frohnauer Hammer," Große Kreisstadt Annaberg-Buchholz, accessed November 10, 2010, <http://www.annaberg-buchholz.de/hammer.htm>.

³⁰⁰ The province of Saxony was until the end of the Second World War part of the German Reich, and then from 1949 – 1989 part of the German Democratic Republic, until the eastern part of Germany was reunited with the West in 1990. As a side note, the success of the Frohnauer Hammer depended certainly not on the site itself alone. Close by, in the centre of Annaberg stands the Saint Anne's Church, a major tourist attraction of the region. Many visitors of the Frohnauer Hammer take advantage of the rich cultural program of the region. The iron forge, which takes the interested visitor an hour to explore, certainly would not have attracted tourists in the millions. From the day of the reopening of the site as a

2.4 Early Industrialization: The Protection of the Ironworks Sayner Hütte

Certain problems in Germany's heritage concept seem to have persisted throughout a long period of time. Until the forming of an expert body – a result of the 1975 SICCIM conference in Bochum, the lack of knowledge how to preserve an industrial historic site could put even the most remarkable structure in danger.³⁰¹ A rare and fragile building of high architectural and technical importance was finding its name for decades on the list of heritage buildings at risk. A remote location could be enough to make a reuse study unfeasible. And the understandable request by those familiar with the site to preserve outstanding technical equipment or the interior structure increases the factor of cost and lowers the options for conversion. This problem is old but still today, the need to find a sustainable solution challenge conservation authorities and municipalities. In the case of the Sayner Hütte, the first listed industrial site³⁰² in Germany, its survival as a historic monument remained insecure for close to ninety years. Major renovations to

museum in 1951 until 2010 approximately 7.5 million people have visited the site (Wolfgang Piersig, *Ein geschichtlicher Überblick zum Eisen im Erzgebirge: Der Frohnauer Hammer – 570 Jahre Herrenhaus und 350 Jahre Eisenhammer. Beitrag zur Technikgeschichte (11)*, (München: Grin Verlag, 2010,) 8). The author calculated that this is an average of 350 people each day or over 120.000 each year. The Saugus Ironworks in the United States, and Canada's Forges Saint Maurice have much lower visitor numbers. Saugus published for 2010 "more than 10.000 visitors" (source: "Visitor Economic Impact Report Released," National Park Service, accessed January 18, 2013, <http://www.nps.gov/sair/parknews/visitor-economic-impact.htm>); Saint Maurice was visited by a decreasing average of 58.000 between 1985-1993 and 22.000 between 2004 and 2007. (source: "Forges du Saint-Maurice National Historic Site of Canada, Management Plan October 2007", Parks Canada, 40-41, PDF, accessed January 18, 2013, <http://www.pc.gc.ca/lhn-nhs/gc/saintmaurice/plan.aspx>).

³⁰¹ Another German example of an endangered early industrial site is, for instance, a knitting machine factory in Kappel (2.4.3). The situation is not very different in other European countries. In England, the earliest known iron-frame building, the Ditherington Flaxmill, faces still an uncertain future (fig. 2.4.1+2.4.2)

³⁰² Compared to older forges, the production in Bendorf used advanced technology and larger equipment; however, it was not the typical industrial mass-producing factory and therefore it stood at the beginning of the development of industrial buildings. The produced goods were skillfully crafted iron decoration and military supply.

secure the structures have taken place several times, the last in 2011, hoping to finally secure the site's sustainable survival.

The iron foundry Sayner Hütte was a cast iron building prototype on the riverbank of the Saynbach in Bendorf, a small town in the state of Rhineland-Palatinate. In 1769-70, the prince-electoral of Trier, Clemens Wenzeslaus von Sachsen (1739-1812), had founded the foundry Sayner Hütte, to which Carl Ludwig Althans (1788-1864, fig. 2.4.4) added the casting plant in 1828-30 (fig. 2.4.5). Althans was an exceptionally gifted mathematician and mechanical engineer. He designed for this ironworks Europe's first prefabricated iron skeleton frame structure based on the form of a basilica with supporting concrete pillars in the interior. The last owner, the Friedrich Krupp AG,³⁰³ established the historic value³⁰⁴ of the Sayner Hütte, based on documentation by a retired employee, Albert Knaff, while the ironworks was still in operation.³⁰⁵ When Krupp took the plant out of business and sold the estate in 1927 to the community of Bendorf, it was on the condition that Althans' building would be kept intact and unaltered in all significant details. Documents did not reveal the motivation of Bendorf to buy the property but the community certainly did not plan to keep it because a year later they put the property back on the market. In 1929, the same year a buyer showed interest, the conservation authority declared the Sayner Hütte a historic monument. It was Germany's first recognized large-scale industrial heritage.³⁰⁶ A legally binding listing may have

³⁰³ AG refers to an Aktiengesellschaft, a form of a publicly traded company.

³⁰⁴ Hassler and Kierdorf, *Denkmale des Industriezeitalters*, 40.

³⁰⁵ Albert Knaff, "Die Sayner Hütte und ihre Gießhalle," *Kruppsche Monatshefte* 3 (1922) 179-184, mentioned in Hassler and Kierdorf, *Denkmale des Industriezeitalters*, 41.

³⁰⁶ Background information was found at "Zur Geschichte der Industriedenkmalpflege in NRW," Industriedenkmalstiftung, accessed June 2, 2008, http://www.industriedenkmalstiftung.de/docs/340813018849_de.php. A more detailed description of the preservation of the Sayner Hütte is in Hassler and Kierdorf, *Denkmale des Industriezeitalters*, 40-42.

taken place only in 1937.³⁰⁷ But despite the conditions of the Krupp AG and the status of historic monument, the town granted demolition permits in 1929, 1934 and 1976.

The city council allowed demolition in 1929 to the buyer who, fortunately, withdrew from the buying contract when the world economic crisis hit Europe in 1930. While heritage protection laws were in place at that time, curators could not exercise power properly to enforce them against the interests of the property owner. In 1934 city inspectors declared all buildings of the site structurally unsound and requested demolition. Provincial conservators could prove, however, that the structures were in far better condition than the initial inspection had claimed. Therefore repairs became cheaper than budgeted and funding was easier to achieve.³⁰⁸ The proceedings for the case in 1934 are well documented. The VDI, represented by von Miller, was able to convince the Krupp family to which von Miller had friendly connections, to waive still outstanding payments to the family from the town of Bendorf. In 1976, the city advised demolition again. A newly found interest group “Arbeitsgemeinschaft Sayner Hütte” would convince a new private owner to restore the site with financial aid by the provincial and federal governments instead of proceeding with the destruction. The last permission for demolition was granted shortly after the province had ratified significant reforms of preservation legislations, and a year after the celebration of the “European Architectural Heritage Year.”

Since this reform of 1976 the conservation authority would have needed to commission a detailed documentation before demolition could have taken place. This,

³⁰⁷ Hassler and Kierdorf, *Denkmale des Industriezeitalters*, 41.

³⁰⁸ On the situation in 1929 and 1934, see *ibid.*, 40-42, for the situation in 1976 see “Die historische Gießhalle – Aus der Geschichte,” Freundeskreis Sayner Hütte E.v., accessed September 14, 2012, http://www.freundeskreis-saynerhuetten.de/Die_Sayner_Hutte/die_sayner_hutte.html.

however, leads to the question, how far photographic documentation and technical drawings can substitute for onsite observations and research. In the case of the Sayner Hütte, most observers studied the facade of the main building,³⁰⁹ which they admired for its gothic inspired style, but they overlook that Althans' design offered the building also the needed flexibility, as Tom F. Peters³¹⁰ described. The walls had to withstand the vibrations caused by heavy moving equipment on a large overhead crane which ran inside the building. Peters also commented on the surprisingly early use in the Sayner Hütte of a metal ball bearing system, using small cast cannon balls to help turn derrick cranes around the pillars (fig. 2.4.6). These he dated decades earlier than Jules Suriray's steel ball bearing patent of 1857³¹¹ which is commonly believed to be the first such bearing. Furthermore, the overhead or gantry crane, which Althans had designed, used a fishbelly truss (fig. 2.4.7), which, according to Peters was an "unknown structural form in 1830." There may await other surprises to be discovered in this unique structure but the person that is assessing the documentation may not take notice of them. Photos and drawings in their fragmented views do not transfer the interrelationship between technical details and the space. Only a visitor's experience of the original industrial site discloses that a separation of the technical equipment from its architectural surrounding would diminish the significance of the site because the two are mutually dependent. Not to mention archaeological evidences that could be lost. However, when the technical equipment needs to be kept in situ, a building's re-use options diminish.

³⁰⁹ This main facade of the factory was rebuilt in 1980/1981, as mentioned in: Manfred Wehrdorn, "First Part, The Industrial and Technical Built Heritage in the Northern States of Europe" in *Architectural Heritage Reports and Studies, Situation of the Technical and Industrial Built Heritage in Europe* (Strasbourg: Council of Europe 3, 1985), 5.

³¹⁰ Tom F. Peters, "Technological Thought Is Design's Operative Method," *Perspecta* 31 (2000): 118-129.

³¹¹ Peters gave the date 1857 for the patent of ball bearings, in other sources the patent dated is reported for 1869.

To finish the story, after renovations started in 2010, the site of the ironworks, that had besides the forge hall other industrial used buildings, will host a museum or interpretation centre with options to function eventually as a venue hall.³¹² The German parliament (*Bundestag*) decided to support a development of the forgery as part of a larger plan that would foster tourism in the region.³¹³ Close by are traces of the antique Roman Limes, a world heritage site, as well as a butterfly museum, a beer garden, a former monastery, a public swimming pool with water park and a museum exhibiting products of the Royal Prussian forgery of the Sayner Hütte. Three mountain ranges, the Eifel, the Hunsrück and the Westerwald with the Rhine valley and the valley of the Sayn River make the surroundings popular as a hiking destination.³¹⁴ The Sayner Hütte, hidden on a side road in one of these valleys, has a beautiful location but its visibility down in the river valley is low and tourist signs had not been set up by June 2012. A high temporary fence secured the construction site at the author's site visit.

In 2011, the Sayner Hütte returned to the hands of the town of Bendorf. The large scale redevelopment had started in 2011, with Karl Ganser, the former general manager

³¹² A variety of events took place at the Sayner Hütte in 2012, such as meetings, celebrations, and concerts. The 2012 founded *Stiftung Sayner Hütte* (Foundation Sayner Hütte) plans to develop the site with a multi-cultural program. See: "Presse-Information: Stiftung Sayner Hütte gegründet," Freundeskreis Sayner Hütte, accessed December 5, 2012, <http://www.freundeskreis-saynerhuette.de/Aktuelles/Stiftung/stiftung.html>.

³¹³ Since 2010 activities around the site were increasing. In 2010, the *Freundeskreis Sayner Hütte* produced replica of two imperial eagles for the entrance to the site and mounted them at their original location, the federal organization of engineers gave a recognition plaque to the site, in 2011, Karl Ganser became involved and in 2011 the federal and provincial governments made 800.000 Euro available from an inner-city-redevelopment budget. "Fördermittel für die Sanierung der "Sayner Hütte" in Bendorf," Mayen-Koblenz. Heimat mit Zukunft, accessed September 17, 2012, <http://www.spd-mayen-koblenz.net/index.php?nr=28820&menu=0>).

³¹⁴ "Weitere Webseiten von Interesse," Freundeskreis Sayner Hütte, accessed December 5, 2012, <http://www.freundeskreis-saynerhuette.de/Veranstaltungen/veranstaltungen.html>.

of the IBA Emscher Park in the Ruhr region, as consultant.³¹⁵ A redesign of the exterior space will increase the attractiveness of the factory complex. A private house at the entrance to the property still needs to be removed; negotiations with the owner were ongoing.³¹⁶ The majority of the ground work in the courtyard between the different buildings of the complex had been completed. To facilitate movement on the hillside property, a concrete retaining wall with large steps and stairs were inserted. Renovation work had also started on the forge building and a second historic factory hall. A baroque administration building, the oldest structure at the site, was so far left untouched. To make the site better known to the public, visitors can book a guided tour at the local tourist office while renovations are ongoing.³¹⁷

The Sayner ironworks represented the preservation approach of an industrial site before the election that brought the National Socialists to power. Besides this site in Bendorf, the *Deutscher Bund Heimatschutz*, the conservation authorities, members of the VDI and the *Deutsches Museum* tried foremost to increase the interest in preserving windmills and other medieval technical monuments in Germany.³¹⁸ This would continue also after Hitler's rise to power, but in spite of apparent continuation in preservation efforts at least in the first six years after 1933, the course of industrial heritage preservation took another direction because the relationship between the different interest groups concerned with historical industrial sites was fractured and did not come together again after the end of World War Two.

³¹⁵ Bendorf press release from November 4, 2010, PDF, accessed January 18, 2013, "Denkmalareal Sayner Hütte in Bendorf-Sayn kann weiterentwickelt werden. Land Rheinland-Pfalz hält Wort und stellt Fördermittel bereit."

³¹⁶ The author spoke to the owner of the house during her site visit.

³¹⁷ "Führungen," Freundeskreis Sayner Hütte, accessed December 5, 2012, <http://www.freundeskreis-saynerhuette.de/Veranstaltungen/veranstaltungen.html>.

³¹⁸ Hassler and Kierdorf, *Denkmale des Industriezeitalters*, 66-71.

2.5 Industrial Heritage during the Nazi Years and the Double-Standard of “Enforced Political Conformity”

The political restructuring which took place in Germany with Hitler’s election in 1933 was felt in all official bodies and organizations; the *Bund Heimatschutz* and the *Verein Deutscher Ingenieure* (VDI) were no exception. One of the earliest political actions of the Nazi Party was the “*Gleichschaltung*”, enforced political conformity,³¹⁹ not only of all political parties, but also of all legislated bodies, all associations, societies, clubs, and so on. In the future, large umbrella-organizations, controlled by Nazi government representatives, would supervise all aspects of professional and private interest groups.

Today, we can only speculate about the reactions of the VDI and the *Bund Heimatschutz* and its many regional organizations to Hitler’s new politics. Archives disappeared in large numbers in the heavy bombing of all major German cities between 1942 and 1945, and where documents survived they may have been destroyed or declared null and void, lest they compromised people or organizations³²⁰ and were subsequently forgotten. West German researchers could seldom access archives in the former East Germany before 1989 and East German scholars could not easily travel into the west, which prevented a review of the overall situation until 1990. This may explain why

³¹⁹ The British historian Richard John Evens, in his book *The Third Reich at War: How the Nazis Led Germany from Conquest to Disaster* (London: Allen Lane, 2008) translated the German term *Gleichschaltung* to mean “forcible-coordination.” Dictionaries, such as Pons (Globalwörterbuch, Klett) suggests to keep the German term in English, which The Canadian Oxford Dictionary explains as: “the standardization of political, economic, and social institutions in authoritarian states.”

³²⁰ The online issue of the journal *Der Spiegel* reported on November 29, 2011 that archival documents had been destroyed by the BND (Bundesnachrichtendienst/Federal Intelligence Service) in 2007 that linked their old employees to the SS under Heinrich Himmler or the Gestapo (secret state police). See: Klaus Wiegrefe, “BND vernichtete Personalakten führender SS Leute,” *Spiegel Online*, accessed November 29, 2011, <http://www.spiegel.de/politik/deutschland/0,1518,800655,00.html>. Such acts were probably happening in several cases and concerning other organizations as well, and are, while not performed on official order, still obstructing research of the period of the National Socialist time.

official reports of the organizations concerned prefer so far to exclude mention of the National Socialist era.³²¹

Only recently have a few regional divisions of the two federations researched the Nazi history of their organizations. A glimpse of the VDI during the 1930s became available through the research of the Chemnitz branch of the VDI undertaken in 1996. Chemnitz is a town in the eastern part of Germany once called Karl-Marx-Stadt. The VDI became part of the *NS-Bund deutscher Technik* (NSBDT) (Nazi-Federation of German Technology) with a new VDI-constitution on October 1, 1933. Because of its importance for the future arms industry, the process of the *Gleichschaltung* was immediately initiated under which future chairmen were not voted in by VDI members, but appointed by the chair of the NSBDT in accordance with the *Führerprinzip* (Führer principle)³²² Higher positions in the organizations had to be given to National Socialist German Workers' Party (NSDAP) members, and Jews were excluded from membership. For VDI members the new situation was ambivalent: on the one hand Hitler's politics had an immediate positive effect on the employment opportunities of engineers in the formerly restricted heavy industries. Under the Treaty of Versailles, from 1919 the German arms-industry had been restricted, leaving many engineers unemployed or underemployed. On the other hand the organization lost its independence and became politicised, which led to many resignations. Werner Matschoss vacated his position as chair of the VDI in 1937 when

³²¹ The official internet presence of the VDI has the last entry before World War II in 1923 and continues only in 1946 (accessed November 15, 2010, <http://www.vdi.de/2560.0.html>). Also the Bund Heimatschutz main site avoids any political discussion (accessed November 15, 2010, <http://www.bhu.de/bhu/content/de/ueberuns/geschichte/startseite.html?jid=1o2o5>).

³²² The "Führerprinzip" or leader principle describes the new hierarchical structure of the Nazi-state where organizations did not vote their own representatives or chairs but they were appointed by the next higher level of an organization. The chair was renamed "Führer" of his or her organization with often unrestricted power over the lower levels.

the “*Führer*” of the NSBDT Fritz Todt (1891-1942, fig. 2.5.2) insisted on the right to give out all VDI awards, a minor cause, which can be seen as the outcome of an enduring conflict between Todt and Matschoss. The new director of the VDI became Oskar Stäbel (1901-1977)³²³ until 1941, and it seems that during succeeding war activities the organization fell quiet. In 1945, the Allied Control Council dissolved the VDI as part of the NSBDT.³²⁴

The author did not find information about the VDI’s activities in industrial heritage for this time period. It is likely that the new hierarchical political structure obstructed the link between engineering and heritage; the first was controlled by the NSBDT, the second belonged to the domain of the *Reichsbund Volkstum und Heimat* (national federation for folklore and homeland) or to the *Kampfbund für deutsche Kultur* (patriotic fighting federation for German culture). With the change of the organizations’ leaders without links to the long established network, direct interdisciplinary crossovers seem to have diminished. However, membership in the *Deutscher Bund Heimatschutz* was open to every engineer³²⁵ who then could pursue industrial heritage interests. After the war, the VDI did not renew close connection with the industrial heritage movement. The recreation of the VDI in September 1946 with a move from Berlin to Düsseldorf included the department for technical history, which attempted an inventory of technical

³²³ Stäbel had been an official Nazi student mentor since 1934. See: “Germany Rift over Ribbon,” *Time Magazine US* (Monday, July 30, 1934), accessed September 19, 2011, www.time.com.

³²⁴ The only overview on the history of the VDI during the 1930s and 1940s was found in the “Chronik des VDI” of the Chemnitzer Bezirksverein produced under the leadership of Prof. Dr.-Ing habil. Christian-Andreas Schumann from 1996 in PDF format, accessed November 15, 2010, <http://www.vdi.de/1433.0.html>.

³²⁵ The question came up if any woman had joined the VDI at that time. Women played close to no role in engineering professions in Germany. Very few, such as Ilse Essers, an aeronautic engineer, and a handful of female architects practiced in a technical profession in Germany at the beginning of the twentieth century. However, the Nazi-ideology did not support women in professional fields.

monuments in 1965, with the help of the *Deutsches Museum* in Munich, but as in the 1920s, it failed due to a lack of funding.³²⁶

The *Deutscher Bund Heimatschutz* has a quite different story to tell. There also, one regional source surfaced, focussing on the activities of the regional Swabian organization during the time of the Third Reich. We can assume, however, that other regional divisions of the *Heimatschutz* acted very similarly. Dr. Benigna Schönhagen published in 2009 a short survey³²⁷ of the activities of the local division in the former state of Württemberg-Hohenzollern.³²⁸ According to her account, the regional organizations of the *Deutscher Bund Heimatschutz* could keep their independence right up to the beginning of the war in 1939. The ideological role it played needed only minor adjustments to go hand in hand with the Nazi ideology. More so than the VDI, the local branches of the *Deutsche Bund Heimatschutz* embraced enthusiastically the new regime because their organization gained more official recognition under the Nazis, whose government offered effective tools to reach their long-time goals of protecting traditional regional architecture. The process to a complete conformity in the *Heimatschutz* movement moved at a very slow pace. With over six thousand members in 1933 in the region of Württemberg and Hohenzollern alone, and with many cities and communities being corporate members, the *Deutscher Bund Heimatschutz* was itself a socio-political force. The members, mostly part of the middle-class, were the largest group in the NS-cultural umbrella organizations. The most significant change in the constitution of the

³²⁶ Hassler and Kierdorf, *Denkmale des Industriezeitalters*, 118.

³²⁷ In "Schwäbische Heimat", second issue (accessed September 17, 2012, http://schwaebischer-heimatbund.de/shb_in_eigener_sache/ueber_uns/geschichte/ns_zeit.html) for which Benigna Schönhagen in cooperation with Prof. Dr. Wilfried Setzler, vice-chair of the Schwäbischer Heimatbund, started to search for help online in March 2006 because all archival material was destroyed in the bombing of Stuttgart in the night of the 25/26 of July 1944.

³²⁸ It is the central part of the current state of Baden-Württemberg.

Bund was the discrimination against its Jewish members, who by 1935 had to hold their membership in abeyance; by 1939 they were fully excluded. In 1937, the Nazi-Party had official members in the presidency of the Bund in Württemberg-Hohenzollern; at the same time, the *Deutscher Bund Heimatschutz* renamed itself *Deutscher Heimatbund* (German homeland federation). Only in 1939 was the next chair no longer elected but appointed by the *Gauleiter* of the district, Wilhelm Murr (1888-1945, fig. 2.5.3). The appointee was the regional poet August Lämmle (1876-1962, fig. 2.5.4), with whom the organization may have been perfectly happy³²⁹ had he not been forced on them. Over all, the conservative and reactive viewpoints of this organization were well received by the government and no pressure was needed to keep them in line with official ideologies. Activities of the *Heimatschutz* organizations in industrial preservation continued throughout the 1930s. Alexander Kierdorf and Uta Hassler list several projects that were realized, or were in planning, to protect or to exhibit industrial sites.³³⁰ Significant during this time was the implementation of the “*Kulturdenkmal*” (cultural monument) as a legal definition by 1934, which in a wider sense also gave the technical cultural monument an officially legal status outside of the activities of the *Denkmalschutz*, which focused on artistic and architectural merits more than on technical equipment.³³¹ The *Badisches Denkmalamt* created a special inventory of technical monuments of Baden-Württemberg, and the region of Hesse established an office for folkloristic-technical history (*volkskundlich-technikgeschichtliche Behörde*) in Kassel, picking up the thread of the activities of Linder, Matschoss and von Miller. Both initiatives lived only a very short

³²⁹ He was considered as little politically engaged even after the war and suggested as director of the newly founded local Bund in Swabia in 1949. (Benigna Schönhagen. “Der Schwäbische Heimatbund in der NS-Zeit.”).

³³⁰ Hassler and Kierdorf, *Denkmalpflege des Industriezeitalters*, 43-51.

³³¹ *Ibid.*, 50.

time and vanished with the beginning of the war.³³² The war stopped curatorial activities in all areas.

When the mass-bombing of German cities started in 1942, historic industrial sites in inner cities suffered the same amount of destruction as all parts of the city's cores. However, industrial sites tended to be the first buildings that sprawl into the outskirts of cities, and were some of the best protected sites against the allied bombers; suburban and rural industrial centres had a better survival rate than people often assumed. The German economic historian, Werner Abelshauser, estimates that only approximately seventeen percent of active industrial complexes were destroyed or heavily damaged compared with commonly sixty to eighty percent of inner-city centres.³³³ Industrial monuments located in cities' outskirts had therefore a good chance of survival. But with towns and cities in ruins, with thousands of destroyed or damaged monuments in virtually every corner of Germany, with housing shortage in the millions of units, there was little thought spent on the subject of industrial heritage in Germany for a long time. The *Bund Heimatschutz* continued to exist as *Bund Heimat und Umwelt* (home and environment federation) after the end of the Second World War, with today approximately half a million members.³³⁴ The organization needed several years to reorganize its regional groups. Controversial as an organization that had propagated Nazi ideals, new goals had to be formulated, which were quite simply a return to the founding idea of Ernst Rudorff (fig. 2.5.1) in 1904.

³³² "Zur Geschichte der Industriedenkmalpflege in NRW – Historische Wurzeln."

³³³ Werner Abelshauser, *Deutsche Wirtschaftsgeschichte seit 1945* (Bonn: Bundeszentrale für Politische Bildung, 2005) 68-70. According the United States Strategic Bombing Survey (USSBS) statistics in the years 1944 and 1945, 421.393 short tons of bombs were released over towns and cities, 508.093 short tons were targeted on infrastructure and only 27.145 short tons hit the arms industry, the main strategic target.

³³⁴ "Bewahren und gestalten," Bund Heimat und Umwelt (BHU e. V.), accessed January 17, 2013, <http://www.bhu.de/bhu/content/de/index.html>.

Technical and industrial monuments played a minimal role in the new *Bund Heimat und Umwelt*. The subject of industrial heritage in general only became quasi re-discovered in West Germany in the 1970s. However, there was one significant exception: The Fagus Shoe Last Factory in Alfeld in the province of Lower Saxony.

2.6 Shifting Gears: Saving the Fagus Shoe Last Factory as Modern Architecture in the Post-War Years

The shoe last factory of Carl Benscheidt (fig. 2.6.1) that produced wooden forms (called last) for the shoe producing industry was built in 1911 as the first autonomous work of the architect Walter Gropius (1883-1969, fig. 2.6.2) in collaboration with Adolf Meyer (1881-1929, fig. 2.6.3). It was put under official heritage protection in 1946.³³⁵ Both the object and the date seem quite unlikely. The initiative to enlist the Fagus Factory (fig. 2.6.4+2.6.5) came not from an engineering expert but from the provincial curator of monuments in Hanover, art historian Hermann Deckert.³³⁶

Seen as politically uncompromised,³³⁷ Deckert became one of the most active leaders in the post-war restoration discussions in northern Germany. In 1933, after achieving a post-doctoral degree and teaching in an associate position as university professor, Deckert interrupted his promising academic career to switch to a less politicised curatorial position during the Third Reich. He took care that some of the most highly priced art pieces in his region of Lower Saxony, such as the medieval bronze works of St. Michael in Hildesheim, survived the Second World War unharmed.

³³⁵ This date is recorded Fagus in "Es ist eine ungewöhnliche Erfolgsgeschichte beispielhafter Industriekultur im 20. Jahrhundert," Fagus, accessed November 17, 2010, <http://www.fagus-gropius.com/ansichten.php>.

³³⁶ However, Deckert was not the only or first art historian who valued engineering structures as equivalent to other architectural buildings. Paul Clemen, for instance, wrote in 1925 "Neben den großen, machtvollen Leistungen der Ingenieurbaukunst, den Maschinenhallen, Fabrikanlagen, den Kraftwerken, Hochöfen, Kranen, Stauwerken und vor allem den Brücken erscheint alles, was die Architektur und das Kunsthandwerk daneben zu geben imstande waren, als kleinlich und dünn." ("Beside the large and powerful achievements in the art of engineering construction, the machine halls, the factory complexes, the power stations, foundries, cranes, dams and above all the bridges, everything done by architects or artisans seems small and flimsy." Author's translation.) Cited after: Aloys Schulte, ed., *Tausend Jahre deutscher Geschichte und deutscher Kultur am Rhein*, Düsseldorf, 1925, 451-452, in: Hassler and Kierdorf, *Denkmalpflege des Industriezeitalters*, 102.

³³⁷ In 1949 Deckert became professor at the technical university Hanover for art history and architectural history, long after he had completed his habilitation-thesis (a second thesis after a doctoral thesis), in 1928, with which he had fulfilled the requirement for a full professorship at a German university.

However, after World War Two, Deckert was an exception under the newer generation of curators in that he insisted on the principles of pre-war heritage preservation, defending the tradition established by Riegl and Dehio, while the majority had abandoned the old standards when faced with myriad monuments in ruins.³³⁸ Specifically, the former guidelines on the visibility of interventions should hidden repairs be impossible had little persuasiveness when entire former urban centres were not much more than piles of rubble. Keeping all traces of destruction was not only demoralizing but unpractical. Therefore the opposite took place: officials supported wherever possible, the recreation of destroyed churches, castles and palaces, to resemble their former appearance, trying to diminish the visual effect of the lost war. Already before the war had ended, Konrad Adenauer, German chancellor from 1949 until 1963, reflected in 1944 that the re-creation of Germany had to begin with the reconstruction of its churches,³³⁹ which became a political priority after his election. Repairs where the traces of war damage remained visible, such as Hans Döllgast's work on the *Alte Pinakothek* museum in Munich (fig. 2.6.6+2.6.8), remained a rare exception. Because of limited financial means, the majority of city planners and architects ignored minor buildings such as vernacular architecture or functional buildings. Priority was first given to create housing, and with active support of the population to the rebuilding of landmark churches.

With Germany in a state of emergency to care for the most basic needs of its population, the listing of the Fagus factory in Alfeld in 1946 must surprise today's reader, but the author could not find any critical voice on Deckert's declaring the Fagus Factory

³³⁸ Jeffrey M. Diefendorf, *In the wake of war. The reconstruction of German Cities after World War II* (New York: Oxford University Press, 1993), 70-71.

³³⁹ Michael Kummer, *Denkmalschutz als gestaltendes Baurecht* (Munich: Heinz Moos Verlag, 1981), 23.

a protected heritage. The reason for the nomination and listing of the Fagus Factory is not discussed in literature on Gropius and his debut work; at that time the act of listing may have seemed self-explanatory. In particular, the administrative building of the industrial complex with its famous curtain wall had gained international fame short after its inauguration in 1913. Deckert based his listing of this building, which had survived the war unharmed and was fully operative, on the fact that it had gained the position of a key-stone building in architectural history.³⁴⁰ The rational factories of the USA had been a modernist inspiration for Germany's avant-garde architects at the beginning of the twentieth century, and the Fagus factory followed very closely the American model. He dismissed its industrial purpose and technical equipment, for him it was the architecture alone that deserved recognition.³⁴¹ With regards to industrial heritage protection, it seems a conversion from engineer-enthusiast to professional art-historian curator – even if a political motivation influenced this specific listing.

The discussion between architects in Germany after the collapse of Hitler's system in 1945 became polarized in two groups. On the one hand were the followers of the modern style associated with a democratic attitude because many pioneers of Modernism, such as Walter Gropius, had left Germany during the repression of the Hitler regime, on the other hand were the followers of the traditional style; those who had left

³⁴⁰ Older examples of curtain wall structures, such as the Margarethe Steiff GmbH in south Germany from 1903, designed by a less known company, were dismissed because they were probably not known to Deckert and other experts. The Steiff factory was, as far as the author could find out, first mentioned in the inventory-publication of Volker Rödel's *Reclams Führer zu den Denkmälern der Industrie und Technik in Deutschland. Alte Länder* (Stuttgart: Philipp Reclam jun., 1992).

³⁴¹ Werner Durth, *Deutsche Architekten – Biographische Verflechtungen 1900 – 1970* (Stuttgart/Zürich: Karl Krämer Verlag, 2001), 56.

Germany labeled them often as Nazi-architects.³⁴² The question of style became therefore a political statement. An account by architect Rudolf Wolter of a meeting on July 21, 1951 in Hanover of forty-five German and former German architects, specifically Paul Bonatz from Istanbul and Walter Gropius from the USA, at which also Deckert participated, shed a light on this duality. Wolter reported on Deckert's position in the following way:

Although he [Deckert] is provincial curator, he nevertheless saw himself as representative of the modern style. He, also, asked for an end to capitals and cornices and to start fighting against those who failed to express the will to modern contemporary buildings. He himself had recently suggested honouring [Ernst] May with an honorary doctoral degree and he had given official monument protection to Gropius's Factory in Alfeld.³⁴³

Deckert's protection of the Fagus factory may have served to dismiss any doubt of the sincerity of his democratic views and may be judged an act of self-defense at that time, especially since it had no impact on the factory itself for a long time. A thoroughly restoration began only in 1986 and was still ongoing in 2009, when the author visited the site.

The protection of Benscheidt's Factory by Deckert was both the endpoint of the early engagement in industrial heritage with a focus on technical progress which had petered out with the beginning of the war, and a premature start into a new architectural-historic direction, with a later generation of curators taking up the cause when interest in industrial heritage was restored. Alexander Kierdorf and Uta Hassler, who see the most

³⁴²Durth's groundbreaking research on the "biographic interrelationships" of German architects overturned the common persuasion that the modernist style could be affiliated to a political view. Durth, *Deutsche Architekten*, 326.

³⁴³"Obwohl er Landeskonservator sei, bekenne er sich zum modernen Bauen. Auch er unterstrich, man müsse nun endlich mit den Kapitellen und Gesimsen aufhören und müsse den Kampf gegen die aufnehmen, die nicht den modernen Bauwillen unserer Zeit zum Ausdruck brächten. Er selbst habe vor kurzem den Ehendoktor für May vorgeschlagen und die Fabrik in Alfeld von Gropius unter Denkmalschutz gestellt" (English text above: author's translation). Durth, *Deutsche Architekten*, 323/324.

significant rupture in the industrial heritage movement in West Germany between 1950 and 1960,³⁴⁴ did not record the protection of the Fagus factory in their otherwise quite complete history of industrial heritage protection in Germany.³⁴⁵ They may not have seen it as the preservation of an industrial building for the purpose of saving industrial heritage, but as an “architectural” preservation external to the field of industrial culture. Ten years after the inclusion of the Fagus factory in the list of historic monuments another industrial building was declared heritage: Peter Behrens’ 1909 AEG turbine hall in Berlin (fig. 2.6.7+2.6.9+2.6.10). Once again it was the key architectural role it played in the development of the modernist style that was the main criterion for its listing. Whereas engineers motivated by their interest in the technical history of industries were the volunteer protectors of industrial heritage before World War Two, the shift to professional curators of monuments after the war led to a change in how industrial buildings were selected, documented, analyzed and preserved.

³⁴⁴ Pre-industrial sites and specifically windmills, though, had a special position because many were still functioning and had produced flour during the war and in the after-war years. They became endangered when in 1957 a new law forced them out of business. Hassler and Kierdorf (*Denkmale des Industriezeitalters*, 51) saw for that reason a more significant rupture between the 1950s and 1960s than right after the war. But this was only concerning these few sites, not industrial heritage monuments in general.

³⁴⁵ The Fagus Factory was, however, briefly discussed by Hassler and Kierdorf, *Denkmale des Industriezeitalters*, 245, concerning the restoration work done in 1986.

2.7 Industrial Heritage in the German Democratic Republic

After the Fagus Factory received heritage status, West Germany's conservation authorities added very few industrial sites to preservation lists for a quarter of a century. In the German Democratic Republic (GDR) the situation was quite different. At the Republic's tenth anniversary in 1959, ten years of historic curatorship were celebrated. For this event, the Ministry of Culture commissioned a richly illustrated book on the subject of monument protection,³⁴⁶ which included many industrial facilities. The GDR was officially formed in 1949 but it was not until June 26, 1952 that the government ratified the first guideline for monument protection.³⁴⁷ It was created to protect

all characteristic evidence of the cultural progress of our people, as far as it is in the public interest for artistic, scientific and historic reasons.³⁴⁸

The guideline initially followed closely the pre-war laws. As a “nation of workers and farmers”, which was how the early GDR represented itself, historic places of work ranked high, such as a windmill in every local district (*Landkreis*) that had to be preserved (fig. 2.7.1), Saxony's medieval mining sites, or the printing workshop where Lenin's first newspaper was produced. The guideline was modified in 1961 for the first time; the new version widened protection from listed monuments to all potential heritage monuments, even if they had not been listed (turning from a constitutive system to a declaratory listing). In 1975, heritage protection became centralized, categorized in

³⁴⁶ Leopold Achilles ed., *Zehn Jahre Denkmalpflege in der Deutschen Demokratischen Republik* (Leipzig : E.A. Seemann, 1959).

³⁴⁷ *Gesetzblatt der Deutschen Demokratischen Republik* (GBl), 1952, No. 84: 514-515, “Verordnung zur Erhaltung und Pflege der nationalen Kulturdenkmale (Denkmalschutz).”

³⁴⁸ The original text reads: “... alle charakteristischen Zeugnisse der kulturellen Entwicklung unseres Volkes, deren Erhaltung wegen ihrer künstlerischen, wissenschaftlichen oder geschichtlichen Bedeutung im öffentlichen Interesse liegt.” Author's translation, cited after: Leopold Achilles, *Zehn Jahre Denkmalpflege in der DDR*, 8.

national, district or municipal monuments, depending on importance³⁴⁹ and the guideline was transformed into a law with a stronger political agenda to protect foremost those sites that were suited to reflect the specific national character of the GDR. The term “public interest” of the old guideline had been changed to “the interest of a socialist society.”³⁵⁰ The GDR had compiled inventory lists of industrial heritage sites by 1961,³⁵¹ which initially impressed industrial heritage experts from West Germany, but after the fall of the Berlin Wall in 1989 the listing was found to be inconsistent. West German curators saw a problem in the classification of monuments in three categories according to the site’s importance. A central, national list existed for internationally and nationally important sites since 1961, in 1975 lists were added for districts (the GDR had fourteen governmental districts plus East Berlin) and for municipalities with the goal of devolving responsibility to all levels of government. In times of financial shortfall, municipal monuments were the least likely to be preserved. In the Federal Republic, by contrast, each province maintained its own list without categories. However, in 2005 Peter Goralczyk, who held from 1965-1989 different positions in the East German government’s conservation authority, claimed that the categorization had little importance in the listing process itself but offered the West German curators after the reunification a reason to disregard the GDR lists altogether. More problematic were the political criteria of the monument listing. Monuments related to communism and socialism by a person or an event, the so called “historic monuments” (*Geschichtsdenkmale*) had to be present in high numbers in the list of historic monuments

³⁴⁹ Peter Goralczyk, “Behindert Kategorisierung die Denkmalpflege? Erfahrungen aus der DDR. Symposium Nachdenken über Denkmalpflege” (part 4), *Kunsttexte.de*, 2/2005: 1-7, accessed September 14, 2011, <http://edoc.hu-berlin.de/kunsttexte/download/denk/sym4-goralczyk.pdf>.

³⁵⁰ Kerstin Odendahl, *Kulturgüterschutz* (Tübingen: Mohr Siebeck 2005) 91-94.

³⁵¹ “Zur Geschichte der Industriedenkmalpflege in NRW – Historische Wurzeln.”

to enable curators to increase the numbers of those monuments that conformed less to the Communist regime, in particular churches. Tactical considerations were daily part of the listing process.³⁵² While there may have also been some ignorance and prejudgmental behaviour on the part of the West Germans, that led to a rather devastating assessment of the inventory list when western experts were able to study the GDR lists in detail after 1989, an overwhelmingly large number of industrial monuments had to be added to listings in the 1990s, because most of East Germany's industries closed or downsized significantly after reunification. Many of these factories were historic sites that the government had kept in operation. According to Helmut Albrecht, chair of the Department of Industrial Archaeology at the Technical University of Freiberg, Saxony's conservation authority alone had suddenly to take care of twenty thousand historic industrial monuments. A re-evaluation of the heritage list with regard to industrial sites became unavoidable. Meanwhile, demolition of many of East Germany's old factories took and takes place, often subsidized by the provincial government or the European Union through the European Regional Development Fund (ERDF)³⁵³ which set narrow time-frames to foster demolition.³⁵⁴ At the same time, public institutions such as

³⁵² Goralczyk, "Behindert Kategorisierung die Denkmalpflege"4: "Denkmale zu politischen Ereignissen, die sogenannten Geschichtsdenkmale mussten ein starkes Gewicht bekommen als Voraussetzung dafür, dass möglichst viele Bau- und Kunstdenkmale [...] in die Listen aufgenommen wurden. D. h. Die jeweiligen politischen Interessen spielten eine Rolle bei der Aufstellung der Listen." (Monuments commemorating political events, the so called Historic Monuments needed to be represented in large numbers as prerequisite for the possibility to include as many architectural and artistic monuments [...] in the heritage lists as possible. That means that the current political interests played a role in the nomination process for the lists. Author's translation).

³⁵³ The fund of the European Union was designed to help specifically poorer regions to catch up economically with more advanced regions and was therefore more effective in the former GDR where over 90 percent of industries had run inefficiently and were closed down, than in the western part of Germany.

³⁵⁴ "Dresden: Schnelles Aus für überzählige Industriedenkmale in Sachsen," *Industrie Kultur* (October 28, 2009), accessed September 15, 2011, <http://www.industrie-kultur.de/modules.php?op=modload&name=News&file=article&sid=425>.

Freiberg's Department of Industrial Archaeology educated professionals to help find solutions for effective preservation of significant industrial complexes. The demolition of old factories did not automatically conflict with heritage protection when no heritage value for the site could be found. Obsolete factories are commonly demolished in all industrial countries. However, research on historic industrial sites is labour intensive and one must assume that most sites in Saxony, and the other four new Länder plus the eastern part of Berlin, receive demolition permits long before a site's significance had a chance to be researched. The situation in the former East German region is singular in its dramatic conflict between the wealth of historic industrial subjects, political pressure and scarce economic options compared to all other German Länder and must be judged accordingly.

2.8 Industrial Heritage in the Federal Republic of Germany

Interest in industrial heritage had faded at the beginning of the Federal Republic of Germany. Monument protection in general faced very different challenges after the war than before. From the end of the war until the beginning of the 1970s Germany's efforts went into the reconstruction of its cities.³⁵⁵ On one hand the population and government supported the reconstruction of many of the landmark monuments, specifically churches that had been bombed.³⁵⁶ On the other hand, architects and city planners saw in the massive destructions a one-time opportunity to modernize Germany's architecturally crowded medieval towns and cities. Many of these architects and planners had produced rebuilding plans while bombs were still falling.³⁵⁷ Heritage criteria after the old model generally would have handicapped the transformation of the cities to meet new needs for public and private traffic and reduced density of living space in central town areas.³⁵⁸

In this environment heritage buildings of a vernacular character were neglected and industrial heritage was in a particularly desperate situation given the loss of all its old supporters. The *Deutsches Museum* in the heart of Munich was heavily damaged (fig. 2.8.1+2.8.2); it needed twenty years for its complete reconstruction. The *Bund Heimatschutz* was lost as a partner in this cause; it had been much too clearly committed

³⁵⁵ Rainer Slotta and Wolfgang König, ed., Introduction to the 1984 facsimile edition of Linder and Matschoss *Technische Kulturdenkmale. Klassiker der Technik* (Düsseldorf: VDI Verlag, 1984), VII.

³⁵⁶ Konrad Adenauer had decided on the restoration of Cologne's destroyed churches already in 1944, and also in other cities the recreation of churches became priority. Munich's oldest parish church found supporters for its recreation in the local community and their priest after the city and the conservation authority had already seen the removal of the ruin as only solution.

³⁵⁷ Durth, *Deutsche Architekten*, 222-228.

³⁵⁸ A typical case for this kind of city planning became the reconstruction of the medieval Hanseatic town of Lübeck where most of the remaining gothic buildings had to make space for new residential blocks. See for instance: Huse, *Denkmalpflege*, 191-193.

to Nazi ideology to retain any political significance after 1945.³⁵⁹ Regional groups of the Heimatschutz re-established themselves but they had no more the cooperation of the monument protection organizations (*Denkmalpflege*) which was their only influence on protection activities since they were not incorporated in the legal framework. Moreover, the VDI had vanished in 1945 with the dissolution of the NSBDT. In 1946, engineers re-founded their organization under the old name, VDI, including the department for technical history. However, without Werner Lindner at the head of the *Bund Heimatschutz*, who had shared the interests of the VDI in the preservation of historic engineering achievements, their possibility to interfere in preservation issues diminished. The inhumane role many industrialists had played in the war, of which those related to IG Farben and Krupp AG are the best known examples, made heritage commemoration of many industries in the old style problematic.

When Germany re-vitalized interest in industrial heritage in the 1970s, curators judged the situation of their historic industrial sites as alarming because expectations were based on the high standards of the pre-war years. Outside Germany, the view was surprisingly different, and hence very positive. While traveling around Europe for his *A Guide to the Industrial Archaeology of Europe*, Kenneth Hudson, one of the most prominent British pioneers of Industrial Archaeology, observed in 1970 that Germany's industrial heritage was in many respects remarkably well managed:

In 1939 it would have been fair to say that no country in Europe, including Britain, had a richer stock of technological monuments than Germany and that no country took better care of them. Both statements are still broadly true, despite the wide spread destruction of the war years and the urgent demands on national resources during the post-war period. The great range of the country's industries and the long tradition of educated

³⁵⁹ On the position of the *Deutscher Bund Heimatschutz* see for instance: Brian Campbell, "Preservation for the Masses: The Idea of Heimat and the Gesellschaft für Denkmalpflege in the GDR," *Kunsttexte.de* (3/2004-1), accessed December 7, 2012, <http://www.kunsttexte.de>.

industrialists, first-class museums and expert attention to historical material have combined to bring about a general atmosphere of knowledgeable care which is very different from what one tends to find elsewhere.

Germany also became aware a good deal earlier than most other countries that many technological activities are attractive to tourists, or can be made so. The visitor to West Germany is consequently likely to find that both the national and the local tourist organisations are well briefed about the industrial monuments which are easily accessible and particularly well worth seeing.³⁶⁰

In May 1975, another British expert, Robert Angus Buchanan, agreed with Hudson's impressions of Germany's industrial heritage which he visited during the Second International Congress on the Conservation of Industrial Monuments at the Mining Museum in Bochum:

It is perhaps pertinent to record two impressions gained as a result of these excursions within the Ruhr industrial area and beyond it. The first is the realization that West Germany possesses some first-class industrial monuments and that some thoroughly practical and businesslike steps are being taken to ensure their conservation. The second impression is the sense that, although Bochum is in the center of one of the most heavily industrialized and densely populated regions in the world, the landscape carries this burden remarkably well. Thickly wooded and intensively farmed areas alternate frequently with the industrial and residential sections, and there is an apparent tidiness and good order about even the messier industrial processes, which is a hopeful portent of what could be done to rejuvenate overexploited industrial areas in other countries.³⁶¹

The discrepancy between the German and the British view can easily be explained by realizing the different points of departure of the two sides. German experts knew about the requirements needed to continue an effective preservation apparatus for future projects, which since the end of war had not been well maintained, while British observers judged the fruits of past activities, when more care had been given to this kind of cultural treasure. That the circumstances in Germany had changed for the worse for

³⁶⁰ Kenneth Hudson, *A Guide to the Industrial Archaeology of Europe* (Madison, N.J.: Fairleigh Dickinson University Press, 1971), 163.

³⁶¹ Buchanan, "Conference Reports Second International Congress on the Conservation of Industrial Monuments," 247.

industrial heritage sites had probably been discussed at the conference, but they had not made much of a negative impact on the sites at that time.

In the decade between 1970 and 1980 a widening of the term “monument” took place; the younger German generation demanded that heritage be brought into a social political context. In Germany a revitalization of the heritage movement went hand in hand with the student protests of 1968 (fig. 2.8.4),³⁶² as part of the much larger debate on the understanding of democracy. On October 28, 1969, the recently elected Willy Brandt (fig. 2.8.3), first socialist Chancellor of the Federal Republic of Germany, declared that his government would “risk more democracy,” and would offer every single citizen a chance to contribute actively to the reforms of nation and society.³⁶³ Democracy had to be understood not as a framework of a political system, but as an idea that had to be realized by every single citizen and in every aspect of life. As a result, traditionally structured institutions such as universities and museums became targets for reform requests. Besides evaluation of the concerns of all social classes, the younger generation also requested that all strata of history, specifically the most recent one must be examined and displayed. The government had been eager to present Germany as a new nation embracing democracy. In an effort to regain sovereignty and position as a respected European nation as fast as possible German politicians and large parts of the population willingly blocked out the Nazi past.³⁶⁴ Students at north Germany’s university in Kiel, for instance, demanded representation of a more truthful German identity and criticised the way the government protected, or rather failed to protect, many of the country’s

³⁶² Kummer, *Denkmalschutz als gestaltendes Baurecht*, 23; Odendahl, *Kulturgüterschutz*, 102.

³⁶³ The complete statement can be found online at <http://www.bwbs.de/Brandt/9.html>, the official site of the Willy Brandt Stiftung.

³⁶⁴ The conflict about the Federal Republic of Germany’s history escalated until 1980 and ended in an academic dispute known as *Historikerstreit* (historians’ quarrel) over the role the Holocaust should have.

remaining historic monuments. In 1971, the students organized a workshop about urban planning and monument protection.³⁶⁵ They complained that monument curators had betrayed the interests of the general public by disregarding established value standards – those of pre-war Germany – and not taking a stand against the decision makers in politics,³⁶⁶ and that curators had allowed city planners and architects to disregard historical structures in old neighbourhoods in the name of technical and economic progress.³⁶⁷ In 1975, German President Walter Scheel (fig. 2.8.5) lamented at the Congress of the *Deutscher Städtetag* (an organization representing the interests of German towns) that uncontrolled and individual pursuit of profit had destroyed more historic architecture in the past years than the destruction during the Second World War.³⁶⁸ In the following years a popular form of public heritage involvement and political protest was the occupation by squatters of turn of the century, abandoned apartment

³⁶⁵ Kummer referred to: "Materialien zur Denkmalpflege. Zwischenbericht der Projektgruppe Denkmalpflege am Kunsthistorischen Institut der Universität Kiel," (n/p, 1972). This student activism is also documented online: Eva-Maria Karpf, Christine Kratzke and Andrea Multerer, "Die Fachschaftsvertretung. Studierende auf dem Weg zur Mitbestimmung?" Christian-Albrechts-Universität Kiel, Kunstgeschichte, accessed November 30, 2010, <http://www.kunstgeschichte.uni-kiel.de/geschichte-und-abschlussarbeiten/die-fachschaftsvertretung>.

³⁶⁶ Many former NSDAP members had kept their political position after the war, which was part of the students' critique even if they could not prove their claims because of the chaotic situation archives found themselves in or refused to allow insight. See on this for instance: Malte Herweg, "NS-Vergangenheit deutscher Politiker. Zu viel undemokratisches Personal," *Süddeutsche.de.*, December 23, 2011, accessed January 17, 2013, <http://www.sueddeutsche.de/politik/bericht-ueber-ns-vergangenheit-deutscher-politiker-zu-viel-undemokratisches-personal-1.1242602>.

³⁶⁷ Huse, *Denkmalpflege*, 187-193.

³⁶⁸ "Der Europarat hat festgestellt, dass in der Bundesrepublik Deutschland in den Jahren nach 1945 mehr historische Bausubstanz zerstört worden ist als während des Zweiten Weltkrieges. [...] Aber nicht nur die Bausubstanz wird zerstört, auch soziale Strukturen, die sich über Jahrhunderte bewährt haben, verschwinden, ohne dass Gleichwertiges an ihre Stelle träte." (The European Council realized that in the Federal Republic of Germany, after 1945, more historic buildings and sites were destroyed than during the Second World War. [...] However, not only the architecture is destroyed, also social structures that had proved successful for centuries, disappear without being substituted by a new balance. Author's translation). "Eine Zukunft für unsere Vergangenheit," Exhibition catalogue *Denkmalschutzjahr* (1975), 3, cited from: Ulrich Martin Stauffacher, "Konstruktionen von Urbanität und Identität in Frankfurt am Main um 1980, (Ma thesis, Universität Wien, 2010), 35.

blocks to save them from demolition.³⁶⁹ Preventing gentrification, one of the main reasons for today's protests against city development, played often no role in this form of politically motivated protest at that time. First the student body, then grass root movements supported by a public increasingly concerned with heritage and the environment, raised a voice against the effects of unhampered industrialization, in particular pollution and the official fostering of a car-friendly infrastructure. This, necessarily, put the most recently built industrial buildings in a questionable light.

As an outcome of this uproar, all West German provinces ratified reformed protection laws in the 1970s. Lawyer and architectural historian Michael Kummer remarked in his 1981 dissertation *Denkmalschutz als gestaltendes Baurecht* (monument protection as a design tool in construction law), that the new understanding of heritage referred back to Riegl's and Dvorak's proposal of "every-day-monument-care"³⁷⁰ (*Alltagsdenkmalpflege*) which meant that any historic, artistic or scientific component sufficed to legally qualify a building or site for listing, including industries (fig. 2.8.6). This new understanding enabled citizens to request protection of buildings to prevent other kinds of urban development.

In some instances even ideas of John Ruskin, the nineteenth century English art-critic were revitalized. He had recommended in *The Seven Lamps of Architecture*³⁷¹ abstaining from restoration attempts that would falsify historic remains if a monument could not be saved intact. Instead of repairing or erasing a building, future generations would have a right to historic remains also in the form of ruins. The Kaiser Wilhelm

³⁶⁹ The squatting took place in many German towns and cities. Hamburg, Berlin, and Frankfurt were places in West Germany that made most national and international headlines.

³⁷⁰ Kummer, *Denkmalschutz als gestaltendes Baurecht*, 24.

³⁷¹ John Ruskin, *The Seven Lamps of Architecture* (London: Dent; New York : Dutton, 1907).

Memorial Church in Berlin and the Nikolai Church in Hamburg both were kept in their destroyed state as war memorials (fig. 2.8.7+2.8.8). Georg Dehio's formerly popular approach, to practice the protection of monuments as a way to strengthen national sentiment, in contrast had been repudiated.

Until around 1975, the preoccupation with heritage was an urban movement concerned with buildings of the so called "high culture", and was only marginally interested in vernacular architecture, rural areas, farms and suburban workshops or factories.³⁷² Under these circumstances, few new initiatives for the safeguarding of industrial sites were coming from Germany's officials. It was the import of the Industrial Archaeology idea from Great Britain that activated an interest in industrial heritage in Germany again. The German experts followed the British ideas, specifically those which correlated with Germany's pre-World War Two approaches. In 1987, Eric G. Grant remarked on the increasingly popular Industrial Archaeology movement in Britain:

Indeed, industrial archaeology has neglected almost all theory in some kind of mistaken belief that it could approach the material remains of industrial society with no particular methodological or explanatory framework.³⁷³

This mindset seemed to have been long present in Germany, too, with the result that experts missed to engage in a theoretical discussion on the specifics of industrial heritage – an unusual situation in Germany compared to all other fields of monument protection issues. On the other hand, it left a field wide open for experimentation by all players, including private owners, unburdened by a theoretical or methodological dictate, with some successful results. In Hamburg, West Germany's largest city before

³⁷² Helmut Gebhard's article "Denkmalschutz auf dem Land" (monument protection in rural areas), published in 1975, and reprinted in excerpts by Huse, *Denkmalpflege*, 226-231, seems to have been one of the earliest texts on this subject.

³⁷³ Grant, "Industry: Landscape and Location," 116.

reunification, the demolition of a redundant turn of the century factory for wood-working equipment was prevented in 1969 by activists, specifically by the artist Horst Dietrich and the architect Friedhelm Zeuner. They transformed the space into the first German culture and communication centre called *Die Fabrik* which opened in 1971. Ulrich Bauche, former chief curator of Hamburg's history museum (*Museum für Hamburgische Geschichte*), commented later that this interest in reusing an obsolete industrial site was in this case also a way to fight the gentrification of a working-class quarter into a business district.³⁷⁴ The old working class dwellings offered cheap urban housing but were threatened by demolition when new development on former factory sites increased the value of real estate in the surrounding area. However, the large scale renewal (*Flächensanierung*) of the area did not take place; today's users, not anymore aware of the older discussions, stress the interesting interior wood-frame construction as a main motivation for the preservation of this space.³⁷⁵ This argument follows a more contemporary idea of heritage preservation after industrial heritage was firmly established in West Germany in the 1980s. Several years after this case, and also in Hamburg, Germany's first museum of the work environment (*Museum der Arbeit*) from the point of view of "history from below" moved into an abandoned factory. The project would demand great commitment before the museum was finally realized in 1989 in the rooms of the one-time "New-York-Hamburger Gummi-Waren-Compagnie" (rubber company). The initiators were proud to open West Germany's first public institution that focussed on such issues as working conditions, gender issues in the life of workers and

³⁷⁴ Bauche, "Industriearchäologie und Industriekultur," 28, and "Über die Fabrik," *Die Fabrik*, accessed December 8, 2012, <http://www.fabrik.de/fabrik/page.php?wid=23>.

³⁷⁵ Bauche, "Industriearchäologie und Industriekultur."

the impact of technology and factories on the lower classes.³⁷⁶ The literature on this project does not name the specific individuals who instigated this museum, but a private association, the *Museumsverein*, was most vital in realizing the project. A third early adaptation of a factory in Hamburg was the *Fabrik Kampnagel* in 1982 (fig. 2.8.9). The crane-factory had shut down in 1981 and the city planned to demolish it but six of the emptied factory halls proved suitable to give the German Theatre Company (*Deutsches Schauspielhaus*) a temporary home during the renovation of their own building which took place at the same time. For that reason the city delayed the demolition. Moreover independent theatre groups used the factory facilities. When the German Theatre Company moved out in 1984, the city agreed to postpone the demolition for several more years as long as performances were well attended by the public.³⁷⁷ With its edgy atmosphere and experimental program the *Fabrik Kampnagel* established itself firmly in north Germany's theatre scene. Throughout the next decades, several renovations, demolitions and extensions took place on the factory ground, adjusting the site more and more to its new theatre vocation. The city secured the site as performance space till 2016 without discussing either demolition or heritage classification for the original parts.³⁷⁸ That Hamburg was able to experiment quite freely with reuse concepts of industrial sites was not by chance. It is a wealthy, self-governed city state, able to support or allow projects that in other larger provinces were politically not enforceable. Hamburg had a large number of inner-city industrial sites of a diversified range of production that in a

³⁷⁶ The museum followed the idea of Manchester's People's History Museum which had opened its collection to the public in London's Limehouse Town Hall in 1975; "History," People's History Museum, accessed September 21, 2011, <http://www.phm.org.uk/about-us/history/>.

³⁷⁷ "Die Theaterzeit," Kampnagel, accessed December 8, 2012, <http://www.kampnagel.de/?page=historie>.

³⁷⁸ For information on the theatre: "Kampnagel online," Kampnagel, accessed September 15, 2011, <http://www.kampnagel.de>. According to the official listing of the conservation authority, Hamburg, last updated in November 2012, the Kampnagel site has no protection status.

rather gradual process had fallen victim to globalization. However, the projects realized in Hamburg remained singular cases and did not often develop into models for other provinces. In contrast to North Rhine-Westphalia, Hamburg did not published widely on these industrial preservation activities.³⁷⁹

The conservation authority showed initially no interest for any of the mentioned buildings in Hamburg, but in two cases the initiators or activists stressed the history of the place, the early building dates and the social importance of the former factory as reason to redevelop the buildings. *Die Fabrik* burned down in 1977 and was reconstructed in its old form, and for the *Fabrik Kampnagel* no information on its architecture or machinery is published, they may be too generic to have heritage quality. Of the three examples, only the rubber factory that houses the museum entered the preservation list.³⁸⁰ For many early adaptations in West Germany's Länder, it was symptomatic that preservation activities of industrial sites run independent and without support from the conservation authorities. Small groups of citizens formed into neighbourhood movements to transform old but often architecturally pleasing factories into useable public spaces or institutions meeting local needs. Public authorities joined when the outcome looked positive, offering in many cases financial support to facilitate enduring success. These early adaptations were experiments born out of the moment outside the context of industrial heritage.

³⁷⁹ North Rhine Westphalia's conservation authority published their results of industrial heritage preservation since 1971, for instance: Landeskonservator Rheinland, ed., *Technische Kulturdenkmäler. Arbeitersiedlungen 1*, (Bonn: Landeskonservator Rheinland, 1971), see as well: Axel Föhl, „Industriedenkmalpflege im 20. Jahrhundert,“ *Denkmal Praxis Moderne*, accessed September 11, 2012, http://www.denkmalpraxismoderne.de/handbuch_industrie_foehl.php.

³⁸⁰ Date of listing: 1996.

One of the few projects initiated and realized by a German provincial government, that commemorated the industrialization of Germany during the 1970's and 1980's, was Germany's first technical open air museum in Hagen (fig. 2.8.10), North Rhine Westphalia, a project which had been in the planning by engineers and the *Deutscher Bund Heimatschutz* since 1930.³⁸¹ The Land revitalized the original concept. The museum collected mostly proto-industrial workshops from sites where these buildings could not be preserved and recreated their setting. Most of the machines and equipment in the buildings are in operational condition and museum educators demonstrate production processes with active engagement of the visitors. Newer exhibition concepts such as the inclusion of social conditions, recent technical developments or the architectural component of the working environment are not included in this museum's design.

As mentioned earlier, Germany's industrial heritage ideas followed Great Britain's where the discipline of Industrial Archaeology had formed after the anthropologist Michael Rix wrote an article for *The Amateur Historian*³⁸² on "Industrial Archaeology" in 1955. But Germans found the British terminology awkward which was in itself still undefined. Rix had concern for the loss of all memories of the Industrial Revolution, which first took place in his country. Rix and other early industrial archaeologists concentrated mostly on the material remains. Others, such as Robert Angus Buchanan struggled with this narrow view and offered a broader definition of Industrial Archaeology as "a field of study concerned with investigating, surveying,

³⁸¹ Hassler and Kierdorf, *Denkmale des Industriezeitalters*, 43-44.

³⁸² Rix, "Industrial Archaeology," 225-229.

recording and, in some cases, preserving industrial monuments”³⁸³ Buchanan’s definition is shared by The Committee for the Conservation of Industrial Heritage (TICCIH) which developed from a meeting of the First International Congress for the Conservation of Industrial Monuments (FICCIM) in 1973 at the Iron Bridge Museum near Telford,³⁸⁴ and the Second International Congress on the Conservation of Industrial Monuments (SICCIM) in Bochum, Germany, in 1975. In Bochum, it was not the scope of Industrial Archaeology that became a point of discussion but the term “Industrial Archaeology” itself. Germany’s representatives found the term *archaeology* misleading and wanted it replaced by either monument or culture.³⁸⁵ Over time, though, “Industrial Archaeology” also became more popular in the Federal Republic after the publication of Rainer Slotta’s *Einführung in die Industriearchäologie* in 1982, an introduction to the subject of industrial heritage as a new discipline of science. However, the term is not as widely used as in English speaking cultures where, as Ulrich Bauche remarked, the discipline of archaeology invites and relies on lay people to participate in the research process as they traditionally do, for example in the field of provincial-roman antiquity.³⁸⁶ This tradition in archaeology did not exist in Germany and therefore, the term is often substituted by *Industriekultur* which, while intended to be the same, has a slightly different content. Since Rainer Slotta, *Industriearchaeologie* has been established at the academic level

³⁸³ Robert Angus Buchanan, *Industrial Archaeology in Britain* (London: Allen Lane, 1972), 20.

³⁸⁴ A report of the “First International Congress on the Conservation of Industrial Monuments, FICCM, Ironbridge, 29.5. – 5.6.1973” was published in: Neumann, *Gedanken zur Industriearchäologie*, 12.

³⁸⁵ Buchanan, “Conference Reports – Second International Congress on the Conservation of Industrial Monuments,” 245-248.

³⁸⁶ Bauche, “Industriearchäologie und Industriekultur.” However, also in English-speaking literature the term is occasionally criticized as misleading. See, for instance: Orange, *Industrial Archaeology*, 83: “[Michael] Nevell in the meantime finds the term [Industrial Archaeology] simply ‘bewildering’.”

while *Industriekultur* is understood as the more generally used term.³⁸⁷ As far as the author of the thesis could detect, the division between the interest in industrial architectural remains and industrial culture is less pronounced in England than it is in Germany, where the conservation authority (*Denkmalamt*) is mainly occupied with the preservation of the industrial architecture while the German branch of TICCIH and university programs in the history of natural science and technology focus on the wider cultural aspect including research on historic technical equipment.

In 2009, the Saxonian town of Freiberg in the former GDR held the fourteenth TICCIH conference; Germany hosted therefore this conference for the second time. The broad spectrum of themes touched many of Germany's current issues in the industrial heritage discussion,³⁸⁸ a main point of concern was the lack of more broadly applicable concepts and of a theoretical framework. Germany is not alone with these problems. Furthermore, experts from all five continents discussed how far technical equipment should be treated as historic documents and restored rather than repaired, posing the question of how to satisfy the expectations of museum-visitors. Curators pointed out that the ephemeral character of many industrial buildings creates unresolved preservation problems. Further, the immediate loss of the intangible history of closed industrial sites, such as the organization of labour, working conditions and so on, and how to recreate them in a museum's setting was discussed. To date, curators have considered the conversion of a complete or partly intact industrial site into a museum as the best way of preservation; in 2009, this was criticised as producing a shallow cliché of the industrial

³⁸⁷ The German use of the term is therefore for English readers eventually confusing as there Industrial Archaeology stands as the more general term including the activities of non-academic enthusiasts.

³⁸⁸ Information taken from: XIV International TICCIH Congress in Freiberg, Germany, "Congress Materials," *Industrial Heritage, Ecology and Economy* (August 30 – September 5, 2009).

past with an overly strong emphasis on the technical aspect of such sites and alternatives were discussed. One of the longest sections of the conference debated the question of how to best re-use industrial sites while sustaining them for future generations, when the aim is more than just preserving the building's shell. The participants' papers focused in all sessions mainly on the industrial heritage of the nineteenth and early twentieth century. An attempt to include post-Second-World-War industrial sites, which even in the most conservative understanding are by now historic, did occur only exceptionally and seldom with a consideration of the specific challenges of those newer sites are posing in location, building form and materials. While all experts agree on the interdisciplinary character of Industrial Archaeology and use this approach in their practical work, theoretical research in most of the conference sections remained scarce. It also appeared that the research in humanistic academic disciplines such as art-history, architectural history and history of technology, all fields that can relate to aspects of industrial heritage, remained in most cases a one-person-expert approach instead of a collaboration of experts across different organizations and fields of study, as it is commonly done in the field of science or medicine. In the study of industrial heritage, many projects are too large in size and too multilayered in the theoretical discourse to be studied and analyzed in all aspects by one single individual.

2.9 The Industrial Landscape Concept of International Building Exhibitions (IBA)

International Building Exhibitions have a long and successful tradition in Germany. IBAs are not institutions or established organizations but a planning tool to find solutions for a current general problem related to architecture or urban planning on a defined scale without pre-set limiting restrictions. IBAs are neither specific nor exclusive but can be initiated everywhere and anytime, even if that means that several exhibitions take shape in Germany during the same years. The initiators, providers and sponsors are commonly cities or provinces who finance the project entirely or partly from public funds from all accessible governmental levels. Common to all of these building exhibitions was the employment of salaried help of professional participants such as architects, landscape architects and urban planners who were selected by a planning committee or by an open competition. The first international building exhibition took place in 1901 in Darmstadt-Mathildenhöhe, Hesse, to promote contemporary dwellings and town-planning. The *Deutscher Werkbund* adopted the idea for Stuttgart's Weißenhof Estate in 1927 (fig. 2.9.3). The task in Stuttgart called for the design of affordable housing, using contemporary building materials and industrialized construction methods.³⁸⁹

Months before the two parts of Germany reunited unexpectedly on November 5, 1989 (fig. 2.9.4+2.9.5), a ten year lasting IBA *Emscher Park* (fig. 2.9.1) had started with the goal of regenerating the heart of the former coalmining area of the Ruhr region (fig. 2.9.2) along the heavily polluted Emscher River. Over two million people lived in the area where towns grew into each other; to a large part without the building of distinct

³⁸⁹ "Introduction and Intentions, Werkbundsiedlung 1927," Amt für Stadtplanung und -erneuerung, Landeshauptstadt Stuttgart, accessed September 17, 2012, <http://www.weissenhof2002.de/english/weissenhof.html>.

urban centres. The mining region covered eight hundred square kilometers.³⁹⁰ Because economic decay struck the whole region, any concept for resolution of the problem had to be on a large scale but sensitive to each single regional subregion. Each of the mining sites had large factory facilities overshadowed by shaft towers, as well as large fields where heaps of debris had grown towards the sky. These industrial brown-fields filled three hundred square kilometers, for which the IBA envisioned a concept of green space.

When the Land North Rhine Westphalia decided on the IBA in 1988, the Ruhr region had lost most of its mining industry and had to bear the highest unemployment rate in West Germany. No new investments had been attracted to the region for years, tax revenues were decreasing and the situation was depressing in whatever direction one decided to look. The announcement of the IBA, which ran under the vague motto “workshop for the future of industrial regions,”³⁹¹ was the first positive event since decades. At the beginning of the project, the authorities faced the major obstacle to coordinating the seventeen municipalities and two regions involved as partners and to funnel their specific interests towards one shared vision. For the past century these cities and their mining companies operated in competition to each other, and they could not overcome this competitive mindset easily. The province assigned for that reason a small private company (*Emscher Park GmbH/Karl Ganser*) with the coordination of the over one-hundred and twenty IBA sub-projects, equipped with the right to guide the cooperation of communities by allocating financial resources to their selection of community projects and reporting directly to the ministry of urban development, culture

³⁹⁰ Heiderose Kilper and Gerald Wood, “Restructuring policies: the Emscher Park International Building Exhibition,” in *The rise of the rustbelt*, ed. Philip N. Cooke (London: UCL Press, 1995), 209.

³⁹¹ “Was ist die IBA-Emscher Park?” Universität Duisburg-Essen, accessed November 28, 2011, <http://www.uni-due.de/~gpo202/iba-allgemein.htm>.

and sport of North Rhine-Westphalia.³⁹² The planning group concluded that new industrial development would do with much less of the available space that industries had occupied in the past. They concentrated much of their efforts to foster creative thinking how to transform the many square kilometers of industrial brown-field in a way that the public had benefits from it. To maintain the region's identity and to keep costs low, the planners favored recycling of existing structures over new constructions and they developed feasible solutions to the incalculable problem of decontamination of the many and large industrial sites.

Public funds and private investors would share the four billion Deutsch Marks the IBA was estimated to cost in a relation of two-thirds to one third of the investment. This was a tight financial budget for the scale of the project³⁹³ and after the unexpected fall of the Berlin Wall, the federal public sector would certainly not increase any of their support programs for western Germany. Under the exceptional historic circumstances of the reunification, the ongoing work on the IBA attracted little public attention for the next years and therefore also no wider public discourse on the why, where and how of the designs of the single projects.³⁹⁴ When the half-time was officially celebrated in 1994,

³⁹² Kilper and Wood, "Restructuring policies: the Emscher Park International Building Exhibition," 213.

³⁹³ Many of the IBA's, not only the Emscher Park, use already available financial resources of support-programs by municipalities, regions, the government of the Land, the federal government and programs of the European Union. An additional IBA budget does normally not exist. However, the Land agrees to give IBA projects priority in their financial planning. Annette Kolkau, "IBA Emscher Park: Impulse für den Strukturwandel," in *IBA Emscher Park*, 255-257, accessed December 9, 2012, <http://www.google.ca/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=OCC0QFjAA&url=http%3A%2F%2Fwww.kirche-im-ruhrgebiet.de%2FKIR%2F0907%2520IBA%2520Emscher%2520Park.pdf&ei=-cPEUKXSM8i00AH-2oCQDg&usg=AFQjCNF1Jo88gxEiaaEO9kOVT0UjEOrC4A>.

³⁹⁴ This claim is based on the author's own observations as well as on research of Germany-wide published newspaper articles in *Der Spiegel* and *Die Zeit*. The national weekly news journal *Der Spiegel* started featuring the IBA Emscher Park not before the year 1999, *Die Zeit*, with more cultural features, described the project Emscher Park short after the public announcement in 1990 and described the concept of the IBA in October 1991, the project is sporadically mentioned but no article dedicated to the park appears before 1994.

West Germans outside of the region gave still little interest to the transformation. The IBA began increasing its efforts to publish and distribute brochures to enhance its visibility. Many Germans recognized the work done by the IBA only when it was completed and inaugurated. Television broadcast the official celebrations that lasted several months. They informed the public about the new attractions in and around the now accessible former industrial sites: art-shows, light-installations, the interconnected cycling system, new museums and several theme routes of which one was the *Route der Industriekultur*. This route of industrial culture turned three years later into the starting point of the European Route of Industrial Heritage (ERIH, fig. 2.9.10)³⁹⁵ which several national industrial heritage groups initiated in 2002. The inauguration took place in 2005 in collaboration with England, France, Luxembourg and the Netherlands. The ERIH grew into a larger and larger network of historic industrial sites, technical museums, highlights of infrastructural structures and so forth, grouped together and linked to each other under categories of interest or regions. Its main platform is an internet site of a pre-set format that all participating partners feed with information to each site including historic background information on the industrial development of countries and regions, technologies and on inventors. Not all sites are available in the language of all of the participating countries but the organizers made an effort to offer generally one or two linguistic alternatives.

When the cities, towns and districts involved completed the IBA in 1999 their project gained international fame for the remarkable remodeling of industrial brown-

³⁹⁵ ERIH is organized as an online network (<http://www.erih.net>) for provider organizations mostly from the tourism industry and the visitors. Its goal is the support of regional development, the branding of industrial heritage sites and the marketing of these sites.

fields into a diversified range of new exterior and interior spaces and green parks in a post-industrial landscape that not only paid tribute to the heavy-industrial past but reversed the former negative image of the coal-mining region. Over the IBA, the Ruhr region gained certainly attraction for tourists, cultural activities, businesses and new industries with long term development prospects for the future. Due to the changed circumstances after re-unification, the planning could not fulfill the initially high expectations as the financial support of the West German Länder weigh heavily on the budgets of the already weak communities of the Ruhr region during the last twenty two years.

Nevertheless, the IBA *Emscher Park* counts for many as the most successful German building exhibition of the twentieth century beside the Weißenhof Estate. Visitors and reviewers alike admire especially the solution of integrating abandoned industrial buildings and structures into a landscape park because it allowed the reintegration of industrial landmarks into public space in a sustainable and accessible way. As a side effect of the IBA, financial feasibility could be obtained for most projects, because the IBA had made the region again an attractive place for industrial investments with high living standards. It increased tourism, a new industry for much of this region. In some aspects, however, it did fall short; several of the cities of the Ruhr region had accumulated enormous debts after the end of the exhibition because they had to deal with the operating costs of some of the IBA projects while at the same time the federal government expected support payments from these cities and the Land to cover the sudden expenses of the re-unification process that were far higher than initially

estimated.³⁹⁶ Economically, the forecasts of the positive effects of the IBA were overtly optimistic, expecting a large scale social and industrial structural transformation. The building exhibition created many fewer jobs than some had hoped, although this was, many claim, beyond the possibilities of such a project.³⁹⁷

With the IBA *Emscher Park*, the idea of industrial heritage had certainly gained a dimension not previously accomplished. While the single industrial sites were treated in familiar manner – some were preserved in their original material with most of the technical equipment kept on site to become museums, others were modified to allow a new use, many sites were also partly demolished to make their size easier to administer, or to clear unsightly structures and so forth – the concept also included those spaces that had not been production sites, but were a result of the productive activities. This included the open sewage canals of the Emscher River, which had been intact as long as mines were active because earth shifts made an underground sewage system unpractical, but were now replaced by underground sewage, and the large coal heaps. Some of the heaps were transformed into green spaces others remained bare gravel accumulations that pedestrian paths made accessible with art-installations or observation towers placed on their peaks.

Only one year after the IBA *Emscher Park* was completed, despite, or rather because of its territorial size and enormous dimension on the planning level, crossing regional and municipal borders which could be organized and administered by a small group of people, the IBA *Emscher Park* inspired another post-industrial region to

³⁹⁶ Kilper and Wood, "Restructuring policies: the Emscher Park International Building Exhibition," 212.

³⁹⁷ For instance: Christoph Teves, "Internationale Bauausstellung Emscher Park," Planet Wissen, last modified June 1, 2009, accessed December 9, 2012, http://www.planet-wissen.de/laender_leute/nordrhein_westfalen/innenhafen_ Duisburg/iba_emscher_park.jsp.

restructure itself through a building exhibition: the IBA *Fürst-Pückler Land* in the former open-cast mining districts in the eastern German and partly Polish historic region of Lusatia (fig. 2.9.6-2.9.9).³⁹⁸ The German part of Lusatia had until 1998 the largest brown coal mining industry in the world. The brown coal mining had taken place since 1952 on this gigantic scale, because, after the separation of East Germany from the rest of Germany in 1949 both the black coal fields of the Ruhr and Saarland region as well as those in Silesia which had gone to Poland, were inaccessible but had been essential for the development of the highly industrialized provinces of Saxony and Thuringia. Over a newly invented endothermic procedure developed by Erich Rammler and Georg Bilkenroth in 1952 the quality of lignite coke came close to that of black coal-coke. Brown coal was mined in open pits, which eat their way through square kilometers of the landscape without regard for agriculture or long established settlements. Over twenty thousand people had to be relocated to allow for the exposure of the mines. Also, thousands of people had found work in the mining and adjoined industry. Even more than the underground mines with their iconic shaft towers situated in the Ruhr region, the open mines defined the landscape with overwhelming effect. Deep trenches had been etched over the last four decades into the land leaving nothing but bare ground as far as the eye could reach. Machines of mere utopian scale and form had scratched myriads of tons of coal out of its natural bed. After the re-unification, most of the eastern mining operations could not compete on the world market. One can hardly imagine the scale of the

³⁹⁸ For the subject IBA Fürst-Pückler-Land, the author relied on information that was available at site, such as tourist brochures, the *IBA Halbzeitdocumentation 200-2010*, ed. by Internationale Bauausstellung (IBA) Fürst-Pückler-Land GmbH (Großräschen: Internationale Bauausstellung (IBA) Fürst-Pückler-Land GmbH, 2005) and other sources that were published locally but that are not available in book format or as scholarly articles.

economic, ecologic and social crisis that followed when this industry virtually evaporated from one day to the other.

The idea to take the *Emscher Park* model to deal with the aftermath of the mining industry came in 1994. West Germany watched the collapsing East German economy and the ensuing, swift upgrade to the eastern infrastructure in amazement which the west paid for with an additional re-unification tax. Meanwhile, the population of the east seemed to have observed with the same interest the suddenly accessible West. The problem solving ability of the steadily developing IBA project must have had an immediate appeal to the eastern mining region. It led to promising sustainable results, which were realized through a variety of financial programs from several governmental and private levels with minimal governmental but efficient leadership and cross-border competences. It offered a solution to overcome their own problematic situation: it showed ways to realize their wish to revitalize their region on many levels within the limited local financial possibilities available. The lignite mining on German territory was mostly in Saxony, and partly in the neighbouring province Brandenburg. After a feasibility-study came to a positive result and Brandenburg agreed to participate, the IBA *Fürst-Pückler-Land* received support from the two Länder's governments in the year 2000. Like the IBA *Emscher Park*, the new IBA would run for ten years to end in 2010. The authorities decided on the motto "workshop for new landscapes" because open pit mining had produced only few industrial architectural remains but had caused great damage to the environment. Nevertheless, the preservation of the industrial origin of the landscape was important and to be integrated in the projects. Therefore, the government did not

dismantle all the mining equipment to sell it as scrap metal but left equipment on or close to the original sites.

The planners learned many lessons from the IBA *Emscher Park*, such as the realization that most of the industrial remains could be integrated in the re-naturalization process of the region and transformed into touristic attractions without much need to modify them or add new functions. The local governments further understood that a tourist network including all sites would be the better marketing tool because it would appeal to more than just local visitors. The mending of the landscape included the transformation of most of the mining pits into a lake district for which the pits needed to be connected to one another and fed by an existing river-system. Over the ten year period of the IBA the pits filled with water creating artificial lakes which would be available for leisure-time activities. Overburden conveyor bridges such as the F60, the largest of its kind worldwide, excavators and other industrial structures, of which the castle-like Bio-Towers of Lauchhammer may have been technically and architecturally the most unique, were kept in situ, as quasi landscape sculptures. The IBA *Fürst-Pückler-Land* found to date less national and international public attention than the IBA in the Ruhr region. The dimensions were smaller; but more significantly, the region was much less densely populated and the project had only recently been finished.

Nevertheless, the two successive IBA initiatives proved that the concepts developed for the *Emscher Park* could, up to a certain point, be transferred to other areas with similar problems. Instead of erasing the industrial past, through promotion and ideas of how to make come alive the often unique and exciting industrial sites to visitors, a fair number of tourists could be attracted, specifically if other leisure-time activities – water-

sports and so forth – could be enjoyed as well. It is still too early to discuss the long term overall sustainability of the *Fürst-Pückler-Land* project in detail. However, in both cases, the IBA's succeeded in changing a negative or depressing image of a region to a positive one, while allowing the industrial character, which had formed the identity of the regions, to remain.

2.10 Summary: Industrial Heritage Preservation in Germany

Germany's industrial heritage sites fall today under the responsibility of conservation authorities of the sixteen Länder. The governmental monument curators have traditionally an art-historical background – a broad discipline in which, however, aspects of industrialization is, if at all, a distant side-aspect.³⁹⁹ That industrial heritage, including contemporary examples, is nevertheless well established in all Länder of the Federal Republic is due to the early and well orchestrated occupation in the field of industrial heritage before the war by others, mostly engineers but also members of the many local groups of the *Bund Heimatschutz-Deutscher Bund Heimatschutz* prior to World War Two.⁴⁰⁰ The different backgrounds of the earlier and the later caretakers in

³⁹⁹ See: Huse, *Denkmalpflege*; since the days of Alois Riegl (1858-1905), George Dehio (1850-1932), and Max Dvořák (1874-1921), art-history is the most common education for monument curators in the regions of Germany (and Austria), followed by architects. Of the texts chosen by Huse for the timeframe after World War Two, Paul Clemen, Georg Lill, August Gebeßler, Tilmann Breuer and Georg Mösch had graduated from universities with an art history degree, Emil Steffann and Helmut Gebhard were architects (Huse further included texts by Walter Dirks and Georg Harmann, both represented views from outside the field of monument curators).

⁴⁰⁰ The authors of the texts chosen by Hassler and Kierdorf for *Denkmale des Industriezeitalters* support this observation. For the time frame from 1825-1939, fourteen out of nineteen authors had a technical, economic, or industrial background, including one factory worker. (Johann Conrad Fischer: copper smith; Karl Friedrich Schinkel: architect; Alphons Thun, national economist; Oskar von Miller: electrical engineer; Max von Eyth: mechanical engineer; Friedrich Wilhelm Bredt: entrepreneur; August Loehr: economic historian, historian and philosopher; Conrad Matschoß: mechanical engineer; Theodor Wildeman: architect; Friedrich Haßler: technical historian; Walter Rathenau: industrialist, studied philosophy, chemistry and biology; Paul Schultze-Naumburg: architect; Max Barthel: factory worker; Eugen Diesel: merchant.) Paul Clemen (1866-1947) was the only art-historian of that time frame who had prominently written on the preservation of industrial facilities as part of Germany's architectural landscape. He was provincial building curator. (Art history as academic discipline existed in Germany since the end of the eighteenth century.)

Hassler and Kierdorf provided no texts written after 1939 and before 1966. Between 1966-1997, of the thirty authors, eleven studied art-history (Wend Fischer, Hans Martin Gubler, Rainer Slotta, Roland Günter, Georg Mörsch, Gisela Framke, Michael Danskardt, Martin Damus, Gert Selle, Michael Petzet and Norbert Huse), Helmut Bönninghausen studied monument preservation, Uta Hassler teaches monument preservation. Four authors had studied architecture, another four had a more technical background of which two had studied in the German Democratic Republic (Otfried Wagenbrechth and Eberhard G. Neumann, he moved later to the Federal Republic) whereby Karl Ganser got an education in chemistry, biology, geology and geography and Klaus Kornwachs was taught physics, mathematics and philosophy.

this field influenced, naturally, the selection criteria for industrial heritage sites. A shift from scientific-technical aspects to architectural-artistic criteria had taken place.

At the beginning of the twentieth century engineers had initiated reflection on the historic development of technology and industry. They felt motivated to study the historical background of their profession to help correct the low social image and status held by the profession of civil engineers. They found close allies in industrialists. The efforts of the German engineers helped to establish early a public interest and scholarly involvement in the historic and social aspects of technology and industrialization. The commemoration and preservation of works by engineers, be it machines, production processes or buildings, in Germany between 1900 and the end of the Weimar Republic ran parallel to the forming of a conservation authority but on different terms. Art historians dominated the conservation authorities and focused on historic buildings, engineers evaluated buildings only in so far as they were indivisible from a production process. There was a small third group interested in looking at industrial buildings, historic and recent ones, which were architects, specifically those around the Bauhaus. But they showed no involvement in the heritage discussion.

Around 1911, conservation authorities broadened under the influence of the *Bund Heimatschutz* the meaning of monument from representative and religious buildings of national or provincial importance to include further vernacular architecture, farms, humble dwellings, the cityscape, the historical village and the landscape.⁴⁰¹ Monument curators continued to focus their attention to the fruits of what was commonly understood

⁴⁰¹ Paul Clemen, "Entwicklung und Ziele der Denkmalpflege in Deutschland", shorthand report from the first shared day of the preservation curators and Heimatschutz', Salzburg 1911, 60, cited after Huse, *Denkmalpflege*, 151.

as “culture”, despite the efforts of engineers to question what, according to them, belonged likewise to culture.

The special political atmosphere of the time after the collapse of the Nazi regime, the author’s research suggests, supported the shift in industrial heritage away from engineers and enthusiasts to professionals of conservation authorities. The process was related to Hitler’s affinity to architects and their work which made architecture an obvious communicator of political ideology. On the one hand there were those who favored the modern Bauhaus style, many of whom had been forced out of the country or were not given public commissions, since the Nazi regime saw in them their political opponents. On the other hand there were the creators and supporters of a traditional architectural style. Emigrated and now returning colleagues in union with members of the public quickly labeled them former Nazis and followers. Although the situation of each architect was naturally far more complicated. Under these circumstances it is not surprising that, for instance the governmental curator of Lower Saxony, Hermann Deckert, eagerly showed his support for the work of modernists such as Walter Gropius and Ernst May to underline his opposition to Nazi-ideologies. Related to this discussion was the fact that the design style created by former members of the Bauhaus became in many variations the most prominent style of post-war Germany. Art-historians and architectural historians included in their studies the origins of Modernism which led them to the early writings of Henry Van de Velde’s “The Role of the Engineer in Modern Architecture,” which he published in 1901,⁴⁰² Walter Gropius’ “The Development of

⁴⁰² Henry van de Velde, “The Role of the Engineer in Modern Architecture” (1901), in *Form and Function. A Source Book for the History of Architecture and Design 1890-1939*, ed. Tim Benton (London: Crosby Lockwood Staples, 1975), 32-34.

Modern Industrial Architecture,⁴⁰³ printed in 1913, or Le Corbusier's powerful manifesto *Vers une architecture*,⁴⁰⁴ which he put out in book format in 1926; all of them praising factory design and industrial production methods as a creative enlightenment. Monument curators, who came in the largest numbers to their profession with an art-historical background, could easily create the link between industrial buildings (fig. 2.10.2-2.10.9) and the history of architecture. Therefore, the employees of the conservation authorities found a direct interest in industrial buildings of all styles without the direct involvement of engineers; but they easily dismissed the inclusion of the technical aspect in the field of industrial heritage (fig. 2.10.1). While the link between monument curator and industrial architecture was established, at least in the western part of Germany, it did not play a large role during the reconstruction of the country.

In the east of the country, the relationship between heritage and industrial buildings had a second pillar with the socialist-communist orientation of the East German State and its own dynamics and conflicts. Factories represented as much the working-class as they did the capitalist; however, conservation authorities seldom found themselves confronted with the preservation of factories as most factories stayed in operation up to reunification. The sudden closing of most East German industries after reunification together with neglected historic town-centres (fig. 2.10.10) caused a unique situation for conservation authorities in the five new German Länder plus Berlin, in particular in Thuringia and Saxony, where most of the former industries were located. Although the East German problematic seems worthwhile studying in more depth, the

⁴⁰³ Walter Gropius, "The Development of Modern Industrial Architecture," 53-55.

⁴⁰⁴ Le Corbusier, *Vers une architecture*.

author judged it as too unique to serve in a comparison with Quebec. The eastern part of Germany was for this reason only sketched and omitted from the case studies.

The second shift in industrial heritage in West Germany happened after Britain's Industrial Archaeology movement during the early 1970s. The reforms of West Germany's preservation laws in the 1970s included from that point on forthright scientific and technical monuments or buildings/sites linked to the work environment in all West German Länder. In North Rhine Westphalia, the Land with the largest cluster of industrial activity in Europe, the cooperation with the new TICCIH organization led to the creation of a department of industrial heritage protection. The earlier accomplishments of the group of engineers in preserving significant old industrial sites served as a very well set up starting point in many parts of Germany. The closing of North Rhine Westphalia's coal-mines and most of its heavy industry between 1960 and 1980 gave the provincial conservation authority ample opportunity to practice a more technical oriented industrial heritage and becoming West Germany's front-runner in this field. The preservation of mining sites made the division between machinery and architecture impossible but it took nevertheless time and education efforts to reject the often practiced separation usual between equipment and the architectural shell in other industries.⁴⁰⁵ The realization of the *Emscher Park* through an international building exhibition led worldwide to a rethinking of how to treat historic industrial sites. The organizers understood obsolete and large size industrial complexes less as separate entities but as part of and belonging to a wider cultural landscape. Industries in this

⁴⁰⁵ However, it nevertheless happened also at mining sites. With support of the conservation authority, the Bochum Museum for mining (Deutsches Bergbau-Museum) dismantled 1973 the shaft tower of the Germania mine in Dortmund and re-erected it on the museum's site, for instance.

region had not just settled in an environment but they had an irreversible impact on it. Keeping this relationship of building and landscape became here as important as including technical equipment on site.

The former link between engineers or technical enthusiasts and conservation authorities that seemed to be weak in Germany since the last war may strengthen again. TICCIH, and other national groups such as the *Stiftung Industriedenkmalpflege*, a foundation dedicated to the promotion of industrial heritage, support groups of governmental monument curators specialized in research on historic industrial sites; further a lively network between these governmental curators and academic researchers exists⁴⁰⁶ that try to ensure a better understanding of the many aspects of industrial monuments so that preservation can reflect the complexity of Germany's industrial heritage.

⁴⁰⁶ The author found this fact reflected in conversation and the sifted documents in several archival researches conducted for the following case studies.

Part 2

**CASE STUDIES FROM QUEBEC, CANADA AND
WEST GERMANY (OLD LÄNDER)**

Chapter 3

CONTEMPORARY INDUSTRIAL SITES IN QUEBEC

3.1 The Laws and Administration of Heritage in Quebec and their Interaction with the Province's Contemporary Industrial Heritage

By 2012, contemporary industrial sites in Quebec had not entered the province's heritage listing in large numbers. There was (1) the extension in 1959 of Grain Elevator No 5 (fig. 3.1.1), designated by the province in 1964 because it belonged to the area of the Montreal Old Port, (2) a log flume from 1942 at Forestville, cited in 2007 (fig. 3.1.2), and (3) a small part of a residential area in Arvida, cited in 2010 (fig. 3.1.3).⁴⁰⁷ On a municipal level, the City of Montreal entered into their list of cited monuments a former Montreal gas-service station designed by the office of Ludwig Mies van der Rohe. In two cases, the mentioning as a "site of heritage interest" for Pointe-Claire's Avon Building and "exceptional heritage site" for the Canadian Power Boat Company was expressed in 2004 in their "Built Heritage Evaluation."⁴⁰⁸ These "citations" instruct officials of the city to conduct research before these sites may be altered, however this is not a legal requirement, nor does it effectively protect such objects.⁴⁰⁹ The author cannot exclude the possibility that in other urban centres in Quebec post-World-War-Two industrial sites may have found some kind of recognition similar to that of Montreal's "Built Heritage Evaluation," however, their number may be very small; for sites outside the Island of Montreal researched for the case studies, no such designation was mentioned.

⁴⁰⁷ "Patrimoine protégé et valorisé par la Loi sur le patrimoine culturel," Ministère de la Culture et des Communications, accessed November 2, 2012, <http://www.patrimoine-culturel.gouv.qc.ca/rpcq/rechercheProtege.do?methode=afficher>.

⁴⁰⁸ "Cahiers d'évaluation du patrimoine urbain," Ville de Montreal, accessed October 21, 2012, http://ville.montreal.qc.ca/portal/page?_pageid=2240,2893649&_dad=portal&_schema=PORTAL.

⁴⁰⁹ This was the stand in September 2012 according to the author's research.

Neither the old *Loi sur les biens culturels*, valid since 1972, nor the new *Loi sur le patrimoine culturel*, ratified in 2011 and enforced since October 2012,⁴¹⁰ impeded directly the listing of more recent industrial sites. Other reasons for this virtually exclusion may play a role. Decision makers in the *Commission des biens culturels* (from October 2012 on the *Conseil du patrimoine culturel*) may face difficulty obtaining sufficient knowledge on the history and value of this kind of site. Most members dedicate their time to these councils on a honorary basis, outside their professional work, and for a predetermined period of time, commonly between three and six years. They can consult an industrial archaeologist who may conduct research on behalf of the *Commission des biens culturels* or other governmental bodies, which takes time and costs money. The most conscientious member of this body may not gain the necessary expertise to react, on short notice, to the often sudden endangerment of contemporary industrial sites. Even if heritage inventories may one day cover all historic sites, more recent industrial objects will remain a challenge to get on the list in a timely manner because of the short time between vacancy and demolition and sparse information on them; they are commonly not studied as part of Quebec's culture. In addition, the interdisciplinary nature of values related to industrial sites must rely on the knowledge of a wide array of experts who are not likely members of the *conseil*. Not-for-profit or private expert groups with an interdisciplinary network for industrial sites, such as Aqpi, and wishing to interact actively with the *conseil*, have to do this within the limits of their own budgets which may reduce their possibility of influence. Neither the old nor the new version of the law

⁴¹⁰ "Cultural Heritage Act is passed," Government of Quebec, accessed September 6, 2012, http://www.gouv.qc.ca/portail/quebec/pgs/commun/actualites/actualite/actualites_111019_patrimoine/?lang=en.

provides positive regulation for the funding of these interest groups by the provincial government.⁴¹¹

The other problem of contemporary industrial heritage candidates is posed by Quebec's taxation laws. The main income of municipalities in Quebec is property tax. It is collected from property owners depending on the property value. The value of industrial land is on average a third lower than that of residential land while the tax percentage is over twice as high. A building on a site increases the value of the property and consequently a higher tax is due. In the example of the city of Pointe-Claire, according to the property assessment, in 2011, a residential lot with a single middle-class building owes its city hall roughly three dollars eighty per square meter in property tax; an average industrial site pays close to eight dollars per square meter in property tax. At the same time, the cost for municipal services may not differ much between the two lot occupations; therefore the municipality has a higher profit from industries occupying property within their municipal borders. The tax percentage does not change in the case of a residential or industrial building becoming vacant. But when demolition takes place, much less tax has to be paid, for two reasons: every building less on a property lowers the estimated value of the property, and the municipal tax rates are set even lower for empty lots. The city of Pointe-Claire collects from a vacant lot only one dollar and eight cents per square meter in property tax, this is seven dollars less per square meter in the case of a former industrial use but only three dollars lower when the building was residential. The incentive for a demolition is proportionally higher the more tax can be saved by transforming an occupied lot into an empty lot, because the saved taxes may outweigh the cost of demolition. Industries will clear their sites faster than owners of residential

⁴¹¹ Aqpi, *Mémoire sur le projet de loi 82*, 6-7.

property because, firstly, their tax savings are much larger with their more spacious lot sizes and an empty lot may sell more easily and to a wider range of industries, while for residential properties the savings are less significant and demolition may decrease the interest of buyers. Municipalities regulate with taxes the way they want owners to treat their properties; an abandoned industrial site bears no benefits to the community, it is evaluated as a nuisance not the least because it attracts squatters and scavengers, often vandalizing these sites for no other reason than to strip it off its copper wires. Industrial heritage conservation of newer sites is naturally much affected by this tax regulation. Any vacancy of an industrial building exposes it to the danger of immediate demolition. If no heritage value was associated and declared previously, preservation may be practically impossible.

When the Federal Government or the province leases properties to companies, the leasing contract commonly has the requirement to empty the lot of all buildings and contaminants when the lease runs out, and the company does not renew it. Here also, any hope of preservation has to take place as long as the buildings are still in use or preservation will not likely be realized. Unfortunately, due to the Municipal Aid Prohibition Act, properties of heritage character in industrial or commercial use cannot benefit from property tax breaks that are enjoyed by private owners of heritage sites.⁴¹² The owner of a still-operating factory will therefore interpret a heritage listing as a threat to the company's development, and certainly will try to avoid it. Industrial sites are still

⁴¹² Tax breaks or financial aid would contradict the Municipal Aid Prohibition Act, chapter I-15:" [...] no municipality shall, directly or indirectly, assist any industrial or commercial establishment, otherwise than in the manner provided in the Act respecting municipal industrial immovables (chapter I-0.1) [...] (4) by granting any exemption from taxation to any industrial or commercial establishment." "Municipal Aid Prohibition Act," Quebec Government, last updated November 1, 2012, accessed November 23, 2012 http://www2.publicationsduquebec.gouv.qc.ca/documents/lr/l_15/l15_A.htm.

in the same situation as all other heritage sites before the law reform of 1972, that introduced financial benefits for listed buildings and sites. Quebec's heritage law widened its categories to include technical and scientific value only in October 2012. Time will show if this new value category leads to a wider inclusion of industrial sites and an inclusion of industrial equipment.

The term "heritage" certainly carries a much wider meaning in Quebec's heritage law than in similar laws in Germany. In reality, however, Quebec protects commonly only on the exterior façade. The law allowed the inclusion of exceptional interior structure, but has not touched the technical equipment, while in Germany, depending on the character of the site, all three aspects have received recognition and care for several decades.

The following case studies distinguished between suburban and urban settings. A common assumption was that most Canadian suburbs formed after 1946⁴¹³ as a result of a government policy that rezoned farmland around the cities for housing and offered low interest loans so that war veterans returning to Canada could afford a home.⁴¹⁴ Industry was discussed in this context, often only in so far as it produced automobiles, on which the growing suburban middle class relied on for transportation.

However, connections between modern suburbs and industrialization existed for longer and on many more levels. The former farmers and summer-cottage village and now city of Pointe-Claire provides again a good example. Pointe-Claire's cottages were

⁴¹³ Martin Turcotte, "The City/Suburb Contrast: How can we measure it?" Statistics Canada, accessed November 21, 2011, <http://www.statcan.gc.ca/pub/11-008-x/2008001/article/10459-eng.htm#2>.

⁴¹⁴ As reflected in: Richard Harris, *Creeping Conformity: How Canada Became Suburban, 1900-1960* (Toronto: University of Toronto Press, 2004).

located on the shore of Lac Saint-Louis with a terracotta-brick factory further inland producing fire-proof building blocks (fig. 3.1.4) close to an active quarry. Native workers came by canoe across the river; the other workers lived in accommodations near the quarry and factory.⁴¹⁵ After the Second World War, the construction industry with all related production facilities turned certainly into one of the most active suburban economic powers in the first years after the Second World War in Pointe-Claire; it was so vigorous that city officials had to step in and restrict the number of building permits to assure proper inspection of building sites and to secure financial means for the increasing need for city services.⁴¹⁶ After this building boom that transformed the village to a suburban residential town, the two industries that created air pollution and even explosion shock waves, became a disturbance to the new residents and closed.⁴¹⁷ To avoid losing revenues from industries, the town created zones for old and for new industries on its outskirts along a projected new highway (Highway 40). Many places in Quebec and elsewhere followed this dynamic urbanization process in conjunction with industrial sites on the outskirts of urban areas. Richard Walker and Robert Lewis resumed their study on American suburbs:

Residential areas have not singularly led the way outward from a previously concentrated city, but have always been joined at the hip by industry locating at the urban fringe. The outward spread of factories and manufacturing districts has been a decisive feature of North American urbanization since the middle of the nineteenth century. Suburban growth as a whole has been a mixture of industry and homes, the city sprawling ever outward from its initial point of establishment and repeatedly spilling over political, social, and perceived boundaries.⁴¹⁸

⁴¹⁵ Brian R. Matthews, *A History of Pointe Claire* (Pointe-Claire: Brianor Ltd.), 97.

⁴¹⁶ Matthews, *A History of Pointe Claire*, 194-195.

⁴¹⁷ *Ibid*, 197.

⁴¹⁸ Robert Lewis and Richard Walker, "Beyond the Crabgrass Frontier," in Robert Lewis, ed., *Manufacturing Suburbs* (Philadelphia: Temple University Press, 2004), 16-17.

With the advent of the automobile, however, industries could grow more independently from adjoined residential development in larger distance to city cores.

The diversity of suburban communities hindered a universal definition of “suburb”. Statistics Canada paraphrases rather than defines suburbs as places of medium to low density neighbourhoods situated outside of inner cities with a distance to the city core of not more than twenty-five kilometres. However, the same source recognizes that there are many varieties of suburbs that do not follow this pattern.⁴¹⁹ Suburbs changed social networks and living habits and scholars researched mostly the new or not-so-new kind of residential situation.⁴²⁰ Looking at the history of many Canadian suburbs one could conclude that contemporary industrial heritage sites would be found predominantly in such suburban places. Confronted with reality, this assumption proved misleading as a high number of such industrial sites were, at least in Montreal, in the city core and in close proximity to residential areas which were either older, or as old as the industries themselves.

Ten industrial sites, built between 1940 and 1986, were chosen for this thesis as examples posing different settings and questions. Of the selected case studies, the author in the end chose eight that were situated on the Island of Montreal of which five belonged to the City of Montreal; one was selected just off the Island and one on Quebec’s North Shore. Nine of the sites had been featured in architectural magazines or books, some of them shortly after they were built and recognized as outstanding examples of industrial construction, and some, because the conversion of these sites in recent years created interest. The site in Northern Quebec, which found no recognition in architectural

⁴¹⁹ Turcotte, “The City/Suburb Contrast.”

⁴²⁰ On this subject, see for instance: Richard Harris and Peter J. Larkham, ed., *Changing Suburbs: Foundation, Form and Function* (London/ New York: E&FN Spon/Routledge, 2004).

magazines or architectural books, points to the major difficulty with this approach – researchers seem to follow the paths of journalists and other architectural historians who lived and worked mostly in the regions of Quebec City or Montreal and seldom visited the remote northern areas of the province.⁴²¹ The author became aware that industry-related architecture in Quebec had not been surveyed beyond the Ville de Saguenay.⁴²² The selection of case studies was certainly, to a high degree, by chance; the author could have included other sites. The author makes the point, however, that all of them could qualify as of significant heritage in Quebec if similar criteria were used as in the country of comparison, Germany. Only one of the sites created interest for some academic research, Grain Elevator No 5. Three of the first four examples are typical suburban sites, the fourth was the founding industry of the industrial town of Baie Comeau; the last chapter offers a collection of six sites in urban settings. The sequence of the chapters was kept in the order of construction date; in the last chapter the same order was maintained. No ranking of importance has taken place.

The proportion of four suburban sites to six inner-city sites, does, of course, not reflect the proportion of the number of potential industrial heritage sites in these settings. The situation in the inner-city environment, though, was more diverse and complex than in the suburbs where the discussion of the sites' circumstances may have been repetitive.

⁴²¹ This includes even spectacular structures such as the Daniel-Johnson Dam (Manic 5) at the Mouchalagane River for which the author found only reference outside of the discourse of architectural history, such as: Lili Réthi and William W. Jacobus, Jr., *Manic 5: the building of the Daniel Johnson Dam* (Garden City, N.Y.: Doubleday, 1971); Jean-Louis Fleury, *Les coureurs de lignes: l'histoire du transport de l'électricité au Québec* (Montreal: Stanké, c1999); or Stéphane Savard's article "Quand l'histoire donne sens aux représentations symboliques: l'Hydro-Québec, Manic-5 et la société québécoise," *Recherches sociographiques* 50/1 (2009): 67-97.

⁴²² The lack of research material as well as the impression during the site visits supports this claim.

3.2 The Avon Canadian Headquarters and Distribution Centre in Pointe-Claire

The Avon building (fig. 3.2.1) is part of Pointe-Claire's industrial park which is, according to the City of Pointe-Claire,⁴²³ eastern Canada's earliest such park.⁴²⁴ At that time, local officials could not ascertain whether some other municipality elsewhere to the west of this large country developed an "industrial park" simultaneously or even earlier.⁴²⁵ The Avon building of 1959-60 by Luke, Little & Thibaudeau Architects⁴²⁶ at 5500 Trans-Canada Highway is currently the second oldest of all still-intact sites in this industrial park. The only published source on the history of the industrial park are two pages in "A history of Pointe Claire" from 1985,⁴²⁷ accompanied by two photographs, one of the Procter and Gamble building (fig. 3.2.2) (since demolished), the other showed the cosmetic company Avon Products of Canada Ltd. Because constructions in Pointe-Claire's industrial park started only after 1950, none of the inventory done by the CUM or any other survey conducted by the province or municipality recognized the mentioned industrial buildings with the exception of the *Évaluation du patrimoine urbaine – arrondissement de Pointe-Claire*. This most recent inventory was done in 2004 after Pointe-Claire had merged with Montreal. The interest status of the building remained also after Pointe-Claire demerged again from Montreal in 2006.

⁴²³ Reported in documents for the park's twenty-fifth anniversary in 1986, Archives City of Pointe-Claire.

⁴²⁴ Archives City of Pointe-Claire. A concise history and definition of the term "industrial park" seems not to exist. The specific of industrial parks is their planned structure by municipalities on designated large areas of land in contrast to the organic growth of industry. Chicago had early attempts to control industrial locations over zoning-by-laws by the beginning of the twentieth century. See: Michael T. Peddle, "Planned Industrial and Commercial Development in the United States: A Review of the History, Literature, and Empirical Evidence Regarding Industrial Parks and Research Parks." *Economic Development Quarterly* 7/1 (February 1993): 107-124.

⁴²⁵ The CN Industrial Area in South Saskatoon, which was founded shortly after 1960 is eventually the oldest industrial park in the central part of Canada.

⁴²⁶ Luke and Little worked on residential projects and industrial commissions. Thibaudeau may have been a short time partner. Consulted archives and literature had no further information on him.

⁴²⁷ Matthews, *A History of Pointe Claire*, 253-254.

The northern part of Pointe-Claire, a small city west of Montreal, seemed well suited for industrial development because it offered large areas of well drained, level and stable land and excellent infrastructure. It was served by the Montreal-Dorval International Airport,⁴²⁸ the Canadian National Railways, and the harbour of Montreal was at less than an hour's distance. The park's main infrastructure would become the Trans-Canada Highway (Highway 40) which the province completed in 1965 as one of Montreal's main traffic arteries. The highway provided a direct link to Ottawa and Toronto to the west, the United States' border to the south and Quebec City to the east. The infrastructure offered direct national and international links to an increasingly global market. Residential suburbs that had sprung up in the early 1950s, not only in Pointe-Claire but in many other West Island communities, promised to provide a qualified and diversified labour force. The development of the park showed success, and in the following years the neighbouring communities copied it; Dorval, to the east, created an industrial zone around the airport after Pointe-Claire's model only few years later, Kirkland, to the west of Pointe-Claire, reserved land parcels along the highway for industries that started to settle in the 1970s and 1980s. Today, the area of the industrial park stretches over approximately thirty kilometres, often many city blocks deep, crossing the municipalities of Saint-Anne-de-Bellevue, Baie d'Urfé, Kirkland, Pointe-Claire, Dorval, Cote Saint-Luc and Saint-Laurent before the residential neighbourhoods of the City of Montreal prevented further development to the east. On the west end, companies can still acquire industrial-zoned properties along the highway. The development continues off the island on the mainland. New buildings are still being added while the old complexes are now being renewed or replaced. This industrial

⁴²⁸ The airport was renamed Pierre Elliott Trudeau in 2004.

development is Quebec's largest, and belongs among Canada's vastest suburban production and distribution hubs today.⁴²⁹

The idea of designating large areas in metropolitan suburbs for industrial development by means of zoning originated between the two World Wars, probably in the United States to prevent uncontrolled industrial development at the fringe of large cities but also to attract industries to designated sites with good services and infrastructure⁴³⁰ and was later taken up by Canadian communities.⁴³¹ Instead of letting industries choose the pattern of development, in an industrial park the municipal committee would oversee the planning and selection of companies. In this way, municipalities could offer customized space for a diversified, medium-sized, industrial development of mostly processing companies. These would benefit from community services such as electricity, sewage, roads and railroads, and public transportation, without disturbing the residents of the suburban neighbourhood seeking an escape from the crowded, polluted and more densely populated cities. North American suburbs, other than urban industrial agglomerations, have no direct traffic link between companies and employees. Street patterns in many suburbs strictly isolate the two from each other by

⁴²⁹ Other Canadian provinces have developed similar large industrial zones, for instance in Toronto/Mississauga, Vancouver, Calgary or Edmonton.

⁴³⁰ Robert Lewis, ed., *Manufacturing suburbs – Building Work and Home on the Metropolitan Fringe* (Philadelphia: Temple University Press, 2004), 186-187.

⁴³¹ The historic development of zoning legislation has not received much attention. By 1900, several European countries had zoning regulations that replaced feudal town planning activities. England incorporated a town-planning act in 1909 for undeveloped land; Germany for a long time had laws in place to limit building heights; Sweden had created a modern town-planning act in 1874, amended in 1907; Italy based its town-planning activities on regulations from 1865. In the United States, town development since 1682 used "the Grid and the Graft" approach based on scientific evidence of effectiveness, as the English town planner Leslie Patrick Abercrombie saw it. Canada and many other countries are mentioned as having contributed to the development of modern town planning, however it is not clear when planning practice is translated into by-laws. See: Patrick Abercrombie, "International Contributions to the Study of Town Planning and City Organisation," *The Town Planning Review* 4/2 (July 1913): 98-117.

having only major streets and highways as connection points and hiding industrial districts behind a greenbelt with groups of trees and dense shrubbery, for example.

In August 1955, Pointe-Claire opened their suburban industrial park initially on 1650 acres of farmland shortly after the Federal Government published the proposal to build a multi-lane highway across the island. The municipality added to both sides of the highway service roads⁴³² which ran along large-sized parcels of land. Parallel to the highway, some hundred meters to the south, a second road served an additional number of industrial sites of this park; soon, to the north, another such road would follow. The city secured a strip of green land along the border of the park's southern boundary towards the old village. C. W. Hymus⁴³³ who was "*commissaire de l'expansion industrielle pour l'ensemble du réseau*"⁴³⁴ of the Canadian National Railway organized train access to all major sites which attracted further industries. In his honour, this southern street through the park was named Hymus Boulevard. Industries settled also along the exit roads from the highway, specifically Boulevard St. Jean and Boulevard des Sources. In the 1970s, Pointe-Claire added land again, this time to the north.

The city of Pointe-Claire set strict guidelines for new industrial development, restricting the height of buildings to two floors and allowing only such industries that produced little pollution to water and air.⁴³⁵ Tall chimneys, the iconic symbols of historic industrial zones, were absent here. Under these circumstances there was no need to restrict the park to light industry, though a committee of volunteer citizens was in place to

⁴³² The service roads are not on maps of 1959 but are on planning maps marked as realized in September 1962. Archives City of Pointe-Claire.

⁴³³ Matthews, *A History of Pointe Claire*, 253.

⁴³⁴ "Patrimoine: la toponymie," Ville de Montréal, accessed October 15, 2011, http://ville.montreal.qc.ca/portal/page?_pageid=1560,11241558&_dad=portal&_schema=PORTAL.

⁴³⁵ Matthews, *A History of Pointe Claire*, 254.

suggest and enforce a clean look for buildings and other facilities. These demands were further anchored in the city's by-laws. Regulations required that all buildings be set back from the street by a determined number of meters, they prohibited parking in front of buildings, and restricted advertisement signs in size and direction: they had to be parallel or at a ninety degree angle to the street. The city demanded companies to give their buildings a contemporary modern look and most companies employed architectural firms for the execution of their buildings. The city sought counseling in all these matters from the architectural firm Barott, Marshall, Montgomery and Merrett from Montreal, which had set up business in 1912. J. Campbell Merrett had been the town's planning consultant before, helping to formulate Pointe-Claire's master plan between 1949 and 1952⁴³⁶ and he also proposed the new zoning plan for the northern area of the city, including the industrial park, in November 1955 (fig. 3.2.3).

Procter and Gamble Inc., a shortening and edible oils producer, erected the first production facilities in the park; the Pulp and Paper Research Institute was the second early land- owner in this area with forty acres on Boulevard St. Jean⁴³⁷ and the O'Keefe's Brewery also acquired a good twenty-five acres of land before 1956 to built a brewery which, however, was never erected.⁴³⁸ In 1957, Wallace Barnes, a producer of precision metal components, joined the Park, followed in 1959 by Canada Gunitite, who manufactured truck and bus parts, and General Motors, which needed a storage facility for spare parts and a distribution centre. Later in the year, Chrysler Canada and Avon Canada occupied sites. In 1960, Wire Rope Industries started building; Bovril Canada

⁴³⁶ "Section de la gestion des documents et archives de la Ville de Pointe Claire," *The Lakeshore News* (March 27, 1952), Archives City of Pointe-Claire.

⁴³⁷ Matthews, *A History of Pointe Claire*, 254

⁴³⁸ *The Chronicle* (December 28, 1956): 1 + 4, Archives City of Pointe-Claire.

(meat extract), Mallinkrodt Canada (pharmaceuticals), Schering Corporation (pharmaceuticals), Norman Wade (printing shop), Bardahl Inc. (motor lubricants), and Lakeshore/Mayflower Movers erected their facilities here as well. The list of architects for these early buildings contains, beside the already mentioned Barott, Marshall, Montgomery and Merrett, names such as Arcop, Luke and Little, George F. Eber and others. The standard of quality of design was high, even if most passers-by today find generally no appreciation for any industrial architecture.

A lengthy debate at city council discussed how to accommodate smaller companies that showed interest in this location but could not afford to move in because, initially, the city sold lots at a minimum of forty thousand square feet (3750 square meters) in size and did not permit double occupancy of sites. The Pointe-Claire Industrial park addressed the problem by subdividing lots in specific areas. This small business issue may have further led to the creation of a new concept of industrial building: the council agreed that real estate companies could construct buildings with subdivisions to be offered as industrial rental space to start-up companies and small enterprises. These places held mostly small laboratories, without the option to display a corporate identity except of a company sign. Since 1968, at the address 265 Hymus Boulevard, is a structure rented to several different tenants with one central entrance. At 2400-2620 Trans-Canada Highway another multi-occupied complex from the same year can be found, this time with multiple entrances. They may be the first of their kind. Other places copied this concept widely because it facilitated significantly the creation of new industries. It became a standard form of industrial real-estate development.⁴³⁹

⁴³⁹ When and where this concept was developed remained unclear. An article credited the municipality of Pointe-Claire for this concept; however, no further information supported this claim.

Canadian architectural newsprint magazines followed with interest the Pointe-Claire industrial park development (fig. 3.2.4) and portrayed several of the early plants as exceptional examples of contemporary industrial architecture. Many of these published buildings have endured the time remarkably well, such as the Norman Wade Building from 1962/63 (see chapter 3.3) or the plant and offices of the window coverings producer Hunter Douglas Ltd. by George F. Eber (fig. 3.2.5) from the same time period, which serves now Gentek, an exterior siding producing company.

Several of the first companies in Pointe-Claire are still operating in their original buildings, such as Paprican, today part of FP Inovations, and formerly known as Pulp and Paper Research Institute,⁴⁴⁰ and Wire Rope Industries. Others have been modernized recently (General Motors at 5000 Trans-Canada Highway and Chrysler Can. Ltd at 3000 Trans-Canada Highway), however, the number of those demolished is constantly rising. Unfortunately, the Procter & Gamble plant belongs to the latter group as well as the unusual landmark building of Bardahl Inc. (fig. 3.2.6-3.2.9). Avon is one of the unaltered sites. The cosmetic company commissioned in 1957 or 1958 the architects Luke, Little and Thibaudeau, three architects who worked together only on some industrial projects.⁴⁴¹ Morley Corbus Luke (1901-1967) and Harold-Butler Little (born in 1894-1987) were, in different configurations, active in Montreal between 1930 and 1970.⁴⁴² Thibaudeau, however, remained without references in indexes or online sources.⁴⁴³

⁴⁴⁰ Susan M. Clites, "Pulp and Paper Research Institute of Canada exemplifies centralized research," *Tappi Journal* (October 1992): 62-64. The facility was operating in 2012 still from their Pointe-Claire site.

⁴⁴¹ Claude Bergeron, *Index des périodiques d'architecture canadiens, 1940-1980* (Quebec: Les Presses de l'Université Laval, 1986) mentions the firm on p. 318 with Usines diverse B9653/Banques B0104/Imprimeries B8317 and members of the group for several other projects.

⁴⁴² Luke built, in collaboration with Alfred-Leslie Perry, several residences such as the Maison Edgar-C.-Budge in 1930 in Pierrefonds, in a traditional French-Canadian style, "Propriétés municipales intérêt patrimonial, Fiche du bâtiment," Ville de Montréal, accessed November 13, 2012, http://patrimoine.ville.montreal.qc.ca/patri_municipal/fiche_bat.php?affichage=fiche&ouvrage=&civique

In contrast to other companies in the industrial park, Avon decided to allow themselves the luxury of some additional meters of lawn between the highway and the sleek Avon plant. The plant is a long, horizontal, flat-roofed aluminum-frame building with green panels between the window bands of the ground floor and the top floor. The roof is flat with some mechanical equipment sitting on top of it. A slim brick cornice with an aluminum crowning enhanced the roofline. The same façade design continues over the entire front and side. The building's volume is divided in two, one block sits further to the front, a second one is recessed by some meters. The architect placed the main entrance in the connecting corner of the two parts under a one-storey-high concrete portico. The front of the building, with plenty of windows for natural interior lighting, clearly defined itself as office space; the vast storage unit for the distribution centre is hidden behind the offices and not easily visible from the street. A few medium sized trees were planted on both side of the property and low shrubs grow beside the long U-shaped driveway and along the walls of the building itself. On the lawn, between two flagpoles, a large square concrete slab on a low pedestal carries the name of the company (fig. 3.2.10). The Avon building represented the style of the late 1950s and early 1960s, without progressive appeal; it was ignored by architectural critics at the time of its inauguration.⁴⁴⁴ Architectural journalists preferred to feature instead another Pointe-Claire factory by the architects Luke, Little & Thibaudeau, the Schering Corporation

[=&voie=0&est_ouest=&appellation=&arrondissement=0&profil=0&protection=0&batiment=oui&zone=oui&lignes=25&id_bat=9999-02-0011-01&debut=41](#)); and both, together with Perry, designed the art-deco York Theatre in Montreal in 1938 on the corner Sainte Catherine Street and Mackay Street, which was demolished in 2001 to clear the site for a university building. Harold-Butler Little also taught at that time at the McGill School of Architecture.

⁴⁴³ The existing firm of J. Robert Thibodeau should not be confused with Thibaudeau.

⁴⁴⁴ At least, the author found no article in the consulted architectural journals of that time frame that were available in Montreal's university libraries or the library of the Canadian Centre for Architecture, it was also not mentioned in Claude Bergeron's *Index des périodiques*.

Limited, which used an aluminum frame and siding combined with wall sections clad with fieldstones.⁴⁴⁵ In 2008-2009 Avon added a warehouse on its west side, this building also has one part recessed, not for stylistic reasons but because a smaller company occupied the corner of the block. Avon occupied the building since inauguration. It is in good condition and just minor changes may have been done to the exterior.

In the entire industrial area of the West Island of Montreal, the Avon building is a rare case of an industrial building from after 1945 to which the City of Montreal gave “heritage interest”.⁴⁴⁶ The reason for the listing of the building was, according to the architect who researched this subject for the *Communauté de Montréal* in 2004 “*sa présence remarquable dans le paysage le long de l'autoroute, et son relatif bon état d'intégrité et d'authenticité.*”⁴⁴⁷ With this recognition the company was eligible to receive funding from the *Fonds du patrimoine culturel québécois* for renovations in accordance with the city’s urban planning department.⁴⁴⁸ This kind of support is certainly more beneficial for the owner than a designation as heritage under the Cultural Property Act of Quebec: The act would require the owner to ask for permission for any intervention on the exterior of the building from the city council’s urban planning department but, because properties “used for commercial purposes”⁴⁴⁹ are excluded from property tax breaks, it would not gain a financial relief.

⁴⁴⁵ The building was featured in *Bâtiment*, IX, 12, (dec. 1961): 37. The pharmaceutical company Schering Corporation Limited merged in 1971 with Plough forming Schering-Plough and again in 2009 with Merck & Co Inc.

⁴⁴⁶ “Cahiers d’évaluation du patrimoine urbain – arrondissement Pointe-Claire.”

⁴⁴⁷ Personal email with information from Anne-Marie Dufour, architect in charge of the on-site analysis of the territory of the former “Borough of Pointe-Claire” in 2004, received on November 18, 2009.

⁴⁴⁸ The author could not find out, if Avon took advantage of this option.

⁴⁴⁹ *Cultural Property Act of Quebec*, Chapter III, Division 1, point 33 “Any classified cultural immovable property not used for commercial purposes may be exempted from property tax to the extent and under the conditions provided by regulation of the Government up to one-half of the value entered on the

The City of Montreal, to which Pointe-Claire belonged from 2001 till 2006, evaluated the site as *immeubles de valeur patrimoniale intéressante*, which is a category lower than the *immeubles de valeur patrimoniale exceptionnelle* but this should not be confused with an act of recognition. The *Évaluation du patrimoine urbain – arrondissement de Pointe-Claire* mentioned many more sites in their publication than sites identified or recognized by the municipality. More decisively, Montreal's current master-plan recognized the Avon building as a building "of heritage and architectural interest located outside areas of exceptional value" in its borough.⁴⁵⁰

The reasons given to the author as justification for a selection of this specific site seem too generic to conclude that clear criteria were in place to single out the most valuable sites from all of the industrial properties. Even should the Avon building be the oldest building along the highway, the Paprican pulp and paper research institute may be partly older and should have been mentioned as well. Marilyn Palmer and Peter Neaverson observed that

the essence of industrial archaeology in the 1960s was the need to protect a selection of buildings and other structures associated with early industrialization. The lack of any established criteria for the selection process has led to the preservation of a random sample of industrial buildings, often those containing prime movers or being associated with key people or events.⁴⁵¹

Pointe-Claire showed similarities to above situation. While for buildings of the early industrialization process experts established some criteria, a lack of knowledge concerning the development of contemporary industrial buildings impeded an adaption of criteria after which a meaningful selection could take place. The house bell-sound of

valuation roll of the local municipality in whose territory it is situated;" and *Municipal Aid Prohibition Act*, chapter I-15.

⁴⁵⁰ "Montreal Master Plan, November 2004," City of Montreal, accessed October 29, 2012, http://ville.montreal.qc.ca/portal/page?_pageid=2762,3099656&_dad=portal&_schema=PORTAL.

⁴⁵¹ Marilyn Palmer and Peter Neaverson, *Industrial Archaeology, Principles and Practice* (London/New York: Routledge 1998), 43.

“Avon’s ding-dong lady”⁴⁵² rings still in enough ears to lift the company out of the sea of unfamiliar businesses around it, so one can assume people still relate to the site. But the lack of outstanding architectural achievement, or a link to Canadian or Quebec history, or respectively to a personality, is missing. When it comes to more recent and contemporary industrial architecture the shortage of competently selected inventory lists and company histories has a handicapping effect.

At the Aqpi conference in November 2011 (and in the following publication of Aqpi’s Bulletin),⁴⁵³ architectural historian France Vanlaethem, member of Quebec’s *Conseil des biens culturels* at that time, considered several buildings along the Trans-Canada Highway, among them Avon, as remarkable examples of suburban industrial building activities and even thought to consider it a “heritage corridor” of similar importance to the Lachine Canal. Her suggestion caused some laughter from the audience as even those experts, while conscious of the value of these structures, realized that so many issues with long-established industrial heritage buildings remained unresolved that it seemed lunatic to suggest such an idea even if, in general, they understood and supported Vanlaethem’s message. Vanlaethem named in her article the buildings that exemplified heritage value as part of a modern industrial landscape, all found along the TransCanada Highway but several kilometers apart from each other: The Scout Canada Building at number 2001 in the municipality of Dorval (demolished in 2012), the next four, Avon at number 5500, the Wire-Rope Building (fig. 3.2.11) across from Avon at number 5501, Leetwo at 7800 and, at number 17500, the local office of Hewlett-Packard

⁴⁵² The internet provides several examples of the Avon advertising campaign, popular in the 1970s with the house bell sound; e.g. <https://www.youtube.com/watch?v=0erWi1kmrvc>.

⁴⁵³ France Vanlaethem, “Le corridor de l’autoroute 40: paysage en mouvement,” *Bulletin de l’Aqpi* 23/2 (2012): 23-26.

belong all to the City of Pointe-Claire and, at 20045, chemin Sainte-Marie, is the *Laboratoire de santé publique du Québec*, one of Sainte-Anne-de-Bellevues' industrial sites. Each of the buildings showed a clear affiliation to distinct contemporary architectural styles: Brutalism with precast concrete slabs, aluminum-frame buildings with glazed and coloured panel, and so forth. Vanlaethem did not report on the technical equipment, the historic narrative or any other scientific or technical criterion unreported. The idea of appointing heritage value and protection to a number of buildings lining the highway to both sides and defining it as a linear industrial landscape park brings the industrial corridor of the Lachine Canal to mind. The Lachine Canal was transportation way, water supply and power source in one, and many industries depended for a long time on one or more of these services and that forced them to settle beside or close to its borders. There is a historic development of Canada's industries starting in the 1850s from the borders of the canal outwards over the following hundred years. Protecting foremost those sites close to the canal for their historic value can be justified because they are for the most part, the oldest industries that began Canada's industrialization.

The question, if the approach to defining the contemporary industrial landscape as only or mostly dependant on the highway as main infrastructure – as an equivalent to the canal – and as it can be experienced by the passing car driver as introduced by Robert Venturi, Denise Scott Brown and Steven Izenour in *Learning from Las Vegas*,⁴⁵⁴ can it be justified for similar or other reasons? Or would it rather truncate the essence of the historic value of this early industrial park development? The corridor concept would ignore the rather complicated early plan for positioning of buildings along primary and

⁴⁵⁴ Robert Venturi, Denise Scott Brown and Steven Izenour, *Learning from Las Vegas: the Forgotten Symbolism of Architectural Form* (Cambridge MA: MIT Press, 1972, revised 1977).

secondary road systems, with accessibility to a parallel railway service, all inside of a larger zoning plan. The highway cuts through the industrial park but it was not the only defining element of it, as the Lachine Canal had been a century earlier. Recognizing the confined borders of this industrial park inside the municipality of Pointe-Claire conserves this industrial agglomeration in a more historic and integral way and may help to understand the very different planning and execution of contemporary industrial landscapes. Pointe-Claire's industrial park may, by itself, qualify as a heritage district or ensemble, instead of the longer stretch including buildings of different municipalities along the highway. This suggestion would not preclude other buildings of the industrial district outside of Pointe-Claire to merit heritage value, as well.

A similar problem was discussed in 1981 when heritage experts in Germany superimposed contemporary geographical concepts on historically grown and individually developed industrial areas with the so-called "Rheinschiene," a heritage corridor following the river Rhein, "blurring" the regional differences of the earlier, independent industrial clusters with the later, free spaces occupying industries.⁴⁵⁵ Also along the Trans-Canadian Highway, a linear park would not represent the historic development in detail. The older, remarkable industrial park of Pointe-Claire would be judged equal to those parts of today's large industrial districts along streets that used Pointe-Claire as their model. The density of sophisticated industrial architecture of this park, not only along the highway but several lots deep specifically at the highway's southern side, of which the next chapter will offer an example, would remain unrecognized.

⁴⁵⁵ Wilfried Krings, "Industriearchäologie und Wirtschaftsgeographie. Zur Erforschung der Industrielandschaft/Industrial Archaeology and Economic Geography. On the Investigation of Industrial Landscapes," *Erdkunde* 35/3 (1981): 172.

3.3 The Norman Wade Company Building in Pointe-Claire's Industrial Park

The small printing business of Norman Wade Engineering Supplies Distributors⁴⁵⁶ (fig. 3.3.1+3.3.2) was located in Pointe-Claire's Industrial Park, at 76 Rue Hymus, in a building described in 1964 as "the Industrial Park's most exciting design."⁴⁵⁷ It is a work of Montreal's well-known architectural firm Affleck, Desbarats, Dimakopoulos, Lebensold, Michaud, Sise, also known as Arcop. Norman Wade was a company which prepared and printed graphic material, architectural blueprints and plans, photographs and so forth, in mostly large sizes and eventually larger volumes. Wade acquired property in 1961 as one of the first fifteen businesses in Pointe-Claire's industrial park; it was on the smallest available lot size at that time, forty thousand square feet, on the south side of Hymus Boulevard.⁴⁵⁸ During the next ten years, a further two hundred businesses would settle in Pointe-Claire's industrial park, to whom Norman Wade could offer printing services. The building needed flexibility in the interior for setting up the different printing machines. Two thirds of the floor space was to be used for production and storage; office spaces and a show room would occupy the other portion. Natural light in the office part may have been an additional requirement. Any local contractor could have produced a sufficiently satisfying structure to meet the needs, but Wade commissioned the young architect Ray Affleck with the design of the building because the planning commission of the industrial park required a "high standard in architectural design."⁴⁵⁹ Pointe-Claire's strict by-laws on building styles and the officials' design philosophy concerning developments in the industrial park were challenges for

⁴⁵⁶ "Industrial Park - A town planner's challenge," *The Montreal Gazette* (July 18, 1964).

⁴⁵⁷ Ibid.

⁴⁵⁸ Archives City of Pointe-Claire, box R3-27 CCU.

⁴⁵⁹ Archives City of Pointe-Claire, see also: "Industrial Park - A town planner's challenge."

architects specifically when confronted with small buildings, because the large lot sizes required some reflection on how to integrate the building into an empty-looking property (fig. 3.3.3). The reason for the choice of one of Arcop's architects has not been documented; however, the two parties already knew each other before the time of this commission. The architect's office was on Sainte Catherine Street in Montreal where Norman Wade had his operation before moving to his new site. Wade therefore knew the architect's work from running Affleck's plans through his copying machines.⁴⁶⁰

The Norman Wade building was the architectural firm's first commercial project. They had joined as a group in 1955. At the time Norman Wade asked Affleck to design his building in 1961, the group had only four completed projects in their portfolio and one in the works. The first building designed by members of this firm was the post office in the Town of Mount Royal (fig. 3.3.4), from 1954, a flat-roofed one-storey concrete frame building on a busy street corner with glass walls that were partly recessed on the two facades facing the street. In 1958 they had completed the Beaver Lake Pavilion (*Pavillon du Lac aux Castors*) in Montreal's Mount Royal Park (fig. 3.3.5), a public shelter with terrace and gallery. Here also, a concrete frame allowed the close-to-complete fenestration of its two-storey-high facade; however, the most striking feature of the pavilion is its energetic, multi-gabled roofline composed of butterfly roof components. It is commonly referred to as one of Montreal's earliest buildings of the modern style or, more precisely, as architectural historian Cynthia Hammond pointed out, "it is among the earliest examples of post-war modernism to be built in the city with

⁴⁶⁰ This possibility was pointed out in a phone-interview on March 29, 2012 to the author by Ray Affleck's son, Gavin Affleck, of the architectural group Affleck and de la Riva. Both the architectural group and Wade had offices in Montreal on Sainte Catherine Street and, according to Arcop Group which is still in operation in 2012, there was a customer relationship with Wade for a long time.

public funds.”⁴⁶¹ In 1959 it was followed by the Queen Elizabeth Theatre in Vancouver, British Columbia, a commission won through a competition in 1955. The structure features a flat, square concrete and glass box similar to their first work which surrounds a higher heavy concrete theatre core. The Saint-Gérard-de-Majella Church in Saint-Jean-sur-Richelieu, Quebec using a massive blind curved concrete facade of sculptural elegance is dated the same year. In 1961, when Wade approached the architects, the firm was designing the church Saint-Thomas-Aquinas in Saint-Lambert, Quebec, a structure composed of square blocks, in which the usual distribution of glass and concrete seemed reversed: fragile slender windows surround full-bodied concrete walls. In all these early works of this architectural group, there was mastery, playfulness and freshness in the way the contemporary materials of concrete and glass were used that set them apart from most other architecture in Quebec, and which became more common only with Montreal’s world exhibition of 1967.

The archives of the City of Pointe-Claire held only a few records on the Norman Wade building; there is the construction permit from August 31, 1961, which gives the construction cost of seventy-five thousand Canadian dollar (\$ 9.25 per sq. ft.) for a concrete frame building with glazed curtain walls in the front part of the building and walls of cast concrete blocks at the rear. The sum for the building was on the average to low end of construction costs of industrial buildings for that time.⁴⁶² The permit contained the information that the interior partitions were planned with concrete blocks;

⁴⁶¹ Cynthia Hammond, “Beaver Lake Stories and the paradoxical syntagma of modern heritage,” *Architecture and Ideas* VIII (2009): 54. The new facility of the Pulp and Paper Research Institute of Canada in Pointe-Claire was co-founded by the Federal Government in 1957 and was likewise a building representative of the modernist style.

⁴⁶² John Kettle, “An Analysis of Industrial Construction – 1957,” *The Canadian Architect* (May 1959): 59, published a table in which comparable buildings had an average cost per square foot of \$14.64 (Montreal \$15.47, Rest of PQ \$9.19)

the ceiling material was recorded to be executed in concrete and tongue and groove planks (t and g planks). The archival records comprised in addition, two permits for new lettering on the front of the building: in 1983 for the company Jo-Ad and in 1997 for Liebert, and a note of the change in ownership from Jo-Ad to Liebert Canada Inc. in 1995. The owner of the building in 2009 was Urbacon, a construction company. The business was listed as a manufacturing enterprise in the assessment role of 2011. Later that year it was bought by a group to operate import and export businesses. It is registered to a numbered company under the generic name of Canada inc. belonging in equal parts to the three owners of the different companies.⁴⁶³ Despite the frequent change of owners and industry, the exterior structure remained essentially in its original state. The interior had been renovated before that last change of ownership but, because most of the walls were put into place in the form of room dividers – leaving a space between dividing wall and ceiling – it had little impact on the shell structure. The current owner group, however, needed less warehouse space but more office area; they replaced some brick walls with floor to ceiling windows, matching those of the original structure. The interior was partitioned partly with walls now conflicting with the ceiling structure (fig. 3.3.6+3.3.7); in other areas dropped ceilings were built-in to lower the room height. The former airiness is obstructed with these changes. Dark hardwood floors replaced old wall-to-wall carpets, clashing with the older industrial style.

Soon after the Norman Wade building was completed, it came to the attention of several Canadian architectural journals.⁴⁶⁴ *Architecture Bâtiment Construction* featured the building on its title page and in a four-page-long spread in June 1962 and celebrated:

⁴⁶³ The author received this information in an interview, held on March 23, 2012, with Bashir Labat, one of the three co-owners, in his office on 76 Hymus Boulevard.

⁴⁶⁴ Bergeron, *Index des périodiques d'architecture canadiens, 1940-1980*.

“*La touche hellène d’équilibre et de force y est discernable, et n’a jamais été mieux adaptée a une réalisation essentiellement utilitaire.*”⁴⁶⁵ In the July 1963 issue from of the Canadian Architect, it is depicted again over several pages and described in a short article:

The Norman Wade Company Limited Building is another competently done addition to the Industrial Park of Pointe Claire, P.Q. This building is an independent sculptural entity in prestressed concrete expressing the innate quality of the architects. The conditions of building in this park are the by-laws, the nature of zoning and the subdivision rules which make each building potentially an independent entity. In other words, a challenge to the architect.

The Wade building has a treed area in its immediate vicinity. The brick colour is purple which harmonizes during the winter blending with the purple of the tree trunks. The play of light and shadows in conjunction with the deep reliefs of the elements of the building as well as the definite rhythm of the beams and columns make an exciting picture. In effect, it is a structural table with a box enclosure slid under.⁴⁶⁶

Claude Bergeron chose the Wade building for his 1989 publication on twentieth century architecture in Quebec as an example of industrial architecture from the period between 1945 and 1970, as well as one other building.⁴⁶⁷ Bergeron’s description of the building, which he based mostly on the above-mentioned journal articles, pointed out the large prefabricated, concrete t-beams that allow a free span of twenty meters across the entire building. The beams rest on steel brackets which are held up by square, slightly tapered concrete pillars which are placed in a quite eccentric way outside and a short distance away from the exterior walls (fig. 3.3.8). During the following decades, the wooded surrounding had made space for other industrial buildings; however, some trees had matured in front of the complex so that the brick colour still bound the building to the

⁴⁶⁵ “Entrepôt de Norman Wade Co. Ltd. à Pointe Claire,” *Architecture Bâtiment Construction* (June 1962) 33. Jean Bélisle reminded the author, that Dimitri Dimakopoulos, partners of Affleck, Desbarats, Dimakopoulos, Lebensold, Michaud, and Sise’s was Greek and may have himself inspired this comparison. The construction of an exterior pillar system on the two long sides seems like a modern copy of an antique Greek temple.

⁴⁶⁶ “Norman Wade Building, Pointe Claire, P. Q.,” *The Canadian Architect* 8/7 (July 1963): 41-45.

⁴⁶⁷ Claude Bergeron, *Architectures du XXe siècle au Québec* (Quebec: Musée de la civilisation, 1989), 155, the second example is the warehouse of the Viau Company in Quebec City by Bouchard et Rinfret from 1950 (154).

exterior landscape. From an architectural point of view, the Norman Wade building can be considered the most outstanding structure in Pointe-Claire's industrial park and, in the category of industrial structures, it may claim this position even on a provincial scale. None of the changes inside that have occurred lately are irreversible. The exchange of walls with windows had little visual impact on the exterior because the dominant feature is the detached row of pillars and the visible resting beams.

Under current circumstances, there is no expectation of finding this building at any level on a governmental heritage list. Of buildings built after 1945 in Pointe-Claire, only churches – and here all of them – and their affiliated buildings are in the official inventory of the Province of Quebec, none of them has, so far, acquired any official recognition as heritage. Including all communities from the western part of the Montreal Island, even structures that were built by other outstanding local architects after the Second World War, such as the Saint Edward of Canterbury Church from 1961 by Roger d'Astous (fig. 3.3.9), lack any kind of protection.⁴⁶⁸ In some cases, officials may not know about the buildings; in other cases, municipalities may prefer to keep building out of any kind of heritage discussion, fearing complications with the future development of properties and conflicts with the owners.

⁴⁶⁸ According to the "Répertoire du patrimoine culturel du Québec", by February 2013, the municipality had this church inventoried.

3.4 Quebec North Shore/Abitibowater /Resolute Forest Products Plant and Administration Building in Baie Comeau

Baie Comeau is home to the former Quebec North Shore Paper Company, which since 2007 has been run by Abitibowater which changed its name to Resolute in 2012.⁴⁶⁹ The history of this city is firmly connected to the development of Quebec's pulp and paper industry. Located on a natural bay on the Saint Lawrence River, and situated three hundred and fifty kilometers northeast of Quebec City, the city was until 1937 little more than a post office and a small saw mill. Officials called it Comeau Bay in 1929 after Alexander Napoleon Comeau (1848-1923), a self-taught naturalist and scientist.⁴⁷⁰ In 1936, after Robert Rutherford McCormick (fig. 3.4.2) opened a paper mill in 1911 in Thorold, Ontario, he established his second paper mill in the small hamlet of Comeau Bay. McCormick was an American publishing tycoon, who ran two large newspapers in the United States, the Chicago's "The Tribune," and the "New York News." His company also printed some journals such as "Illustrated Daily News." McCormick controlled, in a Henry Ford-like manner, the many sectors needed for his newspapers' production and publication, most importantly the raw material, the forestry rights in Ontario and in Quebec's Baie Comeau area, together with pulp and paper plants that he set up in those locations. Apparently under his influence, the name of the little settlement was changed from Comeau Bay to its French form, Baie Comeau,⁴⁷¹ short before McCormick's factory was constructed. The mill started operation in 1938 as Quebec North Shore Paper Company. McCormick needed a large amount of paper to feed his

⁴⁶⁹ "Abitibowater change officiellement de nom," Argent (May 23, 2012), accessed, October 29, 2012, <http://argent.canoe.ca/lca/affaires/quebec/archives/2012/05/abitibowater-change-officiellement-nom.html>.

⁴⁷⁰ "Baie Comeau," Commission de Toponymie, accessed February 15, 2012, http://www.toponymie.gouv.qc.ca/CT/toposweb/fiche.aspx?no_seq=3026.

⁴⁷¹ The author received this information by the staff at Baie Comeau's archives. See also: "Baie Comeau."

printing presses which the paper industry of that time could not supply. The paper shortage hindered the volume of his newspapers; however, it was not common practice for a newspaper publishing house to venture into supporting industries. A good half of his paper production, all produced in Canada, came from Thorold, the other half was produced in Baie Comeau and still, both plants were unable to completely satisfy the growing demand of McCormick's publishing business.⁴⁷² McCormick continued to establish additional paper mills in Ontario and Quebec.

With the operation of Baie Comeau's paper mill in 1938 began the growth of the village. Over the next decades, Baie Comeau became the main centre of the area. From 1952 on, the Ontario Paper Company (another company under McCormick's control) began to harvest electricity from the Manicouagan River; the city called the power station McCormick Dam.⁴⁷³ The power station generated more energy than the pulp and paper industry needed. At the end of 1957 the Canadian British Aluminum Company⁴⁷⁴ established a smelter in Baie Comeau to use the overproduction of energy.⁴⁷⁵ With an increasing quantity of energy generated by Hydro Quebec by power plants added further upstream in the 1960s and 1970s, Baie Comeau's aluminum facility could grow to one of Canada's largest such plants thanks to its strategic location⁴⁷⁶ and reasonably priced

⁴⁷² Paul-Émile Jean, *Baie-Comeau – Du Mont Sec à la Rivière Amédée* (Hauterive, Baie-Comeau: Éditions Jean, 1998), 59. The overall demand of his operations for paper in 1939 was at 326,254 tonnes, of which the two mills produced 247,174; in 1950 the demand had climbed to 444,024 tonnes.

⁴⁷³ "Centrale McCormick," Commission de Toponymie, accessed February 15, 2012, http://www.toponymie.gouv.qc.ca/ct/ToposWeb/fiche.aspx?no_seq=370330.

⁴⁷⁴ "Made by Alcoa in Canada," Alcoa, accessed February 15, 2012, http://www.alcoa.com/canada/en/pdf/Alcoa_in_Canada_08.pdf.

⁴⁷⁵ In 2000, the former Canadian British Aluminum Company became part of Alcoa (Aluminum Company of America).

⁴⁷⁶ All bauxite ore has to be shipped to the site from the mines in South America or from elsewhere, as Canada itself has no Bauxite ore.

energy.⁴⁷⁷ With the recent decline of newsprint, the paper plant struggled with overproduction. In 2011 it was announced that one of four paper machines would permanently stop operation, reducing the work force by ninety people⁴⁷⁸ to five hundred and twenty-three people.⁴⁷⁹ Long before this attempt to downsize, the paper industry had lost its position as largest employer that position of the aluminum smelter took over, which already in 1961 employed nine hundred people, and increased the workforce to one thousand seven hundred people in 2007.⁴⁸⁰

In its early times the city was remote and best accessed by air or ship. This changed in 1960, when the highway 138 linked this north shore town to the urban centres further west. However, remoteness of location of an industrial development should not be equated with backwardness of its culture and society. Many of the leading heads of the industry got their education at universities in Quebec City, Montreal or abroad, and were well-travelled. Besides the ambition to bring state-of-the-art equipment to the factories, there was a progressive spirit in the minds of managers and city officials to have the same outlook on all other aspects of their venture, architecture included.

Baie Comeau, situated in a sheltered bay in a gorgeous landscape, grew steadily. In 1951 it counted 3972 inhabitants;⁴⁸¹ at the end of the twentieth century it was a city of over twenty three thousand. It is only since the new millennium, that the population of

⁴⁷⁷ "Made by Alcoa in Canada."

⁴⁷⁸ "La fermeture d'une machine à papier à Baie-Comeau est dénoncée," Radio Canada.ca, accessed February 15, 2012, <http://www.radio-canada.ca/regions/est-quebec/2011/04/02/001-abitibowater-ferme-machine-baie-comeau.shtml>.

⁴⁷⁹ "Baie Comeau," Resolute Forest Products, accessed February 15, 2012, http://www.resolutefp.com/installation_site.aspx?siteid=19.

⁴⁸⁰ "Alcoa Baie-Comeau Smelter Celebrates Its 50th Year," The Aluminum Association, accessed February 13, 2012, <http://www.aluminum.org/AM/Template.cfm?Section=Home&CONTENTID=25233&TEMPLATE=/CM/ContentDisplay.cfm>.

⁴⁸¹ Robert Parisé, *Géants de la Côte-Nord* (Québec: Éditions Garneau, 1974).

Baie Comeau decreased slightly. By 2011, Statscan counted 22,113 persons, down 0.2 percent since 2006.⁴⁸²

Baie Comeau is known as the birthplace of the country's eighteenth Prime Minister, Bryan Mulroney. In the city itself, Mulroney's legacy is little felt. Two other personalities are commemorated more noticeably. One is the afore-mentioned Napoléon-Alexander Comeau. He is depicted in a sculpture navigating a canoe, and in a painting on a large wall at the entrance to the city's main commercial street; also the *maison du patrimoine*, a community centre, carries his name and so do other locations. The other is Colonel Robert Rutherford McCormick, the city's founder. An oversized image, painted in 2001, in the centre of the town keeps his memory refresh, while names of streets and places, such as the hydro power dam are further commemorations. "*On sait que Baie-Comeau doit son existence au courage du Colonel Robert Rutherford McCormick et surtout grâce à sa finance*" was the starting sentence for the chapter on Baie Comeau's raison-d'être by Paul-Émile Jean in the 1998-publication on the city's history.⁴⁸³ Locals mention the founder's name often and with respect in conversations, a circumstance that contrasted with the author's expectation because McCormick's controlled basically all of Baie Corneau's economy which was closely linked to his American businesses. However, he seemed to have been sensitive towards the French culture around the mill. He fostered, in a paternalistic way, the community's life, financially supporting the installation of water pipes to public buildings; he made possible the creation a diocese⁴⁸⁴ and, according to locals, supported the career of French-speaking employees to higher

⁴⁸² Since 1986, the number of inhabitants of Baie Comeau displayed in the "Census subdivision of Baie-Comeau, V – Quebec" by Statistic Canada include the merged neighbour town of Hauterive.

⁴⁸³ Jean, *Baie-Comeau*, 40.

⁴⁸⁴ *Ibid*, 136.

positions in his company. While the city was clearly a company town and most land belonged to Quebec North Shore, only part of the village was comprised of company housing while many homes were owned privately.⁴⁸⁵

Little had been documented on this paper company after it started operations. The fire insurance map from 1960 showed the plant as a complicated grouping of buildings that seem to have grown at a fast speed and led to additions placed wherever space allowed (fig. 3.4.3+3.4.4). Initially, the company's office was a small cabin placed in front of a large storage space connected to the plant over a narrow corridor; a building organization that probably followed fire safety standards. For the 1950s, the online Canadian Encyclopedia mentions a large scale enlargement and renovation; however, it does not refer to any source for this information.⁴⁸⁶ Shortly after this first renovation, a major restructuring of the plant must have taken place altering much of the footprint because the new structure differed significantly from that of the insurance map from 1960. This new plant was documented in several postcards from approximately the mid-sixties (fig. 3.4.1+3.4.5+3.4.6).⁴⁸⁷ A large, block-like, grey-blue facade located closer to the street replaced the former buildings and during the same period an office building was set up on the opposite site of Cartier Street (fig. 3.4.7+3.4.8), connected to the plant via an underground tunnel. The architecture of the office building displayed ambition. It is a three storey high, modern, white, horizontally-oriented structure on a square footprint. A

⁴⁸⁵ Ibid, 113-115.

⁴⁸⁶ "Baie Comeau," The Canadian Encyclopedia, accessed March 6, 2012, <http://www.thecanadianencyclopedia.com/articles/baiecomeau>.

⁴⁸⁷ Many of the forty-eight digitalized postcards published on the *Bibliothèque et archives nationales du Québec* internet site show the plant before and after the renovations. However, the early black and white photographs show the back of the complex and aerial views; the newer images in colour focus on the view with the new headquarter office best seen from Cartier Street which runs along the bay side of the building.

ground floor of slightly smaller dimension rests on a similar square concrete slab, which sits on the edge of a downwards sloping lot towards the water. For the walls the architect used white brick, aluminum framed windows run all around the building as a band on the ground floor and second floor, the architect accentuated the windows of the second floor, which cantilevers, with strong vertical light-grey bars. The windows at the two lower levels have a horizontal division into a large and a small portion, the small window alternating in one, on the bottom, and in the next window at the top. The third floor forms a recessed penthouse with an outreaching steel frame cornice holding shading panels to better regulate the climate of the interior. The architect used on all four sides of the building the same design and only altered the west facade where he placed the main entry. This is the side facing the city. The factory workers use a second door on the building to access the plant at a lower level on the south side, where the ground descends towards a parking lot. An enclosed staircase, starting on the parking lot level, runs up to the level of the office's basement where a tunnel connects the office with the main plant.

A short note in a publication from 2005 by Camille Legendre⁴⁸⁸ mentioned that the Quebec North Shore Paper Company became the company's new headquarters in 1962 after two other paper mills belonging to the company closed in Shelter Bay, Quebec, and in Franklin, Ontario, with the goal to concentrate operations in one region only. The redesign of both production facility and office resulted probably in this context. The office building's architecture has not changed, the factory, however, has increased in size and altered the exterior cladding facing the street, which is now horizontally striped

⁴⁸⁸ Camille Legendre, *Le travailleur forestier québécois: Transformations technologiques, socioéconomiques et organisationnelles* (Québec, QC: Les Presses de l'Université du Québec, 2005), 64; she cited: "Compagnie Quebec North Shore Paper et compagnie Price," *Trait d'Union* (Chicoutimi, November-December 1968).

in two hues of gray with light grey vertical bands. This last change had taken place before 1969, as a photograph in a publication of that date proved.⁴⁸⁹

The few documents available to the author named no architect for any part of the Quebec North Shore Paper Company⁴⁹⁰ but it is likely that at least the office building was designed or strongly influenced by an able architect, closely associated with Edouard Fiset. The City of Baie Comeau commissioned Fiset, a Rimouski-born architect and urban planner, in 1959-1960 to work out a new town plan for the fast-growing population, after the establishment of the aluminum industry and the changes in infrastructure caused by the highway. Fiset designed also the city hall of Baie Comeau (fig. 3.4.9), which is located across the street from the paper company's office. Fiset, born in 1910, had an office in Quebec City, from 1951, together with his partner, Paul Deschamps.⁴⁹¹ He had gained a reputation after designing the master plan for the Laval University Campus in Sainte Foy near Quebec City in 1947. He worked further on the master plan for the National Capital of Ottawa under the French urban designer, Jacques Greber, and he was appointed as chief planner of Montreal's Expo '67. In the sparse information available on Edouard Fiset,⁴⁹² it was found that he worked on Baie Comeau's city hall around 1959-60, but may have constructed it only in 1962. A promotional brochure, published in 1961, showed the city hall only in a sketch, which did not present

⁴⁸⁹ René LeGendre, *Biographies des figures dominantes et monographies de la Côte-Nord* (Port Cartier: Les publications du Golfe, 1969), 230.

⁴⁹⁰ The author also requested information from Baie Comeau's city hall (email response from March 21, 2012) which resulted in no information on the architect's name.

⁴⁹¹ "Fiset, Edouard," *Biographical Dictionary of Architects in Canada, 1800-1950*, accessed March 14, 2012, <http://www.dictionaryofarchitectsincanada.org/architects/view/1960>.

⁴⁹² Edouard Fiset was occasionally mentioned in newspaper and journal articles but was not recognized further. A retrospective exhibition on his work took place in 2002, organized by two art history students, Richard Beaudry and Sylvain Lizotte, from the Université du Québec à Montréal, see: Pascale Guéricolas, "Bâti pour apprendre," *Lefil: Le Journal de la communauté universitaire* – Université Laval, accessed May 14, 2012, <http://www.scom.ulaval.ca/Au.fil.des.evenements/2002/02.28/expo.html>.

the realized design but an alternative idea of a simpler square building. The final design was modified towards a more playful modernism by slightly outwards bending the facade, so that the building reflected the curve of the street. Baie Comeau's city hall and the Quebec North Shore's headquarters opted for similar architectural solutions: in both buildings, the second floor cantilevered over the ground floor and the fenestration showed the same windows, alternating small and large glass panels from the top to the bottom position, although the vertical facade slabs in between the windows were missing at the city hall as it faces east. However, we find similar shading slabs on one of Fiset's best known buildings, the Charles-de Koninck Pavilion of the University of Laval (fig. 3.4.10), which was built in 1963. Whoever signed as responsible for the design of the office of the North Shore plant proved capable to deliver an interesting, modern-looking work.

The building in Baie Comeau had already stood vacant by 2011 for several years. It became obsolete, probably as an effect of the change of ownership from Quebec North Shore to AbitibiBowater in 2007. Because it is still used as the main access to the plant, converting the facility to a new use creates difficulties. The plant owner fears safety issues if it is made available to the public. In the main board room a built-in table with a large, valuable, stone slab, that was set into place before the upper floor was constructed, cannot be removed without its destruction, but may not fit into any future plan. While scholars occasionally include Baie Comeau in their studies on company towns,⁴⁹³ they focus on other aspects but the building and, therefore, no heritage value may be

⁴⁹³ For instance in Robert Fortier ed., *Villes industrielles planifiées* (Québec, QC: Boréal, 1996) it was briefly mentioned as an example of an industrial city which merged with its neighboring community; Martin Dubois, Marie-Josée Deschênes and Marie-France Page, "Baie-Comeau: une ville planifiée," *Continuité* 80 (1999): 50-54; this collection of texts covers the founding of Baie Comeau as a residential settlement inspired by the *cités-jardins* and left the structure of the factory out of their observation.

associated to it through publications. Confirming Edouard Fiset as the architect could provide an argument for its preservation. In 2004 and in 2009, the Université Laval issued two reports in which Fiset's pavilions for the university were valued highly.⁴⁹⁴ The evaluation included that these pavilions be respected in their architectural features in future developments.

⁴⁹⁴“La mise en valeur et le développement du campus de l'université du Laval. La cité universitaire: une ville dans la ville” (Québec: Commission de la capitale nationale Québec, 2004), and ABCP Architecture & Urbanisme pour le compte du Comité d'aménagement et de mise en oeuvre (CAMÉO), “Le patrimoine moderne du campus de l'Université Laval: Le Pavillon Charles-de Koninck” (2009), both sources available as PDF.

3.5 Vaudreuil-Dorion's Former Hoffmann-La Roche Complex

The Swiss pharmaceutical company, Hoffmann-La Roche, built their new Canadian headquarters (fig. 3.5.1), which they occupied from 1971 until 1980, in the rural municipality of Vaudreuil-Dorion. The planners had decided to give the complex of the La Roche plant landmark character with a twelve-storey-high office tower because it was strategically placed where the two highways from Toronto and from Ottawa merged on their way to Montreal. Four massive pillars reaching above the roofline of the towers became the site's hallmark. The much smaller, block-like four storey laboratory facility repeated this architectural feature (fig. 3.5.2+3.5.3). From the highway, drivers could see the La Roche complex from kilometers afar as the only high buildings sticking up out of the otherwise level landscape of fields and little farms. The complex dominated its surroundings in a way that church steeples had for so long in Quebec's rural areas. The company chose their new location for the geographic position near the highway junction and close to Montreal; however, the complex was not, as in Pointe-Claire's industrial park, situated directly beside the highway. The planners decided to position it like a backdrop between the highway and the nearby Lake of Two Mountains, a widening of the Ottawa River.

The Hoffmann-La Roche tower remained for a good decade the only complex in this development and its height a single occurrence, even after the municipality added the Joseph Carrier Industrial Park in the mid-1980s that occupied parcels of land along the highway. In the new park, the city allowed only one- to two-storey buildings. Locals soon referred to Hoffmann La Roche's complex as a white elephant,⁴⁹⁵ because they conceived

⁴⁹⁵ Michel Bélisle, *De l'île-aux-Tourtes à Vaudreuil-Dorion* (Vaudreuil: Collectif pour l'histoire de Vaudreuil-Dorion, 2007), 342.

the chemical plant not only as oversized in its rural surrounding but also because it never lived up to its ambitious potential – five of the office floors never found tenants and remained unfinished.⁴⁹⁶ Something seemed to have gone differently than expected.

The high-rise in this pastoral setting projects a utopian plan of a dense and prospering industrial and commercial hub, as some cities in Europe produced them at that time;⁴⁹⁷ however, archival documentation does not reveal the origin of the concept in this case. The municipality of Vaudreuil-Soulanges may have hoped to attract a large number of the national and international headquarters of global enterprises that had started to move out of Montreal for a decade or so, as did Hoffmann-La Roche whose former headquarters building was in Montreal's municipality of Saint Laurent. Vaudreuil, however, could not compete with the fast-growing western metropolis of Toronto and the western provinces. Nevertheless, available data for the time after 1986 showed that the district of Vaudreuil-Soulanges grew steadily in population⁴⁹⁸ after Vaudreuil initiated areas for new industrial development in 1982.⁴⁹⁹ By 2009, the city of Vaudreuil had zoned seven areas for industrial use.⁵⁰⁰

⁴⁹⁶ When the author visited the site on January 20, 2012, the eighth to twelfth floors were finished, the third to seventh floors had no insulation, no floor or ceiling finishes and no partitions, but were heated by forced air.

⁴⁹⁷ La Défense in Paris, planned since 1958, or the City-Nord in Hamburg, developed from 1958-1960, following the concept of satellite office cities, were similar and more successful developments of this kind.

⁴⁹⁸ Census of Statistics Canada for the geographic area of Vaudreuil-Soulanges, gave a population of 71,226 in 1986, for 1990 there were 83,929, in 2000 there were 101,946, in 2005 there were 118,187 and in 2010, the last year available, there were 134,564 people living in the municipality (Table 051-0052 and 051-0022 for 2010).

⁴⁹⁹ The planning for more industrial zoned land must have started around 1981; a map of the new zoning was created on June 1, 1981 (Archives of the City of Vaudreuil).

⁵⁰⁰ "Parcs industriels," Ville de Vaudreuil-Dorion, accessed February 1, 2012, <http://www.ville.vaudreuil-dorion.qc.ca/developpement-economique/parcs-industriels.html>.

The industrial park Joseph Carrier prospered but under a changed concept than that of a satellite town; it followed the model set by Pointe-Claire of a low-rise park,⁵⁰¹ but without ambition for a prestigious design of industrial buildings. The developer and owner of the park, Joseph D. Carrier Sr., commissioned the Montreal Group Immobilier Grilli inc. in the 1980s to construct standardized industrial buildings for several of the empty lots which he rented or sold to a variety of companies. Vaudreuil named the industrial park after Carrier, who ran his company as a charitable foundation.⁵⁰² Despite fast commercial, industrial and residential development in the last decade, the Hoffmann-La Roche tower remained the tallest structure of the municipality to date.

Political circumstances freed unexpectedly the way for Vaudreuil's transformation from a farmer's village to a suburban city of Montreal. The Liberal Party defeated the Union Nationale government in June 1960. As part of the highway project, the Union Nationale government initially planned a bridge leading onto Montreal Island and passing through the neighbouring village of Dorion where an older bridge already existed. Work on the new bridge had started in May 1960 but the Liberals, after their victory, cancelled the project. They relocated the course of the road to Montreal three kilometers further north, passing through the territory of Vaudreuil.⁵⁰³ Consequently, Vaudreuil needed to function as a place of national transit, which demanded a reorientation of the land-use plan and zoning of the land adjoining both sides of the highway.⁵⁰⁴ Quebec's urban planner Jean-Claude La Haye (fig. 3.5.5) offered his services

⁵⁰¹ "Le modèle de développement que nous avons adopté, correspond à celui que s'est réalisé dans la Ville de Pointe-Claire" (Dossier 6059/12-269-7, from October 1982, Archives of the Ville de Vaudreuil-Dorion).

⁵⁰² "Federal Corporation Information – 0624411," Industry Canada, accessed February 1, 2012, <https://www.ic.gc.ca/app/scr/cc/CorporationsCanada/fdrlCrpDtIs.html?corpld=0624411>.

⁵⁰³ Bélisle, *De L'Isle-aux-Tourtes à Vaudreuil-Dorion*, 330.

⁵⁰⁴ Ibid.

in 1964 to help the municipal council cope with the future planning of their territory (fig. 3.5.4).⁵⁰⁵ While the census of Canada forecasted an increase in local population, La Haye hesitated to suggest fast industrial development and advised the officials to take no further steps in that direction at that time. In 1961, only six industries of small size were found in Vaudreuil, employing a total of one hundred and twenty-two people, of which the majority (four out of five) came from outside the village. General Motors (GM) showed interest in installing a vast plant in this neighbourhood and Vaudreuil created an industrial fund to be able to put services in place for that eventuality, only to follow in the end La Haye's advice:

*Il est cependant utile de remarquer que l'installation d'une industrie n'est pas toujours en soi un actif pour une communauté.*⁵⁰⁶

Most of Vaudreuil's land was well suited for agriculture and a low but outstretched car-manufactory would have interfered with farmer's interests. General Motors chose a different location in Sainte-Thérèse, north of Montreal which they closed and demolished in 2002. A large shopping mall replaced it.

Around 1970, Hoffmann-La Roche bought their two hundred and fifty acre parcel on the north-west side of the highway, four times the length as the width. The north corner of the property pointed towards a little bay of the Lake of Two Mountains, offering a view onto the water. The company envisioned a large production facility with plenty of office space for their Canadian headquarters, which they would build in two phases. The first phase occupied a fourth of the land at the scenic north-eastern lot with an administration building, a laboratory, a chemical production and packaging facility,

⁵⁰⁵ Letter by Planning Consultant Jean-Claude La Haye to Le Conseil Municipal, Hôtel de Ville, Vaudreuil, P.Q. from November 27, 1964, Archives of the City of Vaudreuil.

⁵⁰⁶ Jean-Claude La Haye et Associes, Ville de Vaudreuil, report, not dated, 59, Archives of the City of Vaudreuil.

and a power house. The second phase would have grown south-westwards from there, away from the water. Plans for the never-realized second phase of Hoffmann-La Roche could not be found, but would certainly have increased the laboratory and production space; the growing administration would have slowly occupied the free levels of the office tower, of which only the top five floors, the ground floor and the second floor with a conference center, had been completed in the first phase.

For the design of this first stage, Hoffmann-La Roche commissioned Montreal's well-established architectural firm of Marshall, Merrett, Stahl, Elliott and Mill. The firm's founding extended back to 1912.⁵⁰⁷ In the decades before the La Roche commission, the firm signed as responsible for many industrial and institutional buildings in Montreal. They had designed a large printing facility for the city's English newspaper *Montreal Star* in 1957 on Saint Antoine Street West (fig. 3.5.6);⁵⁰⁸ in 1965, McGill University asked the firm to build the McIntyre Medical Sciences Building and, in 1970, Burnside Hall for the Faculty of Science. These three buildings have entered Quebec's heritage list.

Since Hoffmann-La Roche moved out of the plant, the concrete complex with its Brutalist style sparked interest in the creative community; it was several times chosen as film location,⁵⁰⁹ and became eternalized in the fiction book "Ice Lake" by Trevor Ferguson (born 1947).⁵¹⁰ Regardless of its growing popularity, the public has no free access to the property, which is still partly operated as rental offices. A fence of over six

⁵⁰⁷ They opened the firm under the name Barott, Blackader and Webster; the firm went through several name changes according to the architectural partners, and, since 2000, was known as Nfoe et associés architects. John Campbell Merrett designed Pointe-Claire's industrial park, see chapter 3.2.

⁵⁰⁸ After 2008 the newspaper plant was transformed into a Westin Hotel.

⁵⁰⁹ A list of companies can be requested from the real estate management but is declared confidential.

⁵¹⁰ Trevor Ferguson, alias John Farrow, *Ice Lake* (Toronto: Harper Collins, 2001).

feet in height runs all around the group of buildings and a security guard is present at all times. Researchers need to go through a lengthy procedure to gain permission for a visit. Leon Whiteson showed a rare glimpse with two interior views in *Modern Canadian Architecture*, published in 1983; in July-August 1972, an article in Montreal's journal, *Architecture/Concept*, put the building on its title and portrayed it on four illustrated pages.⁵¹¹ The few other images of the building in architectural magazines are exterior views only, often as aerial shots.⁵¹² A site visit to the complex showed that an evaluation of the building, either from images or from the distant view of a passer-by did not capture the architectural merits of this complex, nor did it give an insight into the problems the building is facing.

After over forty years, the exterior of the building looks still clean and the owner kept all visible parts in good to excellent condition. Any kind of damage or wear had been taken care of and the one-man maintenance personnel assured the author that this would continue in the future. When the author's visit took place on a sunny Friday morning in January 2012, some thirty cars in the company's visitor parking lot reflected the low occupation of the site, which, at one time gave employment to over three hundred scientists and other skilled employees. It therefore surprised the author that, beginning at the empty gate-house – a structure of a small cabin slid under a large steel structure covered by a heavy concrete slab – over to the paved driveway and all exterior free spaces and walls, the site showed no signs of neglect. Snow was cleared from the driveways, the visitors' parking lot and the sidewalks. In the warmer months, the large

⁵¹¹ Claude Bergeron's *Index des périodiques d'architecture canadiens : 1940-1980* listed three articles, one in each of the following magazines: *Canadian Building* (Feb. 1971), *Architecture Concept* (July/Aug. 1972) with the Hoffmann-La Roche tower on the cover, and *Architecture Canada* (July 1973).

⁵¹² Bélisle, *De L'Isle-aux-Tourtes à Vaudreuil-Dorion*, 343; and "Quebec shows industry can help environment," *Canadian Building* (February 1971), 41.

areas of grass always appeared recently mowed, and the trees – evergreens close to the building which followed in steady rhythm the organically curved roads on the property and deciduas trees for the outer areas, mostly planted along the property line – were trimmed and healthy looking. The Montreal firm Environplan, founded by Giac Vincelli, created the planting plan of the quite elaborate landscaping around the site (fig. 3.5.7).⁵¹³

Most parts of the Hoffmann-La Roche office complex had an off-white cladding of precast concrete panels with an unstructured smooth surface. The walls contrasted in colour with dark tinted recessed window bands. At the office tower, the window-bands ran all around the core building, slicing it optically into separate layers. The four massive protruding square pillars, which run up on both short sides of the office tower, seem to fix the layers of the tall building firmly in position and bolt the structure optically into the ground. Similar protruding elements reach over the roofline of the four-storey-high laboratory and production facility, here also affirming the stability of the structure. Mechanical equipment on the chemical production unit, the top part of the power house and at the gate house show glazed black surfaces and tinted glass. Architectural critic Leon Whiteson remarked on the Hoffmann-La Roche plant that “a building in which drugs are made must look most reassuring” and that

the architecture of the Hoffman-La Roche complex is simply and strongly stated. It is, in its crisp image of modern pharmaceutical manufacture, both handsome and reassuring.⁵¹⁴

The building in this environment, surrounded by flat fields and distant low constructions, has a monumental presence far larger than the actual size of buildings warrants. Had the administration tower been built in one of Montreal’s modern office districts, it would have been one of the lowest in the neighbourhood. The impression of architectural

⁵¹³ “Hoffmann-La Roche,” *Architecture/Concept* (July-August 1972): 18.

⁵¹⁴ Leon Whiteson, *Modern Canadian Architecture* (Edmonton: Hurtig Publishers, c1983), 226-229.

largeness was even more strongly felt during the site visit as the constant breeze coming from the water simulated the well-known wind-tunnel effect around buildings, which people associate with tall sky-scrapers, but here it was caused by the lack of obstacles in the surroundings.

The author entered the building from the short side of the tower, facing the gate house. The visitor stepped through large tinted glass doors into a rather dark, sombre foyer (fig. 3.5.8). To the front was a counter for the clerk; behind this desk ran the main staircase with smoke-coloured glass panels under a metal railing and a red carpet on the floor. Irregular ribbed gray concrete formed the wall behind the stairs. While the ground floor seemed dark and only indirectly lit, light shining through floor-to-ceiling high windows illuminated the second floor from all sides (fig. 3.5.9). Ribbed concrete walls, red carpet and metal fixtures continued on this floor; the eye focused therefore on the volumes and shapes of the built-in features: an upwards spiral of a centrally anchored concrete staircase, passerelles, cantilevered room-sections, and carpet-covered wardrobe counters. An audio-visual conference room with ranked seats for at least 150 people took up the central core of the second floor. In contrast to the clear lines and neutral colours of the exterior, the semi-public spaces were complicated compositions of skilfully overlapping and interlinking elements, strongly coloured and with powerful light and shade effects. Light fixtures were recessed into the ceiling or mounted along the walls above ceiling level, to produce an indirect light which shone down the walls, accenting the irregular rib.

The visit continued on the two highest floors of the administration building. The eighth, ninth and tenth floors were rented out to a variety of companies and could not be

visited; the top two floors were, at the time of the visit, empty and could be shown. Hoffmann-La Roche used the twelfth floor as executives' offices. It was the only floor with room units on both sides of the building and a central, wide corridor area. Along the walls hang large built-in cupboards in strongly grained walnut wood. These were mounted from the ceiling down to roughly twenty centimetres above the floor with no legs to support them. The wood showed only slight signs of usage at the handles. White panels covered the ceiling in the corridor; dark brown ceilings in the light-flooded offices muted the glare of the sunlight, the wall-to-wall carpet was of a bright blue colour. The same elegant built-in storage system hang down the back walls of the medium-sized offices but could hardly compete with the stunning view of the landscape of river plane and its surrounding hills (fig. 3.5.10+3.5.11). The corner offices offered even more stunning views to two sides but were inconveniently noisy because the wind whistled around the edges, a surprising side-effect of the unsheltered location. On stormy days the noise must reach a disturbing volume. On the short sides of the floor two conference areas with diagonally-placed wall sections found space. In a corner was a bathroom with red walls and carpets, and black sinks adjoined by a gray-tiled shower. As far as the facility manager knew, the interior was original in all details. However, the blue carpet did not fit the colour scheme of most of the other interior spaces.

The eleventh floor had an open floor-plan. Recently, a telemarketing company had rented it, for which the owner allowed small offices with windowed walls to be built-in on one side. The five unfinished floors (fig. 3.5.12) gave the visit a surreal experience; it was as if time had come to a halt for decades just at the moment the structural shell was finished, the ducts and plumbing installed and the construction workers had finished

cleaning up: bare concrete on walls, pillars, floor and ceiling, only interrupted by the wide strip of windows around the floor which, oddly enough, were crowned by a short row of dark brown, elegant ceiling panels. It surprised the author that all these empty floors had been heated to close to normal room temperature.

An extensive tunnel system, as if inspired by Montreal's underground city, connected the different components of the complex. Seldom do underground levels spark the creative impulses of their creators. Structurally, the subterranean work was conventional: long straight tunnels meandered mazelike in different directions with some wider storage areas, side rooms and the occasionally inserted freight and passenger elevator so that any sense of orientation would have been quickly lost had not somebody given the problem some thought. All parts of the underground ways had clearly distinguishable embellishments (fig. 3.5.13-3.5.16). The corridor that belonged to the office tower had a sequence of ribbed concrete panels and plastered white wall sections on one side; more common were walls with geographic wall paintings in distinct patterns. In many spots the viewer was reminded of works by the 1950s *plasticien* movement, a Quebec counter-movement to the automatists, of which Guido Molinari and Claude Tousignant have become the most famous. Wide, multi-coloured bands in straight and curvy lines embellish some sections; in other areas, floor- to wall-high geometric blue shapes were chosen. Even the mechanical equipment in the power house received a colourful enhancement. The selection of colours here had to follow the industrial colour code,⁵¹⁵ alternating black and white walls behind the pipes and boilers emphasized their

⁵¹⁵ The American National Standard Institute/American Society for Mechanical Engineers A 13.1 code assigned specific colours to the following usage: Yellow for flammable fluids, red for fire quenching fluids, orange for toxic or corrosive fluids, green for potable, cooling, boiler-feed, and other waters, blue for

effect and, if a wall looked bland, curvy lines were painted on those sections. For the wall painting and eventually the colour treatment throughout the complex, the architects asked Rolf Harder (fig. 3.5.17), founding head of Design Collaborative Montreal (1965-1977), for his collaboration.⁵¹⁶ Harder was born in 1929 in Hamburg, Germany, and moved to Montreal in 1959. In 1972 he was one of two Canadian designers representing the country at the thirty sixth Venice Biennale.⁵¹⁷ He summarized his own credo as:

The aim has always been to convey a message clearly, concisely and with originality. Beyond serving his client's needs, if a designer is to play his part in society, his work should be esthetically satisfying, intellectually stimulating and imaginative—in short, in harmony with human needs. This may be considered his modest contribution toward a more livable and less visually polluted and confusing environment.⁵¹⁸

How much the paintings vitalized, even energized the space is most strongly felt where they are missing; a tenant whitewashed walls in two areas. These areas become immediately unattractive and bland. According to the facility manager, the tenant did these two “repairs” because the paint was starting to chip, although it was executed in this insensitive manner without the permission of the building’s owner. The intact laboratories also got a new coat of paint for the furniture which was originally red, and is now a neutral blue-gray; the black counter tops remained original.

The real estate manager of the site, who was the second person besides the facility manager giving the tour through the Hoffmann-La Roche complex, gave the building’s owner, Robert Miller, much credit for the excellent condition of the facility. It seemed money for the maintenance of the site was of little concern and accumulating profit not a necessity. Robert Miller made a fortune as founder and owner of the distributing

compressed air, brown for combustible fluids, purple, black, white and gray can be defined by the user. Yellow paint is also used to mark safety equipment such as hand rails, barriers and so forth.

⁵¹⁶ “Hoffmann-La Roche,” 18.

⁵¹⁷ “1985 Recipients,” Society of Graphic Designers of Canada, accessed December 21, 2012, <http://www.gdc.net/about/fellows/articles141.htm>.

⁵¹⁸ Ibid.

company Future Electronics.⁵¹⁹ He acquired the complex in 1995⁵²⁰ under his new holding Complex Future, and had his own company Future Electronics rent two floors of the building. At that time the company's sign was mounted on the high rise for several years. Future Electronics moved out in 2008. Yet, Miller was not the direct successor of Hoffmann-La Roche. Prior to the acquisition by Miller, Hoffmann-La Roche had sold the complex in 1986-1987 to Gigamos Real Estate, Montreal, and re-established its headquarters in Mississauga, Ontario. In 1994, Locam - Truck Rental, Leasing and Repair - had bought the La Roche site but was unable to fulfill the payment agreements which gave Miller the option to take over the project. The official land value in 2011-2012 was estimated at a little less than six million Canadian dollar. With an increase in value, since the last evaluation dating to 2007, the building's value came to slightly over six million dollars but decreased by 300,000 dollars. The adjoined property, which belonged to the Hoffmann-La Roche site, for a long time was zoned for heavy industry but must have had its zoning changed recently because in newer development plans, only a small strip on the highway side is reserved for industrial development; the major part looks forward to residential use, which would simultaneously increases the property value. The zoning plan from 2002 already marked the parcels north of the Hoffmann-La Roche site as residential. This development towards a residential district may one day put development pressure on the currently underused industrial complex.

The building's outstanding architectural quality and excellent condition, the mostly intact original artwork and interior furnishings, its local landmark character and its environmental impact on the municipality of Vaudreuil as the first major industrial site

⁵¹⁹ According to Forbes, in 2007 Robert Miller was in the ranking of Canada's ten most wealthy people with an estimated fortune of 2.5 billion Canadian dollars.

⁵²⁰ Système de la publicité foncière/registre foncier.

in this area could be criteria for its *mise en valeur*. Its relatively recent building date, its industrial vocation and the fact that it is still in use, however, may be seen as obstacles. So far, heritage listings of Vaudreuil-Soulange include only historic buildings of the eighteenth and nineteenth centuries. Furthermore, no industrial site of that era of construction has so far gained entry in lists in any other part of Quebec.

Should the building's owner one day require profit from this site, and the building continues to fail to attract more tenants, the municipality will have no alternative but to allow demolition if no preparation is in place to claim the site's heritage potential. The time span from requesting a demolition permit to the date of demolition may be too short for official preservation actions.

3.6 Inner City Industrial Sites in Quebec's Metropolitan Area of Montreal

The central metropolitan area of Montreal holds a surprising number of Post-World-War-Two industrial sites. The smaller of these production sites are commonly overlooked by passers-by because their size and building materials blend into their surroundings. The stylistic differences between industrial architecture and that of modern commercial, public or residential buildings diminished after World War Two. The exterior of both industrial buildings and those for other purposes show clear lines, rectangular shapes, flat roofs, long window bands which were enabled by steel or reinforced concrete frames, rejection of decorative details, and materials such as brick in a variety of colours, in connection with exposed concrete – a cheap and fast way to build. These newer industrial urban sites occupied left-over spaces and adjusted size and kind of industry⁵²¹ to by-laws that had already acknowledged the mixed use of the urban environment. Their existence reminds us that the move of industry to suburban plots was not exclusive. The reason why some industries resisted the move further out of the central area for a longer period of time is not widely discussed. Geographer Robert Lewis mentioned that at the beginning of the outwards trend, at the end of the nineteenth century and the beginning of the twentieth century, workplaces for women and children remained longer in the vicinity of their residences than those jobs done by men. But this gender-related difference had started to even out before World War Two.⁵²² In the case of Montreal, it is reasonable to believe that before the merger of 2002, each town or city had encouraged industries to stay inside their municipal borders to benefit from their tax

⁵²¹ They are light industry facilities with little environmental impact.

⁵²² Robert Lewis ed., *Manufacturing Suburbs – Building Work and Home on the Metropolitan Fringe* (Philadelphia: Temple University Press, 2004), 88.

revenues. This situation altered after the merger, the City of Montreal could move industries outside of former borough borders without losing revenues.

Today, it seems that most of the inner-city's industrial sites have stopped operation, some only recently. Immediate demolition of the majority of them must be assumed for older facilities as well as newer ones. But there are those that were converted to other usages and therefore remained intact. Both demolition as well as conversion of centrally located industrial buildings is in accordance with the City of Montreal's current vision which is to clear residential districts of industrial activities to reduce disturbances to citizens. In 2007, Montreal's city executive committee member in charge of economic and sustainable development, Alan DeSousa, promoted a two-year and fifteen million dollar program named "PR@M-revitalisation" to relocate inner-city industrial operations out of residential districts (fig. 3.6.0.1+3.6.0.2). During the introduction of the program, he mentioned to a Montreal newspaper that

in some parts of the city you have industries and businesses that are there by acquired rights, but neighborhoods have built up around them [...] Often these businesses are perfectly legal, but they create a nuisance in the community ... it could be noise, emissions, dust, odours, or (high) volumes of truck traffic.⁵²³

The program affected not just the actual downtown core of the city but all of metropolitan Montreal and included, therefore, former dense industrial districts. In the borough of Saint Laurent at the western border of the city, which had merged with Montreal in 2002, the owner of Velan, a multi-national steel valve producer, was asked to relocate his former headquarters and still operating production site (built in 1956 and located on Ward Street, at the corner of Arthur Street) further out to another industrial

⁵²³ "City to offer subsidies to move factories out," *The Montreal Gazette* (November 17, 2007) A7.

zone in the city.⁵²⁴ The city officials argued that industries occupy land in vacant areas at the old fringe of the city and, over time, were becoming surrounded by residences. However, the complex interrelationship between factories, residential housing for workers, as well as commercial services are not fully reflected in this view, nor is the fact that before the merger industrial zones inside of formerly independent cities were positive assets of those communities. Contrary to DeSousa's statement, many industries were either located near already existing residential districts to have access to a nearby working force⁵²⁵ or they were developed simultaneously with new residential housing for the workers located close by, from the beginning of Montreal's industrialization in the 1850s until the late 1950s. Robert Lewis observed that after the first few decades of the twentieth century

[a]s industry migrated to the fringe, nevertheless, workers sought homes close to their suburban place of work because few of them could afford the trolley.⁵²⁶

Even when the car became the most common means of transportation and commuting distances increased, industries liked to rely on a local workforce, as the study of the industrial park of Pointe-Claire has demonstrated for a suburban context, and which the following examination of the Chabanel district will show for an inner-city industrial area. The city's urge to relocate industries may have more to do with the rising value of land in these areas and the demographical shift in the urban society where blue collar jobs are in decline and jobs in the service sector are increasing. When a local factory loses its role as major employer, noise, smell and a higher volume of truck traffic is experienced as a

⁵²⁴ According to information gained from Velan employees.

⁵²⁵ Richard Harris, "Suburbanization and the employment linkage," in Lewis (ed.), *Manufacturing Suburbs – Building work and home on the metropolitan fringe*, 221-236.

⁵²⁶ Robert Lewis, "A city transformed: Manufacturing districts and suburban growth in Montreal, 1850-1929," in Lewis (ed.), *Manufacturing Suburbs – Building work and home on the metropolitan fringe*, 88.

nuisance whereas before the proximity of the working place was a benefit counterbalancing the disadvantages of neighboring industries. The PR@M-revitalisation program offered “to cover 75 per cent of admissible costs to owners who demolished their factories or transformed them into housing. The maximum grant of \$1.5 million was given per project.”⁵²⁷ This redevelopment-program was an addition to the “PR@M-industrie” program designed to concentrate, more efficiently, industries in a few designated zones inside the municipality of Montreal. The sum of the government grant attracted specifically those owners whose buildings were small enough to have demolition or conversion costs covered up to the maximum of seventy five per cent. As an initiative for the demolition or conversion of larger buildings, the offered grant was certainly not high enough; however, larger projects were not excluded from applying for the grants. By 2012, the City of Montreal had received ten applications, all for demolition, and none for conversion. With this number of projects, the sum of the grant was exhausted and the program closed.⁵²⁸ Thus, the historically grown architectural mix of neighborhoods having industry and housing side by side was altered towards a separation of the two.

It is difficult to estimate the original number of factories from the 1940s and later in Montreal’s central metropolitan area. The demolition of such sites was seldom of any concern and their disappearance went on mostly unnoticed. Industrial properties were seen as real estate with most of the value related to the land. Once zoning was changed

⁵²⁷ “City to offer subsidies to move factories out,” see also: “Programmes d’aide financière,” Ville de Montréal, accessed November 15, 2012, http://ville.montreal.qc.ca/portal/page?_pageid=7317,79165575&_dad=portal&_schema=PORTAL.

⁵²⁸ Information received at a phone conversation with Alain Martel from the City of Montreal on April 16, 2012. Because the execution of the program in many of the cases is still in work, no official statement on the result of the PR@M-revitalisation program was available.

from industrial to commercial or residential, the buildings were of little interest. At the same time the grant programs came into effect, the extent of demolitions of industrial property led to the concern that entire traditional, inner-city industries, such as small auto shops, had already neared their “extinction”, a newspaper article in 2007 lamented.⁵²⁹ It was an exception when the Esso gas-station on Montreal’s Nuns’ Island, designed in the 1960s by the office of German-American architect Ludwig Mies van der Rohe, closed in 2008, and preservation groups expressed a list of concerns on its future and addressed its heritage value.⁵³⁰ However, it was probably not understood as an industrial site, anyways.

Post-Second World War inner city industrial architectural sites do not represent a model of a new architectural style as historic factories had done. They are submissive to their surrounding and on the conservative side in their design. Some sites spark interest by the way in which architects have recycled them to a new use, while their recent building date is of no relevance. Two examples of such conversions are examined here – at 225 Rue Roy and 1830 Rue Marie-Anne, where the commissioned architects left the original exterior of the buildings close to untouched.

The author looked at the industrial sites in urban settings separately to emphasize not just on their numerous existences but did so also because each site posed a different challenge why it is or could become part of Quebec’s industrial heritage. The sub-chapters follow a chronological order by building date. From a longer list of possible sites,⁵³¹ the following examples in Montreal were chosen to be analyzed: 225 Roy Street

⁵²⁹ “Small auto shops nearing extinction,” *The Montreal Gazette* (December 12, 2007), E 3.

⁵³⁰ Local newspapers covered this event extensively. See for instance: “Station inspired by ‘a master’ to find new life on Nuns’ Island,” *The Montreal Gazette* (February 12, 2009), A[?] 3.

⁵³¹ Finding relevant sites that fulfilled the requirements for the case studies was initially difficult because no inventory list included buildings of this time frame in 2009 that were publicly available. Further into the research, the author came across several more sites that could have been included such as the

East, a small factory building from 1949; a remodeled garage at 1830 Marie-Anne Street East built in 1957; a clothing manufactory at 2205 Parthenais Street, formerly run by a company named Pantel and built in 1961, the eight large blocks in the partly still active textile district on Chabanel Street, built between 1965 and 1986 and an Esso gas service station from 1969. This study will also take a look at a slightly older plant build during the Second World War: the Canadian Power Boat Co. building at 4000 Saint Patrick Street, erected in 1940 and part of the Lachine Canal corridor, once Canada's densest industrial district. This group of industrial sites is far from being homogeneous, not only because of their differences in size and industry but also because of their architectural, artistic, social and historic relevance.

3.6.1 Montreal 4000 - 4008 St. Patrick Street, Canadian Power Boat Co.

During the Second World War, Quebec's shipbuilding industry was revitalized in Montreal after it had endured a deep decline.⁵³² At the Canadian Power Boat factory (fig. 3.6.1.1+3.6.1.2), established in 1940, specifically trained labor force built war ships in an assembly-line fashion. Of the up to one thousand four hundred workers,⁵³³ seventy per cent were men and a remarkable thirty per cent were women (fig. 3.6.1.3+3.6.1.4). Never before had women in Canada been part of any ship production.⁵³⁴ The Canadian Power Boat Co. built motor torpedo boats and other war vessels including parts for airplanes,

Gordon Brown Building (1957) in Montreal's fur district, the two news-paper printing facilities of "La Presse" and "The Montreal Star," Velan's so called "plant one" from the 1950s, small warehouses, dry-cleaners, and so forth.

⁵³² James Pritchard, *A bridge of ships – Canadian Shipbuilding during the Second World War* (Montreal, Kingston: McGill-Queen's University Press, 2011), 6-7.

⁵³³ George W. Sutton Jr., "Scott-Paine's Canadian MTB's," reprinted from *Motor Boating* (September 1942): 2-4 (Bernard Goldberg, private archives).

⁵³⁴ According to the company's brochure *Backstage*, no date, no page (Bernard Goldberg, private archives).

but functioned also as a back-up location for an eventual loss of Britain's shipyards.⁵³⁵ Two private owners, Hubert Scott Paine and George Woods-Humphrey established the Canadian Power Boat Co. short after the outbreak of the war at 4000 Saint Patrick Street,⁵³⁶ on a lot with an existing direct access to the Lachine Canal (fig. 3.6.1.5) over the basin of an older, demolished shipyard.⁵³⁷ The company gave the commission for the buildings to the architect David Alexander Pringle from Montreal's T. Pringle & Son,⁵³⁸ mostly known as engineering firm. Pringle & Son influenced the direction of Quebec's and Ontario's exploration of water as power source by consulting and installing hydro power turbines at countless industrial sites in both provinces and abroad, but they gained fame also for cutting edge construction methods, specifically in reinforced concrete, however, sticking to traditional architectural styles.⁵³⁹ The Canadian Power Boat Co. was such a reinforced concrete building, two stories high, flat-roofed and painted in a light bluish-gray. Pringle and Son used two different frame structures for the building: they constructed the front part using reinforced concrete slabs, pillars and beams (fig. 3.6.1.6); a lighter steel frame supported the assembly halls (fig. 3.6.1.7). The original calculation of the load-bearing capacity of the steel frame took the usage of the overhead cranes into consideration. At the time of construction, material shortages may have prohibited any additional support for higher loads. The dimensions of the structure do not show clearly when looking at the building from the street as the roughly fifty-meter-wide facade is

⁵³⁵ Sutton Jr., *Scott-Paine's Canadian MTB's*.

⁵³⁶ *Ibid.*

⁵³⁷ *Lovell's Montreal Directory* (Montreal: John Lovell and Son limited, 1941).

⁵³⁸ Division de l'expertise en patrimoine et de la toponymie, "Énoncé d'intérêt patrimonial, complexe de la Canadian Power Boat, 4000-4008, rue Saint-Patrick, arrondissement du Sud Ouest" (non published document, December 8, 2011, with courtesy of Mme Diane Morin MBA).

⁵³⁹ "Pringle, Thomas," *Biographical Dictionary of Architects in Canada, 1800-1950*, accessed October 31, 2012, <http://dictionaryofarchitectsincanada.org/architects/view/1773>, and "Pringle, Thomas," *Dictionary of Canadian Biography* online, accessed October 31, 2012, http://www.biographi.ca/EN/009004-119.01-e.php?&id_nbr=7656.

only one half of the depth of the building. The back of the building shows two different levels, parts are one, others two stories high. Most of the exterior walls have large window bands with the original grid of metal frames, and probably still some of the original glass – patterned and wired glass to prevent espionage and damage – behind which the production of the ships took place.

The north-west corner of the building juts out from the rest of the complex. It forms a symmetrical block with a pronounced central avant-corps, small, single windows and humble embellishment in the form of indented vertical lines along the central part of the avant-corps and under the windows, typical for the early modern style in Canada. This most representative part of the complex held the office of the enterprise.⁵⁴⁰ A door at the side wall of the avant-corps led into the office part from where a surprisingly formal staircase with an art-deco inspired metal hand-rail and stone steps connected to the second floor (fig. 3.6.1.8). The building had no obvious main entrance; indeed, for a factory, there were surprisingly many small entries on three of the four sites, but also large portals and even whole movable wall sections to release the ships. The smaller doors had their own little roofs functioning as weather shelters that rested on fluted pilasters and baroque-style wooden architraves, which stood in sharp contrast to the otherwise functional, modernist architecture (fig. 3.6.1.10).

By comparing old maps with today's footprint of the building one realizes how few changes the building went through between 1940 and 2013. A cafeteria and boiler room addition from 1943, from which detailed plans by Montreal's architectural firm

⁵⁴⁰ Underwriters' Survey Bureau, *Insurance Plan of the City of Montreal vol. VII (including vol. XV)* (Toronto, Montreal: the Bureau, 1940), 716.

Ross & Macdonald exist,⁵⁴¹ was planned for in front of the factory (fig. 3.6.1.13). The Canadian Power Boat company either never realized it or demolished the extension after some few years of existence.⁵⁴² Shortly after the war, the commissions for ships built here came to an end. In 1947, the Lines Bros. (Canada) Ltd., a British toy-making company, bought the property⁵⁴³ and used the facility until 1965. They added a large storage building on the east side and it was probably their idea to add the small roofs and embellishments at all smaller entrances. Lines Bros. filled in the basin through which the ships had been released into the Lachine Canal. The toy maker did not need the water access.⁵⁴⁴ With this umbilical cord to the canal missing, the former enterprise of the Canadian Power Boat Co. slipped out of memory. After Lines Bros. closed their business here, the building served for the following years a handful of different firms, mostly as warehouse space. The last owner, Bernard Goldberg, acquired the property in 1988 or 1989.⁵⁴⁵ Over the next decades artist workshops replaced warehousing companies, specifically in those spaces in which they found good light conditions. Partitioning of the large boat production halls may have taken place before this latest change in vocation.⁵⁴⁶ The modifications altered the building without invasive constructions; they just secure the building's functioning but did not attempt to increase its architectural value. No one, for instance, repaired more than broken windows (fig. 3.6.1.9) or removed the obsolete

⁵⁴¹ Archives Canadian Centre for Architecture, file 341 13-233-01 and 341 13-233-02.

⁵⁴² On the Underwriters' Survey Bureau, *Insurance Plan of the City of Montreal*, vol. VII (1954), 716, the site in front of the factory is empty. However, in an article in the company's brochure *Backstage* the unnamed author mentioned that "two complete restaurants were installed for the office and technical staff and a central cafeteria for the factory workers, who called it Picadilly [sic] Circus." The description seems to match the architectural plans by Ross and Macdonald.

⁵⁴³ *Lovell's Montreal Directory* (1948).

⁵⁴⁴ On the Underwriters' Survey Bureau, *Insurance Plan of the City of Montreal*, vol. VII (1954), 716, the canal is filled in.

⁵⁴⁵ *Lovell's Montreal Directory* (1990).

⁵⁴⁶ Additional partitioning is sketched out on the Underwriters' Survey Bureau, *Insurance Plan of the City of Montreal*, vol. VII (1954), 716, when the site was used by Lines Bros.

overhead crane rails which once served the ship construction. The number of skylights may have been increased to give more light to interior rooms, others were closed or modified. A new one-storey storage room and some additional sheds on the east side of the building forced the closure of a lower row of windows, whose frames remained visible in the interior. These additions made the large rolling portals non-functional but left their mechanism intact (fig. 3.6.1.11+3.6.1.12). Except for some leaks in sections of the roof, the building in 2012 was, in all parts, in remarkable condition.

The building occupies a lot on the south side of the Lachine Canal, five kilometers inland from the Old Port, to the south encircled by the water of the Montreal aqueduct canal, and several highways to the west. A couple of industries to the east still operate, others went through a conversion process to offer residential and office spaces. Conveniently, public transportation serves the block with bus and metro-lines at less than half a kilometer to one kilometer distance. The popular Lachine Canal bicycle path passes directly in front of the door. However, to grab a coffee, eat in restaurants or shop in a supermarket, those who live or work here need to go out of the neighborhood. This may be one reason why, regardless of its urban setting, the district feels remote from inner-city life; while in reality many accessible links to Montreal's centre exist for those that are familiar with the area.

In 1996, the property became part of the National Historic Site of the Lachine Canal, designated by Parks Canada. For that reason the *Inventaire et évaluation des ressources culturelles Canal de Lachine* included the Canadian Power Boat Company complex in its 1995 survey.⁵⁴⁷ The authors recognized its high historic value, its

⁵⁴⁷ Archemi, *Inventaire et évaluation des ressources culturelles Canal de Lachine, volume 2*, (Montreal: Parcs Canada, 1995), n.p. (non published, with courtesy of Jean Bélisle). The evaluation on the score of

architectural quality and good condition. Parks Canada identified it as “*une ressource culturelle de niveau 1 (l’importance historique nationale)*.”⁵⁴⁸ But no plaque or information board commemorates the Canadian Power Boat Company despite being, as architectural historian Jean Bélisle lets us know, “the last standing witness to Montreal’s contribution to the war effort along the canal.”⁵⁴⁹

At the end of January or the first days of February 2011, the City of Montreal informed the owner and the tenants of the property about plans to expropriate the lot, including the building, by August 2012 to relocate the borough’s municipal garage. This led to the rediscovery of the historic dimension of this complex not at least by newspapers. Long before that date, the city had already taken steps to gather additional historic background information of the site. The survey of heritage buildings and sites in the larger Montreal area, done in 2004 by the City of Montreal,⁵⁵⁰ listed the Canadian Power Boat company under the rubric of “*immeubles de valeur patrimoniale exceptionnelle*,”⁵⁵¹ the higher of the two categories used for heritage monuments not yet recognized. This recommendation carried into Montreal’s master-plan, compiled in 2004, which listed the site under the rubric of “buildings of heritage and architectural interest located outside areas of exceptional value,” generally forgoing the distinction of “heritage interest” and “exceptional heritage.” In May 2011, the City of Montreal asked Archéotec for an “*Étude de potentiel archéologique*,” and some months later the *Division de*

points for its historic significances was 35 of 35 points and for its architectural value it was given 21 of 25 points; points were decreased only because the adjacent basin had been filled in but was probably still intact. It did not score high in the evaluation of its environmental integration, 16 of 30 points.

⁵⁴⁸ Division de l’expertise en patrimoine et de la toponymie, “Énoncé d’intérêt patrimonial.”

⁵⁴⁹ Linda Gyulai, “Building honours war effort,” *The Montreal Gazette* (February 8, 2012), A3.

⁵⁵⁰ The survey was conducted by the Division du patrimoine et de la toponymie under the direction of Jean-François Gravel in 2003 to 2004 and published in 2005.

⁵⁵¹ “Cahiers d’évaluation du patrimoine urbain – arrondissement du Sud-Ouest,” 55.

l'expertise en patrimoine et de la toponymie justified the site's historic, environmental, architectural and archaeological heritage values as “*d'intérêt*.” In December 2011, the site was mentioned in the latest version of the *plans d'implantation et d'intégration architecturale (PIIA)* for this neighborhood.⁵⁵² Referring to the urban planning survey mentioned earlier on, the designation is cited as “*bâtiment d'intérêt patrimonial et architectural*.” In an article in *The Montreal Gazette*, Jean Bèlisle, who was once part of the team in 1995 evaluating the industrial buildings along the Lachine Canal for Parks Canada, confirmed that the building “definitely has a heritage value.”⁵⁵³ The 2004 survey was the only document, the author found, making the distinction of value categories in a written text,⁵⁵⁴ all other municipal lists had one category only.⁵⁵⁵ In a meeting in September 2012 with the project manager of the South-West Borough and in a follow-up email, the person in charge explained the change from exceptional heritage to heritage of interest with the character of the 2004 survey as “*bien un document d'évaluation comme son titre l'indique*.” However, the project manager explained to the author that an exceptional site would be treated differently than a site of just heritage interest.

Newspapers reported that the city planned to demolish the former shipyard⁵⁵⁶ to construct a new city garage for their equipment, because the Provincial Ministry of

⁵⁵² “5. Aire industrial, 5.1. Carbot,” *Le Sud-Ouest Montréal*, accessed April 30, 2012, http://ville.montreal.qc.ca/portal/page?_pageid=7757,86055612&_dad=portal&_schema=PORTAL.

⁵⁵³ “Building honours war effort.”

⁵⁵⁴ A map of each borough showed areas of exceptional heritage interest, however, the areas included also buildings of no heritage interest, as one could see in the “*Cahiers d'évaluation du patrimoine urbain – arrondissement du Sud-Ouest*.”

⁵⁵⁵ Documents referred also to “*désignés immeubles significatifs au règlement d'urbanisme de l'arrondissement du Sud-Ouest*.” In: “Carbot, Contexte de développement,” *Le Sud-Ouest Montréal*, accessed October 31, 2012, http://ville.montreal.qc.ca/portal/page?_pageid=7757,86055612&_dad=portal&_schema=PORTAL.

⁵⁵⁶ “Un plan B réclamé pour les artistes expropriés du 4000 Saint-Patrick,” *Radio-Canada.ca* (21 décembre 2011), accessed October 31, 2012, <http://www.radio-canada.ca/regions/Montreal/2011/12/21/006-4000-st-patrick-artistes-expropries.shtml>.

Transportation (MTQ) expropriated their old site as it would be needed for the reconstruction of the nearby Turcot Yard intersection, a major Montreal highway crossing. In the city council meeting of January 2011, the vote to acquire the property for this purpose passed with the consent of the City of Montreal, the district South-West and the Ministry of Transportation. In an internet-blog of the tenants it is mentioned that the city had assumed the building being vacant at that time.⁵⁵⁷ However, fifteen small firms, most of them artist workshops, had found space in the shipbuilding complex. At a site visit in May 2012, there was no vacant space for rent in the building. The tenants stressed, in their discussion over the expropriation, that their firms employed around one hundred and fifty people of whom many would lose their job should the artists need to relocate. The large windows, high ceilings and wide support spans offered ideal conditions for those who were in the creative fields. The firms had rented the space from the long-time owner who had little use of the building himself. His business was predominantly located on the empty area of the former basin where he stored and sold scrap. Interestingly, by May 2012, the owner claimed to have not received any expropriation notice from the city.⁵⁵⁸ In the author's meeting with the city official in September 2012, the project manager of the borough southwest declared the newspaper articles misleading about the demolition and misinformed about the city's assumption of low occupancy of the building as well as the owner not aware of the timely distribution of expropriation papers. She assured the author that a demolition was not discussed, quite

⁵⁵⁷ "4000 St. Patrick expropriation," 4000saintpatrick@gmail.com, accessed October 31, 2012, <http://4000stpatrick.blogspot.ca/2011/05/4000-stpatrick-expropriation.html>: "On the morning of April 25th [2011] the tenants and their lawyer attended the city council meeting of the Sud-Ouest Borough. We have now found out that there had been a vote at the municipal council meeting and that those attending the council vote were under the impression that 4000 St. Patrick was a vacant building with no tenants."

⁵⁵⁸ Information received from Stefan Goldberg, tenant and son of the owner, during a site visit in May 2012.

the contrary, the building would be modified by a local architectural firm (Lemay associés, Montreal) with ample experience in the conversion of industrial spaces to suit the new needs with the condition to acquire a gold-LEED (Leadership in Energy and Environmental Design) standard. One of the objectives mentioned in the meeting with the project manager was the installation of a green roof. Whether the current roof above the support-free assembly halls can support the weight of a green roof must be proven. Invasive support piers in the large interior spaces may need to be inserted should the structure prove to be too weak.⁵⁵⁹ The historic portals and windows have a high potential to qualify as criteria for the site's heritage value.⁵⁶⁰ However, the mediocre thermo-efficient steel-frames and the wall-size movable portals will not hold up to LEED standards. At least if the “embodied energy” of the original materials cannot counteract their low insulation performance which would save them from being removed. Embodied energy brings into the sustainability account the already spent energy that was used in the past to construct the building and its materials and is lost for each part that is replaced by new material.⁵⁶¹

The tenants unsuccessfully tried to reverse the city's decision of expropriation (fig. 3.6.1.14). By April 2012 the expropriation process was still running, by January 2013, two last tenants had not moved out. With the expropriation, eviction of the long-time users and a reconfiguration of the space to meet the needs and energy efficiency expectations of the city, safeguarding the building's historic and architectural value may

⁵⁵⁹ “Sustainable Historic Preservation,” Whole Building Design Guide, accessed November 2, 2012, http://www.wbdg.org/resources/sustainable_hp.php.

⁵⁶⁰ Ibid.

⁵⁶¹ Mike Jackson, “Embodied Energy and Historic Preservation: A Needed Reassessment,” *APT Bulletin: Journal of Preservation Technology* 36/4 (2005), 47-52, accessed November 2, 2012, http://www.ironwarrior.org/ARE/Materials_Methods/EmbodHP.pdf.

be less secured than before the city's intervention. The city has, from the start, assumed that the building would need large scale modification. A newspaper article from February 8, 2012 cited the city's plan to give an architectural firm the mandate "to try to integrate some elements of the building into the new site."⁵⁶² A detailed evaluation of the site, analyzing and defining which aspects of the architecture may represent a heritage value and should for this reason stay intact, would be needed before such a mandate could be executed in a meaningful manner. Available evaluations went into some architectural details; the original reinforced concrete beams and columns were mentioned; the functional style, and the large volumes of space and the abundance of natural light. However, it did not include, for instance, the still original old window frames and windows or the overhead crane rails, while the evaluation identified later additions such as partitioning walls, as disturbances.⁵⁶³ When applying German heritage standards, architectural value of heritage monuments and, more generally, the historic value of a building, depends – more than anything else – on a structure's integrity in its original forms and materials and the inclusion of modifications over time so that the building allows an inclusive historic interpretation.⁵⁶⁴ Keeping just some and eventually not the significant aspects of a building intact that were eventually evaluated, according to mainly economic real estate criteria, would result automatically in a loss of the site's heritage value. Jean Bélisle remarked in the above-mentioned newspaper article that the "20th century buildings, especially mid-century, are being forsaken" when it comes to discussing the heritage value of factories along the National Heritage Site of the Lachine

⁵⁶² "Artists evicted in favour of city vehicles," *The Montreal Gazette* (February 8, 2012), A3.

⁵⁶³ Division de l'expertise en patrimoine et de la toponymie, "Énoncé d'intérêt patrimonial," 5.

⁵⁶⁴ See: Venice Charter – International Charter for the Conservation and Restoration of Monuments and Sites, Icomos, accessed November 16, 2012, www.icomos.org/charters/venice_e.pdf.

Canal. Policies ignore that the canal's industries were built up until the 1970s. Most of the later sites have already vanished while their older siblings survived, though, often converted into condominiums. "We don't realize that in 20 years this building will be even more rare because we're demolishing them so easily."⁵⁶⁵

3.6.2 Montreal 225 Roy Street

At the end of the 1980s a number of architectural magazines and newspapers⁵⁶⁶ featured a former industrial building at 225 Roy Street (fig. 3.6.2.2) in the Plateau-Mont Royal district after the young Montreal architectural firm of Gilles Saucier (fig. 3.6.2.1) and André Perrotte had remodeled the entrance area in 1988 to adapt the building for office-use by film and publishing companies (fig. 3.6.2.3+3.6.2.4). It was the architects' first project after establishing their firm that same year. Saucier and Perrotte received an honorable mention by the *Ordre des architectes du Québec* for their design,⁵⁶⁷ and also gained the Orange award for renovations from "Save Montreal,"⁵⁶⁸ both in 1989. They renovated the nondescript, two-storey-high, red and yellow brick, enclosed industrial building from the late 1940s by an unknown contractor or architect. Large windows on the ground floor, one continuous window band on the second floor, a flat roof and a sturdy building frame hinted at its former use as a small manufacturing enterprise. Saucier and Perrotte seem to have changed little on the exterior except at the entrance,

⁵⁶⁵ "Building honours war effort."

⁵⁶⁶ Mark Poddubiuk and François Giraldeau, "La commande comme cadre d'exploration," *ARQ* 44 (1989), 26, and *ibid.*, "Gilles Saucier: Project pour la renovation du 225 rue Roy, Montreal 1988," 28; a mention in *ARQ* 50, 32, as well as articles in *The Montreal Gazette*, *Le Journal de Montréal* and *La Presse* (newspaper articles from Archives City of Montreal, VM6-R 3297.A-225).

⁵⁶⁷ See "Saucier + Perrotte Architects: Awards and Distinctions," Saucier + Perrotte, accessed November 16, 2012, <http://www.saucierperrotte.com/home.php?lg=en>.

⁵⁶⁸ *La Presse*, (December 16, 1989).

but they created a large cavity right behind the entrance in which they inserted a new small foyer with a set of slightly diagonally running stairs in a theatre-like setting. Wall sections and openings allowed surprising views through this space. Dramatic lighting gave an additional sense of artificial irrationality, a fitting setting for the future clients. More than twenty years after the renovation, the building seems to have aged well, with little sign of deterioration. A site visit by the author in the fall of 2009, and again in the spring of 2012, confirmed that the building was mostly occupied. The owner, Blackpoint Realty Management Inc., advertised on a sign the few remaining vacant office spaces for rent. They, and the previous owners, maintained the complex in clean and intact conditions inside and out. Graffiti-sprayers have left their mark on a painted back wall, which the owner had painted over, which helped only temporarily. Inside, the entrance foyer looked the same as when featured in publications at its inauguration, twenty-four years ago. The scene-like wall segments appeared intact and were maintained as the architects had designed them. The floor covering showed more signs of usage. Walking around the area in which the building stood, the author saw many vacant, run down and vandalized buildings, and was pleased by the remarkably good condition of 225 Roy Street.

Until the 1960s, a good part of Montreal's textile industry had settled in the Plateau-Mount Royal district before it moved to the Chabanel area at the north end of the city. The nearby Halbro building, erected in 1946⁵⁶⁹ at 10 Pine Avenue, with its charming little relief figure of a sitting tailor over its entrance (fig. 3.6.2.7+3.6.2.8), reminds the observant passer-by of this past. The 225 Roy Street building, however, had no connection to the textile industry. Pierre Péladeau (fig. 3.6.2.6), founder of the media and

⁵⁶⁹ The building's date is given according to the Montreal assessment role 2012.

communications company, Québecor, in 1964 launched his first city-wide newspaper, the popular francophone *Le Journal de Montréal* (fig. 3.6.2.5), from this building.⁵⁷⁰

Sometime after 1969 Péladeau acquired the building from Pierre des Marais,⁵⁷¹ another successful businessman of the city, who constructed the building at 225 Roy Street on an empty lot in 1949 as a printing facility.⁵⁷² For twenty three years, Québecor's headquarters stayed here before moving to the more prestigious Rue Saint Jacques in 1987.⁵⁷³ Québecor then sold the building to *Les productions de Verseau* and Jean Marc Carpentier.⁵⁷⁴ Both Pierre Pelandeau and Pierre Des Marais must have retained some sentimental feelings towards this building. They came, together with Montreal's mayor Jean Doré, to celebrate the inauguration after Saucier and Perrotte completed the remodeling.⁵⁷⁵ Since 2009, the building belongs to Blackpoint Realty Management Inc.

Saucier and Parrotte began a remarkable career after this humble but successful commission. They sought some other, but larger conversions of obsolete industrial spaces such as a former jam factory⁵⁷⁶ which they transformed into Usine C, a theatre space, completed in 1995. Their portfolio expanded quickly and their buildings left an impression on many Canadian cities; however, the firm kept a strong hold on transforming already-existing buildings to new uses.⁵⁷⁷ In 2004, they represented Canada

⁵⁷⁰ Archives de la Ville de Montréal, VM6-R3283.2-225.

⁵⁷¹ *Lovell's Montreal Directory* shows Pierre Des Marais as owner of the property until 1970. In the following year he sold part of the building to Commercial Forms Ltd., which was owned by Pierre Péladeau, as he is named as the second owner of the building after Pierre Des Marais.

⁵⁷² Montreal assessment role 1949 from Archives City of Montreal (no file number) and "Du nouveau au 225, rue Roy est," *Le Journal de Montréal* (August 23, 1988).

⁵⁷³ "Que de souvenirs!" *Le Journal de Montréal* (August 21, 1989).

⁵⁷⁴ "Cinema provides inspiration for imaginative interior design," *The Montreal Gazette*.

⁵⁷⁵ "Du nouveau au 225, rue Roy est."

⁵⁷⁶ Dunton and Malkin, *A Guidebook to Contemporary Architecture in Montreal*, 112.

⁵⁷⁷ In 2011 Saucier and Perrotte completed, for example, the extension to the Montreal Museum of Fine Arts, including the conversion of a nineteenth-century church to a concert and exhibition space; across from the museum, they added apartment spaces to the east side of the Ritz Carlton Hotel.

at the Venice Biennale in Architecture.⁵⁷⁸ The list of awards and prizes given to their firm grew to an impressive length.⁵⁷⁹ In the light of these awards, this first commission fell into the shadow of more notable achievements, nevertheless as their starting point, it deserves our attention.

The district need not to worry about losing this structure as long as allowed building heights and zoning by-laws remain the same. Built to withstand the constant vibration of printing presses, its use as office space provided no challenge to the structure. It cannot count as a landmark building as it blends into the streetscape and has no outstanding visible architectural features, but it functions well in a neighborhood partly troubled by decay. 225 Roy Street's little known relationship to Canada's largest and internationally active media company (which the author uncovered from archival research) and the building's link to one of Quebec's most recognized architectural firms give the site specific meaning and public interest.

3.6.3 Montreal 1830 Marie-Anne Street East

The author discovered the 1830 Marie-Anne Street East (fig. 3.6.3.1) building in 2008 through the publication of a magazine-style advertisement brochure⁵⁸⁰ distributed with some of Montreal's newspapers. Research showed that other print media such as *La Presse* and several online sources had featured the building, as well. All articles described a spectacular penthouse addition on top of the structure (fig. 3.6.3.3) without giving the lower building, a garage or auto repair shop from the 1950s, any further

⁵⁷⁸ "Saucier + Perrotte in Venice," Canadian Council for the Arts, accessed April 18, 2012, <http://www.canadacouncil.ca/aboutus/artistsstories/Architecture/is127501907183681250.htm>.

⁵⁷⁹ "Saucier + Perrotte Architects, Awards and Distinctions."

⁵⁸⁰ The advertisement brochure had no citable title, columnist Judith Gougeon wrote the text and Christian Guay was the photographer.

attention. Without much noise, inner-city garage services have disappeared, to the most part, in Montreal.⁵⁸¹ Their typically one-storey buildings make space for taller developments. If any such original site from the 1950s or 1960s still exists in this city, it is not known, but the following example may survive in today's form while others may not.

The small building from 1957 sits in a neighborhood close to the former Quebecor headquarters, near Papineau Avenue. The shop had once served to produce theatre sets. However, Lovell's Directory listed Page Auto Grill and Bumper⁵⁸² as the first business for this building; it was originally a small garage workshop. Around 1961, Page's garage moved further west and another garage took over for a year. Afterwards, different companies used the building as warehouse, but by 1968 it became vacant.⁵⁸³ The theatre set building firm opened in the building around the mid-1980s, probably to serve the nearby *Theatre de la Source*, established in 1985, although the author found no direct information on this.⁵⁸⁴ In 1997, today's owner bought the former garage from the theatre set workshop for his framing operation.

Before the penthouse addition, the building was a simple square block of good proportions with a flat or slightly slanted roof. The façade, facing north,⁵⁸⁵ had red brick siding. On the ground floor and to the left, a large brown garage door with windows on

⁵⁸¹ In "Small auto shops nearing extinction" which the Montreal Gazette published on December 12, 2007 (E 3) it reads: "For almost a century, the local car repair shop has been a fixture of modern life. Now they are disappearing at a prodigious rate. [...] One day, your local mechanic or body shop owner may join the wheelwright and blacksmith as footnotes in the history of transportation technology."

⁵⁸² Lovell's Montreal Directory listed Auto Page Grill and Bumper since 1959.

⁵⁸³ Lovell's Directory lists Page as occupant since 1959, while Montreal's assessment role dated the building to 1957, leaving a two year gap between the building's date and the car repair shop.

⁵⁸⁴ "Théâtre de la source," Théâtre de la source, accessed April 23, 2012, <http://www.theatredelasource.qc.ca/>.

⁵⁸⁵ For practical reasons, the four sides of the building are given as North, South, East and West, following local custom in Montreal while in reality the building is oriented in a North-West direction.

the upper part once opened to the interior. To the right, on the other half of the facade, a wide, high-positioned glass-stone window was placed. A row of lock-set bricks accentuated the lintels of door and window. Visitors today use an entrance with a small glass-covered weather shelter at the far right side to visit the framing store. On the second floor, and high up in line with the two large lower openings, two wide but not very tall windows rest on concrete sill plates. Between the two floors, the colour of the brick changed slightly (fig. 3.6.3.4) suggesting that one of the owners added the second floor. The original garage probably had a ground floor only. It remains unclear when exactly the addition was done.⁵⁸⁶ A parge-coat covers the concrete blocks of the east and west walls. The back of the building (fig. 3.6.3.2), the south wall, again featured brick with two garage doors of the same size and style as the front one, here painted in green. The bricks on the second floor also have a slightly different colour, however, not as distinct as at the front of the building. Two unequal sized windows of the same width but different heights sit above the doors. The one to the west again used a concrete sill plate and showed extensive damage with broken or missing glass; the other window replaced a larger opening which was partly closed with wood planks. At the west side of the building was a thin square brick chimney, detached from the wall, where heat and smoke could exhaust. Also on the west side, two small windows close to the front corner, one on each floor, provided light for a narrow staircase inside. The building was attached on this side to a low, one-storey-high shed. To the east, a two-storey, slightly recessed dwelling, of a later date, continued along the street. The visible parts of the east wall remained

⁵⁸⁶ The owner of the building, Rémi Bédard, told the author during a site visit on April, 26, 2012 that he believed the second storey had been added before the theatre workshop moved in.

windowless. No additional property or garden belonged to the building; the back led directly onto an alley.

In 2005, the owner commissioned Daniel Smith and Stéphan Vigeant of Smith Vigeant architects, a local firm,⁵⁸⁷ to fit a penthouse of the entire 371.4 square meters (4000 sq.ft.) of the property's footprint on the shop roof. The steel frame of the building proved strong enough for the extra load of a third floor. The exterior of the substructure remained as it was; the inside which had been subdivided for the theatre set workshop, could stay intact.⁵⁸⁸ The framing store had further divided too large spaces into smaller rooms on the ground floor. The architects extended the existing steel frame as the load bearing structure for the penthouse and kept it mostly exposed. To three sides, large glass walls opening to loggia style terraces, enclose the living space; the east wall, in contrast, is in concrete with no windows. The style of the extension took on a neo-modernist character: mostly right angles and a clear structure of volumes and voids dominated the design. A gabled glass roof structure supported by exposed heavy I-beams sheltered the main terrace. Rails allowed the glass cover to slide over the house's green-roof to open the terrace to the sky. The penthouse served occasionally as an art-exhibition space. For this extension, the architect received the Grand prix du design by the magazine *Intérieurs et FERDIE* (Fonds d'Études et de Recherches en Design d'Intérieur de l'Est) in 2007,⁵⁸⁹

⁵⁸⁷ Ibid.

⁵⁸⁸ Information given by the owner during a site visit in April 2012.

⁵⁸⁹ "Grand prix du design," Agence PID - Productions interface design, accessed April 28, 2012, <http://www.prixdudesign.com/laureates/2007/laureats2007.php>.

and the award of excellence for residential interior design by the Association of Registered Interior Designers of Ontario (Arido) in 2009.⁵⁹⁰

The owner acquired the old garage, because of its good proportions with high ceilings and the generous layout, to set up his already existing framing business, without knowing what the building's original purpose had been. The structure proved sound and the large spaces offered desirable flexibility. The proximity to galleries and private clients was equally important. Over time, more details of the building's past surfaced and created an emotional bond to the site, strong enough to support the decision to make it not only the owner's workshop but to transform it into his residence. Five years after the remodeling was finished, he understandably expressed no regret for this decision when the author visited his space. The disadvantage of no additional exterior space was compensated by open space on the roof structure with a marvelous view of Montreal's Mount Royal. The bold architecture of the garage harmonized with the simple but elegant new roof floor, which gave this simple industrial structure a unique character.

With the last addition on the roof, the owner brought the building's height up to the maximum allowed in the neighborhood. The transformation of a former one-storey garage to a two-storey workshop and a three-storey mixed use building affirmed the strength of the original foundation and structure. It rejuvenated the building each time; extending the building's overall life expectancy long before most other small inner-city garages made room for new development. Many one-storey garages may have been offered the same option of adaptation as 1830 Marie-Anne Street; however, owners commonly dismantled them because they could be replaced by taller structures

⁵⁹⁰ "Design Exchange Awards Honour Canadian Projects," Association of Registered Interior Designers of Ontario (Arido), accessed April 22, 2012, <http://www.naylornetwork.com/ari-nwl/articles/?aid=29021&projid=2155>.

generating more profit. The pressure to replace these humble places, that had been a familiar sight for several generations, increased along with the allowed building height of local by-laws. No one claimed them as remarkable building accomplishments, but with their fast disappearance, the question of their heritage value becomes more urgent.⁵⁹¹ The car played a central role in North America's culture for which these car-related sites were a significant part. The situation compares to that in Germany when engines replaced the common horse gin (fig. 3.6.3.5+3.6.3.6) so quickly at the beginning of the twentieth century that all but one gin disappeared before anyone thought of saving them.⁵⁹²

Quebec began to realize the need to look into the preservation of industrial sites that were neither the first of their kind, nor extremely old, nor with other outstanding criteria only recently. In 2007, the municipality of Forestville cited their remaining one-kilometer-long log flume, built in 1942 and operated until 1992, because "*[l]'arboriduc constitue un des seuls exemples subsistants de ce type de structure sur le territoire québécois.*" Yet, the rarity of a monument alone did not justify its citation, a historic reason supported in Forestville for its protection: the log flume stood as a witness to the forest industry that shaped the region. For the same historic reason, the municipality also cited the small Anglican chapel, presenting a very common architectural type in Quebec at the time of construction, without rarity value. The reason for recognition, which happened on the municipal level, related to the specific image of the region, which was established in Forestville by the local monoculture-industry. A garage in Montreal (fig. 3.6.3.7) would not relate to a similar motivation as the automobile was formative to

⁵⁹¹ "Small auto shops nearing extinction."

⁵⁹² The horse gin belonging to the Göpelschachtenanlage Lehesten in Thuringa has survived. Hassler and Kierdorf (49) mention that in Saxony in 1930, only one horse gin was left, the one in Johanngeorgenstadt, but destroyed in 1948. All other examples, to the author's knowledge, (Kiekeberg Museum in Hamburg; Lauta, Marienberg, Klockenhagen) have been recent reconstructions.

North-America's culture, but not particularly to Montreal or the neighborhood it was in. We should notice, however, that the request to save common sites is in its concept already established. Quebec, for instance, has a long list of wind mills of which some are under its legal protection program because they were once a common feature in Quebec's landscape even if they were, of course, not typical only of Quebec. Industrial heritage may include also those sites that were not of local importance but that relate to significant issues of the recent past.

3.6.4 Montreal 2205 Parthenais, Pantel Building

In Montreal's early industrial district of Centre Sud sat a small clothing manufacturing company by the name of Pantel which the owner erected in 1961 on a formerly empty lot (fig. 3.6.4.1+3.6.4.2).⁵⁹³ The factory produced clothing until approximately the year 2000.⁵⁹⁴ Pantel was surrounded by other factories of which the still-in-operation MacDonald's Tobacco Factory and, as its direct neighbor, the Grover building (formerly Knit-to-fit Co., a textile mill from 1920)⁵⁹⁵ were the most prominent. The author became aware of this building at a students' poster session at the Aqpi conference *Le patrimoine industriel montréalais s'affiche* which resulted later in an article.⁵⁹⁶ The presentation included the recently converted Grover building, but also Montreal Small Wares Co. Ltd., a clothespin factory from 1904 which became an artist

⁵⁹³ Underwriters' Survey Bureau. *Insurance Plan of the City of Montreal*. Toronto, Montreal: the Bureau, 1935 (revised 1939) 3/151.

⁵⁹⁴ According to unpublished research done by Dorota Jonkajtys, Magali Seux, Marianne Routhier and Sylvie Trudel, the last textile company was Amitex et Stacey Ames, this coincided with the Amitex Inc listing in the Canadian Trade Index and Canadian Business Database (online, accessed November 12, 2012) under this address.

⁵⁹⁵ *Répertoire d'architecture traditionnelle sur le territoire de la Communauté urbaine de Montréal: Architecture Industrielle*, 220.

⁵⁹⁶ Dorota Jonkajtys and Sylvie Trudel, "Le Muséoclip: La valorisation du patrimoine par la (re)connaissance," *Bulletin Aqpi* 23/2 (Printemps 2012): 33.

cooperative housing project known as *Cooperative d'habitation Lezarts*. The case study analyzed the Pantel building as the most recently built industrial complex in this neighborhood. The conversion of the Pantel building into an artist studio and commercial space took place in 2008-2009. The building's name changed to *Le chat des artistes*,⁵⁹⁷ after a newly-founded organization, the *Ateliers Créatifs Centre Sud/Plateau Mount Royal*, acquired the property as their first project to offer non-lucrative artist workshops in Montreal's Centre Sud.

The architect, Harold Z. Kahn, for whom no further information was available, provided the plans for the original building; the young architect Antonin Labossière led the design team to convert the factory into *Le chat des artistes*.⁵⁹⁸ He worked together with Ron Rayside and became his partner in 2011, forming Rayside Labossière. Rayside had experience in several recycling and conversion projects⁵⁹⁹ and conducted for years renovation seminars for Heritage Montreal.⁶⁰⁰ His know-how for renovations that respected the historic character of buildings certainly benefitted Labossière.

In a surrounding of predominantly red brick buildings, the three-storey-high, small, thirty-meter-wide façade of the textile factory had always had a high visual presence on the street through the intensely blue-colored glazed panels on its façade (fig. 3.6.4.3). As well, a deep recess at ground floor level which offered some sheltered parking space in the front of the building, singled it out optically (fig. 3.6.4.4). The

⁵⁹⁷ "Le projet," Ateliers Créatifs, accessed May 18, 2012, <http://www.atelierscreatifs.org/Projet+Chat+des+artistes>. According to this source, the name was inspired by a song of Jean-Pierre Ferland *Le chat du café des artistes*.

⁵⁹⁸ There may be a play on the French words "*chat*," cat and "*chas*," having the same pronunciation but the latter refers to the eye of a needle (pointed out to the author with thanks, by Jean Bélisle). It is a playful way to commemorate the former use of the site.

⁵⁹⁹ "2011 le casse tête," Rayside-Labossiere, accessed April 23, 2012, http://www.rayside.gc.ca/downloads/Rayside_Labossiere_Casse-tete_2011.pdf.

⁶⁰⁰ "Roy Rayside," Rayside-Labossiere, accessed April 23, 2012, http://www.rayside.gc.ca/custom_ron_rayside.html.

backdrop of the parking space had floor-to-ceiling windows to exhibit the newest fashion trends of the company's production. To the right of the property, trucks had access to the building; an old loading ramp with a door remained in place there. Window bands at the facade ran over the entire width, interrupting the turquoise blue, aluminum framed panels; large windows continued on the south side of the building but ended behind the loading ramp. The back part of the building had no windows, except some small glass block sections. In the process of conversion, the architect divided the coloured façade panels into two squares and chose light blues in a variety of shades as glaze. This alteration updated the look of the building to a more animated contemporary appearance but, because he designed the replacements in materials and colours similar to the original and kept the proportion of wall to windows, the style still reflected the character of the 1960s. In the interior, the three levels of open floor space were divided into approximately fifty single-room studios of varying sizes, from three hundred square feet to one thousand five hundred square feet (fig. 3.6.4.5).

The conversion did not retain any memory of the building's former specific use as clothing producer; this reference was only kept in some sentences on the organization's internet page, where the Pantel building was called an "*ancienne usine textile des années soixante.*"⁶⁰¹ *Le chat des artists* connected their project, on their web-page, to the general industrial past of the entire district which people in the creative sector and artists revitalized. The historic narrative of their self-presentation started at the point when artists converted obsolete industrial spaces and re-appropriated them for the local citizens as new working spaces. They realized, however, that artist had often with this unwittingly

⁶⁰¹ "Historique," Ateliers Créatifs, accessed November 5, 2012, <http://www.atelierscreatifs.org/Historique>.

initiated a larger gentrification process of the area, which started to exclude this very group of people from their own neighborhoods:

À Montréal comme ailleurs, les créateurs ont peu à peu pris la place des ouvriers dans les faubourgs industriels bordant le centre-ville. Ils trouvent dans les immeubles industriels des espaces qui répondent aux exigences de leurs pratiques multiples. Redonnant vie à ces quartiers, ils insufflent du même coup une nouvelle vitalité économique et culturelle à la ville.

*Laissée aux aléas du marché immobilier, leur présence est cependant toujours temporaire. La vague d'intérêts qu'ils suscitent contribue à les déloger au profit de nouveaux projets immobiliers, les repoussant constamment plus loin du cœur des villes en les dispersant les uns des autres.*⁶⁰²

The Centre-Sud district of Montreal was one of Montreal's old industrial hubs. When industries closed or left this district,⁶⁰³ immigrants moved in but then relocated as soon as they had the financial means, giving little incentive for a renewal. Population density only increased after the 1990s, when artists started to convert factory spaces to workshops.⁶⁰⁴ According to a recent study, Montreal's Centre Sud district, as part of the area H2K, supported an artist population of 565 artists in 2006.⁶⁰⁵ After the borough allowed a zoning change from light industrial to residential for the Grover building (fig. 3.6.4.6),⁶⁰⁶ in which three hundred artists had worked, occupying one hundred percent of the space,⁶⁰⁷ it was converted to a residential complex,⁶⁰⁸ causing a "commercialization"

⁶⁰² Ibid.

⁶⁰³ Between 1966 and 1972, eleven factories closed and thirty nine factories relocated outside of the district. Most of the factories were in the clothing and shoe industry. See: Julie Francoeur, "Du faubourg à m'lasse d'hier: Aux grands projets d'aujourd'hui. L'histoire du quartier centre-sud de Montréal," Centre de sante et de service sociaux Jeanne Mance, 5, accessed November 5, 2012, http://www.csssjeannemance.ca/fileadmin/csss_jmance/Publications/Publications_diverses/Pdf/Faubourgs.pdf.

⁶⁰⁴ Ibid, 7.

⁶⁰⁵ "Cartographie des artistes et des travailleurs culturels dans les grandes villes du Canada," Hill Strategies, 17, accessed November 5, 2012, <http://www.atelierscreatifs.org/Documentation>.

⁶⁰⁶ "Avis du Conseil du patrimoine de Montréal, Numéro du dossier: A04-VM-58," Ville de Montréal, accessed November 5, 2012,

http://ville.montreal.qc.ca/pls/portal/docs/PAGE/CONSEIL_PATRIMOINE_MTL_FR/MEDIA/DOCUMENTS/A04-VM-58.PDF.

⁶⁰⁷ Ibid.

of this industrial space where the artist could not afford the rent and higher cost of living, and were pushed out. With projects such as *Le chat des artistes*, the *Ateliers Créatives* tried to counteract this loss of affordable artist space to commercial developers. The organization also fought to have creative workshops protected by their borough government with zoning laws after an earlier study proved the large and positive effect of artist on local economies.⁶⁰⁹

Beside the interest of artists in these industrial places as working spaces, local citizens had long been active in this district to protect the industrial roots of their neighborhood. The *Écomusée du fier monde*, mentioned in chapter 1.5, which dedicated its exhibition to the working class past of the district, emphasized the strong bond between the population and the local industries. The engagement of the citizens towards their district's past influenced the way vacant industrial sites remained part of the borough's identity. Parts of the north side of Parthenais Street entered the Montreal Master Plan as an area of significant value, preventing the easy demolition of industrial spaces, but not including the Pantel lot.⁶¹⁰ In 1996, the museum held an exhibition on the district's historic industrial buildings in the Canadian Centre for Architecture and published a catalog, edited by historian Joanne Burgess, which further sensitized the

⁶⁰⁸ "Mémoire sur l'étude publique, Ateliers d'artistes et artisans diagnostic et plan d'action," CDEC Centre-Sud/Plateau Mont-Royal, PDF file published online in "Documentation," Ateliers Créatifs, accessed November 5, 2012, <http://www.atelierscreatifs.org/Documentation>.

⁶⁰⁹ Ann Markusen and David King, *The Artistic Dividend: The Arts' Hidden Contributions to Regional Development*, (Minneapolis: Humphrey Institute of Public Affairs, 2003), accessed November 5, 2012, <http://www.atelierscreatifs.org/Documentation>. Montreal's borough of Plateau-Mount Royal responded in March 2012 to this idea. See: "Support for artists and cultural life: The Plateau takes action to protect artists," Project Montreal, accessed November 5, 2012, http://projetmontreal.org/files/bulletin/bulletin_2012-03-06_en.html; and Marian Scott, "Borough takes bold action to protect artists," *The Montreal Gazette* (March 6, 2012), A 7.

⁶¹⁰ "Montreal Master Plan, November 2004."

population to see their ancient factories in a historic light.⁶¹¹ Scholars see the history of many urban industrial districts as ending in the 1950s, when the creation of large industrial sites in urban centers came to an end.⁶¹² The “*mise en valeur*” of industrial sites followed this idea without considering that smaller industries such as Pantel, as well as starter firms such as printing shops and small garages still contributed, along with new constructions to the city's industrial development – even if only on a small scale – and contradict such an evaluation. In sharp contrast to the beginning of the industrial development in Quebec’s cities, the coming to an end of the development has been widely ignored by historians and the populace alike. The last wave of inner city industrial productivity may disappear without notice. We may have already lost the most original or speaking examples of this part of industrial history and are left, as already mentioned, with only these few converted sites.

3.6.5 Montreal’s Garment District of Chabanel Street West

The “heart of Montreal’s rag trade” or “*la cité de la mode*,” as the eight buildings of the garment district along Chabanel Street West (fig. 3.6.5.1+3.6.5.2) were often nicknamed, had been the centre of Quebec’s textile industry since the late 1960s. Montreal’s garment industry relocated several times in accordance with the development of machinery and growing markets. The old textile district in the centre of Montreal had burst at the seams and was looking for a larger site from the mid-1950s. The textile sector

⁶¹¹ Joanne Burgess, *Paysages industriels en mutation* (Montreal: Écomusée du fier monde 1997), 11.

⁶¹² Robert Lewis, for instance, restricted his research on Montreal’s industrial development in *Manufacturing Montreal* (Baltimore, London: The Johns Hopkins University Press, 2000) to 1930; A. B. McCullough in *The Primary Textile Industry in Canada, History and Heritage* (Ottawa: National Historic Sites, Parks Service, Environment Canada, 1992) ended the chapter on the historic development in 1950, however, he added a short summarizing chapter on “Post-war Industry” leading up to 1980 and included later developments in his case studies.

continued to flourish in the province of Quebec from the 1950s until the late 1980s because Canada's government protected the industry successfully from seventeen cheap foreign import countries.⁶¹³ The impressively massive, up to fifteen-storey-high new factories found space in the Ahuntsic-Cartierville district in the northern part of Montreal. Building started in 1965 and building activities continued into the second half of the 1980s. The space offered for the textile industry amounted to around ten million square feet overall (or, as the city underlined, six times the space of the Place Ville Marie's office tower) in which approximately sixty thousand textile workers in its heyday found employment.⁶¹⁴ In the 1990s, only forty years after this move, the situation changed. *The Toronto Globe and Mail* reported, in their investment section on the last day of 2010, that Montreal's

garment sector has been badly shaken over the past several years by forces such as the rise of low-cost foreign competition, new technology and changes in the supply chain.⁶¹⁵

The buildings of the "*cité de la mode*" became underused in the range of twenty percent. Since 2006, real estate developers such as Marcarko Ltd and Group Dayan bought vacant spaces and formed a partnership in the form of a not-for-profit organization, the *Regroupement pour le développement et la promotion du quartier Chabanel*,⁶¹⁶ in December 2007 with other stakeholders with a similar interest. The mayor of the district and some banks joined the group to discuss the overall revitalization of the neighborhood.

⁶¹³ McCullough, *The Primary Textile Industry in Canada*, 145-150.

⁶¹⁴ "\$250-million boost for textiles, clothing," *The Montreal Gazette* (June 20, 1981), accessed May 2, 2012, <http://news.google.com/newspapers?id=WXIOAAAAIIBAJ&sjid=zqQFAAAAIBAJ&pg=3068,4185293&dq=garment+industry+montreal&hl=en>.

⁶¹⁵ Bertrand Marotteo, "Fresh life in the heart of Montreal's rag trade," *The Globe and Mail*, accessed May 19, 2012, <http://investdb1.theglobeandmail.com/servlet/story/GAM.20101231.RBMONTREALGARMENTATL/GIStory/>.

⁶¹⁶ "The new Chabanel," *Courrier Bordeaux Cartierville*, accessed May 19, 2012, <http://www.nouveauchabanel.com/presse/CourrierBordeauxCartiervilleNewsEN.pdf>.

In 2008, the City of Montreal planned an investment of seventeen to twenty million Canadian dollars to reverse these vacancies due to the economic decline in the textile industry, by enhancing the public space and fostering diversification of the area's economy.⁶¹⁷ In 2010, the former factory at 555 Chabanel was technically updated by Marcarko Ltd to include not only rooms for the creative part of the fashion industry but also general offices and spaces for new media companies. In the same year, Group Dayan renovated the interior of block 225 rue Chabanel. Since 2011, the same developer worked on block 125 to have it converted to a condominium complex. This latter building will be looked at in more depth as it was the main subject of an academic conference contribution in 2007, and a resulting publication in 2008, in which Alessandra Mariani discussed the options for its "*mise en valeur*" regarding its potential as a modern industrial monument, one of the few texts found on this subject in Quebec.⁶¹⁸

The Chabanel buildings are known by their civic addresses. The streets in this part of Montreal run diagonally to the four main directions. The numbers increase from north-east, commonly referred to as "east", to south-west, which is called simply "west." However, the first building has its main entrance towards Saint Lawrence Boulevard and carries the civic number 9310. Its first neighbour on Chabanel Street West, and the second of the group, is number 99, the third building is 111 and the fourth 125, which occupies the corner to Avenue Esplanade. The row of buildings continues with the numbers 255, 333, 433 and 555. The eight blocks can be divided into two groups of four. At the east end the buildings show bright white brick with black granite accents at street

⁶¹⁷ "Facelift for slumping Chabanel," Postmedia.com, accessed May 2, 2012, <http://www.canada.com/montrealgazette/news/story.html?id=569fa30e-2239-47c2-8613-0db0505cdf6e>.

⁶¹⁸ Alessandra Mariani, "Territoire, patrimoine, quartier en développement: le cas de la zone Chabanel au centre-nord de la ville de Montréal," in *Patrimoines: Fabrique, usages et réemplois*, ed. Capucine Lemaître and Benjamin Sabatier (Quebec: Éditions Multimondes, 2008), 105 – 123.

level, and graphic black brick details on higher elevations. Each of these four blocks use a slightly different design, taking a modernist approach in their style. Interestingly, they were not built in the same period. Block 99 went up in 1965 and is the oldest of the eight, number 111 followed in 1968. The author could not find a date for block 125 (fig. 3.6.5.3), it falls stylistically into the same time frame as its neighbor. However, the corner building on Saint Lawrence, which complements the other three in style, materials and colour, dates to 1986. It belongs to the last development on the street.

The four buildings at the west end exhibit a post-modernist-inspired style with colourful brick and concrete blocks. In 1973, 225 Chabanel opened business, number 333 followed two years later. In 1986, complex 433 celebrated its inauguration and at a slightly earlier date, in 1983, the large block at 555 Chabanel occupied the most eastern lot of the block. This latter building is the only one for which the author found an architect's name, Arnold Schrier. Schrier's fashion complex was the largest architectural commission in Montreal in 1983, yet the architect left few marks on the city. In 1974, he designed a double cinema complex on Crescent Street in the core of Montreal, but more information on him did not come to light.

The newer of the eight blocks have stores on street level while the older ones look much less accessible with only one main entrance. The size of the buildings is slightly but noticeable different, as is the spacing between them. Some stand as close as the width of a narrow alley, in other instances larger parking areas fit in the in-between spaces. There is no visible damage on the buildings; the weathered side of some of the white brick buildings have become discoloured by rain water and rusting pipes, it seems (fig. 3.6.5.5). A few windows look boarded up, advertisement signs hang crookedly and loose

in front of their fixtures, and grills in front of basement windows are slightly bent, all minor defects with no impact on the structures' stability.

Along the west side of Saint Lawrence Boulevard more of these factory-super-blocks continued, but with a much lower skyline. To the south-west Canadian Pacific railway tracks provide a border for the textile district. On the other side of the railway tracks the City of Montreal permitted the development of one of Montreal's largest outdoor shopping malls. Since 2007, a new train station of the Blainville-Saint-Jérôme commuter line serves both neighborhoods.

The garment district had not an island character but it connected to a large industrial district of which it formed the north-eastern end. Prior to the garment factories, a Second World War ammunition factory, a low complex of impressive size, occupied the centre of the large block (fig. 3.6.5.6). The production facility belonged to the Crown-owned Defence Industries Ltd., a subsidiary of C.I.L. (Canadian Industries Ltd).⁶¹⁹ For security reasons, a vast space around the military facility had been left empty at the time it operated but, with the end of the war, ammunition lost economic and strategic importance. First, other companies took over the factory and a few companies set up production sites in the immediate surroundings. Metal workshops, media companies, leather tanning shops and, in the largest number, garment companies moved into the vast space. Others produced wire hangers and paper bags in new buildings to the west, and a spinning and stamping facility operated to the east of Saint Lawrence Boulevard, beside other small scale industries. In the middle of the 1960s, the urgent need of the garment industry was fed by new textile manufactory buildings on the south side of Chabanel

⁶¹⁹ "Business and History - Canadian Industries Limited," Western University, accessed May 14, 2012, <http://www.lib.uwo.ca/programs/companyinformationcanada/cc-c-canadian.htm>.

Street, west of Park Avenue, competing for space with other industries. On the north side of Chabanel Street West the Federal Government had remained a major real estate owner, although part of their buildings stood vacant in 1954. Some years later these buildings were taken over temporarily by some mixed industries, as shown in Montreal's fire insurance maps from 1964.⁶²⁰ At the same time, building activities for a large new textile complex started at 99 Chabanel Street West. All adjoining plots along this just under one-kilometer-long strip of the street were consequently reserved for the growth of this industry, and for which the earlier buildings that bordered the street were demolished. Of the old building stock, only the ammunition factory remained. The location was ideal for the labour-extensive venue of the textile production; not only because it offered ample free properties which the government controlled, but also because it was well-connected to the Crémazie bus facility and the Youville Shops, one of Montreal's major public transportation hubs of the metro system.⁶²¹ Further, a growing potential labor force waited across the street. Starting in the 1950s to the early 1960s, the city developed the block south of Chabanel Street with nine streets lined by hundreds of single-family row-houses (fig. 3.6.5.4). This developing neighborhood offered a rich source for employees, male and female alike.

The Chabanel buildings, as seen from a passing by car, and even more so when walking along the street on foot, feel downright intimidating by their enormous size and their large number. The foyers and corridors, in contrast, offer a surprisingly warm and inviting atmosphere (fig. 3.6.5.7-3.6.5.10). The interiors, as far as visitors can venture, are modest but not bare of embellishments and decor, and they are clean; there is no

⁶²⁰ Underwriters' Survey Bureau Ltd., 1954 and 1964, Vol 12 pp. 1213, 1220, 1221, 1222.

⁶²¹ "Youville shops," info@metrodemontreal.com, accessed May 15, 2012, <http://www.metrodemontreal.com/installations/youville/index.html>.

noticeable vandalism or neglect of maintenance. Most have a shopping-mall inspired foyer with large window boxes to advertise some of the manufactured goods. Tiles, some with bi-coloured designs, covered most of the floors; walls often showed sidings of luxurious colourful marble or travertine slabs. In all areas, where floors, walls and doors featured the original materials,⁶²² they seemed in good to excellent condition. One of the local management directors of the CB Richard Ellis Group Inc confirmed that “the investment is not huge in terms of renovating the interiors, maybe in replacing the windows.”⁶²³ The newer buildings had interior galleries with escalators carrying the visitor to a second elevation.

In Montreal’s slightly older down-town textile and fur-producing buildings, architects used similar decor in places such as the Gordon Brown Building at 400 de Maisonneuve Boulevard, from 1957. The downtown buildings kept their exterior appearance and that of their public spaces after conversion into offices. The Gordon Brown Building won the 2006 *Opération Patrimoine de Montréal - Prix émérite du patrimoine* award.⁶²⁴ The 2009 renovation of the 225 Chabanel building, however, removed the older materials from the lobby, covered the floors with new dark ceramic tiles and plastered and painted all walls and ceilings white; the developer added relief plaster-boards to some walls and “elegant strips of stained-wood”⁶²⁵ for recessed modern lighting fixtures, as explained in Group Dayan's brochure (fig. 3.6.5.11+3.6.5.12). The Dayan Group owns four more of the eight buildings, which are all planned or already in

⁶²² Based on the author’s observations during site visits.

⁶²³ Marotteo, “Fresh life in the heart of Montreal's rag trade.”

⁶²⁴ “Montreal Architectural Heritage Campaign,” Les Belles Montréalaises, accessed May 19, 2012 http://www.operationpatrimoine.com/en_index2011.html.

⁶²⁵ Promotional brochure, “The new Chabanel,” Dayan Group, accessed November 7, 2012, <http://www.nouveauchabanel.com/indexEN.html>.

the beginning stages of modernization, both outside and inside – an investment which began with their acquisition in 2006 and is ongoing. The owner advertised the remodeling of his “heritage properties” as

using a sustainable development approach to maximize the value of existing structures through inspired renovations that meet the evolving needs of the marketplace.⁶²⁶

The long-term vision is to give the Chabanel strip the same “trendy” image as the meatpacking district in New York achieved, explained Stéphanie Cardinal in 2010, an urban planner and architect from the planning group.⁶²⁷

In 2012, the building at 125 Chabanel Street West went through an invasive make-over. By May, the construction company had stripped bare the interior and removed all windows (fig. 3.6.5.13+3.6.5.14). They kept only the brick walls and the load-bearing reinforced concrete frame. Plans for the transformation of this building were discussed as early as 2007. In 2007-2008 Alessandra Mariani, editor-in-chief of the journal “*Muséologies, Les cahiers d’études supérieures*” took this building as starting point for her discussion on the problem of how to

élever un ensemble d’immeubles vétustes datant de la toute fin des années 1960 au statut patrimonial, sans avoir laissé le temps faire son exercice habituel de décantage?

Mariani pointed out that the City of Montreal supported the protection of the building under their *Premier plan stratégique de développement durable de la collectivité montréalaise* for the years from 2005 to 2009, arguing that the protection would also help protecting the environment and create economic benefits. However, the heritage value of this kind of structures remained undefined as it posed difficulties; it “could not be

⁶²⁶ “Le nouveau Chabanel, design illimité,” Groupe Dayan, accessed November 7, 2012, <http://www.espacelistings.com/pdflive/8748.pdf>.

⁶²⁷ Marotteo, “Fresh life in the heart of Montreal's rag trade.”

appreciated, for instance, for its formal aesthetic qualities.”⁶²⁸ It needed to find, Mariani argued, other forms of appreciation, similar to those found in the case of an extension, from the 1950s, adjoined to the old Viau cookie-factory in the Hochelaga-Maisonneuve district. The Viau factory was a three-storey-high red brick building with sandstone details from 1906, which followed in the symmetrical structuring of corner pavilions and large enhanced entrance, the idea of the factory-palace architecture. The complex was enlarged to the back in the Post-Second-World-War years with a new aisle in a modernist style, using lighter coloured brick and concrete blocks. Mariani related the heritage value of the Viau to the observation that the company had, for long time, shaped generations of workers and further, to the historical fact that it was also “*la première entreprise canadienne-française à être cotée en Bourse.*”⁶²⁹ The acceptance by the public of the reuse of the new part of the Viau factory, she argues, could be compared to that of the conversion of the 125 Chabanel Street West building, as the building dates are close. That, in the case of Viau it was part of a larger, older complex Mariani discussed not further. Several voices on the conversion of obsolete buildings were cited in Mariani’s text; all stressing the necessity to re-integrate structures from the modern age into society by transforming them according to our current needs, “*pour servir une idée contemporaine vivante et féconde.*”⁶³⁰ The first citation was by Barbaralee Diamonstein who published a catalogue for an exhibition of the Smithsonian Institute in 1978, called

⁶²⁸ Mariani, “Territoire, patrimoine, quartier en développement,” 111, author’s translation.

⁶²⁹ Ibid., 112, cited after Marie-Ève Graniero, “Hochelaga-Maisonneuve, La biscuiterie renaît,” *Le Devoir* (May 20, 2006), 4.

⁶³⁰ Citation by Jean-Noël Mathieu, *La reprise des monuments. Pratiques de la réutilisation sur 40 sites en Europe aujourd’hui* (Paris: Éditions du Moniteur, 2003), 6, in Alessandra Mariani, Territoire, patrimoine, quartier en développement: le cas de la zone Chabanel au centre-nord de la ville de Montréal, in *Patrimoines: Fabrique, usages et réemplois*, Capucine Lemaître/Benjamin Sabatier (ed.), Éditions Multimondes, Quebec, 2008, 115

“Buildings reborn: New uses, old places.” Diamonstein realized the larger social impact of recycling old buildings:

I look for us to move from buildings reborn to communities reborn [...] The reuse of finite resources should be as much a matter of concern as the natural ecology [...] Architects should engage in a respect for the values of the old as on their innovative treatment of the space at hand.⁶³¹

The catalogue was written after Jane Jacobs’ critical analysis in her influential book “The Death and Life of Great American Cities.” Jacobs had shown the negative effects of large scale modernist urban renewal projects on many parts of society. The erasure of grown neighborhoods in North America, where old structures, not only industrial ones, were commonly demolished, was an established criticism. The second expert cited was the Spanish architect Iñaki Abalos, who reflected in 2007 that modern buildings, while still closely related to the current generation, are part of a past style – “*le modernisme a cessé d’exister depuis quelque temps*”⁶³² – which can, however, be transformed without following the rules of the modernist style because the style had come to an end during the same generation that grew up with it. Even when it is freely modified it will not cause an unpleasant stylistic rupture.

All cited voices – Mariani referred to the Polish philosopher Krzysztof Pomian as well as to French historian François Hartog – discussed the problems of architectural redevelopment in general terms outside of the context of heritage evaluation and industrial heritage. Resuming, Mariani argued, the recycling of newer buildings cannot follow the same rules as that of ancient buildings; however, to succeed it needs a well-

⁶³¹ Mariani, “Territoire, patrimoine, quartier en développement,” 114.

⁶³² Ibid.: “recycler, et plus spécifiquement recycler un bâtiment modern dont les spécificités déteignent encore sur nos modes de vie (puisque’il s’agit du locus qui a vu une grande partie des êtres présentement vivants naître et grandir), présuppose deux choses. La première est que nous devons reconnaître que le modernisme a cessé d’exister; la seconde est que nous pouvons admettre qu’il s’agit d’un matériau qui peut être soumis à des transformations qui se distancient de l’aspect disciplinaire.”

defined program which is based on the recent past. She gives the responsibility for these structures' survival to the society. The society needs to indicate which buildings to keep; it is they who have to identify "*qui sera légué à la postérité.*"⁶³³ The disagreement between those few that give these places a "*dimension esthétique non négligeable*"⁶³⁴ and the many people that "look at this industrial architecture and say, Yeck," as urban planner Cardinal explained, is a point that Mariani's text leaves open. In the end, industrial buildings remained shells for Mariani and many like-minded. The interior of these factories were not accessible to the public and spatial and technical aspects in relation to the architecture as well as the industrial equipment remained unstudied. The anonymous industrial structures on Chabanel Street represent, according to Mariani, no direct material heritage; their material and immaterial values can be presented in a metaphorical way. Riegl's well-known categories of age or artistic value, which Mariani borrowed from texts written by Luc Noppen and Lucie K. Morisset, would not fit the Chabanel district. A value of usage (Riegl's "Gebrauchswert") could be assumed, as the factories were built to serve light industries. The structures' excellent condition reflected a "monetary value" and they possessed, from their well known location, a kind of "fame value". Last but not least, because of the open floor plan, the buildings have a very good potential for their transformation to new usages, which gives them current "economic value". As buildings of standardized and prefabricated construction, with large windows and air conditioning, Mariani attested them further "*valeurs révolutionnaires.*"⁶³⁵ At the end of her discussion on the buildings' value she cited the Venice Charter for the

⁶³³ Ibid., 115: "*mais leur reprise exige un programme bien défini, puisqu'elle devra enraciner la nouvelle vocation d'un bâtiment au passé récent.*"

⁶³⁴ Ibid., 118.

⁶³⁵ Ibid., 117.

Conservation and Restoration of Monuments and Sites in its point (4): “It is essential to the conservation of monuments that they be maintained on a permanent basis” and (5): “The conservation of monuments is always facilitated by making use of them for some socially useful purpose. Such use is therefore desirable but it must not change the lay-out or decoration of the building.” Mariani omitted the second part of this paragraph which reads: “It is within these limits only that modifications demanded by a change of function should be envisaged and may be permitted.” As this Charter was the basis on how to treat recognized monuments, the reader may assume that, in the end, the Chabanel district is also part of such a group. In Mariani’s text, the heritage status of the buildings remained ambiguous; since 2006 they are part of Montreal’s *Plan de mise en valeur du territoire et du patrimoine*, but in fact, none of the buildings were inscribed in a heritage list in 2008 nor did the city signal interest in a listing. Mariani resumes her article with a quote from Jean-Noël Mathieu’s book, *La reprise des monuments. Pratiques de la reutilisation sur 40 sites en Europe aujourd’hui*,⁶³⁶ claiming that any reuse of an already existing building would more or less automatically commemorate the building’s past. She sees the architects as the actors in preserving contemporary industrial monuments; involvement by the government is not requested.

The initial reuse design by the architectural office Workshop from 2007 to transform the industrial building into La Fabrique 125, a residential complex with lofts, showed little concern for the building’s original qualities (fig. 3.6.5.15+3.6.5.16). They suggested a large courtyard to be cut out of the block on the west side to increase natural light penetration to the interior, and a passage-way on the ground floor level through the

⁶³⁶ Jean-Noël Mathieu, *La reprise des monuments. Pratiques de la reutilisation sur 40 sites en Europe aujourd’hui* (Paris: Éditions du Moniteur, 2003), 12.

building to allow the public to enter this courtyard. To add balconies, the architect would exchange many of the exterior walls with recessed walls and to diminish the severity of the black and white design, an artistic touch to bring in more colour. Any admiration for the architectural qualities of this “*immeuble qui constitue une véritable cathédrale industrielle*,”⁶³⁷ had it been assessed at any point, would fade into thin air.

As long as modern industrial structures are not evaluated in their specific heritage characteristics, a discussion on how to treat these buildings in respect to their actual heritage qualities must cause discomfort. Until such an evaluation has taken place, every conversion that showed even the smallest respect towards a few superficial heritage points would already meet any expectation even if a building may possess a potentially larger number of heritage aspects which a conversion had eliminated.⁶³⁸ The sustainable developing approach – such as increasing the thermo-efficiency with new windows and a green roof, and by offering recycling facilities and energy saving tools, over-rides, not only in this case, heritage preservation aspects.⁶³⁹ A slowly changing aesthetic sense,

*les sentiments d'appartenance et d'attachement aux lieux ont généré la redécouverte d'une dimension esthétique non négligeable, reliée à ce qu'on nomme 'architecture de fordisme' ou 'de chemin de grue'*⁶⁴⁰

may advocate for the preservation of exterior parts of the building. At the same time it increases the willingness of developers to make these places more attractive than they are (fig. 3.6.5.17-3.6.5.19) to convince even more potential clients of the “*dimension esthétique*.” Because aesthetics change, whereas heritage criteria remain or should remain

⁶³⁷ “La Fabrique 125 Des lofts de style new-yorkais sur Chabanel,” Le Point, accessed May 19, 2012 <http://gayglobe.us/blog/?tag=condos>.

⁶³⁸ Montreal offered many examples of this kind of “enhanced facadism”, as we may call it in the conversion of older industrial complexes: the Imperial Tobacco Company factory buildings on Saint Ambroise Street into the Imperial Lofts, is such a case. Nothing but the concrete frame and façade have survived.

⁶³⁹ See chapter 16.1: Montreal 4000 - 4008 St. Patrick Street, Canadian Power Boat Co.

⁶⁴⁰ Mariani, “Territoire, patrimoine, quartier en développement,” 118.

stable, strict heritage protection rules would lead to conflict. The governments had to prohibit owners any invasive, not reversible changes to the original structure.

3.6.6 The Esso Gas Station by the Office of Ludwig Mies van der Rohe

Montreal has a large office complex, Westmount Square (fig. 3.6.6.2), and three residential buildings on Nun's Island designed by America's hugely influential architectural office of Ludwig Mies van der Rohe, all of them built in the last decade of the architect's life. On Nun's Island we also find a gas service station designed by Mies' office, built in 1969, the only time they took on such a commission. It was designed for Standard Oil, who may have ordered it as a prototype, but it remained unique.⁶⁴¹ Mies organized the full-service station in such a way that the customer drove through the centre of the gas station and service could be provided from the two sides – a “temple to mobility” as some called it (fig. 3.6.6.3-3.6.6.5). There could be much said about the relationship between modernist architecture and car culture, but here is not the place to do so; nonetheless, when this filling station closed operation in 2008, the sound of the wrecking ball appeared imminent.⁶⁴² This pessimism fortunately was ungrounded. In June 2009, the City of Montreal declared the station a historic monument. The city, the municipality and the Province of Quebec spent together close to 1.5 million Canadian dollars to restore the building and convert it into a centre for youth and the elderly.

⁶⁴¹ “Tankstelle von Mies van der Rohe,” *Bauwelt*, accessed January 14, 2013, <http://www.bauwelt.de/cms/bauwerk.html?id=6185495#.UNUy5Xdp4RE> and “Montreal Architects Rescue Mies van der Rohe's Gas Station from Obscurity,” *Architizer*, accessed January 14, 2013 http://www.architizer.com/en_us/blog/dyn/tag/mies-van-der-rohe-award/#.UNUz5ndp4RE.

⁶⁴² Capi Corrales Rodríguez, “Exploring the space in Montreal,” *Universidad Complutense de Madrid*, 18, accessed May 21, 2012, <http://www.mat.ucm.es/~ccorrale/pdfs/Montreal09.pdf>.

The gas station belonged to a residential development on Montreal's Nuns' Island, situated a short distant off-shore in the Saint Lawrence River. Quebec Home and Mortgage Corporation Limited bought the four-hundred acre-large sanctuary which at that time carried the name *L'Île-Saint-Paul*, in 1956 from the Sisters of Notre Dame Congregation.⁶⁴³ Development started after a new bridge connected this little offshore piece of land with Montreal Island in 1962. The city envisioned a residential model-development, a "dream city,"⁶⁴⁴ in a nature-park setting where the houses would be built organically between trees of the existing forest, in concert with nature (fig. 3.6.6.6). The gas station on the island offered the only place for filling up one's car and occupied a central location at 201 Berlioz Street, a corner lot. The grounds of this property descended slightly compared to street level. The architect decided on a rectangular, single-storey, flat-roofed metal frame structure with two driveway paths and pump stations in the middle, served by a central small, low-roofed glass-enclosed cash-booth. To both sides of the drive-through area there were transparent enclosures that held on the one side, first general services, and later a car-wash and further services on the other side. The front and back walls of the car-wash were built of brick and the long sides were covered with floor to ceiling glass walls or doors. The other enclosure had glass walls on all four sides. Around the washrooms and storage spaces, screen walls created rooms inside the glassed-in space. The designer kept the built-in furniture in white. Mies van der Rohe had the steel frames painted in black, the ceiling cladding was white with long lines of florescent light fixtures, and for the brick he chose a light yellow hue. In accordance

⁶⁴³ "Histoire du quartier l'Île des Sœurs," Ville de Montréal, accessed November 9, 2012, http://ville.montreal.qc.ca/portal/page?_pageid=8637,96301692&_dad=portal&_schema=PORTAL.

⁶⁴⁴ "History Timeline," Groupe-Acces Communications, accessed November 9, 2012, <http://www.nuns-island.com/nuns-island/history.asp>.

with the low height of the entire gas station, the oval brand sign was kept close to the ground⁶⁴⁵ where it added blue and red to the ensemble. Merchandise, such as motor oil bottles, windshield washer fluids, and so on, gave splashes of additional colour, as did the uniform of the attendant. Over the years, the gas station owner changed pumps and used spaces differently than in the originally assigned way. The car-wash, for instance, was a later modification. The landscaping consisted of mowed grass around the building, a row of single standing deciduous trees along the two streets and, at some distance to the station, low shrubs to the other two sides. The fauna contributed to the architectural design as it was visible through the glass and the large central opening. The station sat unobtrusively but well-staged – surrounded by its own green environment –, in the park-like residential development. Its closing in 2008 happened after a larger gas station opened in a nearby shopping centre area and attracted the main business.

Architectural historian Claude Bergeron included the Nun’s Island gas station in 1989 as one of three service-garage examples in his survey on Quebec’s twentieth century architecture.⁶⁴⁶ He admired its uncompromising geometric form and its complete transparency. When twenty years later the station closed, it posed the question of what to do with such a unique structure. The owner had kept the building well maintained, he repainted the steel beams when necessary, cleaned walls and floor spaces and kept all windows intact; only a few traces such as dark spots on the concrete floor in areas of high usage revealed the age of the station. Public consultations followed the closure in which the participants demanded of the city that preservation and heritage recognition be

⁶⁴⁵ If the initial Standard Oil sign was mounted in the same way as later the Esso sign, the author was not able to confirm this. Both brands’ logo were of similar shape and colours.

⁶⁴⁶ Bergeron, *Architectures du XXe siècle au Québec*, 153.

accorded to this modernist monument.⁶⁴⁷ Docomomo, which produced a report on the gas-station's architectural qualities in 1992, and the *Conseil du Patrimoine de Montreal* (CPM), having conducted research on the station in 2005, supported the entry of the building in the city's list of cited monuments.⁶⁴⁸ The CPM study suggested at that time a motion for a legal act of protection. It is an eleven-page paper which analyzes the criteria for the preservation and the measures needed and requested to safeguard the site. Again, two characteristics were pointed out as the station's major features; one was the transparency of the architecture; the second was the building's simplicity with its clear lines. Both points cover principal concepts of Ludwig Mies van der Rohe's architectural style. To assure the transparency, the study regretted that the aspired classification as historic monument would not include the protection of the interior.

*À cet égard, le CPM considère regrettable que la citation d'un monument historique n'assure pas la protection des intérieurs, compte tenu de leur importance, dans le cas présent, pour une telle continuité.*⁶⁴⁹

After the designation became effective, the city took precautionary measures to prevent damages to the building and boarded up the large glass walls.

In the public consultation, citizens and officials discussed several re-use options, trying to assure a usage that would cause the least interference with the customized service station's architecture. Citizens expressed their concern that the conversion to a youth and seniors community centre would compromise the building's set-up. However, when Les architectes Fabg, the firm who received the commission, completed the

⁶⁴⁷ Reports by *Le Devoir* from January 6, 2009 and *La Presse* from February 3, 2009 (over Eureka).

⁶⁴⁸ Stéphane Baillargeon, "Station moderniste en danger," *Le Devoir* (January 6, 2009).

⁶⁴⁹ "Statut patrimonial municipal Station-service Esso de l'Île-de-Sœurs," Conseil du patrimoine de Montréal, accessed May 21, 2012,

http://ville.montreal.qc.ca/pls/portal/docs/PAGE/CONSEIL_PATRIMOINE_MTL_FR/MEDIA/DOCUMENTS/A09-VE-02_1.PDF.

community centre according to their design, it was found that the redevelopment respected the wish of the citizens not to modify the building (fig. 3.6.6.1). The architects preserved all exterior aspects; they even revamped the optical appearance. The utilitarian structure – one of the few that the office of Mies van der Rohe had ever designed – looks not only as if forty years of duty had gone by without leaving any trace, but as if the building had never performed any kind of services (fig. 3.6.6.7-3.6.6.9). The brick walls were cleaned and re-pointed, all windows replaced with extra-translucent, low-iron glass, the grounds renewed after the petro-company excavated the tanks⁶⁵⁰ and all interior spaces emptied.⁶⁵¹ Nothing but the architecture remained. Mies van der Rohe's office had initially installed customized, square, black pumping stations. Several photographs featured these pumps⁶⁵² but Esso had discarded them one day to install modern pumps. Today, on four of the former six locations of these square pumps, the architects installed equipment, in similar shaped boxes, for the geothermal heating system, in an off-white. The side for the seniors community activities was furnished with white tables and steel-frame chairs; in the youth section black steel-frame chairs surrounded small white tables, while in the middle of the room stood a sofa with its back facing a table-football game and an old style pool table. The architects left the surrounding trees and bushes untouched which more than ever interacted with the building as constantly-visible organic backdrop because the furnishing of the interior remained low and spare.

⁶⁵⁰ "Community and society," Esso Imperial Oil, accessed November 12, 2012, http://www.imperialoil.ca/Canada-English/community_ccr2011_environmental_land.aspx.

⁶⁵¹ "Conversion of Mies van der Rohe Gas Station/Les architectes Fabg," Arch Daily, accessed November 12, 2012, <http://www.archdaily.com/214540/conversion-of-mies-van-der-rohe-gas-station-les-architectes-fabg/>.

⁶⁵² The author found no information if the original pumps were preserved somewhere.

The city of Montreal had filed Ludwig Mies van der Rohe's Nun's Island Esso Gas Station as a commercial heritage structure,⁶⁵³ not as an industrial one where we would have found it in Germany, for instance, and protected it as a little built gem of an internationally renowned architect. The heritage criteria stressed this interpretation, emphasizing the architectural signature over material or functional intactness. The architects in charge of the redevelopment and the Borough of Verdun disregarded the technical appliances, the commercial equipment, and the underground storage system and their loss impedes the readability of the station's former function. The three transparent enclosures with little to no furniture – the former central cash-booth found no use in the new set-up and remains entirely empty – present a beautiful aesthetic experience; comparable to Mies van der Rohe's *Neue National Galerie* in Berlin, likewise a void glass box (fig. 3.6.6.10), but the site today does not reflect its past reality. Function and form respected each other, the glass allowed the display of merchandise and the direct communication between the customer and the service. It was not a symbolic transparency and emptiness as in Berlin's National Galerie, these were shop-windows.

From the beginning, the CPM addressed the problem of the municipal's restriction to a heritage citation that allowed only the protection of the exterior. They saw the exterior protection as inefficient in the case of a quasi transparent complex. Whether the CPM thought of including in the heritage recognition the underground gas tanks, the pumps and so forth (certainly essential parts of every service station even if much of the equipment had been replaced during the station's past) was not reported in the publicly-available documents.

⁶⁵³ See "Built Heritage" in "Montreal Masterplan Verdun," Ville de Montreal, accessed November 12, 2012, http://ville.montreal.qc.ca/portal/page?_pageid=2762,3101242&_dad=portal&_schema=PORTAL.

In a similar case in Germany, the conservation authority asserted heritage protection in 2010 for a 1953 gas station, Tankstelle Brandhof (fig. 3.6.6.11), in an outlying industrial district of Hamburg, that had been decommissioned in 1983. The architects of the service station, Wilhelm Mastiaux and Ulrich Rummel, never came to stardom; however, the service station had become one of the last that remained intact from that time period. Two private owners restored the building and reactivated the service station as a garage and meeting place for old-time cars and their drivers. In the near future, the owners plan to reinstall tanks that had been removed in 1983 for which they have already purchased historic pump stations of the original design. By 2013, they hope to have a functioning and profitable old style gas station. Since the fall of 2011, the station offered a repair and check-up service for old cars and a little nostalgic bistro, open to the general public. National German media reported on this venue in print and television several times during the conversion process and promoted the business to viewers and readers.⁶⁵⁴ The heritage recognition helped the owners to access some government financial aid and facilitated eventually access to regular bank loans for the roughly one million Euro investments to pay for a historic restoration that kept original surfaces intact or restored them, replaced broken windows and repaired the roof. This was roughly the same amount the different levels of the Government of Quebec spent for the restoration of the Mies van der Rohe gas service station (1.5 million Canadian dollar). Beforehand, the owners presented a conclusive business model to the city and allowed themselves a two-year preparation period for the collection and purchase of missing equipment as close as possible to those that had once been used. Several such historic

⁶⁵⁴ "Die Grosstankstelle," Grosstankstelle Brandshof, accessed November 19, 2012, <http://www.tankstelle-brandshof.de/index.php/historie.html>.

service stations in Germany entered heritage lists, and most of them included the pumping equipment.⁶⁵⁵

The short juxtaposition between Quebec and Germany showed some interesting aspects. One is the question of the unity in functional buildings between the architecture, original equipment, and usage which the people in Hamburg took as part of their task, while the Borough of Verdun disconnected the architecture from its equipment and function. In Montreal, the city commissioned architects who transformed the building whereas the owners of the Brandhof garage conducted most of the work themselves under some official guidance that guaranteed them public funds. Sustainability, recycling or energy efficiency played no role in the planning for the Hamburg project, despite the fact that the country is leading in technology and mind-set concerning environmental issues, for all of these issues, and climatic conditions raise energy concerns. In Montreal, these buzz words break through in the discussion of heritage issues as important factors.

To understand how industrial heritage sites, specifically those of recent date, find different treatment and are understood by their societies and governmental policy makers in diverse ways, was the principal question that led the author to the decision to conduct case studies in Germany, which the following chapter will present.

⁶⁵⁵ "Tankstellengeschichte in Deutschland," [Geschichtsspuren.de](http://www.geschichtsspuren.de), accessed November 19, 2012, <http://www.geschichtsspuren.de/artikel/34-verkehr/138-tankstellengeschichte.html>.

4. Chapter

CONTEMPORARY INDUSTRIAL HERITAGE

IN GERMANY (OLD LÄNDER)

4.1. The Laws and Administration of Heritage in Germany and their Interaction with the Country's Contemporary Industrial Heritage

The Federal Republic of Germany, including the former German Democratic Republic, has given the responsibility for heritage buildings and their preservation issues to its sixteen states called *Länder*, *Land* in singular.⁶⁵⁶ Therefore, Germany has not one general ruling in heritage matters, as it is the case in France or Britain,⁶⁵⁷ but each Land deploys its own laws that define heritage buildings and regulate in what form preservation should take place.⁶⁵⁸ For Canadians the multitude of rulings is a familiar scenario. By its constitution, culture is not federal and therefore each Canadian province has their own heritage preservation laws, as well. In contrast to Canada's very divergent heritage laws, those in Germany are of little variety and are based upon the same principles and concepts. The heritage preservation laws are only concerned of buildings, monuments, sites, manmade landscapes and archaeological sites. Intangibles are not included. Small variations exist between the laws and the definition of its parts, for instance in the understanding of heritage ensembles, which are in some Länder an entity with only one entry even if a multitude of buildings is included, while in other parts of

⁶⁵⁶ A good overview on this subject can be found at: "Germany," European Heritage Network, accessed August 15, 2012, http://european-heritage.coe.int/sdx/herein/national_heritage/voir.xsp?id=intro_DE_en.

⁶⁵⁷ "Code du patrimoine," Legifrance, accessed August 20, 2012, <http://www.legifrance.gouv.fr/affichCode.do?cidTexte=LEGITEXT000006074236&dateTexte=20111115> (on French heritage); "Preserving historic sites and buildings," www.parliament.uk, accessed August 20, 2012, <http://www.parliament.uk/about/living-heritage/transformingsociety/towncountry/landscape/overview/historicsites/> (on English heritage).

⁶⁵⁸ Some of the provincial laws can be found online in an English translation (Hesse: http://www.denkmalpflege-hessen.de/LFDH4_Recht/Recht_D/Recht_E/recht_e.html; Bavaria: http://www.blfd.bayern.de/download_area/denkmalchutzgesetz/), a detailed description on the implementation of the laws in the different provinces is, to the author's knowledge, not available in English and is therefore in this chapter in some more detail described. The most relevant German literature to this subject beside the law texts is the *Handbuch Denkmalschutz und Denkmalpflege* by Dieter J. Martin and Michael Krautzberger. Its third edition was published in Munich by Beck, in 2010. The still widely used second edition was available since 2006.

Germany an ensemble is a collection of single buildings each with its own entry but belonging to a group. The homogeneity of the sixteen laws was neither by chance nor was it a sign of stagnation⁶⁵⁹ but it was achieved via continuous communication of governmental professional heritage experts from all Länder. The main platform for this exchange of ideas is a conference organized by the association of the heritage curators of all Länder (*Vereinigung der Landesdenkmalpfleger*), which takes place yearly and discusses relevant preservation issues of the time. Additional yearly conferences for experts in technical and industrial heritage curatorship, for instance, complete the nationwide preservation network on a more detailed and specific base.

More significant differences exist in the form how the rulings are executed by the administration of each Land as it defines the formal and informal interaction of the different players. Most Länder have two independent government organizations: the one is the conservation authority⁶⁶⁰ (*Landesamt für Denkmalpflege*), the other is the lower heritage protection agency (*Untere Denkmalschutzbehörde*). The conservation authority has the task to conduct research on the sites of expected heritage value, to put the building's heritage values in a wider context and to report their findings to the lower

⁶⁵⁹ All current German preservation laws were developed after the Second World War and based on already existing regulations from the Weimar Republic which led right from the beginning to a uniform formulation of the provincial laws. Most provinces ratified their first post-war preservation law in the 1970s. After the re-unification in 1989, the five eastern provinces plus Berlin ratified new preservation laws, replacing the ones from 1952. From 1991 on, the West German provinces started to reform their laws, the most recent reform took place in Schleswig-Holstein in 2012 to replace their regulations from 1958.

⁶⁶⁰ The translation of these terms in literature is inconsistent. The terms in this text were translated in a way that they were consistent and distinctive, the author refers to the term "Landesamt für Denkmalpflege", in other provinces called "Landesdenkmalamt" short as "conservation authority" when it refers to the same kind of administrative office. In other literature this administrative body is called "expert authorities for cultural heritage conservation", or "state offices of cultural heritage conservation." The "Untere, Obere und Oberste Denkmalschutzbehörde" are for this thesis translated as "lower, higher and highest protection agency" while other translation in literature are also common but often confused with those translations for the "Landesamt für Denkmalpflege."

protection agency together with recommendations regarding the listing and needed actions to guarantee the monument's lasting condition and integrity. In all cases the call for protection can include the exterior as well as the interior of a building or can single out specific parts of it. The government-employed curators are commonly art historians, historians or architects with master's or doctor's degree. The lower heritage protection agency, which is part of the municipal administration, supports the research over their local archives and in-house documentation in collaboration with other municipal agencies such as the construction department (*Baubehörde*) and – should the conservation authority recommend such and the legal requirement are fulfilled – it initiates the listing. The lower heritage protection agency contacts the owner, informs him or her of the generally one month-long period to object the listing in the case that heritage criteria for the listing of the building have changed or were incorrect and, if no objections were claimed and considered valid, finalizes the listing in the name of the conservation authority. The qualification for employees at the lower heritage protection agency does not request a background in the same fields as for the curators but many of these employees also bring these credentials along. All listed monuments share the same status; a ranking between more and less important buildings or sites does not take place in the Federal Republic. Owners of heritage property are entitled to tax-cuts, independent of the usage of the listed heritage property, including commercial usage, whereas in Quebec commercially used heritage properties are not entitled to the same tax cuts or financial support as privately used ones.⁶⁶¹ After the listing is made official, the owner of a

⁶⁶¹ Tax breaks or financial aid would contradict Quebec's *Municipal Aid Prohibition Act*, chapter I-15:" [...] no municipality shall, directly or indirectly, assist any industrial or commercial establishment, otherwise than in the manner provided in the Act respecting municipal industrial immovables (chapter I-0.1) [...] (4) by granting any exemption from taxation to any industrial or commercial establishment."

building is obliged to maintain the building in its current state and has to accept reasonable financial burden to do so (*Zumutbarkeits-klausel*). If renovation costs outrun an owner's financial possibilities, the owner can ask for financial support over governmental aids or over the German Foundation for Monument Conservation (*Deutsche Stiftung Denkmalschutz*, which is an independent foundation, established in 1985 after the model of the British National Trust; it offers financial aid over private donations and over the gains of a lottery). The distribution of public financial aids is in the responsibility of the higher government protection agency (*Mittlere Denkmalschutzbehörde*), which also supervises the lower preservation agency but is normally not intervening in the listing process. In all cases of repair, renovation, or modernization or any other modification on a heritage building, the owner must collaborate with the lower government protection agency. Consultation from a curator of the conservation authority is in general free of charge and for the owner binding. In the case that an owner is ignoring the recommendations, the lower heritage protection agency can enforce the proper restoration by employing knowledgeable experts and can charge the costs later to the owner. Heritage preservation is a public concern (*öffentliche Aufgabe*). The protection of heritage buildings is in all German states an administrative act of law enforcement and as such widely independent from political decisions.⁶⁶² Public involvement is not required but takes place if views conflict concerning a buildings heritage evaluation or its conversion to a new use. Heritage laws can overrule private

⁶⁶² Several German provincial governments however are currently pushing to have more political influence on heritage issues, specifically if economic interests conflict with the relatively strict preservation law. Baden-Wurttemberg in 2004 and Schleswig-Holstein in 2012 have reformed their laws accordingly. Baden-Wurttemberg's preservation curators, however, hope to have the older law put back into place after a new (green) government was voted into the provincial parliament in 2011. If Schleswig Holstein attempts the same return to the older version of the law is not known to the author.

property rights for the benefit of the public interest but the enforcement of the law must also consider unreasonable economic disadvantages if they are caused by heritage issues and reach a consensus with the owner. Because the preservation costs are part of the owner's responsibility, the number of listed buildings does not automatically burden the budget of a Land. The Land covers the running costs of the conservation authority, the municipalities are taking over those of the lower protection agency.

Any person can initiate a heritage listing by contacting the lower heritage protection agency, even if commonly the conservation authority suggests listings. In the case of a conflict between the recommendations of the conservation authority and the evaluation of an object by the lower heritage protection agency, the supervising administrative level, the higher heritage protection agency, must be called on, in more complex cases or larger objects, the issue is reported to the highest provincial administrative level, the highest protection agency (*Oberste Denkmalschutzbehörde*), which is in the Ministry for Cultural Affairs of each Land. Generating and constantly updating the inventory of heritage buildings is either the task of the conservation authority or the lower heritage protection agency – this may differ from *Land* to *Land*. The number of heritage sites in each Land has reached several thousands to over a hundred thousand of objects. In 2008, Germany had approximately 1.3 million protected heritage buildings or sites in all.⁶⁶³ The heritage lists consist of the address of each site and can add additional information. These are openly accessible to the public in many federal states, often online as databank or Portable Document Format (PDF) file, but they are not always searchable by date or by type, whereas detailed information on private

⁶⁶³ "Statistical data," European Heritage Network, accessed August 15, 2012, http://european-heritage.coe.int/sdx/herein/national_heritage/voir.xsp?id=8.1_DE_en.

property is in most cases restricted to the owner of the heritage building. The reports and recommendations to each site can be requested by researchers but are published neither online nor in print. Coherent heritage topographies in form of books by fourteen of the sixteen federal states⁶⁶⁴ were in work since 1981 and will one day count over eight hundred volumes to offer an overview of Germany's monuments, however, they were still not complete and the timely distance between the updates of the already existing volumes hinder their usefulness, specifically when discussing recent heritage.

The German case studies touch sites in four federal states: Hamburg, North Rhine Westphalia, Baden Wurttemberg and Bavaria (fig. 4.1.1). The first two federal states have their heritage legislation based on a constitutive system, meaning that legal protection needs the official listing of the building or site, a process which is done in two stages, a preparation stage which already needs to inform the owner of a property of its heritage value without tax-benefits and a later stage of actual listing including benefits and eligibility to financial aid, the latter mentioned states have “declaratory procedures”⁶⁶⁵ where the state can enforce protection of a heritage worthy site even if no listing has taken place, but if the site fulfills the legally recognized criteria of a heritage property. The variations in the heritage ruling will be described and discussed in relation to the case studies themselves as the understanding of these specifics is facilitated when confronted with real projects.

⁶⁶⁴ Saxony-Anhalt and Mecklenburg-Vorpommern were not participating in this undertaking.

⁶⁶⁵ The translation “declaratory procedure” was taken from “Knowledge and protection,” European Heritage Network, accessed August 15, 2012, http://european-heritage.coe.int/sdx/herein/national_heritage/voir.xsp?id=4.2.3_DE_en to define the German “nachrichtliche/deklaratorische Denkmalliste.”

When the author chose the contemporary industrial sites, conservation authorities had discussed or recognized all examples included in the case studies. Every study has a detailed introduction on the specific site to help to situate the heritage site to its historic, economic, political, social and/or artistic background as needed or known. To reveal the process of heritage listing, the author reviewed archival material to each project. The quality and quantity of available documents varied depending on the rulings of the protection agencies and conservation authorities. There is no regulation as to where preservation documents are stored. Hamburg keeps all documents in the conservation authority archives which are directly part of the ministry of cultural affairs; a lower protection agency does not exist in the city state. In North Rhine Westphalia, the majority of documents was found in the lower protection agency and only minimal information was found in the conservation authority archives, in Bavaria the conservation authority claimed of having stored all the information – the lower heritage protection agency did not answer to any request, in Baden Wurttemberg the documentation was held in one of the four district offices called *Regierungspräsidien*, which since 2005 replaced the lower protection agencies. The author visited all relevant state or municipal archives in person. Only for one case study could a personal visit to the municipal protection agency not be scheduled and documents were selected by the responsible employee and received online. All described buildings or sites were also visited in person and photographed. Most sites could be documented from the out and inside, for security reasons, photographs of some interior spaces were not permitted. The presented sequence of the field studies followed the geographic location of Germany from North to South without any ranking so as to not give any of the sites a higher priority than any other.

4.2. Hamburg, Harbour Warehouse “Kaispeicher A”

The “Kaispeicher A” (fig. 4.2.1) occupied a central position in the harbor of Hamburg (fig. 4.2.2). It became Hamburg’s most prominent construction site from the moment on, the city built a spectacular music hall on its roof without destroying the exterior of the older structure. However, over the conversion process, which respected all details to which the conservation authority had designed value, the conservation authority withdrew in the end a pending heritage listing.

The Free and Hanseatic City of Hamburg is the most northern of the three city-states in the Federal Republic of Germany. It is the second smallest Land in Germany but with close to 1.8 million inhabitants Hamburg ranks as Germany’s second largest city after Berlin and before Munich. The River Elbe runs through the city state, cutting it in two parts; to the north is Hamburg’s centre, to the south is today’s harbor, the merged city of Harburg and the vast orchards for apples and cherries production of the *Altes Land*. The Elbe merges one hundred thirty kilometers further west of Hamburg into the North Sea. Despite its distance to open sea water, the city’s harbour is second in Europe for container and transshipment in Europe after Rotterdam in the Netherlands. The harbour is central to Hamburg’s economy and a major point of reference when it comes to define the city’s identity. The city owns the port and it is the city-state’s largest industrial site. Hamburg’s Senate⁶⁶⁶ guarantees and defends the port’s privileges and advantages. To optimize its performance the port has been several times relocated during

⁶⁶⁶ Hamburg’s senate is composed of not more than twelve senators who take over the position of the ministers of the city state. The mayor of Hamburg is equivalent to the prime minister of the province and has therefore a double role. The senators are responsible for the provincial government as well as for the communal issues. Berlin, in contrast, has eight senators for the provincial government and a *Bezirksverordnetenversammlung* (assembly of representatives of the districts) with representatives of the city’s twelve districts.

its history with little regard towards other interests, as the success of the harbour was the city's economic motor and its main source of income.⁶⁶⁷

Hamburg's modern harbour covers 72.36 square kilometers which is a little less than a tenth of the province's surface. Only its north-western part, where the harbour is used for cruise shipping and passenger ferries, has a public presence with an inviting harbour promenade, the rest is industrial. The changes caused by the harbour activities were always a dynamic force in the city's urban development. Several islands on the northern side of the river were incorporated into a harbour enlargement plan in 1883. The city's Senate relocated the twenty thousand or so former, mostly poor inhabitants of these islands to other districts into new low-income dwellings, the city demolished their old houses and overbuilt the cleared parcels with seven storey-high warehouses in a neo-gothic style which became known as *Speicherstadt* (storage town, fig. 4.2.3); canals were dug out, land shaped to piers, bridges built for land traffic. Sixty years later, British bombers destroyed the harbour during the Second World War; two-third of all storage facilities were in rubble.⁶⁶⁸ The recreation of the harbour started immediately after 1945; but with a stronger concentration on the river's south side, which had merged with Hamburg by 1937.⁶⁶⁹ Again, the city cleared old neighbourhoods to make space for basins, cranes and storages. The concentration of port activities in the south-harbour caused the area around the historic *Speicherstadt* to become increasingly underused and abandoned. Despite strong efforts and sacrifices to rebuild the harbour facilities in the most modern fashion, Hamburg's harbour had a hard time to resume its pre-war volume,

⁶⁶⁷ Sandra Engel and Sven Tode, *Hafen Stadt Hamburg: Von der Alster an die Elbe – Hafentwicklung im Strom der Zeit* (Hamburg: Verlag Hanseatischer Merkur, 2007).

⁶⁶⁸ "HHLA Chronologie," HHLA, accessed July 11, 2012, <http://hlla.de/de/historie/chronik.html>.

⁶⁶⁹ The merge was the result of the Groß-Hamburg-Gesetz/Greater Hamburg Act.

because of the German division the city was cut off its important hinterland, the east of Europe. With the harbour struggling, the centre of Hamburg increasingly lost touch with its maritime roots.

With the fall of the iron curtain, Hamburg could reconnect to its old trading partners and expected a growth on a large scale. To feed the need for work and living space Hamburg's Senate discussed several options for a city expansion. Since the early 1990s, under the leadership of Hamburg's mayor, social democrat Henning Voscherau (fig. 4.2.4), the Senate of Hamburg decided on the construction of the Hafencity on the underused land in the northern harbour. Voscherau presented the plans to the public in 1997 under the premise "to reconnect the city back to the river Elbe."⁶⁷⁰ These areas of the harbour became available to new development when container terminals moved to the southern site of the Elbe. It was conveniently the part of the harbour sitting the closest to the city core. The city developed a masterplan by 2000 and lifted the free port zone in this area in 2003 when first constructions started. The Hafencity is supposed to be completed by 2025 and will add a residential-commercial area of 155 hectare to the inner city district (fig. 4.2.5). Most of the area will be filled with new constructions but heritage protection covers the warehouse district *Speicherstadt* and some other heritage buildings from the nineteenth and twentieth century. One of the remaining historic structures is the block-shaped Kaispeicher A, built in 1965, which the city reviewed as historic monument since 1988.⁶⁷¹

⁶⁷⁰ "Dicht am Wasser – der Hamburger Bürgermeister hat eine Vision: Die City wieder zurück an die Elbe zu führen," *Die Zeit*, May 16, 1997, 15 (Archives Kulturbehörde Hamburg, Denkmalschutzamt).

⁶⁷¹ § 7a of the city's preservation law, see: "Denkmalschutzgesetz," Senate of Hamburg, accessed August 20, 2012, <http://www.hamburg.de/contentblob/176820/data/denkmalschutzgesetz.pdf>.

The Kaispeicher A occupied a property in the most western part of the former free port on a peninsular shaped pier, looking towards the passenger piers to its west. The building had a high visibility from land as well as from the water. An older Kaispeicher A stood on the same site (fig. 4.2.6) but was destroyed during the bombing of the city in 1943. The historic building was a prominent landmark because of its clock tower, which reached into the sky as high as the baroque Saint Catherine Church spire on the landside. Between 1876 and 1934 the harbour gave a time-signal from the warehouse tower over a “time-ball” visible from all ships in the harbour (fig. 4.2.7). After the end of the Second World War it remained a ruin and the city only demolished it in 1963 to give way for a new construction.

Werner Kallmorgen (1902-1979, fig. 4.2.8), an acclaimed architect of many private, public and office buildings in Hamburg (fig. 4.2.9) and northern Germany provided the plans for the new Kaispeicher A, it celebrated inauguration in 1965. Kallmorgen had studied from 1919 to 1924 at the Technical Universities in Berlin, in Munich and in Dresden, practiced as free architect since 1928 in Hamburg and was engaged in the reconstruction of his city from 1945-1947, which included the Speicherstadt.⁶⁷² He accepted the commission for the Kaispeicher A at the height of his career. He must have known the old Kaispeicher better than most, at least, he was famous for his knowledge of the eclectic architectural styles of the nineteenth century for which he felt an unusual admiration.⁶⁷³ He gained certainly precise data on the building’s specifics and its historic past. With the footprint he followed closely the old foundations

⁶⁷² “Werner Kallmorgen,” Architektenportrait, accessed June 29, 2012, http://www.architekten-portrait.de/werner_kallmorgen/.

⁶⁷³ “Porträt Werner Kallmorgen,” Hamburgisches Architekturarchiv der Hamburgischen Architektenkammer, accessed February 1, 2013, <http://www.architekturarchiv-web.de/kallmorgen.htm>.

of the Kaispeicher which was shaped in the form of a trapezoid, pointing west with its smallest side. Also the overall height of the structure remained the same. In all other aspects the architecture seemed to have diverted sharply from the historicising language of the older building. He designed a clear outlined red brick block with a flat roof above a high concrete foundation ending above the first floor. The brick walls were pierced with small square windows which unite optically into horizontal lines when the building was seen from a distance. To load and unload goods, in this case mostly cacao, the south side, facing the river, had four, the north side, bordering the canal, three rows of openings. State-of-the-art loading flaps of a Dutch design (fig. 4.2.10) and movable half-portal cranes from the German company Demag transported goods in and out of the building (fig. 4.2.12). In old times winchs, installed under the roof, would have been used instead of cranes; Kallmorgen's vertical rows of flaps kept the old linear arrangement without this technical obligation. Keeping the wall-structure simple increased the effect of the flaps which, when opened protruded like large spouts out of the wall and added a surprising and ever changing optical interest to the two façades. On the back, the east side, the only facade facing land, large white letters spelled the name of the warehouse, horizontally in line with a row of white framed windows for offices (fig. 4.2.11). On the short west facade, short below the roof is a loggia, a square opening in the wall; for years, the HHLA (*Hamburger Hafen- und Logistik AG*), a city-run company for shipping and logistic in the harbor of Hamburg, installed their sign in this space, they may have used it also for signalling ships coming up the river or for observation. A reinforced concrete frame formed the inner structure of the building with short spans between mushroom pillars.⁶⁷⁴ The short spans offered a most likely unnecessary high load capacity of two

⁶⁷⁴ The pillar grit was structurally influenced by the older wood pillar foundation from the earlier building.

thousand to three thousand kilograms per square meter.⁶⁷⁵ The movable Demag cranes allowed the Kaispeicher A, as the only warehouse in the port, to unload and load oceangoing freight ships directly from the water. Demag produced the cranes in 1963/1964 and three of the four cranes still existed on site in 2007.

The architecture of the Kaispeicher A conveyed functionality in all its parts and pleased in its proportions and clear segmentation of the plain walls by the regular grid of the small windows and the accentuating dark columns with the loading flaps. While not overtly large, the warehouse looked monumental in a humble-functional sense. The building's quasi expressionist character attracted photographers. The acute angle on the south-east corner, dramatized by the Demag cranes (fig. 4.2.14) could be photographed in a manner that it resembled the famous pointed facade-top of the nearby Chilehaus by Fritz Höger, an impressive architectural representation of a steamship's prow. Both views circulated widely in publications.

In 1968, Kallmorgen's warehouse found recognition as the most significant example of new architecture in Hamburg's harbour.⁶⁷⁶ It was, however, a rapidly obsolescing warehouse model as the narrow spans between the columns handicapped the operation of forklifts.⁶⁷⁷ The frequency of its use decreased and it stood empty for long periods of time. The preservation office scheduled a first visit to the site in 1988 to discuss a listing of the building. In addition to the building's architecture, the archival

(Archives Kulturbehörde Hamburg, Denkmalschutzamt).

⁶⁷⁵ Other warehouses for similar goods had a load capacity of 2000 kg/m² on the ground floor and 1500 kg/m² on the higher elevations.

⁶⁷⁶ *Hamburg und seine Bauten*, ([Berlin?, Hamburg?: Architekten und Ingenieurverein?], 1968), 155 (Archives Kulturbehörde Hamburg, Denkmalschutzamt).

⁶⁷⁷ The warehouse was planned for delicate goods of little weight and low stacking height such as cacao beans, the high load capacity was not necessary (Archives Kulturbehörde Hamburg, Denkmalschutzamt).

index-card mentioned the innovative loading flaps and the three remaining Demag cranes as significant details.⁶⁷⁸ The conservation authority started to collect material on the building without proceeding with the listing as the building was not endangered. They did the same for several other warehouses by Kallmorgen in the harbor district.⁶⁷⁹

In 2000 work on the *Hafencity* started. In a hasty action, as a handwritten note from February 10, 2000 lets us know, the conservation authority wrote a two page long assessment for the Kaispeicher A and released it internally at the end of March to affirm a public interest for the building's official listing. They related the public interest to (a) the building's location on a important site of a historic prominent landmark, a position the new building had taken over, (b) the high quality of the architecture which related to the old building not only over the similarity of the floor plan and the volume of the building but also in the exterior material, the small sized windows and the traditional positioning of the loading flaps in vertical rows. The architecture referred to the previous building in technical points but did not imitate its style. The architect had refused, for instance, the temptation to add a functionally redundant tower.

The assessment by the preservation office initiated the formal listing process. The Kaispeicher A was in the area that the city wanted to developed in the first phase and investors eyed with great interest to this prime real estate property. Less than a month after the assessment, the conservation authority (*Denkmalschutzamt*) informed the owner of the listing of the building. However, the ownership had changed to a recently founded company, the *Gesellschaft für Hafen- und Standortentwicklung* (GHS, a corporation for

⁶⁷⁸ Archives Kulturbehörde Hamburg, Denkmalschutzamt, file "Kaispeicher A."

⁶⁷⁹ Such as warehouse E and F at the Kleiner Grasbrook, Dessauer Ufer. The warehouse E was converted to a parking garage, the warehouse F is still intact. The neighbouring warehouse G from 1903 has official heritage recognition (Archives Kulturbehörde Hamburg, Denkmalschutzamt).

harbor and location development), a daughter company of the HHLA and responsible for the development of the *Hafencity*.⁶⁸⁰ Due to the ownership confusion, it took until July 2000 before the conservation authority had a response from the actual owner, who deplored the listing as it would reduce the possibilities of a development of the site. The master plan showed the Kaispeicher A as a building of heritage potential but at the same time, it marked the property as a potential site for a skyscraper. The GHS refused to accept the building's heritage character because it had already made plans to demolish the Kaispeicher A except for the north wall. After some back and forth between the conservation authority and the GHS – both were dependent bodies of the City of Hamburg – they found a compromise in January 2001 to treat the building with respect towards its heritage quality but omitting an official listing as long as the developer showed a better sensitivity towards this building than the GHS had demonstrated in the redevelopment of another Kallmorgan warehouse nearby (Kaispeicher K at the Sandtorkai 37). A week later, the press announced the planning of a media-centre at the site for an investment of three hundred million Deutsch Mark⁶⁸¹ for which the city held an architectural competition in 2002. The winning project came from the Dutch architectural firm of Benthem Crouwel (fig. 4.2.15). Their entry featured

a crystalline glass tower some 100 meters high with a slight inclination near the top towards the less-tall triangular building representing the form and dimensions of the historic Kaispeicher warehouse.⁶⁸²

The architects envisioned not more than an idea of the warehouse to survive.

Consequently in 2002, because no formal listing had been done, the conservation

⁶⁸⁰ HHLA and GHS were until 2007 in the hands of the Hamburg Senate and became then partly (30 percent) privatized.

⁶⁸¹ Equivalent to the value of 150.000 Euro after January 2002, when the Euro replaced the Deutsch Mark.

⁶⁸² "Workspace," Benthem Crouwel, accessed July 2, 2012, http://www.benthemcrouwel.nl/portal_presentation/offices/media-city-port/.

authority agreed under pressure and against its own recommendations in the demolition of the site. The office lamented that with the demolition the most prominent of only four historic sites in the *HafenCity* would be lost.

Fortunately, the wrecking ball spared the building because in 2002 a crisis hit Hamburg's media-industry which made the re-use of the Kaispeicher as a media centre unattractive. At that time, a second investor had put himself in the forefront with a spectacular idea, a sketch of it already in his hand. The investor was the neighbor of the Kaispeicher property, the Hanseatic Trade Centre. They had communicated with the Senate of Hamburg as early as in late October 2001 to present their idea of a private music hall based on a design of Jacques Herzog and Pierre de Meuron (fig. 4.2.16). The Basel architect-team had recently finished their work in London at the Tate Modern, a reuse-project of Sir Giles Gilbert Scott's Bankside Power Station to a museum of contemporary art and seemed well suited for a challenge in Hamburg.

Herzog and de Meuron's sketch showed a large, wave-like curved glass structure grafted on top of the historic warehouse (fig. 4.2.17). The warehouse would remain without visible alterations to the substructure, serving as parking-garage for the upper building, which would become a multi-purpose complex of hotel, apartments and music hall. The developer called it *Elbphilharmonie*, stressing that it was a music-hall located on the River Elbe. They planned to sell the hotel and apartments to private investors to help the cross-financing of the cultural project. The conservation authority supported immediately the music-hall idea after the city informed the authority of the plans in March 2002 because the architects showed respect to Kallmorgen's structure. Hamburg's city-hall reacted with more enthusiasm for the idea of a music-hall than the Hanseatic

Trade Center had asked for. Under Hamburg's new conservative-democratic mayor, Ole von Beust (fig. 4.2.18), the city agreed in 2003 to promote the plan, but insisted on a private-public partnership with the argument that such a partnership would allow the city to better coordinate the usage of the new venture with already existing music halls in the city. The property of the Kaispeicher A belonged indirectly to the city and therefore no realization could be done without the senate's consent, giving the city a wide negotiation range. The city, however, could not use the plans without the private investor – they held the rights to the architectural design-idea by Herzog and de Meuron.

In June, the city's newspapers presented the music-hall project to the public and received mixed reviews. For some the design itself was a bone of contention, claiming an UFO had landed on the warehouse⁶⁸³ (the public, however, had not requested an architectural design competition), more substantial was the critique that a cultural centre situated at the very border of the new district would hinder the creation of a proper centre further east at the so called Magdeburg Harbour.⁶⁸⁴ This critique anticipated the result of an assessment-report (*Konzeptprüfung*) by the GHS for a music hall in the *Hafencity*, also advising a more central location over the Kaispeicher A site. Ole von Beust, however, obviously charmed by the architect's design and the prospect to enhance Hamburg's harbour with a signature building comparable to that of Sidney, disregarded those results. The project of the *Elbphilharmonie* on top of the warehouse, as defenders of the idea argued at that time, combined practicability, secured private financing and access to already existing public transportation. The final decision had been made long before

⁶⁸³ "Ufo an der Elbe," *Stern*, June 26, 2003 (Archives Kulturbehörde Hamburg, Denkmalschutzamt).

⁶⁸⁴ "Philharmonie auf dem Kaispeicher?" *Hamburger Abendblatt*, June 27, 2003 (Archives Kulturbehörde Hamburg, Denkmalschutzamt).

behind the scenes, so it seemed. As it turned out over the next years, the financial calculation was far below the real costs.

In September 2004, the Hanseatic Trade Centre and the city agreed upon a joint venture. On a positive note, with this agreement, the city remained in control of the development of the old warehouse; however it proved problematic that the conservation authority sat very close to the city's government without the independence that this organization normally enjoys when a lower heritage protection agency is present to take care of the formalities. Nobody will be able to say if the outcome in this instance would have changed in the different system. Clearly, more of the Kaispeicher A survived in the end than the earlier projects would have allowed. For this, however, credit belongs to the architects. The conservation authority had been previously obliged to agree to a total demolition; this should be discussed as a potential weakness of this simplified heritage protection system employed in Hamburg.

After the decision came down for the construction of the music-hall project, the conservation authority again advanced with its plan to officially list the Kaispeicher A now arguing that in this way the office of cultural affairs, which would be responsible for the music hall and of which the conservation authority was part of, would gain the tool to holistically coordinate all issues of the venue through their office. But as earlier, the investors, including the city, preferred to keep it as a close cooperation, promising once more to treat the building as if it was listed but refused to agree to an official listing.

The time-frame for building the *Elbphilharmonie* set short dates: Two years, from 2004 till 2006, for all needed preparations including a democratic decision process in the city's senate and parliament, adjustments to the financial and architectural plans,

calculations of the static of the design, creation of a *Elbphilharmonie* organization, and building permits for both the modifications to the old warehouse and the new addition. Construction would have started in the fall of 2006 and the inauguration would have taken place New Year's Eve 2008/2009.⁶⁸⁵ The four years given to realize the *Philharmonie* covered the second term that Ole von Beust served as Hamburg's mayor. Already in May 2005, the architects announce that the interior structure of the warehouse caused unforeseen difficulties because of the tightness of the pillar grit and needed to be removed, they would keep just the exterior walls and window elements. They feared also that the foundation would not withstand the higher pressure of the addition and they needed to insert a concrete slab on the ground floor space. To make up for the lost space, the warehouse would need to be increased by an extra floor. A year and a half later, in January 2007, the conservation authority approved the demolition permit for the interior. The set start-of-construction date had long passed. It seemed like a desperate effort that the heritage curators now insists that their remaining demands were put into writing in the

⁶⁸⁵ 7.9.2004 Richtungsentscheidung des Senates
 10/2004 Abschluss Projektierungsvertrag/Änderung Architektenvertrag
 10/2004 Beauftragung des Architekten (Vorplanung, HoAI Stufen 1 u. 2)
 10/2004 Beginn Änderung B-Plan
 03/2005 Abschluss Vorplanung
 05/2005 Fertigstellung Kostenschätzung
 06/2005 Fertigstellung Machbarkeitsstudie
 07/2005 Realisierungsentscheidung des Senates
 09/2005 Entscheidung der Bürgerschaft (Landesbürgerschaft)
 09/2005 Gesellschaftsgründung Elbphilharmonie (Joint-Venture)
 10/2005 Beginn der Genehmigungsplanung/Entwurfsplanung
 12/2005 Änderung des Bebauungsplanes (Beschluss der Bürgerschaft)
 02/2006 Antrag Teilbaugenehmigung Umbau Kaispeicher A
 04/2006 Beginn Ausführungsplanung Neubau
 3. Q. 06 Baubeginn Umbau Kaispeicher A
 11/2006 Erteilung Baugenehmigung Neubau
 12/2006 Baubeginn Neubau
 01/2008 Richtfest
 Silvester 2008/2009 Eröffnung
 (Source: Archives Kulturbehörde Hamburg, Denkmalschutzamt.)

official building permit such as the complete preservation of the four facades, no decision on the material for the height addition without the consent of the office, the preservation of all loading flaps of which some had to be kept functional and the re-installation of the three cranes on original location in consultation with the office.

On April 2, 2007 the building activities started with the demolition of the inside of the warehouse. The director of the conservation authority mentioned laconically to a colleague in North Rhine Westphalia that after the demolition of the interior the building “became completely worthless” as industrial heritage monument.⁶⁸⁶ In the listing entry to the Demag cranes, the only part of the complex which actually gained official heritage recognition (fig. 4.2.13), one of the curators added a note, saying that without its interior and after the architectural alterations the building had lost its value as historic monument. In October 2010, the preservation office removed the entry of the Kaispeicher A as a heritage worthy building; it seemed that someone deleted the entry in its entirety, by accident.⁶⁸⁷

Since the beginning of the construction of the upper part in 2008, scaffolding surrounded the warehouse and obstructed it increasingly from view for three years until workers removed it August 2011 (fig. 4.2.19). The exterior of the warehouse had not changed much; the solid red brick block carried with ease the playful glass box whose

⁶⁸⁶ Email from November 11, 2007: “Kaispeicher A [...] ist als Industriedenkmal völlig wertlos geworden, lediglich seine Hülle dient der Elbphi[lharmonie] als optischer Sockel, der Rest ist raus, keine einzige Stütze, kein einziger Boden blieb drin, die Gründung erfolgt neu“ (Kaispeicher A [...] became completely worthless as industrial monument, just its shell offeres the Elbphi[lharmonie] an optical base, all the other stuff is gone, not one pillar, not one floor remained, the construction started from zero. Author’s translation)(Archives Kulturbehörde Hamburg, Denkmalschutzamt).

⁶⁸⁷ During the author’s visit to the archives of the conservation authority (Archives Kulturbehörde Hamburg, Denkmalschutzamt), the curator could not find the entry for the building in the data-base. Normally, even after a building is taken from the listing, the entry would still exist. Only the information to the cranes was available.

irregular glass surface reflected the surrounding as if they was liquid. The Swiss architects placed openings for the entrance to the building and the parking garage in the same location and low proportions as previous openings, the additional top floor of the former Kaispeicher used new bricks of the same kind as the old ones, just missing patina. The conversion introduced no new elements; the vertical lines of the loading flaps remained a dominant visual element.

In a formal sense and according to common requirements of the preservation regulations, the loss of the interior is an undeniable shortcoming as it reduced the original material by over fifty percent. However, it could be argued that the interior lacked originality except in the shortcoming of too narrow span between the pillars. The only technical equipment inside the warehouse consisted of the lifts for the vertical transport of goods. The conservation authority had initially singled out the loading flaps, the cranes and the outstanding architectural quality of the exterior as decisive criteria when they discussed the listing. These aspects are still there and in, at least, partly functioning condition. These parts could be counted in to qualify the building's facades for heritage recognition, including in the sense of industrial heritage, of which the curator discussed it only very marginally. The definition of the building's heritage value and the reasoning why it lost heritage status is inconsistent. The priorities for listing changed from the given criteria the conservation authority based its evaluation on to a theoretical concept. The overall intactness of a heritage structure became of overwhelming importance. In other instances, such as Hamburg's old Unilever office building⁶⁸⁸ the city allowed the gutting and increase in height by two floors without detecting a conflict with the building's

⁶⁸⁸ "Emporio Tower Hamburg," hpp, accessed August 16, 2012, <http://www.hpp.com/en/projekte/typologies/buero-und-verwaltung/unilever-high-rise.html>.

heritage value (fig. 4.2.20+4.2.21).⁶⁸⁹ However, for the city-owned Kaispeicher A the change in status has no negative consequences because the city pays no tax on its own buildings that could be cut and the tax payer will cover the bill, no matter what.

⁶⁸⁹ The entry to the “Unilever-Haus” can be found in the heritage list, “Liste geschützter Denkmäler,” last updated in November 2011, after HPP Architects had “revitalized” it in 2009, Hamburg.de, accessed August 16, 2012, <http://www.hamburg.de/einzelobjekte/176846/denkmalliste.html>.

4.3. Central Cattle Market Hall, Rindermarkthalle Hamburg

The second example is located in Hamburg, as well. It is the former central cattle market hall (fig. 4.3.1), built in 1951 at Neuer Kamp 31 on the northern edge of the neighbourhood of Sankt Pauli, west of the central core of the city and north of the harbour. For several decades, supermarkets used the city-owned heritage structure. The public gave little thoughts to this arrangement. This changed when the city tried to transform the place from retail to a music hall. While the population discussed publicly in front of the building the social and urban problems related to such a function change, pushing the city's government to withdraw the plan, the conservation authority had become alert, as well, because such a functional change might have asked for larger scale modifications. According to current plans (June 2012), a historic renovation of the exterior will upgrade the architecture and increase the attractiveness of the neighbourhood. Instead of a cultural venue, another supermarket will move in. Older industrial sites to the north of the district have been already renovated and converted without disintegrating the social fabric of the area; the cattle market hall will be the first of a newer generation of industrial sites that has to fit into the public concept of affordable urban space.

The hall was part of the city's still operating slaughter and meat processing district which was located there since the late nineteenth century. Other disturbing or space consuming industries built up the neighbourhood on this land formerly belonging to the no-build-zone which surrounded the ramparts of Hamburg's defence system. Until 1894 the area had remained a suburb of Hamburg, it then became part of the city. The cattle market took up a large site inside the slaughter district. An older market existed at

the location but was totally destroyed during the Second World War. Established infrastructure spoke for a rebuilding at the same site.⁶⁹⁰ The city gave priority to the fast rebuilding of the slaughter district and the cattle market hall. Planning must have taken place right after the monetary reform in 1948 and before the regaining of administrative freedom from the British allies in 1950; the hall celebrated inauguration in June 1951 after only one year of construction time and in defiance of material shortages. Hamburg's to-be chief government building surveyor, Hans Konrad Havemann, doctor of engineering, designed the facility. As far as current literature and online research can tell, it is the only building assigned to Havemann who was born on August 4, 1899 – no date of death is known. He left close to no traces in archives or publications and remained anonymous other than his name and this building.⁶⁹¹ He carried the official title *Oberbaurat*, head government building officer, a prestigious position which for instance his more prominent colleague Karl Friedrich Schinkel had occupied in Berlin after Germany's liberation from Napoleon. It was totally forgotten that Havemann had built close to one hundred bridges in Hamburg, some of them landmarks such as the John F. Kennedy Bridge across the Alster Lake (fig. 4.3.2), and he frequently designed and contributed to well known industrial buildings as an old newspaper article revealed.⁶⁹² Most of this work was created towards the end of his career since the 1950s.

⁶⁹⁰ However, how the cattle arrived at the market, by train, truck or as cattle drive, has not been documented.

⁶⁹¹ His participation in a partnership with Otto Meyer-Ottens and Wolfgang Rudhard for the rebuilding of the flower market hall in Hamburg, Klosterwall 23 in 1950 is not secured. The little information on him may relate to the fact that he was not an architect but an engineer. Engineers are in many cases not mentioned in documents on building activities. Other historic reasons for his low profile (political activities during the Nazi time, for instance) are possible but not likely. He is, for instance, not mentioned in Werner Durth, *Deutsche Architekten* (Stuttgart: Karl Krämer Verlag, 2001), a research on the relationship of German architects with the Third Reich.

⁶⁹² The *Architekten Archiv Hamburg* researched for the author in the databank of the local newspaper *Hamburger Abendblatt* and found under the date of September 1, 1964 an article on the retirement of

The designing and execution of the central cattle market hall required high skills as the large hall of 14.200 square meters (155 meters front width, 100 meters back width and 110 meters depth) was inside close to support-free except for four steel pillars and had advanced technical features built in that allowed the room multifunctionality (fig. 4.3.3+4.3.4). Other than the neighbouring buildings in the district, it does not have a square footprint but followed the earlier building which used an annulus-segment shaped floor-plan – similar to a piece cut out of a doughnut – forming a pronounced outside curved main facade. The front of the building held offices on three floors; two separate stair cases, one serving the left part of the building, one serving the right part, allowed for vertical circulation. The designer decided on support-free flights of stairs that he placed behind oversized windows (fig. 4.3.5). At the exterior the two stair-cases form avant-corps. Another set of avant-corps stand at the two back corners of the building, transforming it to a second facade (fig. 4.3.6). Walter Gropius' stair-case solution at the Fagus Factory in Alfeld served as model for this design. But other than in Alfeld, the architect incorporated sculptural decoration in the design of the building. Hamburg's artist Ernst Hanssen placed large terracotta reliefs depicting men holding cattle and

Dr.-Ing. Konrad Havemann with the title "Fast 100 Brücken In Hamburg gebaut." "Baudirektor Dr.-Ing. Hans Konrad Havemann, der Leiter der Hauptabteilung Brücken- und Ingenieurbau bei der Baubehörde, trat gestern in den Ruhestand. Am 4. August hat er sein 65. Lebensjahr vollendet. Sein Name ist untrennbar verbunden mit zahlreichen bedeutsamen Brücken- und Industriebauten. Ein knappes hundert Brücken entstand unter seiner Leitung. Viele haben, wie die John-F.-Kennedy-Brücke, im Stadtbild bleibende Akzente gesetzt. Zu seinen Ingenieurbauten zählen auch der Großmarkt, die Schlachthofhalle, Werfthallen auf dem Gelände des Flughafens, ferner der Straßentunnel unter dem Deichtor und unter der Startbahn II des Flughafens." (Building of close to 100 bridges: Planning Director Dr.-Ing. Hans Konrad Havemann, head of the department for bridges and engineering works at the building office, retired yesterday. On August 4th he turned 65. His name is inextricably linked with many important bridges and industrial buildings. Nearly a hundred bridges were built under his direction. Many, such as the John F. Kennedy Bridge, set lasting accents in the town. His civil engineering works include the wholesale market, the slaughter hall, hangars on the airport site, and also the road tunnel under the Deichtor and under the runway II of the airport. Author's translation.)

groups of cattle on the avant-corps walls (fig. 4.3.7) and more animal reliefs decorated the stair cases inside.

In the main market hall, nine meter high, indirect light flooded in over the north-directed saw-tooth roof spanning over the width of the hall using steel viereendel trusses. The side walls had additional rows of window-bands with offices behind. The inner supporting structure was mainly a steel frame, the exterior a reinforced concrete frame with a red brick cladding outside including the three storey high office part. The interior looked spacious even when in use by up to two thousand five hundred cows and three thousand sheep. To hitch the animals the engineer developed feed-stations with steel-frames of a special kind. The stations turned upside down and be stored in recess-boxes under the floor. The bottoms of the stations formed a level surface with the rest of the floor so that the hall could host sport events or exhibitions, offering a venue for up to thirty thousand people. A publication mentioned that the transformed hall hosted, for instance, an exhibition for a German supermarket corporation in May 1957.⁶⁹³

We know about the technical details of the building because the designer himself described them in a lengthy article in the *Baurundschau*, an architectural magazine, shortly after the inauguration of the cattle market. He was not shy to claim the hall as “efficient, modern and exemplary for future buildings.”⁶⁹⁴ Unfortunately, since then much in the inside changed. The only academic text discussing this building is Peter Krieger’s dissertation on Hamburg’s architecture of the 1950s which he wrote in 1995 for

⁶⁹³ Peter Krieger, “Wirtschaftswunderlicher Wiederaufbau-Wettbewerb: Architektur und Städtebau der 1950er Jahre in Hamburg,” (PhD diss., University Hamburg, 1995) 134, accessed October 26, 2012, <http://ediss.sub.uni-hamburg.de/volltexte/1998/13/html/8.pdf>.

⁶⁹⁴ Dr.-Ing. Konrad Havemann, “Der neue Zentralviehmarkt in Hamburg,” *Baurundschau* 7 (1951): 259-267, 260 (Archives Kulturbehörde Hamburg, Denkmalschutzamt).

the department of cultural history.⁶⁹⁵ Krieger relied in his detailed description of the building and its multifunctional purpose on Havemann's article as the only known source for this site.

In 1972, after the cattle market closed,⁶⁹⁶ alterations took place to allow a supermarket to take over the hall. The responsible engineers, Dipl.-Ing. Gert Köster and Dipl. Ing Dieter Stübing, divided the hall horizontally to insert a car-parking deck (fig. 4.3.8). For that reason they added access ramps at the west and at the east wall (fig. 4.3.9). Square concrete pillars on a nine-meter-grit held in place the concrete slabs for the parking deck. They covered the ground floor in the supermarket area (fig. 4.3.10); documents did not mention if they kept the feed stations inside the ground. The exterior changed as well when a tenant at one time hid most of the brick facade behind grey corrugated metal sheets (fig. 4.3.11), probably to integrate the building better in their corporate design program. Re-cladding older buildings with modern looking corrugated metal sheets was popular in the 1970s and 1980s.

In 2005, the preservation office listed the cattle market as a pending historic monument according to § 7a of the city's preservation law.⁶⁹⁷ The reason for the listing at that date is not disclosed. It became, in the same way as the Kaispeicher A, not officially listed. Nevertheless, as soon as the conservation authority recognizes a building, the preservation law obliges the owner, in this case the fiscal authority of Hamburg, to treat

⁶⁹⁵ Krieger, "Wirtschaftswunderlicher Wiederaufbau-Wettbewerb," 131-132.

⁶⁹⁶ The dissertation did not give any reason for the closing of the cattle market. According to information from local farmers, the hall had become redundant due to a change in marketing methods for cattle (concentration of trade to fewer, over-regional markets) but also because hygienic regulations had changed and would have requested a costly overhaul of the space. (Information received from Horst Lüneburg, *Landwirtschaftsmeister*, phone interview from January 18, 2013).

⁶⁹⁷ "Denkmalschutzgesetz," Senate of Hamburg, accessed August 20, 2012, <http://www.hamburg.de/contentblob/176820/data/denkmalchutzgesetz.pdf>.

the building as a historic monument which includes the duty to inform the preservation office of any planned alterations. Prior to this pending condition, the preservation office had conducted all research it would do for the official listing. Should conversion plans collide with the goals of the conservation authority the curator would be entitled to complete the listing to prevent harm to the building and its heritage value. A proper listing can then take place with a simple administrative act. The author found no documents giving the reason why the conservation authority kept the listing pending. It seems that the city prefers to keep city owned sites in this pending state. To remove a fully recognized building from the list, a legal process takes place in which the owner must justify why the heritage value of a building has been lost. If the loss was caused by the owner and without the consent of the conservation authority, the listed status remains and the owner is obliged to restore the monument to its original state at their own expense.⁶⁹⁸ As long as the different city departments worked hand in hand, keeping it off the list allows the owner more creative freedom in the planned transformation. Since June 2012, the city started to restore the exterior of the building by removing carefully the metal cladding.

In 2009, the city planned for a short time a conversion of the cattle marked to a music hall with agreement of the conservation authority. The music hall concept, however, died after a group of citizens intervened with this plan – not in a council meeting or public hearing but by expressing their disagreement in a community driven independent public event. It was not the first time in this neighbourhood of Hamburg that citizens fought off the conversion of a historic building to a music hall. While in other

⁶⁹⁸ Martin and Krautzberger, *Handbuch Denkmalschutz und Denkmalpflege*, 221-222.

parts of Hamburg citizens support the conversion of the city's old building stock, in particular if cultural venues move into neighbourhoods, in this part of town it was already the fourth case of citizens fighting back vigorously against city-hall development plans in their borough. Analyzing the history of the district helps to explain to outsiders the unexpected reaction.

Sankt Pauli formed a working-class district dependent on local industry. The port employed the majority of people living here but shipbuilding declined as early as 1970, leaving many out of work. Brewing and meat processing were some of the other industries that offered high numbers of jobs in that area. Except for the slaughter house operation, most large companies closed or left in the past decades. For instance, the Sankt Pauli-Bavaria brewery operated in the south of the district on a 28.000 square meter lot but began to struggle economically since 1997. The factory closed in 2003 and made place for three new high-rise towers and three lower buildings. The city's urban planners saw the development of residences, offices and the hotel as fitting but the new development interfered with the self-image of the borough. Despite the district's industrial vocation, for over two centuries, non-locals associated Sankt Pauli with its vibrant red-light entertainment business along the Reeperbahn (fig. 4.3.13), ironically itself a converted industrial site where ropemakers once produced cordage for tall-ships. But beside the Reeperbahn lived mostly workers, low-income families, immigrants, students and intellectuals of one sort or another, many of them with a strong affiliation to socialist ideas and the socialist party. The population's obstreperous behaviour in the early 1930s towards the raising Nazi party, which had cost the life of many Socialist Party members of this neighbourhood, consolidated the image of the proud working class

identity. The political spectrum in this part of town continued to be left-socialist⁶⁹⁹ to radical: groups in the district's population showed repeated willingness to step up for their assumed rights if they saw them violated, physical actions included.

Several attempted gentrification processes in this part of the city led to public disagreements with the city's Senate. In the early 1980s, the city tried to find investors to sell their property of purposefully run-down historicist dwellings at an increased real estate price in the Hafenstrasse, a row of houses facing the river Elbe. The city planned to allow the demolition of the historic buildings by the developer to free space for new, more profitable apartment-blocks. Before any deal could take place, an illegal occupation of several of these old apartment dwellings started. After five years of violent battles, the city agreed to accept the occupiers' right as temporary legal tenants. The residents were not squatters in the legal sense but lived most of the time under different kinds of contracts. They had in the meanwhile repaired and renovated the buildings on their own expense (fig. 4.3.14).⁷⁰⁰ The relationship between the tenants and the city remained tense.

A second conflict erupted shortly afterwards. In 1987, a private company planned to establish a large musical hall behind the facade of a former theatre turned hardware store in the neighbouring district to the north. The demolition crew had already done half the work when squatters occupied the building. Since 1989, the city legalized the occupation over temporary contracts which are still running (stand of June 2012). It

⁶⁹⁹ "Wahldatenbank seit 1965," Statistik nord, accessed July 10, 2012, <http://www.statistik-nord.de/fileadmin/wahldb/index.php>; search in "Hamburger Wahlergebnisse seit 1965/erweiterte Suche" for "Bezirksversammlungswahlen/Zeitraum 1965-2005/Stadtteil St. Pauli."

⁷⁰⁰ Several publications to this subject have been published in German, some English titles are available that include the Hafenstrasse in a larger context, such as: Geromino (author's synonym), Gabriel Kuhn, trans., *Fire and Flames: A History of the German Autonomist Movement* (Oakland: PM Press, 2012), 141-145; Andreas Corr, *No Trespassing!: Squatting, Rent Strikes, and Land Struggles Worldwide* (Cambridge: South End Press, 1999), 124.

became an autonomous community-cultural centre known as *Rote Flora* (fig. 4.3.15) refusing aggressively any interference from the city into their running of the site (fig. 4.3.16). As in the Hafenstraße, the activists feared losing affordable living space in a central location to a gentrification process set off by the opening of a musical hall. The musical played in a newly built house outside the borough. In close collaboration with the residents of the Hafenstraße stood the establishment of a grassroots movement to prevent an apartment-office building complex at the west end of the Hafenstraße and to create instead a public park, *Park Fiction* (fig. 4.3.17), in this densely populated neighbourhood. This conflict did not escalate this time; the grassroots movement successfully convinced the city of the need for more open green-space. The city gave the citizens financial support and planning freedom to realize their ideas as to what this space should look like.

Many observed with awe the city's giving-in to these certainly questionable actions by the population. However, since the 1970s, some, but by no means all officials had realized that with the formerly popular large scale city renewal which relied upon the demolition of whole blocks of old neglected buildings to replace them by modern residential high-rise buildings resulted not in a bettering of the situation of neighbourhoods. Instead new and larger problems emerged as the re-housing erased old-grown social structures and singled out social fringe groups. The necessary renewal of many working-class areas, especially in economically depressed times, needed, as city-planners now realized, a very different approach if they wanted the social structure to survive.⁷⁰¹ At least some of the city officials saw occupations and squatting less as a

⁷⁰¹ Inixmedia GmbH Marketing und Medienberatung, ed., *Planen – Entwickeln – Zukunft gestalten. Stadtentwicklung mitten in Hamburg* (Hamburg: Fachamt Stadt- und Landschaftsplanung, ed. 2008/2009), (Archives Kulturbehörde Hamburg, Denkmalschutzamt).

problem per se than as a symptom of an unresolved social problem that needed to be addressed with a more sensitive approach in the city's renewal plans. The tactics by the city, however, were not consistent throughout the years as not all officials support this point of view. The "open dialog" between the city and its citizens, nevertheless, encouraged citizen-projects outside of the western hot-spot in and around Sankt Pauli, such as the Gängeviertel (fig. 4.3.18+4.3.19) in the centre of Hamburg,⁷⁰² which preserved the city's oldest still standing working class dwellings. Hamburg had sold the row of apartment houses to a Dutch investor but bought the dwellings back after a group of two hundred mostly local artists had occupied the buildings in August 2009 to prevent their commercial conversion. The artists transformed the dwellings into a cooperative for working, housing and living.⁷⁰³ Since March 2012, experts from the conservation authority supported and guided the artists' renovation activities and organized two symposia to increase the knowledge for a proper historic restoration.⁷⁰⁴

The lot with the building of the central cattle market is only a few minutes walk away from the former theatre turned hard-ware store. It occupies a corner property at a major traffic intersection. The streets run north and west from it. To the east are some sports facilities, an old high-rise bunker, a subway station and a large open field for temporary fairs, to the south, a school. Residential areas are close by. Small commercial businesses are also present in larger numbers. The city gave up the cattle trade on this

⁷⁰² "Erstes Bausymposium, Gängeviertel, Fenster, Türen, Oberflächen, 15. März 2012," Das Gängeviertel, accessed December 20, 2012, <http://das-gaengeviertel.info/neues/details/article/erstes-bausymposium.html>, and "2. Bausymposium Gängeviertel, behutsam erneuern statt ignorant sanieren, 03.08.2012," Das Gängeviertel, accessed December 20, 2012, <http://das-gaengeviertel.info/neues/details/article/zweites-bausymposium.html>.

⁷⁰³ "Komm in die Gänge," Das Gängeviertel, accessed August 15, 2012, <http://das-gaengeviertel.info/>.

⁷⁰⁴ "Denkmalpflege Symposium im Gängeviertel," Hamburg.de, accessed August 21, 2012, <http://www.hamburg.de/aktuell/3526940/gaengeviertel-symposium-2.html>.

location around 1971⁷⁰⁵ and supermarkets moved in and out of the space as short-term tenants till 2010. After the first supermarket tenant, the consumer cooperative Produktion eGmbH, closed when its twelve year lease was over,⁷⁰⁶ other supermarket chains tried to establish their brand here, first Plaza, followed by Conti, Wal-Mart and Real.⁷⁰⁷ Real closed in March 2010 because the city did not renew the rental contract.⁷⁰⁸ Since then the building remained vacant except of some office spaces. For the last years, a Turkish mosque rented some parts of the former office area and some small businesses were also using space in the upper front part of the building. The city-hall did not discuss options or a reuse publicly but had already started to talk to the private investor group that had proposed to convert the place into a music-hall for an audience of four thousand. Other similar but smaller concert halls existed along the Reeperbahn. For this reason, a larger music hall was assumed profitable. The plan slowly surfaced; in mid-March 2009 the conservation authority had knowledge of it,⁷⁰⁹ a week later newspapers published the plans.⁷¹⁰ The conservation authority embraced the music hall project with eagerness. The inserted ceiling of the parking garage could be removed and the hall brought back to its original height, the original multi-purpose concept could be commemorated and even solar panels could be mounted on the south sides of the saw-teeth roof as an ecological contribution. The people in the neighbourhood did not share this enthusiasm. The

⁷⁰⁵“Was wird aus der Rindermarkthalle?” *Hamburger Abendblatt*, January 17, 1970 (Archives Kulturbehörde Hamburg, Denkmalschutzamt).

⁷⁰⁶ “Rindermarkthalle wird Warenhaus” *Hamburger Abendblatt*, May 4, 1972 (Archives Kulturbehörde Hamburg, Denkmalschutzamt).

⁷⁰⁷ “FAQ Rindermarkthalle,” Unser Areal, accessed July 6, 2012, <http://unser-areal.rindermarkthalle.de/faq-rindermarkthalle/>.

⁷⁰⁸ “Die Pläne für St. Paulis neue Music Hall,” *Hamburger Abendblatt*, March 18, 2009 (Archives Kulturbehörde Hamburg, Denkmalschutzamt).

⁷⁰⁹ Archives Kulturbehörde Hamburg, Denkmalschutzamt, internal documentation and newspaper clippings.

⁷¹⁰ “Die Pläne für St. Paulis neue Music Hall,” *Hamburger Abendblatt*, March 18, 2009 (Archives Kulturbehörde Hamburg, Denkmalschutzamt).

planning had been done over the heads of the population living in the area, as many perceived it. It took the city till May 2009 to invite the population to a public hearing, which ended in a chaotic dispute. A month later a second meeting took place to which the city allowed only invited citizens to participate,⁷¹¹ enraging uninvited activists. The district planned a public discussion again at the end of September but cancelled the meeting last minute for security reasons because too many people had shown up for the available space.⁷¹² The postponed meeting never took place. Citizens from surrounding neighbourhoods reacted promptly by interfering publicly in the discussion on the future of the site, demanding a solution that would respect real needs of the local residents, as a music hall in their district would not do. In 2011, a group of citizens commissioned the artist Till F.E. Haupt from the Gängeviertel to create an interactive artwork for the space in front of the hall. He designed five oversized dice (*Planungswürfel*, fig. 4.3.20) housing action and exhibition spaces for the residents to express their concerns under the motto “Do-it-yourself urbanism” (“*Stadtentwicklung selber machen*”).⁷¹³ People of the borough built the dice in August 2011. The idea of a “parallel planning process”⁷¹⁴ came from the successful residence-intervention in the Hafensstraße to request a public park. They stressed Henri Lefebvre’s call of the “right to the city”⁷¹⁵ as their theoretical backbone.

⁷¹¹ “Bezirk lädt Bürger zur Geheim-Diskussion,” *Hamburger Abendblatt*, May 8, 2010 (Archives Kulturbehörde Hamburg, Denkmalschutzamt).

⁷¹² “Diskussion um Alte Rindermarkthalle verschoben,” *Hamburger Abendblatt*, September 30, 2010 (Archives Kulturbehörde Hamburg, Denkmalschutzamt) – but, as far as the author could find out, the public discussion never took place.

⁷¹³ “Alte Rindermarkthalle,” Tide TV over Youtube, accessed July 9, 2012, <http://www.youtube.com/watch?v=caBRvMkaCl4>, and “Planungsbüro,” Unser Areal over Youtube, accessed July 9, 2012, <http://www.youtube.com/watch?v=-nJcTPPdAwg>.

⁷¹⁴ “Park Fiction,” Park Fiction, accessed July 10, 2012, <http://www.parkfiction.org/2011/09/516.html> (english).

⁷¹⁵ Henri Lefebvre’s *Le Droit à la ville* (1968) interpreted in Hamburg into an internet platform of concerned citizen groups “Neues von RaS,” Recht auf Stadt, accessed July 10, 2012, <http://www.rechtaufstadt.net/>.

After nine months of activities, the involved citizens of St. Pauli donated the dice to the city as a reminder to listen to their concerns and suggestions.⁷¹⁶ The senate was not quite sure how to handle this gift as the dice had been set up without permission. To the disappointment of the organizers of the “*Planungswürfel*” the city continued to talk behind closed doors. In May 2012 the activists then dismantled the five dice and transformed them into a memorial, the so called “lighthouse”, to commemorate the crippling of public involvement (*Leuchtturm der behinderten Beteiligung*, fig. 4.3.21). The memorial was still in place when the author visited the site a month later. The final reuse-destination of the cattle market hall was still uncertain at that date. A supermarket, a pharmacy and two other stores as intermediate users for ten years will likely be the next tenant (fig. 4.3.12). The city offered to reserve five percent of the space for community activities at net-cost-price-rent. However, many residents perceive the available floor-space of over fourteen thousand square meters as excessive for the commercial project. They envisioned additional communal space at a guaranteed affordable rent.

The circumstances in this case study were specific. Hamburg’s position as a city-state with short paths between the different offices and small groups of decision makers allowed for a more dynamic political game between the activists and the officials than in larger provinces where government networks are less personal. Having only one centralized conservation authority instead of the duality of conservation authority and protection agency also affected the way the city state conducted heritage matters. Past public interventions and the different outcomes of these conflicts offered the city

⁷¹⁶ “Fünf Würfel sind gefallen: Für eine neue Stadtplanungskultur an der Alten Rindermarkthalle,” Unser Areal, accessed July 7, 2012, <http://unser-areal.rindermarkthalle.de/allgemein/funf-wurfel-sind-gefallen-fur-eine-neue-stadtplanungskultur-an-der-alten-rindermarkthalle/>.

experience to learn how to best manage them; other governments may not have the same learning experience. The city preferred to keep political control over the property by temporarily conceding to the activists without interacting directly with the activists which may have compromised the government's political standing. With a ten year rental commitment, the option for a later conversion to a different purpose was kept open.

For the conservation authority, the intactness of the property was highest priority and none of the suggested reuse options would put the building at risk. The criteria for the cattle market hall's listing came from an external expert who mentioned following values that could be associated with the building: (1) an important building of the early after war years, (2) a scientific-technical component: a large, close to support free space, submersible furniture and (3) an artistic aspiration. The structuring of the large facade with minimal elements of decoration confirmed architectural quality. The expert could not relate the technical details to other examples as he knew little of this kind of buildings – historic research on engineering structures has been done much less than on other architecture.

The difficulties with the building's reuse resulted not from a problem caused by the building itself – the preservation of the building will pose little challenge – but by the socio-economical conditions of its surroundings related to the industrial nature of the district's past. The original population of industrial neighbourhoods depend on affordable housing. The conversion of an industrial site in an urban setting may be more likely faced with such a request than other historic sites. Including the socio-economic circumstances around former factories in an evaluation and conversion approach may help to prevent outcomes that save an architecture at the cost of destroying fragile social structures.

4.4. Düsseldorf, the Water Tower of the Gerresheimer Glassworks Company, North Rhine Westphalia

Düsseldorf organized its heritage list into categories according to the site's purpose or function. The list of protected sites counted sixty six technical monuments in 2012 of which seven were dated entirely or for parts of their structure after 1945. These seven sites included a new water-tower for a century old glass factory with an American inspired advertising element and a 1980s remodelling of a post-war warehouse which will be dealt with in chapter 4.5. The water tower sits on a support structure used for storage and shipping. While the tower gained heritage status, the sub-structure did not.

The conservation authority of the *Rheinland* mentored this and the following two sites of the case studies. The federal state of North Rhine Westphalia has two separate conservation authorities, the *Rheinland* conservation authority for the western part of the Land, the Westphalia conservation authority for the east. *Rheinland's* conservation authority was the first in Germany that identified industrial heritage sites in their own rights. The office still has a forerunner position in this field of curatorship. The decisions of their staff concerning which industrial properties to protect and how to treat industrial buildings and sites formed models for other Länder since the 1970s.

Once, the Gerresheimer Glasswork Company was at the top of the world's glass production (fig. 4.4.1). 1864 saw the birth date of the factory, August 31st 2005 marked the last day of production, putting three hundred workers out of work.⁷¹⁷ Today, the forty six hectare property looks deserted, weeds and shrubs that push their way through the

⁷¹⁷ "Glashütte: Nichts regt sich," *Terz autonome Stadtzeitung für Politik und Kultur in Düsseldorf und Umgebung*, (April 2011), accessed July 12, 2012, http://www.terz.org/texte/texte_1104/flashuette.html; the city spoke of 230 jobs lost, "Projektinformationsbroschüre: Perspektiven für Gerresheim Süd – Information zum Werkstattverfahren," Landeshauptstadt Düsseldorf, accessed July 17, 2012, <http://www.duesseldorf.de/planung/wettbewerb/gerresheimsued/pdf/projektinformationsbroschuere.pdf>.

cracks of the asphalt and concrete, replaced production halls and warehouses only vaguely sketching out the impressive size of the former buildings. Just three structures still stand, two buildings of a long decommissioned electrical power station erected between 1906 and 1925. They are old brick structures with arched windows and medieval looking towers, separated by a narrow passage. More distant is the three-storey high square block, built in 1966, brick walls and windows layered horizontally in clear lines, held together by a delicate steel frame (fig. 4.4.2). In the north-western corner on this building's roof, in diagonal direction, the high translucent tower sticks up, holding a faded blue company logo in form of a G on each of its sides. The owner fenced his property in, hiding it behind high metal sheets if not brick walls. A guard protected the entrance, sitting in a spacious guard house, keeping out those who had no business there but being ineffective in defending the property against vandals.⁷¹⁸ Only from the raised platform of the neighbouring train station can people gain a curious look at the leftovers of the factory (fig. 4.4.3) which the Land protected as heritage monuments since 2008. The city of Düsseldorf plans to redevelop this large lot including the heritage structures to a new residential and mixed-use district.

Hundred and forty years ago, the Gerresheimer Glasswork Company catapulted the medieval village of Gerresheim at the River Düssel near Düsseldorf to the level of a national stronghold of mass-produced glass production. In the year 1892, before automation was introduced, up to five thousand employees worked here to blow sixty

⁷¹⁸ Letter from the city's construction office to the owner O-I Glasspack GmbH from November 22, 2011 (Archives Untere Denkmalbehörde Düsseldorf).

million bottles a year.⁷¹⁹ While in the following decades the need of skilled glass-blowers diminished as machines took over their work, the output of bottles increased to quantities that could not be counted anymore. Over the next decades, the factory grew in size and workforce. In the 1960s, up to six thousand workers were employed⁷²⁰ and Gerresheim-glass ended up in every German household. From jams to beverages, from ketchup to pharmaceutical products, for everything that could be stored in bottles or jars, a receptacle was eventually produced here. At one time it was claimed to be the largest glass factory worldwide.⁷²¹ Consumers recognized easily their products through a little crowned G which the company pressed into the bottom of their glasses, the same G that they had installed as advertising on the top of one of its high building, first they printed it on a bill-board installed on a warehouse roof and since 1955 they featured the logo on the factory's water tower.

Water played an important role in this industry and it was not by chance that the factory sat on ground served by the Düssel River, a side arm of the Rhine. The company diverted the river through a pipe underneath the factory property. The company extensively used the local water source. With increased production, the consumption of water went up. This caused an unforeseen problem when the company stopped working. The underground water-level had dropped meter by meter over the years. Buildings that had been erected since the factory opened had no problems with wet grounds even in

⁷¹⁹ Kurt Hesse, *Die E Zentrale der Gerresheimer Glashüttenwerke, Zeichen des Aufbruchs in die Moderne, mögliche Nutzungen, städtebauliche Einbindung* (Manuscript, February 2012), (Archives Untere Denkmalbehörde Düsseldorf).

⁷²⁰ Landeshauptstadt Düsseldorf, *Perspektiven für Gerresheim Süd – Information zum Werkstattverfahren* (Düsseldorf: Stadtplanungsamt Landeshauptstadt Düsseldorf/O-I Glasspack GmbH & Co. KG, n.d.), 11, accessed July 17, 2012, <http://www.duesseldorf.de/planung/wettbew/gerresheimsued/pdf/projektinformationsbroschuere.pdf>.

⁷²¹ For instance: "Plündern aus Geldgier," Bürgerrechtsbewegung Solidarität, accessed July 17, 2012, <http://www.bueso.de/artikel/pluendern-aus-geldgier>.

areas where groundwater levels were initially high. When the factory started to downsize, the water level rose again. The difference between the lowest water level and that in 2012 amounted to eight meters. The surrounding of the glassworks, which developed with the company and the factory ground itself was getting literally wet feet. The city addressed the problem but nobody knew who would be responsible to finance a solution.⁷²² Another decisive factor for the choice of location for the glassworks was the rail tracks which had connected Wuppertal with Düsseldorf since 1838 as one of the first railways in western Germany. Trains delivered the raw materials sand, lime and potash and helped to distribute the glass products to the consumers such as breweries and the many wineries of the Rhineland. Today, the line also serves the public transportation system.

We know quite a bit of detail about the history of the Gerresheimer Glassworks. Authors and researchers can rely on nineteen shelf-meters of documents⁷²³ on the company and owner's family. Correspondence, business reports, advertisement, products, sample-books, social activity calendars, photos, slides, plans and maps, newspapers and journal article helped to paint a lively picture on the work and live of the glassworks and its people. The history started with the glassworks' founder Ferdinand Heye, born in Bremen as son of a merchant, who established the factory when he was 26 years old. His many employed glassblowers were highly skilled and sought after workers. To bind them to his company, Heye provided them with housing (fig. 4.4.4); he further set up old-age

⁷²² Information achieved over the curator of the lower protection agency in Düsseldorf in June 2012.

⁷²³ Archives Untere Denkmalbehörde Düsseldorf; see also "Gerresheimer Glas AG (1864-1990)," Stadtarchiv Landeshauptstadt Düsseldorf, accessed July 16, 2012, http://www.duesseldorf.de/stadtarchiv/fortgeschrittene/tektonik/deposita/4_57_0.shtml, a list of documents was published under "Nachlässe/Sammlungen," Stadtarchiv Landeshauptstadt Düsseldorf, accessed July 16, 2012, http://www.duesseldorf.de/stadtarchiv/fortgeschrittene/tektonik/deposita/findbuecher/4_57_gerresheimer_glas.pdf; and Bruno Kammann, *Gerresheimer Glas – Geschichte einer Weltfirma* (Essen: Klartext Verlag, 2007).

insurance and an accident insurance for his employees. In 1888, he converted his enterprise into a joint-stock company. When he died the following year, his oldest son, Hermann Heye, took over the company. Hermann, too, added services to the company such as a bath-house (fig. 4.4.5). The Rhineland Conservation Authority added both the worker-houses and the bath to the heritage list in the 1980s.⁷²⁴

Around 1900, Michael J. Owens developed the first fully automated glass blowing machines in the USA, producing as many bottles by the second as a glass blower could produce in an hour.⁷²⁵ Heye realized quickly the change brought by Owen's invention to his industry and gained in cooperation with other glass-shops the German patent rights from Owens.⁷²⁶ It was pointed out in several sources, that he mechanized his factory slowly over several years to prevent massive layoffs; it was fully mechanized only in 1924.⁷²⁷ In the modernization process, the owner demolished all older buildings, one after another, and replaced them with new constructions. Hermann Heye died in 1941 and his son-in-law, Niels von Bülow took over the leadership of the glassworks. The curator of the Düsseldorf protection agency noticed that paperwork was lost that covered the time between 1933 and 1945 but not earlier or later files, suggesting that documents may have been intentionally destroyed to obstruct the employment of forced labor during the Second World War.⁷²⁸ The factory endured so few damages during war actions⁷²⁹ that

⁷²⁴ "Denkmaliste, Detailinformation," Denkmalbehörde Landeshauptstadt Düsseldorf, accessed July 16, 2012, <http://www.duesseldorf.de/cgi-bin/denkmal/dsneu.pl?nr=823>; and <http://www.duesseldorf.de/cgi-bin/denkmal/dsneu.pl?nr=1013>.

⁷²⁵ "Michael J. Owens," Ohio History Central: An Online Encyclopedia of Ohio History, accessed July 13, 2012, <http://www.ohiohistorycentral.org/entry.php?rec=2664>.

⁷²⁶ "Gerresheimer Glas AG (1864-1990)."

⁷²⁷ Hesse, *Die E Zentrale der Gerresheimer Glashüttenwerke*, 2.

⁷²⁸ Bauaufsichtsamt, Institut für Denkmalschutz und Denkmalpflege, document from January 14' 2008 (Archives Untere Denkmalbehörde Düsseldorf).

the construction office of Düsseldorf issued no building permits for repairs or reconstructions.

In 1959, the American Owens Illinois Glass Company interacted with the Gerresheimer Glassworks for a second time. It bought 50.1 percent of the company's stocks and continued to gain influence in Gerresheim over more stocks they bought the following years. Between 1977 and 1979, Gerresheim's glassworks declined economically and cut many of the social benefits for the employees, such as company housing. These houses went up for sale.⁷³⁰ In 1985, Owens Illinois Inc. (O-I) planned to invest in other venues and sold fifty eight percent of their seventy five percent of the stocks to a West German bank. In the following decades, the factory changed several times ownership and came as part of a larger package again in to the hands of O-I in 2004. The books of O-I for the European glass-production showed black numbers with profits of 2.7 billion dollars US in these years.⁷³¹ A year later, however, the Gerresheim Glassworks closed the doors for no clearly disclosed reasons.⁷³² The property had already been divided. The western part of the terrain, a nine hectare large parcel, belonged in 2008 to the City of Düsseldorf.⁷³³ A second large land parcel O-I sold in December 2011 to the Patrizia Projekt 220 GmbH, a Bavarian construction company, but eventually the

⁷²⁹ Typical war-damages on buildings were observed by the preservation curator during a site visit in 2006 (Archives Untere Denkmalbehörde Düsseldorf).

⁷³⁰ "Plündern aus Geldgier."

⁷³¹ "Glashütte: Nichts regt sich."

⁷³² Reasons suspected were tax benefits in the USA ("Plündern aus Geldgier.") or a restructuring process at the American Company (Landeshauptstadt Düsseldorf, *Perspektiven für Gerresheim Süd*, 11).

⁷³³ Landeshauptstadt Düsseldorf, *Perspektiven für Gerresheim Süd*.

deal was not finalized for a longer period of time; a sign at the entrance to the site indicated it in June 2012 still as property of O-I, which also employed the guards.⁷³⁴

At its largest dimension, the size of the factory was close to twice the size of the medieval town center of Gerresheim. The Glassworks Company was the largest employers of the area; a fact that explains its high identification status for the borough. Since the glassworks started to downsize at the end of the 1990s, newspaper articles reported on the public's fear that Gerresheim would lose its heart and soul should the factory close.⁷³⁵ It had dominated the southern part of the borough and at the end still occupied an impressive twenty hectares of the former forty six hectares. When rumors emerged of a partial demolition of buildings on the western terrain of the site in 1997, citizens wrote the first letters of concern to the lower protection agency, reminding the agency of the historic importance of the Gerresheimer Glassworks for the borough and asking to protect the oldest buildings on the site together with the historic train station. Politicians, artists and locals would soon join this concern and suggesting saving all other kinds of parts of the factory.⁷³⁶ The preservation of parts of the production facilities were for many a priority. The lower protection agency forwarded this first letter promptly to the Rhineland Conservation Authority but got a negative evaluation back; a heritage value could not be clearly justified. No original building and technical equipment from the founding years had survived. Shortly after, the owner demolished close to half the

⁷³⁴ "Glashüttengelände ist verkauft," RP online, accessed July 16, 2012, <http://www.rp-online.de/region-duesseldorf/duesseldorf/nachrichten/bauprojekte/glashuetten-gelaende-ist-verkauft-1.2685105>.

⁷³⁵ "Denkmalschutz für Erinnerung an Glashütte," *Rheinische Post Ost* (November 4, 2005); "Glashütte-Denkmäler sichern," *Rheinische Post Ost* (September 3, 2012), (Archives Untere Denkmalbehörde Düsseldorf).

⁷³⁶ "Denkmalschutz für Erinnerung an Glashütte," *Rheinische Post Ost*, (November 4, 2005), "Ringofen als Kulturzentrum," *Rheinische Post Ost* (October 20, 2006), "Die Krone retten," *Neue Rheinzeitung Düsseldorf* (December 12, 2007), (Archives Untere Denkmalbehörde Düsseldorf).

complex, mostly newer storage facilities.⁷³⁷ A legal protection of parts of the Gerresheimer Glassworks happened only after the company closed entirely in 2005. In 2006, the lower protection agency recorded the site's condition and opened a file for the proper listing of the heritage worth parts of the complex. Those were the electrical power station from 1906 and a boiler house from 1923 (eventually later).⁷³⁸

During a site visit, the state's longest serving curator from the Rhineland Conservation Authority, Axel Föhl,⁷³⁹ identified the fifty meter high water tower from where he and his colleagues had gained an overview of the complex as heritage worthy, as well. He stated that it had become an important industrial landmark for Gerresheim. Because the substructure showed no remarkable technical or architectural features, the conservation authority listed exclusively the tower structure. The warehouse-water tower complex was already the second such building on this spot after the first warehouse with a corner tower from 1955 had burned down in 1964⁷⁴⁰ and was cleared away in 1965. The reconstructed tower took shape in 1966. The new tower displayed plates developed and produced by the company themselves; using a wire enforced glass which they branded Difulit.⁷⁴¹ The company reinstalled the large blue crowned "G", the emblem of

⁷³⁷ The first demolitions around the year 2000 seem not documented by the lower protection agency. Comparing a satellite image with a plan in following PDF document shows the former west part of the enterprise with the warehouse 61 (12.5 ha size) that was torn down and whose ground was taken over by vegetation but left traces of former concrete ground cover and foundations; "PFC-Belastung nach einem Brandfall – Risikoabschätzung und Maßnahmen," Umweltamt Landeshauptstadt Düsseldorf, accessed July 13, 2012, http://www.lfu.bayern.de/analytik_stoffe/analytik_org_stoffe_perfluorierte_chemikalien/fachtagungen/doc/17_brandfall.pdf.

⁷³⁸ Evaluation report from Axel Föhl of the preservation office Rhineland from 2007 (Archives Untere Denkmalbehörde Düsseldorf).

⁷³⁹ "H. John u.a. (Hgg.): Industrie- und Technikmuseen im Wandel," H-Soz-u-Kult, accessed December 21, 2012, <http://hsozkult.geschichte.hu-berlin.de/rezensionen/2006-2-048>.

⁷⁴⁰ "Großer Brand in der Glashütte," *Rheinische Post* (October 22, 1964), (Untere Denkmalbehörde Düsseldorf).

⁷⁴¹ Evaluation report 01577 (Archives Untere Denkmalbehörde Düsseldorf).

the glassworks, on all four sides of the tower, short below the roofline. The concept to place the company's logo on such a structure had been copied from American models; the curator identified the water tower of the Ford Factory in Cologne from 1930/31 as an earlier example in Germany.⁷⁴² The previous water-tower used this idea already in 1955, but such an advertisement was still a rarity in Düsseldorf in the 1960s.

At the end of 2007 and the beginning of 2008, the city of Düsseldorf worked on an urban planning competition for the area Gerresheim-South (fig. 4.4.8) with the participation of O-I. The city printed a lavish brochure⁷⁴³ to inform about the area and the competition conditions with many maps and plans but also picturesque photographs of the factory when it was still mostly intact. The attractiveness of the images (fig. 4.4.6+4.4.7) was reminiscent of Charles Sheeler architectural portraits of Henry Ford's River Rouge Plant. However, except of the heritage buildings, all still standing factory buildings could be eliminated in the planning; this included the substructure of the glass tower. The competition took place between April 8 and May 28, 2008.⁷⁴⁴ The winning team, composed of the urban planning firm rha Reicher Haase, Aachen and the landscaping architects Hannelore Kossel, Berlin and Jochen Füge from Haan,⁷⁴⁵ created a large central park running through the factory property parallel to the train tracks. The west and south of the planning area would be zoned industrial to shield off noise from the trains and from a busy highway, to the north they planned residences and to the east they placed a mix of residences, commerce and culture because this part connected to the train

⁷⁴² Evaluation report from Axel Föhl of the preservation office Rhineland from 2007 (Archives Untere Denkmalbehörde Düsseldorf).

⁷⁴³ Landeshauptstadt Düsseldorf, *Perspektiven für Gerresheim Süd*.

⁷⁴⁴ "Perspektiven für Gerresheim Süd, Einladung zum Werkstattverfahren."

⁷⁴⁵ "Werkstattverfahren: Perspektiven für Gerresheim Süd," Stadtplanungsamt Landeshauptstadt Düsseldorf, accessed July 17, 2012, <http://www.duesseldorf.de/planung/wettbewerb/gerresheimsued/index.shtml>.

station. They lifted the neglected river Düssel to the surface, using it to vitalize the western part of the park with a small lake. On the east the two old buildings from the glassworks' power station would serve as public spaces and event locations and be surrounded by the park. In contrast to the other five contestants that came into the final round, the winning entry kept the warehouse below the glass-tower intact and suggested a reuse of the roomy substructure in parts as artist center and for creative workshops. On the ground floor exhibition space and a glass-museum would attract visitors who could then also climb to the top of the glass tower (fig. 4.4.9-4.4.11). The commemoration of the Gerresheimer Glasswork Company with its blue crowned G would further include a planting scheme with all shades of blue flowers und blue flowering trees (Paulownia, for instance) all over the park and public spaces.

In November 2008, the three structures entered the status of official heritage sites in the category of technical monuments.⁷⁴⁶ O-I agreed on the heritage status of the two older buildings but contested the status for the tower that sat on top of a structure which was not listed. They argued that the tower was constructed too recently to justify a heritage status;⁷⁴⁷ it lacked exclusivity and individuality because not an acclaimed architect but the company-employed engineer Julius Kräncer had designed it. O-I further claimed that the tower did not embellish but rather disturb the skyline of Gerresheim. Contesting the expertise of the conservation authority by the company's hired lawyer did not change the outcome of the listing. The lawyer expressed a different opinion on how heritage should be defined but could not claim that the conservation authority relied on

⁷⁴⁶ "Denkmaliste, Detailinformation," Denkmalbehörde Landeshauptstadt Düsseldorf, accessed July 16, 2012, <http://www.duesseldorf.de/cgi-bin/denkmal/dsneu.pl?nr=1577>.

⁷⁴⁷ This, as Jean Bélisle remarked to the author, reflected a typical American attitude towards newer buildings.

invalid or incorrect facts for their evaluation. O-I assumed that it would be impossible to redevelop the building and the tower. The new owner Patrizia AG shared this opinion. In their eyes, the entire structure needed to be taken away, and the dismantled tower would later be reinstalled on a new building. In contrast, the city referred to a report clarifying how much of the substructure could be removed without endangering the stability of the tower.⁷⁴⁸ The city possessed also plans of a local architectural firm, Döring Dahmen Joeressen Architects, who presented a well thought-through concept for the re-use of the warehouse (fig. 4.4.12). Commercial space occupied the ground floor along the exterior walls and parking found space in the interior area. Apartments that could gain light over sky lights at the second floor level which open to atrium shafts on the third floor level took over the two higher floors. The frame and many wall segments of the building would stay intact. Balconies could be included positioned inside of the frame instead of being added at the outside so that the clear cubic form of the building would stay intact and could compliment the tower. Access to the tower was not attempted.

The decision by the preservation office in Rhineland to put an upper structure under heritage protection but not its necessary substructure shows that the conservation authority made a clear distinction between the single parts of the complex that fulfill their heritage criteria and those that do not (in Hamburg, the cranes of the Kaispeicher A were a similar case), without being too concerned how realistic it is, to request the conservation of an immovable structure without its support. Architects opposed O-I's assessment, and evaluated that the three-storey warehouse could probably be converted profitably, as suggested by rha Reicher Haase or Döring Dahmen Joeressen Architects,

⁷⁴⁸ Result report of a meeting held at the City of Düsseldorf on May 26, 2012 (Archives Untere Denkmalbehörde Düsseldorf).

even with respect to much of the warehouse architecture, which despite its lack of distinctiveness the engineer had designed to harmonize with the tower (fig. 4.4.13). Owners of industrial heritage sites may be easily confronted with demands to preserve parts of structures that request also the conservation of less valued structures as the interaction and relationship in industrial buildings is more complex and less standardized than in most other architecture; this can go from a simple light installation for advertisement to complicated piping arrangements in chemical plants.

Even if the suggestion of the conservation authority and the following listing by the lower protection agency caused some astonishment, it may become a more common once other German authorities realized that the heritage value of a contemporary industrial heritage site may touch only a very explicit part of the complex because exceptional technical equipment or the form of a building represented a customized solution for a specific problem or requirement. A listing under German's laws can take place without concerns of a project's feasibility and despite missing experiences in preservation or conversions. Solutions will be developed more likely in confrontation with real and existing problems.

Two further observations should be made here. When the public first discussed the conservation of the glassworks, they requested first of all that parts of the production facility where the glass making took place would be preserved. The local residents never claimed that the identification with the former glass works needed outstanding or singular technical equipment but asked for a preservation that recapture the making of the product that had so long formed the identity of the district. The conservation authority, however, supported the protection of the electrical power station arguing that it was representing

symbolically the heart of the factory, and represented the oldest standing structures. They gave the factor of the building's age priority. However, the power station buildings displayed other than age no outstanding architecture or technology.

What are the values we need to consider in industrial sites and how do they relate to the values that play a role when evaluating other heritage sites? Prioritizing the oldest buildings of production sites over more recent ones would need further critical reflection. As much as the wish is understandable to preserve the founding buildings of a company, or the first location where mechanized glass-blowing took place in Germany, and so on, this wish stands contrary to the reality of industrial development. Modifications of buildings and modernization of equipment is a constant in industrial sites. The question is, if in this and other cases the conservation authority could have singled out newer or even the last significant developments to be preserved because they stand in a direct relation to older developments that preceded them.

4.5. Düsseldorf, Esprit Showroom by Ettore Sottsass, North Rhine Westphalia

The second example in the Rheinland was an unusual case for three reasons. First, the conservation authority pointed out the artistic character of the industrial contemporary heritage site as main protection-criterion (fig. 4.5.1). Second, it was not the conservation authority asked for the building's protection but the user of the building, the US clothing company Esprit, who had rented the building. Third, the conservation authority shorted the time span between the building's construction and the listing of the building to only twenty years while *Rheinland's* heritage experts normally require thirty years. The artistic character of the industrial site seems not to fit in the discussion of industrial heritage. However, industrial commissions fill architects' portfolios, in whatever form they create them.

In the mid 1980s, Esprit rented a warehouse from the 1950s. The company then asked the well known Italian industrial designer and architect, Ettore Sottsass (fig. 4.5.2), to redesign the space, which he did in 1985-1986 with the support of his colleague Aldo Cibic. The preservation agency documented this case in two binders, predominately filled with architectural plans documenting Sottsass' intervention; they had no newspaper articles on this building. Some monographs of Ettore Sottsass's oeuvre include the Esprit Showroom⁷⁴⁹ but books on Düsseldorf's architecture do not include the building.⁷⁵⁰

⁷⁴⁹ The author found it featured in: Milco Carboni ed., *The Work of Ettore Sottsass and Associates* (New York: Universe, 1999), 72-75; and Ettore Sottsass and Milco Carboni, *Sottsass: l'arte del progetto* (Florence: Maschietto & Musolino, 1999), 70-71.

⁷⁵⁰ Roland Kanz, Jürgen Wiener ed., *Architekturführer Düsseldorf* (Berlin: Dietrich Reimer Verlag, 2001), other architectural guides focus on older architectural styles or were published before 1985, such as the Reclam-architectural guide for North Rhine Westphalia.

In Fall of 1992, the lower protection agency of Düsseldorf received the request by Esprit for the protection of their design-centre at Vogelsanger Weg 49 in Düsseldorf's district Mörsenbroich and listed it in 2005. It was in June 2012 still the city's most recently built recognized heritage site. The documents gave as the main reason for the building's listing the involvement of the Italian industrial designer and architect Ettore Sottsass (1917-2007), nothing is known about the older warehouse. Sottsass established his name as industrial designer while working for Olivetti, an Italian company producing technical office supplies, for which he created among others the bright red, portable typewriter Valentine (fig. 4.5.3) featuring an unusual bracket rather than a frame around the keyboard. He continued designing everyday machines and furniture, and then included more and more interior design to his portfolio. The learned architect created entire buildings only from 1987 on. It is therefore no surprise that, when he was commissioned by Esprit in 1984, he agreed to transform an already existing building instead of insisting on a new one. At the address chosen by Esprit, it was also the only option as they had only rented the space.

Esprit stayed with Sottsass who designed for them several stores in Europe (Cologne, Zurich and Hamburg) in his famous "Memphis Style." Barbara Radice, a member of Sottsass' Memphis group explained the naming of the group and style:

Blues, Tennessee, rock' n' roll, American suburbs, and then Egypt, the Pharaoh's capital, the holy city of the god Ptah, ...⁷⁵¹

The style paired traces of a stereotypical American town associated with Elvis Presley with the educated knowledge of old Egypt. The group

⁷⁵¹ Marilyn Zurmuehlen, "Post-Modernist Objects: A Relation between the Past and Present" in *Art Education* 45/5 (September 1992): 14; the in-text citation was taken from Barbara Radice, *Memphis: Research, Experiences, Results, Failures and Successes of New Design* (London: Thames and Hudson 1985), 26.

used the purposeful ambiguity of 'Memphis' as a means to express their own varied design philosophies through their furniture, objects, and textiles,

explained a catalogue entry of the Metropolitan Museum of Art in New York.⁷⁵² The Düsseldorf design centre remained Sottsass' largest work for Esprit.

The 1950s warehouse was a medium sized and well proportioned industrial structure, partly two stories high. The building sat on grounds behind two other companies, sharing the same address (fig. 4.5.4). A long driveway to the right of the property led to the two back properties. From the street, the two front buildings and if nothing else large deciduous trees obstructed it completely (fig. 4.5.5). Flat roofs covered the building's different sections of varying height. Windows along the facade and skylights and windows in the back, where the production took place, created a well lit interior. Sottsass' redesign of the space included the interior as well as some areas on the exterior and the green space with the parking lot in front of the building. It went far beyond a usual upgrade; it resulted in a fusion of two architectures: one of a humble and bland style, the other excessively flamboyant. The designer never attempted to hide the old structure to make it his own but he played with the given building in a creative and partly humorous way.

After Sottsass' intervention to the space, the visitor approaching the building finds parking spaces to the left of the driveway, meticulously confined by round-walled raised garden beds on which form-cut hedges grow (fig. 4.5.7). Only trucks delivering goods drive up to the building (fig. 4.5.6). From the parking lot, a pathway guides the visitor through the centre of the property, passing by a miniature park with large trees and a

⁷⁵² "Recent Acquisitions: A Selection 1992-1993," *The Metropolitan Museum of Art Bulletin*, New Series 51/2, (Autumn, 1993): 83.

terraced fountain formed by sculptural architectural fragments and sitting areas (fig. 4.5.8+4.5.10). Through the green of the vegetation sparked first the many bright coloured elements of the building, mostly on the roof: a small blue dome, silver tubs surrounding a yellow cylinder shape covered by a blue lit or a row of tubes carrying a red square board. Pastel colours such as light green, light pink or light blue emphasized the roofline and lower parts of the structure and appeared when coming closer (fig. 4.5.9). A canopy protected the entrance (fig. 4.5.11) which Sottsass embellished with a variety of colours, shapes and materials. A concrete flight of stairs leads into the building. In 2012, a contemporary furniture store occupied the space so that the public could enter it freely. The mix of Sottsass' built-in components in loud patterns and colours together with the hundreds of pieces of furniture stressed the eye initially but was, when focussing on smaller parts of the space, often very entertaining and fun (fig. 4.5.12+4.5.13). The architect had left enough room in between his capricious pieces to allow a functioning of the different spaces if the user showed willingness to "play" with them. It helped that light flooded through the interior through sky-lights. Just at the north end of the building had darker areas; Sottsass placed a terrace over this part and trees outside had matured, reducing the efficiency of the windows. It was not enough that Sottsass had replaced the solid walls with glass-blocks in which he kept the old windows in place (fig. 4.5.16).

At the author's site visit in June 2012, the complex seemed overall in good condition. The interior looked well cared for. The exterior showed some signs of recent deterioration. Several of the small tiles that covered parts of walls had come loose and accumulated at the ground (fig. 4.5.17). Recent images taken by the lower preservation agency during the building's vacancy did not show these problems. The preservation

curator reassured the author that the agency surveyed the site and would take care of these problems.

Esprit used the building probably right after Sottsass completed his intervention, and occupied it till 2003.⁷⁵³ Their letter from 1992 with the request of heritage protection came when their renting contract was still valid for seven years. However, they considered moving to a different location before their contract expired and ran into a problem: rented space can be modified but, when the tenant leaves, he or she must return the building to the original condition. Esprit would have been forced to destroy Sottsass' gesamtkunstwerk. A heritage listing could prevent that. In this way, the owner, a privately held company in Hamburg, had to accept the recent modification, allowing Esprit to leave the building in the current state when moving away. At the time of the initial inquiry, the conservation authority doubted that a listing of a building of less than ten years of age was possible.⁷⁵⁴ They missed therefore the opportunity to document the spaces while still in use by Esprit (fig. 4.5.14+4.5.15). Besides the casting over of the building, Sottsass had designed numerous pieces of furniture, wardrobes,⁷⁵⁵ plant containers⁷⁵⁶ and so forth for Düsseldorf's Esprit showroom. Some publications on Ettore Sottsass work show photographs that give a vague idea of the impression during Esprit's time when all pieces of furniture and decoration that featured the Memphis' signature furnished the rooms.

⁷⁵³ Information given by Esprit Customer Service via email on July 20, 2012.

⁷⁵⁴ Note from November 17, 1992, Archives Untere Denkmalbehörde Düsseldorf.

⁷⁵⁵ "Esprit," La Galerie Moderne, accessed August 23, 2012, <http://www.lagalieriemoderne.com/gallery.php?lang=en&id=261>.

⁷⁵⁶ "Plant container for the Esprit Showroom in Düsseldorf," Deconet, accessed August 23, 2012, http://www.deconet.com/decopedia/object/191102/Plant_container_for_the_Esprit_showroom_in_D%C3%BCsseldorf_by_Ettore_Sottsass.

The owner must have accepted the enrichment of their real estate without severe interference of the preservation agency. The preservation office became active only in 2005, thirteen years after the initial request and after Esprit had moved out with all movable equipment. It listed the building in all its parts, including the park in front of the building and the parking lot with its specific parking bays. Only twenty years had passed since Sottsass' remodeling. In many cases of industrial properties that are still in use, the heritage listing follows a change of ownership when the new owner plans to modify the building. This was also here the case. In 2005 the privately held company transferred their warehouse to an investor group foundation with one of the former owners as partner. In a letter from the lower protection agency from April 2006, the official curator contacted the new owner group because they did or planned alterations that altered Sottsass design, which the conservation authority vetoed.

Industrial sites are seldom where tourists pass-by but the concealment of this place surprised even for a factory-type building. Far removed from the street front, neither a sign nor information in the virtual world of the internet,⁷⁵⁷ except the entry in the city's heritage list, informed the public of this site. Architectural guidebooks of the city have no information on the building. It is a heritage site of "public interest"⁷⁵⁸ without interest in the public, it seemed. We may wonder that the government has no obligation to promote recognized heritage sites to justify the spending of public funds for its up keeping or subsidies over lower taxes. The exact reasons for the missing of signage

⁷⁵⁷ Following keywords had been put in the google search function without results leading to the building: Ettore Sottsass and Düsseldorf; Düsseldorf and Esprit, Düsseldorf and Esprit and showroom, Ettore Sottsass and Esprit, Düsseldorf and industrial heritage; Düsseldorf and Industriekultur and Sottsass; Düsseldorf and Industriedenkmal; Düsseldorf and Industriedenkmal and Postmoderne; Düsseldorf and Vogelsanger Weg 49.

⁷⁵⁸ "Public interest" is a non-defined term in many German laws, so also in the heritage preservation laws.

at the Vogelsanger Weg remained unknown. If the owner rejects a promotion of the building as heritage monument for economic reasons, the protection agency can waive a plaque or the installation of an information board; in fact, in many Länder, the government offers a plaque as award to owners of monuments,⁷⁵⁹ only in few cases do conservation authorities insist on such an installation – for instance, when a site was related to political crime under the Nazi regime.⁷⁶⁰

The artistic design of the Esprit showroom looked like a rare exception in the field of industrial architecture. Functional architecture and artistic decor stand in a kind of opposition to each other; it was the functionality of factories that inspired avant-garde architects to abolish decorative elements in their own designs. Many industrialists, however,⁷⁶¹ showed enthusiasm and knowledge for art. There is for example, the 1962 canteen for the publishing house of *Der Spiegel* in Hamburg, created by Verner Panton, Denmark's most famous furniture and interior designer. Also, Quebec's artist, Alfred Pellan, decorated the exterior of a construction enterprise in Laval, north of Montreal between 1969-1970.⁷⁶² Artist involvement at industrial sites may be more common than assumed, in Germany as well as in Quebec.

⁷⁵⁹ See for instance the ruling in North Rhine Westfalia, accessed April 13, 2013, https://recht.nrw.de/lmi/owa/br_bes_text?anw_nr=1&gld_nr=2&ugl_nr=224&bes_id=653&val=653&ver=7&sg=0&aufgehoben=N&menu=1.

⁷⁶⁰ During archival research, the author came across a debate between the conservation authority and an owner of a warehouse, Lagerhaus G, in the harbour district in Hamburg. The warehouse had been used to house Jews abused for slave labour, which a plaque commemorates. The later owner feared that his Jewish clients would avoid trade with his company for that reason. The city of Hamburg refused his request.

⁷⁶¹ Friedrich Christian Flick Collection in Berlin's Hamburger Bahnhof-Museum für Gegenwart, the art collection by Heinrich Thyssen, Körber-Foundation in Hamburg and Berlin, to name a few.

⁷⁶² France Vanlaethem, *Patrimoine en Devenir: l'architecture moderne du Québec* (Quebec: Les Publications du Québec, 2012), 153.

4.6. The 4711 Kölnisch Wasser-Fabrik Ferd. Mühlens, Cologne, North Rhine Westphalia

Experimental building materials found willing architects in the 1950s and 1960s. Industrial buildings housed production facilities but were at the same time part of the public face of the company and their products. The ideal industrial complex had a contemporary look representing the company and its brands, offering flexibility in the function as technologies constantly developed and kept the price of buildings and the maintenance costs low. Architects responded to this challenge by relying on steel or reinforced concrete skeletons with wide spans between the supports for the building's frame and using innovative industrially produced materials with promising features for the exterior. The market offered new plastics, ceramics and glass-qualities that could be mounted in novel ways by using innovative glues or sealants. Today, many of these surfaces pose problems as they have deteriorated but are not easy to preserve. Some of the formerly popular materials even violate current building laws. *Rheinland's* conservation authority faced the material related difficulties in the preservation of the chemical factory *4711 Kölnisch Wasser-Fabrik Ferd. Mühlens*, built in the 1950s. The exterior cladding could not be kept or reproduced in the original materials because today's building laws considered the old materials unsafe. In the following case, the preservation office decided to allow the owner to remove most of the material from the exterior and replacing it with new, different materials as long as the overall appearance of the design was kept. Despite the loss of much of the original material, the provincial government kept the building on the heritage listing and therefore entitled the owner to tax breaks. The media and other provinces criticised the decision by the *Rheinland*

Conservation Authority as it violated one of the key criteria for heritage listing which is the preservation of the original materials,⁷⁶³ but they did not discuss the problem how to treat these failed historic experiments; failed eventually only in so far as the buildings exceeded their expected lifespan. It is the question if a dogmatic view that relates heritage evaluations to the original building material contradicts the preservation mandate towards sites that used unsustainable or fast aging contemporary industrial products. Where no alternatives exist when removing large portions of old materials is unavoidable, this politics will endanger many examples of recent industrial sites and not just those.

The author based the research for this case study on a site visit to the “Barthonia-Forum,” as the complex is known today, a meeting with the architect who was in charge of the conversion of the factory property, an interview with the provincial preservation expert of the *Rheinland* Conservation Authority (all this took place in September 2009). A personal visit to Cologne’s lower protection agency’s archives could not be scheduled, but they sent copies of publications on the property and the listing entry. For that reason, a detailed insight in the internal discussion process is missing. However, the principal question, if a re-evaluation of Germany’s preservation standards – specifically concerning the value of the original material in contemporary industrial architecture and other similar constructed buildings – is attempted, can generally be analysed as it was already a subject in some of the available publications. The building entered listing for its experimental architectural design with new materials and partly new forms by an important architect firm of Cologne. The preservation office additionally stressed the

⁷⁶³ Andreas Ruby, “In alter Frische?” *Deutsche Bauzeitung* 130/10 (1996): 108 (Archives Untere Denkmalbehörde Köln).

complex as a dominant factor in its urban surrounding (fig. 4.6.3) and as part of the district's industrial history.⁷⁶⁴

The name of the company with the number 4711 originated from Napoleon's occupation of central Europe when he forced Cologne to register all real estate including the house of a miracle-water producer in the Glockengasse in Cologne (fig. 4.6.5). The number stuck as the name for Cologne's most famous perfume brand, produced by Wilhelm Mühlens after he realized that his water smelled better than healed (fig. 4.6.2). Some years later the company moved to a new house up the street. The old building was demolished short after. The perfume production's space requirement soon outgrew the available inner-city location. A large factory in Cologne's industrial suburb Ehrenfeld started production in 1874, run by the third generation of the family Mühlens. In 1943, the allies' bombings destroyed seventy percent of the factory.⁷⁶⁵ Maria Mühlens, born Stockhausen, whose husband and son had both died in 1945, rebuilt the factory beginning in the 1950s (fig. 4.6.1). She employed the local architectural firm of Wilhelm Koep (1905-1999) for the design of all new projects for the family business and managed the company until her death in 1959. In 1962, Maria Mühlens' grandson Ferdinand (III) took over the business (fig. 4.6.6) with fifty five percent of the company shares, the remaining forty five percent inherited a younger cousin. For Ferdinand Mühlens, Wilhelm Koep added a tall administration building to the factory ground. The Mühlens-cousins did not get along in the long run. After an unpleasant and public fight, the family sold the

⁷⁶⁴ Archives Untere Denkmalbehörde Köln.

⁷⁶⁵ "History," House of 4711, accessed August 3, 2012, <http://www.4711.com/index.php/en/id-4711-house-of-fragrances.html#historie>.

business to the German Wella AG in 1994.⁷⁶⁶ At that time, the production had already moved to a new factory at the outskirts of Cologne. Ferdinand Mülhens had sold the old company headquarters and production halls to his friend Heinz Barth.⁷⁶⁷ In 1992, when the company moved to its new location and before Barth's plans to redevelop the property became public, the preservation agency stepped in with the listing of the complex to preserve specifically those parts designed by Wilhelm Koep.⁷⁶⁸ On November 5, 1996 the Barthonia-Forum opened (fig. 4.6.4), a mixed-use complex composed of a supermarket, small stores, offices and apartments.

Mülhens had built this factory west of Cologne's ancient centre in an area where many other factories had set up their production after the rail road opened between Cologne and Aachen in 1844.⁷⁶⁹ Three to four-storey worker residences surrounded the factories. Chimneys of over forty factories dominated the skyline in this district outnumbering easily the church steeples. Initially, mostly the workers lived in the factories' surroundings. After the war, specifically the space-consuming heavy industry left the area because room for growth was not available. Small and medium sized enterprises moved in the old facilities but most of the industries closed again from the 1970s on. The district was left with a high unemployment rate, a high criminal rate but low rents in the aged building stock of the early days of industrialization. Students, immigrants and people from the creative fields, attracted by the low cost of living moved

⁷⁶⁶“Wie eine reife Tomate – Die Banken drängten die Erben der Firma 4711 zum Verkauf. Eine erfolgreiche Familienfirma griff zu,” *Der Spiegel* 25 (1994): 85-86.

⁷⁶⁷ “Seifenfabrik ist heute schick,” *Kölnische Rundschau* (July 29, 2006): 32 (Archives LVR-Amt für Denkmalpflege im Rheinland).

⁷⁶⁸ “Köln_Kölnisch Wasser-Fabrik Ferd. Mülhens (Barthonia-Forum),” Rheinische Industriekultur, accessed August 6, 2012, <http://www.rheinische-industriekultur.de/objekte/koeln/Muelhens%20Ehrenfeld/Muelhens.html>.

⁷⁶⁹ “Ehrenfeld – das Feld vor dem Ehrentor,” Stadt Köln, accessed August 6, 2012, <http://www.stadt-koeln.de/1/stadtbezirke/ehrenfeld/>.

to Ehrenfeld and led to the district's slow internal gentrification process.⁷⁷⁰ The district is today a vibrant, diversified and popular area with snack bars beside ambitious restaurants, junk shops and low-end supermarkets neighbouring boutiques and craft-stores. The unemployment rate is still above Cologne's average, old problems still persist⁷⁷¹ but on a smaller scale than before.

Until the closing in 1992, the 4711 factory was a confined, non-public terrain in Ehrenfeld. The Mülhens family guarded its space carefully to protect the company's secret recipes. Like a castle, buildings and walls with one or two controlled gates leading to the inner complex surrounded the block. The production facilities found space in the court-yard, taking over more and more of the ground as production diversified to include soap, toothpaste, creams, hair products and pharmaceuticals. After the bombing, enough of the buildings stood to resume production in 1946. A complete renewal of the complex started around 1950. Maria Mülhens decided to keep the existing intact structures, however, she wanted them incorporated in the modernized complex without showing their advanced age. An old illustration showed the factory of 1874 as a typical conglomeration of different kinds of buildings, sheds and chimneys, in a variety of building techniques and styles probably predominantly in brick. Wilhem Koep realized this wish by blending all buildings, new as well as old, behind a unifying turquoise-green and gold curtain wall facade; the colours displayed the company's trade-mark, so that the whole complex followed a corporate design. He used gold anodized aluminum ledges

⁷⁷⁰ "Ehrenfeld – vom Ackerland zum Industriestandort," Stadt Köln, accessed August 6, 2012, <http://www.stadt-koeln.de/1/stadtbezirke/ehrenfeld/ehrenfeld/>.

⁷⁷¹ "Ehrenfeld – Kölner Veedel zwischen Multikulti Szene und Industriekultur," Köln Magazin.info, accessed August 6, 2012, <http://www.koeln-magazin.info/ehrenfeld.html> and "Wir über uns," Kalz – Kölner Arbeitslosenzentrum E.V., accessed August 6, 2012, <http://www.koelnerarbeitslosenzentrum.de/kalz/wir-ueber-uns.php>.

with a grit based on a symbolic 47.11 centimeter edge length surrounding turquoise tiles a quarter size of the basic grit. Windows' white frames continued the wall grit. All roofs remained flat. He accentuated the corners of the higher buildings on the street side with curved and slightly recessed walls which he had painted in white. This popular, and in variations often used feature of 1950s architecture broke the severity of the cubic design. Wilhem Koep designed the company's stores in Cologne's centre with the same colour scheme and in a similar, albeit more decorated style (fig. 4.6.7).

In 1962 the new generation of the management moved the company's administration into a ten-storey high-rise whose long facades met the street in a ninety degree angle. Gone was the playful elegance of rounded edges and light-weight curtain walls. The reinforced concrete-frame structured the facade into regular flat rectangles. White tiles covered the walls of the building; turquoise-green opaque glass panels vitalized the wall below the windows. The windows had gold coloured aluminum frames. Bright orange window shades added a surprising splash of colour. The staircase behind four vertical axes of the main facade gained extra light as here exclusively glass blocks were set into the frame openings. The back facade mirrored the front without the staircase but with some lower buildings attached to it. A large 4711 sign found space on the building's roof (fig. 4.6.8). The narrow side of the building faced the street and had, except of the ground arcade, no openings. The narrow back end of the building was equally windowless; only a balcony on the tenth floor protruded the wall (fig. 4.6.9), allowing from the director's office an overview over the production site.

After Barth bought the factory he dismantled all but the outer buildings and the two main facilities in the court yard, both of Koep's design. The developer planned to

relocate a small pumping station but the attempted move failed, the fragile structure collapsed. The first of the kept buildings (fig. 4.6.11) in the factory yard was a four-storey high and long stretched structure with its short back attached to a street-facing older building. The yard side formed out as a monumental apse closed in by a transparent curtain wall of an endless sequence of windows with elegant gold and turquoise-green accents. Packaging and warehousing took place in this sector. A high ramp surrounded the ground floor, protected by a roof with inserted glass-blocks. Authors often compared this part of the factory to architecture of the German expressionism such as the Schocken department stores by Erich Mendelsohn in Nuremberg or Stuttgart and made it the focal point of their admiration⁷⁷² while its form resulted from functional considerations. The curved facade facilitated the manoeuvring of trucks on the tight factory ground.⁷⁷³ The second kept building housed the soap factory (fig. 4.6.10), an addition from 1958. It was a single storey hall with a specially designed saw-tooth roof in north-east direction. The innovative profile of the shed roofs formed s-waves to diminish shadowed areas along the ceiling.⁷⁷⁴ A window front covered the north-east facade as part of the boiler house, a common safety feature to allow a directed pressure release in case of an accident. The soap factory was one of the few parts on the property that did not feature the corporate design concept. White plaster covered the exterior walls. The reason for the little concern for the look may be found in the position inside the court yard which kept it completely out of sight for any passer-by from the surrounding streets.

⁷⁷² Ibid.

⁷⁷³ "Köln_Kölnisch Wasser-Fabrik Ferd. Mühlens."

⁷⁷⁴ Ruby, "In alter Frische?"

Maintenance problems cropped up mostly with the tiled facades when due to the ageing of glue an increasing number of the turquoise tiles loosened and fell to the ground. Also the white tiles of the administration building showed this defect, which was more bothersome as these tiles fell from greater height and on to public sidewalks. Because curators related the heritage value of the complex to the facade design, they sought their participation to find a solution for the problem. The owner employed two architectural firms to deal with the redevelopment of the former factory, Luczak+Jürgensen for the overall planning and the restoration and conversion of the pre-1960 building and Ralph Pöringer from the *Planungsgruppe Barth AG für Industrie, Wohn- und Gewerbebau* for the administration complex. The two firms tackled the facade renovation in different ways and both in close cooperation with the lower protection agency and the conservation authority that tried to ensure a look as close to the original appearance as possible despite the need to renew all parts of the visible facades.

The turquoise-green glass tiles caused the main problem of the curtain wall facade. For the original shell, Mühlens ordered thoroughly tinted, opaque glass tiles from Czechoslovakia with intense colour vibrancy and tactile materiality close to that of ceramics. The quality was, as the rest of the glasses used, standard window glass. The glass tiles can still be produced in the same quality; however, for exterior sidings, the provincial building department requested now toughened glass. Toughened glass cannot be tinted the same way. To receive different glass colours in this quality, a coloured foil must be glued to the back of the glass. Neither the vibrancy nor the optical material density is present in this kind of glass; only the hue could be copied identically to the original (fig. 4.6.13). The compromise with this new material needed further adjustments.

The panels came in a size that fitted the aluminum frames exactly where before four smaller tiles were needed (fig. 4.6.14). To imitate the old tile format, the architect decided to have black lines printed on the back-foil. Where in the old design glass tiles covered whole wall sections without an aluminum frame such as in pedestrian passages, the safety glass needed additional mounting points. The old aluminum frames had slender ledges not stable enough to hold the extra thickness of the new glass. The architect increased their profile by one centimeter.⁷⁷⁵ It seemed not much of a difference but over the large facades it made the frame structure look heavier than before (fig. 4.6.12).

For the administration building where the tiles likewise had failed, the reproduction and reinstallation of the white ceramic tiles of original size and quality posed no problem. An alternative had to replace the turquoise glass parapets under the windows for the same reason as in the other part. Here, the architects decided to use enamelled metal sheets that had the same colour intensity and a similar material feeling as the tinted glass, just not the crisp look (fig. 4.6.15). A more significant change in the appearance of the building came with the owner's decision to add insulation to the building before the tiles were reinstalled. Cologne's lower protection agency documented the condition of the administration office during the renovations which took place in 1999. After tiles had been removed, photographs of the wall show that insulation between the wall and the siding was lacking (fig. 4.6.16). With an extra insulation layer on the outer side of the wall, a seventy percent reduction in heat-loss would decrease running costs and increase the value of the rental space. As a result of this, the windows, which Mühlens had replaced before moving out, sit today approximately ten centimeters deeper

⁷⁷⁵ Ruby, "In alter Frische?" 111.

in the facade than in the original design.⁷⁷⁶ The increase in the facade's relief made the building feel heavier than before when the walls were thinner. The addition of stores on the ground floor towards the widened court yard that had not been there before interfered, in contrast, little as the main focus of the building is its height (fig. 4.6.19). Inside the buildings, the conservation authority gave some of the representative stair cases heritage value (fig. 4.6.17+4.6.18+4.6.20). They must have been kept in excellent condition over the years. Walls, ceilings, floor coverings, the stair's hand rails, and light fixtures look exactly as in old photographs.

Overall, the press and the public judged the converted factory positively. With ninety-five percent occupancy, the mixed-used concept fitted well in its surrounding. Experts, however, were not convinced that the facade's restoration by the preservation curators served its purpose. Andreas Ruby from the *Deutsche Bauzeitung* remarked in 1996 that the curtain wall buildings caused at the viewer an "awkward aftertaste" as they belonged clearly not to a 1950s style.⁷⁷⁷ Alexander Kierdorf regretted the loss of depth, complexity and frothiness in the new facades.⁷⁷⁸ Yet, the responsible preservation curator Johannes Ralf Beines recognized these problems but judged the optical result as close enough to the original to see the approach used as a good starting point for a discussion for this kind of situation as curators will face many buildings with similar problems in the near future. Andreas Ruby's question if it made sense to recreate an old architectural structure if the result is not authentic, Beines would answer positively as the alternative would mean allowing the loss of an unacceptable amount of significant and

⁷⁷⁶ In the original building, one vertically set tile was covering the setback of the window lintel, after the renovation two tiles were needed.

⁷⁷⁷ Ruby, "In alter Frische?" 109.

⁷⁷⁸ "Köln_Kölnisch Wasser-Fabrik Ferd. Mühlens."

representative architecture of this time-frame. The responsible curator of the *Rheinland* Conservation Authority gave to the author a similar comment about a critique by a colleague from Hamburg on this invasive renovation.⁷⁷⁹

The previous three case studies were insofar remarkable as in each instance the conservation authority experimented new paths to secure the survival of the industrial structures that faced difficulties mostly related to their recent building date. In the first case, the conservation authority declare a 1960s water tower as landmark despite its recent age and insignificant designer and with the obstacle that it stood on an unremarkable substructure. The redevelopment of the site was still in process in 2012 and one has to await the outcome to judge the final result. In the second case a warehouse alteration in a postmodernist style found protection after less than the normally requested thirty-year time distance. In other federal states, such as Bavaria, only buildings of past architectural periods are eligible for legal protection, the “barely palpable so called” postmodern architecture was not recognized as belonging to a past historic era in 2010 and would for that reason not enter heritage protection in that state.⁷⁸⁰ The fact that the *Rheinland* guaranteed such an exception in the field of industrial heritage seemed even more remarkable. Most significant for the future discussion on industrial heritage and constructions that experimented with new or uncommon building materials will be the decision in the third case study as it touched a corner stone of heritage protection: the material value of heritage. That this discussion is urgently needed but has not yet fully taken place in other German Länder, will become noticeable in the following case study.

⁷⁷⁹ The remark was done in an informal interview at the Rheinland Conservation Authority in September 2009.

⁷⁸⁰ Martin and Krautzberger, *Handbuch Denkmalschutz und Denkmalpflege*, 193.

4.7. The Handkerchief Factory at the Lauffenmühle KG Textile Mill in Blumberg, Baden Wurttemberg

Many possible circumstances can lead to the demolition of a heritage site. A demolition permit for a listed site needs the consent of the lower preservation agency and is generally bound to their request for a proper documentation of the structures by the owner. Engaged efforts to save the site have normally taken place beforehand. The author conducted the next case study in the little town of Blumberg in the state of Baden-Wurttemberg to follow the fate of a handkerchief textile mill designed by Egon Eiermann (1904-1970) in 1949. The mill had closed in 1995 and was already demolished when the author visited the site in autumn 2009. After the factory's closing, all parties involved shared the optimism that a reuse of the factory would be met with no obstacles. As it turned out, every reuse plan demanded alterations to the building's fabric which went further than the preservation curators in the district office agreed upon. After ten years and many attempts to find suitable investors, a feasibility study proved the unreasonable economic burden a respectful redevelopment of the heritage complex would pose. While companies converted some adjoined smaller buildings, the conservation authority gave in the demolition of main complex.

Heritage protection in Baden Wurttemberg runs differently from all other parts of Germany. The Land restructured its conservation and protection administration in 2005. It eliminated the lower protection offices and shifted their tasks to the conservation authority.⁷⁸¹ It further decentralized the conservation authority which it allocated to four

⁷⁸¹ Baden-Wurttemberg's Prime Minister Erwin Teufel (1991-2005) sought with this reform to reduce expenses and eventually to gain more influence on preservation issues. Curators have expressed their

district offices called *Regierungspräsidium* where they ran as departments for heritage conservation (*Referat Denkmalpflege*). The responsible office for the textile mill was in Freiburg/Breisgau, sixty kilometers distant from Blumberg. Reference person in Blumberg for all things related to the Lauffenmühle maintenance was the owner of the private engineering office *Ingeneurbüro für Bauwesen Schweizer (Ibs)*. The company and later the municipality commissioned Ibs for the maintenance of the factory because Schweizer had collaborated with Egon Eiermann as long as the architect was alive for all modifications on his factory that the owner required. The archival documentation to the building can be found partly at the archive of the department for heritage conservation in the district office in Freiburg. Here they stored the original plans and the correspondence since 1996 between the conservation authority and other parties to this case. The Freiburg archives had further in their possession a collection of newspaper articles discussing the fate of the mill since its closing in 1995 and photographic material produced since 1996. The office had received the plans and photographs from Blumberg in 2008, but by summer 2012, they had not yet inventoried material. The engineering office of Ibs in Blumberg held photographs from the time before 1995. Specifically those photographs taken during the construction of the site in 1949 and 1950 and those showing the constant alterations that had been done over the next decades are the most speaking historic documents.

concern that with the structural reform in their Land their political independence (*Weisungsungebundenheit*) of their work was less easily achieved as the distance to the ministry became very short. The district office not only works out a consultation report to guide further decisions but now also issues the necessary agreement to demolitions. The former separation of powers (*Gewaltenteilung*) between judicative and executive powers was eliminated.

The Lauffenmühle KG Textile Mill was established in 1836 in Silesia,⁷⁸² where it prospered for a hundred years (fig. 4.7.3). In 1949, after Germany lost Silesia to Poland, the company sought to re-establish its handkerchief production in the west of Germany and searched for a location. Blumberg offered little to attract industries; it sat isolated at the southern tip of the Black Forest with no large town or industrial centre near by (fig. 4.7.1+4.7.2) and belonged to a region with a low population. Blumberg itself had, however, a large unemployed working force and new, intact infrastructure. The village was for the longest time a small agricultural community until Hitler decided to open a mine in the area, operated by the Doggerz-Bergbau GmbH.⁷⁸³ The local ore proved too poor to be mined under competitive conditions but in the attempt to increase Germany's steel production for his war efforts, Hitler had it operating nevertheless, albeit only until the outbreak of the war. When Germany lost French occupied mines in 1944, production in Blumberg started again. During production years, the village increased to a size of over four thousand, some counted seven thousand⁷⁸⁴ souls, and most of the newcomers worked in the mine.⁷⁸⁵ The government housed them in newly constructed though traditional looking one or two family dwellings (fig. 4.7.4). After the war, production stopped and many of the workforces sat idle with no nearby alternatives for occupation. The province's Prime Minister Leo Wohleb (fig. 4.7.5) talked the Lauffenmühle owner,

⁷⁸² *Hundert Jahre Spinnerei Lauffenmühle, 1836-1936*, (N.p.: n.p., n.d.), (Ibs Ingenieurbüro für Bauwesen Schweizer, private archives).

⁷⁸³ "Gesucht: Winkler Taschentücher fürs Fernsehen," *Südkurier*, accessed August 13, 2012, <http://www.suedkurier.de/region/schwarzwald-baar-heuberg/donaueschingen/Gesucht-Winkler-Taschentuecher-fuers-Fernsehen;art372512,3433043>.

⁷⁸⁴ *Ibid*

⁷⁸⁵ The village of Blumberg collected information on the Doggererz-Bergbau GmbH in 2011 for the community's 750 year anniversary which provided some short newspaper articles, however, the best overview on the subject offered "Doggerz AG," see: Wolf-Ingo Seidelmann, "Auf Messers Schneide – das Schicksal Blumbergs und seiner Industrie 1940-1945," *Schriften des Vereins für Geschichte und Naturgeschichte der Baar* 55 (2012): 43-70.

Gustav Winkler (fig. 4.7.6), into a move of his mill to Blumberg.⁷⁸⁶ Some subsidies may have helped to persuade the industrialist. Winkler, originally from Berlin, had a son, Helmut Winkler, who knew the architect Egon Eiermann (fig. 4.7.5) from their times as students and could convince his old friend to accept the commission for the construction of the mill.⁷⁸⁷

Egon Eiermann was an experienced industrial architect. He had studied in Berlin under Hans Poelzig, one of the founders of the new objectivity style, followed by two years first working in the building department of Karstadt in Hamburg, afterwards he accepted an engagement for Berlin's electrical company BEWAG (*Berliner Städtische Elektrizitätswerke Akt.-Ges.*).⁷⁸⁸ He then opened his own firm accepting private and commercial commissions. During the Nazi regime, building factories became a bread-and-butter business for architects defending a modernist style in Germany as they opposed Hitler's preference to neo-classical inspired and traditional local styles. Eiermann was one of those who switched back to the industrial field which suited him well and would pay out in the future. In the young Federal Republic he attained a remarkable career. Many public clients of the new German states preferred his architecture of clear lines, transparent glass walls and visible structural elements because it symbolized democratic ideals. The German architect's affinity to industrial construction often remained, not only because they had practiced it excessively in the past but also because ideas of Modernism rooted deep in concepts that had been

⁷⁸⁶ "Fachleute entdecken entzückende Lösungen im Detail," *S[tuttgarter?]Zeitung* (10. 9. 1998), (Archives Regierungspräsidium Freiburg, Referat Denkmalpflege)

⁷⁸⁷ Hans Otto Fehr, "Von der Technik zur Form – Blumberger Taschentuchweberei und Kesselhaus von Egon Eiermann," *Badische Zeitung* (July 25, 1989), 6 (Archives Regierungspräsidium Freiburg, Referat Denkmalpflege).

⁷⁸⁸ "Egon Eiermann," Art Directory, accessed September 1, 2012, <http://www.eiermann-egon.com/>.

developed from factory construction and production logistics.⁷⁸⁹ The architects that had been faithful to the modernist style also easily re-connected to their colleagues that had immigrated to the United States such as Walter Gropius who taught and built at Harvard University or Ludwig Mies van der Rohe who practiced and instructed in Chicago, to name the most famous.⁷⁹⁰ Many of those emigrants, in collaboration with their American colleagues, matured their ideas from the Bauhaus and the new objectivity movement overseas. When they came back to post-war Germany, the emigrated architects introduced their German colleagues to the new impulses.⁷⁹¹ Egon Eiermann combined in his design for the Lauffenmühle factory in Blumberg Bauhaus ideas and influences coming from the United States, he designed, some claim, Germany's first "dark-factory" (fig. 4.7.7-4.7.9).⁷⁹² Blumberg celebrated the Lauffenmühle as state-of-the-art textile mill by all standards when it opened. The architecture of the building received soon national and international recognition,⁷⁹³ but the sleek, flat-roofed hall looked foreign in the

⁷⁸⁹ Immo Boyken, "Die Architektur Eiermanns aus der Zeit nach dem Zweiten Weltkrieg" in *Egon Eiermann 1904-1970, Bauten und Projekte*, ed. Wulf Schirmer (Stuttgart: Deutsche Verlags Anstalt, 1984), 61-62; Boyken referred to the influence of industrial building for other building projects such as office buildings or churches in the oeuvre of Eiermann, same is noticeable in the works of many other German architects, such as Sepp Ruf, Hans Döllgast, and Eduard Ludwig.

⁷⁹⁰ Immo Boyken and Hans J. Oestmann, "Ludwig Mies van der Rohe and Egon Eiermann: The Dictate of Order," *Journal of the Society of Architectural Historians* 49/2 (June 1990): 133-153.

⁷⁹¹ Walter Gropius, for instance, toured Germany in the late summer of 1947 at the behest of General Lucius Clay, giving speeches in Berlin, Frankfurt/Main and Munich on his American experiences with mass production, new technical equipment and their economic advantages for the average citizen. He also promoted the German architect Hans Scharoun for the redesign of Berlin. The conservative *Baumeister* magazine under Rudolf Pfister mocked Gropius attempt to persuade him and his colleagues to follow American models in an article titled "Professor Gropius gibt gute Ratschläge" (professor Gropius hands out good advice). *Baumeister* 11-12/44 (Nov. – Dez. 1947): 389-391.

⁷⁹² Annmarie Jaeggi ed., *Egon Eiermann (1904-1970), Architect and Designer: the Continuity of Modernism* (Ostfildern-Ruit: Hatje Crantz Publishers, 2004), 151. Dark factories are production facilities that rely on artificial lighting and have therefore no saw-roof or other windows for the purpose to enable natural light.

⁷⁹³ Specifically the newspaper articles that were written after the company moved out in 1995 claim its early fame and influence, however, research on articles led to little results as collections of German architectural magazines are not plentiful in consulted collections and libraries. The fact, though, that it found recognition in international circles can be proven through, for instance: "Factory at Blumberg," *The Architectural Review* 113 (1953).

pasture of this provincial village where steep-roofed brick houses dominated and cows and horses still shared the roads with a few cars.

The textile mill's ground measured sixty thousand square meters on a slightly rectangular and level property, the company's production site occupied initially fourteen thousand square meters. Ten thousand square meters was the size of the mill, service buildings took up the rest. The large hall occupied the back part of the property to the south. At ground floor, black ceramic tiles covered the walls of the main building below the windows; white corrugated asbestos cement sheets formed the weather barrier at the higher top floor. Light-blue painted metal support pillars punctuated through the wall to the exterior just below the roofline and structured the building in regular segments.

Pavilion-like cubic extensions for the staircases (fig. 4.7.12) stood at the two ends of the main building. Eiermann placed the boiler house and the coal storage shack in front of the hall at the north-west corner of the property. The hall had a gabled roof of a slight pitch; the service buildings, standing in a ninety degree angle to the production hall, had butterfly roofs meaning that the pitch slanted towards the central roof line. Light blue metal frames in front of black tile-sidings accentuated the v-form of the roof and the middle line down the side walls of those service facilities. To the right side and in front of the main hall, a long low shed blocked off the way between the front buildings and the factory. The one half held a porter's lodge and the other half sheltered a large bike rack. A glassed-in corridor connected this block with the production hall (fig. 4.7.15). The production hall's ground floor ceiling was lower than the second floor where production took place. On ground-level the company stored the raw material and the finished goods. The architect chose reinforced concrete for the structural frame (fig. 4.7.11). For the supportive

structure of the second floor he used a steel frame. Except for two rows of pillars to both sides of a central “corridor” the second floor needed no additional interior support (fig. 4.7.13). Five hundred looms found places in the fifty meter wide and hundred meter long room which had air conditioning and florescent light fixtures as main light source (fig. 4.7.10). The window bands on the two long sides were neither necessary to light the interior nor for air circulation but were a feature to enhance the work environment as they allowed the workers to look outside.

The complex underwent constant changes. In 1958, the Lauffenmühle needed a small administration building which found space behind the main hall (fig. 4.7.15). In 1961, the company doubled the size of the production building using free land to the east for which the architect removed the staircase pavilion on that side. Between 1968 and 1971, the roof needed enforcement. The vibration of the looms caused material fatigue in the concrete floor, leading to a complete renewal of the floors between the two stories in 1979/1980.⁷⁹⁴ Photographs show that the local engineering firm removed a wall section, when new looms arrived and closed it again.

Blumberg’s mill had only a short time of prosperity. Since 1974, the paper handkerchief outstripped cloth; it was a question of time for how long the mill would still run. After the closure of the factory, the owner sold off the looms but nobody question that the building could be kept and gently converted to something new. In June the municipal council discussed a land-use plan for the area which they signed in September 1996. At this early stage of discussion, the preservation agency had put the entire

⁷⁹⁴ Internal note, 2004-2005, not precisely dated (Archives Regierungspräsidentium Freiburg Referat Denkmalpflege), and photographic documentation at Ibs Ingenieurbüro für Bauwesen Schweizer, private archives, dated 1979/1980.

Lauffenmühle complex under ensemble protection, including all later additions and even the encircling wall, as newspapers reported in mid-1997.⁷⁹⁵ A group of banks owned the building and had it managed by a bankruptcy trustee. The banks would finance the conversion project without subsidies by the province. They saw the solid construction on the ground floor and the open floor plan on the second level as ideal to satisfy all imaginable requests. Partitioning would divide the building vertically into separate sections and each part could receive its own entry (fig. 4.7.17). The group invited investors to rent or buy parts of the complex. Two companies' had by then shown interest, the plastic producer Karic moved into the former metalworking shop, an addition from the 1970s, and a local energy firm, the *Energieversorgung Südbaar* (ESB), bought the boiler house. A furniture dealer rented some space in the main building as warehouse.⁷⁹⁶ Blumberg's mayor showed optimism that a compromise between interested investors and the conservation authority could be reached. But the town laid the land-use plan on ice after the conservation curator disagreed in the demolition of the porter's lodge/bicycle shed with the glass corridor to allow the new separate entrances. The curator opposed also other small modifications.

In 1997 the bank sold the detached boiler house to ESB that modified it to suit their requirements⁷⁹⁷ – not in the sense the conservation authority would have liked (fig. 4.7.18). Ibs did the conversion and removed all equipment and further replaced the

⁷⁹⁵ "Sorgen wegen Denkmalschutz," *Südkurier* (September 17, 1997), (Archives Regierungspräsidium Freiburg, Referat Denkmalpflege).

⁷⁹⁶ "Gewerbepark "Alte Weberei" nimmt Formen an," *Blumberger Zeitung* (June 21, 1996), and "Mischung aus Gewerbezentrum und Bazar" *ibid.*; "Ja zu Plänen fürs Lauffenmühlen-Areal," *Südkurier* (September 25, 1996); "Investor für Lauffenmühle-Areal," *Südkurier*, no date (Archives Regierungspräsidium Freiburg, Referat Denkmalpflege).

⁷⁹⁷ Ibs Bestandbeschreibung from January 18, 2005 (Archives Regierungspräsidium Freiburg, Referat Denkmalpflege).

exterior black siding with light grey siding sheets (fig. 4.7.19). They also painted over the light blue accents in a bright blue to contrast the light grey. Ibs installed the cladding in a way that allowed a later change to black tiles, for which the government promised a grant, once it had the financial means. A glass atrium surrounded the entry. The Egon Eiermann society, established by a group of enthusiasts in 1998, presented an alternative suggestion for the transformation of the boiler room with more respect for “Eiermann’s signature” – however, it came too late to be considered and kept, as the conservation authority later remarked, also not enough of the original material.⁷⁹⁸

After the conversion of the boiler room, problems always outran investors’ interests. Yet, the preservation office kept a list covering the time between January 1995 and May 2005 of hundred fifteen interested investors, all wanting only parts of the complex. Most of them, however, requested significant changes to the interior: not only partitioning but a change in the ground floor ceiling height or new accesses to the second floor, in all cases the department for heritage conservation vetoed the alterations. When a large investor showed interest in the eastern half of the property in 2006 but was not willing to reuse the existing structure, the city issued a demolition permit after a feasibility study ordered by the local engineering office Ibs in April 2005, came to a negative result for a redevelopment of this part of the mill. Consequently, the heritage department in Freiburg was obliged to accept demolition for the 1960s extension,⁷⁹⁹ but it kept the heritage status for all remaining parts. They demanded documentation before demolition would take place and a reconstruction of the open side using the same kind of

⁷⁹⁸ Internal note, 2004-2005, not precisely dated (Archives Regierungspräsidium Freiburg, Referat Denkmalpflege).

⁷⁹⁹ Archives Regierungspräsidium Freiburg, Referat Denkmalpflege.

siding as the original exterior. Ibs did the first, but, as it seemed, not the second, only a temporary wall closed the building on that site (fig. 4.7.16). As a result of the poor quality of the temporary wall and low maintenance, water penetrated the building over the next years accelerating the decay of the structure. The involved parties realized that in this state, all exterior and most of the interior materials would need to be exchanged, leaving nothing of the former building but the frame. The loss of so much original material would not justify keeping the building as heritage as it would become a copy of its former self. In October 2008, after another feasibility study, the department for heritage conservation in Freiburg agreed to issue the demolition permit for the remaining, unused buildings of the textile mill. Again, the protection office required a proper documentation in plans and photographs of the building before and photographs of the demolition actions itself. In 2009, Ibs carried out the demolition of all remaining Eiermann buildings of the Lauffenmühle (fig. 4.7.20).

One can certainly criticise and regret this development. The decisive criterion to put the Lauffenmühle under heritage protection was the structure's "scientific interest", which puts a different accent to the normally declared architectural interest. Many factories in Germany copied the steel frame structure of Eiermann's Lauffenmühle which allowed a basically support-free interior. Curators affirmed artistic or historic criteria but mentioned them not further as one criterion was sufficient for justifying listing. England's famous architectural historian, Nikolaus Pevsner, described the Lauffenmühle as "one of Eiermann's best factory buildings."⁸⁰⁰ Immo Boyken, a former student of

⁸⁰⁰ Nikolaus Pevsner, John Fleming and Hugh Honour, *Lexikon der Weltarchitektur* (Reinbek: Rowohlt Taschenbuch Verlag, 1984), 151: "Eiermann, Egon [...] Eines seiner besten Fabrikgebäude steht in Blumberg (1951) [...]."

Eiermann and professor for architectural history in Konstanz, followed Pevsner's evaluation and stressed the importance of the Lauffenmühle in his chapter on after World War Two buildings in the Egon Eiermann monograph from 1984.⁸⁰¹ When the first rumors of demolition surfaced he fought for the building's survival.⁸⁰² In 1989, a German newspaper article included the building in a weekly column with the peculiar title "Forgotten Modernism, Architecture after 1945" ("*Vergessene Moderne, Architektur nach 1945*").⁸⁰³ The English speaking public could find information about the mill in "Egon Eiermann (1904-1970) – Architect and Designer – The continuity of Modernism."⁸⁰⁴ Egon Eiermann's oeuvre, internationally recognized, received fewer acceptances in Germany's population and stayed a case for experts. Germans knew the architect mostly for the design of the "*Hortenkachel*," a wall cladding Eiermann had developed for the Horten department store (fig. 4.7.22). From the 1970s on, the easy recognizable Horten façade (fig. 4.7.21), present in many historic cities, advanced to a symbol for misguided city renewal.

It is afterwards difficult to understand what exactly went wrong in detail in Blumberg. The preservation office may be blamed as they did block modifications to the structure that investors saw as necessary. Their refusal to allow the exchange of original material to repair the building fostered in the end the demolition. Earlier replacements

⁸⁰¹ Immo Boyken, "Die Architektur Eiermanns aus der Zeit nach dem Zweiten Weltkrieg," in *Egon Eiermann 1904-1970 – Bauten und Projekte*, ed. Wulf Schirmer, 59-71, (Munich: DVA Deutsche Verlags Anstalt, 1984).

⁸⁰² Immo Boyken, "Ein Fanal ist in Gefahr, Egon Eiermanns Blumberger Taschentuchweberei," *Bauwelt* 7 (1998): 288, and Immo Boyken, "Das lange weiße Band ist grau," *Frankfurter Allgemeine Zeitung* (December 12, 1997) (Archives Regierungspräsidium Freiburg, Referat Denkmalpflege).

⁸⁰³ Hans Otto Fehr, "Von der Technik zur Form – Blumberger Taschentuchweberei und Kesselhaus von Egon Eiermann," *Badische Zeitung* (July 25, 1989): 6, (Archives Regierungspräsidium Freiburg, Referat Denkmalpflege).

⁸⁰⁴ Jaeggi, *Egon Eiermann (1904-1970)*, 150-155.

had already altered the building in many ways without destroying the conceptual idea that Eiermann had used when building the factory. Around 2004 a heritage curator left a internal note, trying to initiate a principal discussion how to treat Eiermann's buildings in future cases. The anonymous author of the paper remarked that the discussions were often conducted rather emotionally –Eiermann's widow attended the meetings that discussed the mill's future and the Eiermann *Gesellschaft* (Eiermann society) seemed to have pushed for preservation at all costs. The author of the note regretted that time had not allowed a historic distance to the architect from which to gain a better judgement of his achievements. The note mentioned a further point of critique concerning the uncertainty about the architect's conduct during the years of the Nazi Regime, and questioning if Eiermann had become university professor only out of lack of other, more talented candidates as his designs showed obvious flaws. Eiermann had propagated the use of standardised and mass produced building material whereby in reality, many details of his buildings needed to be customized. Last but not least, many technical details which he used, never worked properly.

The preservation curator⁸⁰⁵ opted to “back off” from his or her previous decision to evaluate the Blumberg factory as heritage. Their negative experience in the conversion of the boiler house, which had indeed lost its authenticity, and for which the curator now blamed the Eiermann *Gesellschaft* – a claim that conflicted with older letters of the *Gesellschaft* in which they stated that they regretted to have missed out the opportunity to influence the design, did not help the case of preservation. The curator underlined his/her

⁸⁰⁵ The documents did not make clear at which department this curator worked.

growing unwillingness to support the preservation of the Lauffenmühle with a statement by Eiermann himself: “Part of architecture is always its transience”.⁸⁰⁶

There is the question if the local engineering company could substitute the eliminated lower preservation agency. Ibs had, no doubt, an expert knowledge of the building which it maintained from the 1960s on but the company based their decisions on business outcome and missed expertise in questions of preservation issues. In several cases during the history of industrial heritage, local inspectors depreciate old structures as unsustainable while other inspectors, more experienced with the preservation of industrial structures, successfully save these buildings, as it had happened at the Sayner Hütte in the neighbouring province of Rhineland-Palatinate (see chapter 2.4). The historic circumstances under which Eiermann lived through the 1930s and 1940s were eventually a smaller concern than the historic circumstances through which the village had gone during this time. The modernist architecture of the mill with its high quality and idealistic claim of a new beginning in 1950⁸⁰⁷ clashed so clearly with its surrounding and the reality of Blumberg. There was nobody in place willing or able to bridge this gap.⁸⁰⁸

In the case of failure of preservation, as the last resource before all traces of a building are lost, all conservation authorities or similar governmental bodies in Germany request from the owner of heritage property a documentation showing the site before and after all major interventions in the building’s fabric, including its demolition. They additionally asked for professionally produced architectural plans showing the building’s

⁸⁰⁶ Document without author and date, Archives Regierungspräsidium Freiburg, Referat Denkmalpflege.

⁸⁰⁷ “Nach 60 Jahren: Ein Stück Wirtschaftsgeschichte geht zu Ende,” *Südkurier*, (n.d.); further: “Zeit reif für Abbruch,” *Südkurier*, (n.d.), (Archives Regierungspräsidium Freiburg, Referat Denkmalpflege).

⁸⁰⁸ “Neuer Vorstoß für Lauffenmühlen-Abriß,” *Südkurier* (March 7, 200[8?]), (Archives Regierungspräsidium Freiburg, Referat Denkmalpflege).

most recent layout. The author assumed that they do this to allow researchers to study aspects of a site through documents, plans and photographs, even after the site has ceased to exist physically. However, the motivation for documentation, at least in this case in Baden Wurttemberg had a bias towards another reason. The office seemed to have concentrated their efforts, for the case of a law-suit, to archive material (fig. 4.7.23) mostly relevant to their decision making process leading to the demolition agreement. The withdraw of the heritage status can lead to a legal dispute in which case the government would need evidence that support their decision. The heritage department had not requested the originals or copies of the historically important photographic sources on the object stored by Ibs (fig. 4.7.24). In how far the removal of the lower preservation agency enabled the demolition is difficult to judge when only one such case is studied.

4.8. Garching Atom-Ei, the Atomic Egg in Garching, Bavaria

The “Atomic Egg” is Germany’s oldest nuclear reactor (fig. 4.8.1+4.8.2). It stands a bit outside of Garching, a small Bavarian farming town twenty kilometers north of Munich. The research reactor of the swimming pool type was part of Munich’s public Technical University, and carried officially the less poetic name *Forschungsreaktor München* or short FRM (research reactor Munich). The central building formed a prolate spheroid-shaped dome surrounded by a ring of laboratories. The nickname *Atom-Ei* fused functions and appearance into a dense linguistic formula which stuck immediately.⁸⁰⁹ The old reactor stopped working in July 2000; the new FRM II started its service in March 2004, with some delay.⁸¹⁰ The Technical University would have preferred to demolish the redundant research facility,⁸¹¹ but was not allowed to do so. Munich’s lower protection office had listed the reactor as heritage building in 1997. The Technical University agreed upon the preservation of the shell and to incorporate the old building in their new nuclear research laboratory. But the heritage authority insisted that as much of the technical equipment as possible needed to be part of the preservation effort, as well, leading to a controversial discussion between experts not at least because a majority of the artifacts, many of scientific or historic value, were radioactively contaminated. The curator stressed the reactor’s age and the historic significance of its equipment for the listing but for many Bavarians the reactor stood for more: it proved the province’s ability to gain the

⁸⁰⁹ Martin Pabst and Lothar Koester, *40 Jahre Atom-Ei Garching*, ed. Technische Universität München Projektgruppe FRM II (Bamberg: Fränkischer Tag, 1997), 47.

⁸¹⁰ “Eröffnung der Forschungs-Neutronenquelle FRM II,” Technische Universität München, accessed July 20, 2012, <http://www.frm2.tum.de/aktuelles/news/einzelnews/article/eroeffnung-der-forschungs-neutronenquelle-frm-ii/index.html>.

⁸¹¹ As communicated by the director of administration, Dr. Klaus Seebach, of the FRM II at the author’s site-visit in June 2012.

position back at the top of the world's technological elite, a position they had held until the 1940s but had lost after the Second World War. With Germany's first atomic reactor, a cutting edge technology aimed for a bright future, local experts had accomplished a task that gave Bavarians back some of their former pride.

Information on the building and its experimental research facilities is plentiful. The Bavarian reactor as part of Germany's general historic development in nuclear research found recognition in many books.⁸¹² For the inauguration of Garching's reactor and also for its twenty fifth, the thirtieth and fortieth anniversary the FRM provided informative brochures, always up to date to the current academic development.⁸¹³ The overall archival materials at the Technical University on all technical aspects of the research facility run fifty shelf-meters long. Cataloguing the material was still ongoing in 2012. The Technical University held also the original plans of the building⁸¹⁴ as well as detailed photographic documentation.⁸¹⁵ The Bavarian conservation authority had the state of the building documented in 2005 and collected the correspondence concerning the legal heritage protection of the building and equipment and several evaluation papers

⁸¹² A list of publication was given in Johannes Abele's report from August 2000 for the Bavarian preservation office, naming following titles: "Eckert/Osietzki, Wissenschaft; Eckert, Michael: Die Anfänge der Atompolitik in der Bundesrepublik Deutschland, Vierteljahreshefte für Zeitgeschichte 37, 1989, 115-141; Müller, Wolfgang D.: Geschichte der Kernenergie in der Bundesrepublik Deutschland. 2 Bände, Stuttgart, 1990ff.; Radkau, Joachim: Aufstieg und Krise der deutschen Atomwirtschaft. 1945-1975. Verdrängte Alternativen in der Kerntechnik und der Ursprung der nuklearen Kontroverse, Reinbek, 1983; Rusinek, Bernd-A. Das Forschungszentrum. Eine Geschichte der KFA Jülich von ihrer Gründung bis 1980 [Studien zur Geschichte der deutschen Großforschungseinrichtungen Bd. 11], Frankfurt/New York, 1996; Pabst, Martin: 40 Jahre Atom-Ei Garching, 1957-1997, hrsg. von der TU München, Projektgruppe FRM II, Öffentlichkeitsarbeit, München, 1997." (Archives Bayerisches Landesamt für Denkmalpflege).

⁸¹³ Fakultät für Physik der Technischen Universität München, ed., *30 Jahre FRM, Forschungsreaktor München in Garching, Vergangenheit und Zukunft* (N.p.: n.p., 1987); Pabst and Koester, *40 Jahre Atom-Ei Garching, 1957-1997*.

⁸¹⁴ The original plans had been lost for decades but were rediscovered in some city's archives by the reactor's chief technician between similar looking plans of round-towered World-War-Two air-raid shelters. He ordered the original plans back to the Technical University. When this took place is not documented.

⁸¹⁵ Archives Bayerisches Landesamt für Denkmalpflege.

on the technical equipment. While most of the material was not accessible to the author, and would have been also on too technical details, the FRM administration showed the author some of the original drafts for the reactor building during a site visit and provided the author with copies of documents such as a short report, written in 2010, on plans how the reactor will be treated when converted as part of the new research. The package, with which the author walked away, included further three anniversary publications that the person in charge generously gave to her. The conservation authority offered access to correspondence going back to 1994, the year, when the curator in chief of the conservation authority, Michael Petzet, selected the *Atom-Ei* for preservation.

Bavaria's heritage administration is principally organized in the traditional structure with local lower protection agencies that collaborate with a central conservation authority which has its seat in Munich. The conservation authority is giving consultations and binding guidelines to the protection agencies, similar to many other German states. Bavaria uses the term *Denkmal der Technik* (monument of technology) for industrial sites, research facilities included, but technological monuments are approached by the same curators that monitor all other monuments. Expertise on the many technical aspects of industrial heritage projects cannot always be found in this state but a network to experts in other German states exists. The *Deutsches Museum* in Munich, surprisingly, has not kept its formerly close ties to the preservation organizations in regard to industrial heritage. They are mostly interested in technical exponents for their own collection. Bavaria does not publish the number of their industrial heritage sites; unknown to the author is therefore the number of such monuments built after 1945.

Germany's post-war Atomic Era started when Garching's reactor became critical on October 31, 1957.⁸¹⁶ Although, after the plans of the German Federal Government the country's Atomic Era was not supposed to be set off by Bavaria. They had planned a large nuclear research facility in Karlsruhe, Baden-Wurttemberg. Following the "Atom for Peace" speech by Dwight D. Eisenhower at the United Nations in December 1953 (fig. 4.8.3), the U.S.A. offered their know-how and their support for civil nuclear research projects to the world. In August 1955, after the "International Conference on the Peaceful Uses of Atomic Energy" in Geneva the way was opened for a civil usage of nuclear power. At that time, the Federal Republic of Germany had just gained most of its sovereignty back after the ratification of the *Accords de Paris* on February 27, 1955.⁸¹⁷ This act lifted the ban on nuclear research, which was in place since the country's surrender. Germany's chancellor Konrad Adenauer appointed Franz Josef Strauß (fig. 4.8.4), an ambitious young politician from Bavaria, as Germany's first Federal Minister for Nuclear Energy (*Bundesminister für Atomfragen*). Germany had missed its former connection to the development of nuclear physics since the end of the war;⁸¹⁸ while it counted to the leading country in this field before.⁸¹⁹ In 1932, the Bavarian born Werner Heisenberg, for instance, had been awarded the Nobel Prize for Physics for his research

⁸¹⁶ *FRM Research Reactor Munich*, ed. FRM Reaktorstation Garching der Technischen Universität München, 8046 Garching (N.p.: n.p., 1973), n.p.

⁸¹⁷ The contract of Paris was important for the development of nuclear research in Germany's as it allowed the country – with certain restrictions – access to nuclear material. See: "Rede von Franz Joseph Strauß anlässlich der Konstituierung der Deutschen Atomkommission vom 26. Januar 1956," fjs.de/Presse- und Informationsamt der Bundesregierung, Pressearchiv, accessed July 23, 2012, http://www.fjs.de/dokumente/politiker/Atomkommission_Rede.pdf.

⁸¹⁸ Strauß' speech from October 21, 1955 speaks of good ten years of technical gap, in later speeches he refers to ten to fifteen years. "Bundesminister Strauß über seine Aufgaben als Minsiter für Atomfragen," fjs.de, accessed July 23, 2012, http://www.fjs.de/dokumente/politiker/NLStraussZA_1955_1.pdf.

⁸¹⁹ Max Planck (Nobel Prize for Physics in 1918), Albert Einstein (Nobel Prize for Physics in 1922), James Frank and Gustav Hertz (Nobel Prize for Physics in 1925) were besides Werner Heisenberg leading German personalities in the field of nuclear and quantum research.

on quantum mechanics. The German government sent Strauß on a visit to the United States to gain an overview on the current research and newest nuclear facilities. He came back obviously impressed. The American government gave him notice that they would sell to all nations state-of-the-art research reactors and had a program in place to award each country a bonus of 350.000 Dollar US for the first atomic reactor bought from an American company. The grant covered roughly the price of the reactor! It was clear to Strauß that in the federal system of Germany the Land first buying would gain the bonus.

The chancellor's decision to have Germany's major nuclear research facility in Karlsruhe made the provincial government of Bavaria feel unfairly treated.⁸²⁰ Munich's university feared that it would miss out on the opportunity to resume their pre-war efforts if it had no research reactor. Specifically Heisenberg, who had studied in Munich in the 1920s, supported his former alma mater's ambitions towards applied nuclear sciences. But when the federal government confronted Heisenberg with the choice to split the research on commercial reactor development – his Max-Planck Institute in Munich would run a small reactor but a much more powerful one would still be offered to Karlsruhe – he supported a central institute in Karlsruhe. Munich's Max-Planck Institute would research and teach only the theory of nuclear physics without the need of a reactor. Heisenberg offered the small reactor now to the Technical University physics department

⁸²⁰ Pabst and Koester, *40 Jahre Atom-Ei Garching*, 26. At the 10th anniversary in 1967, Bavarian's former Prime Minister Dr. Wilhelm Hoegner lamented still that the federal government had "agreed on a nuclear reactor but only on one of small size, as the federals always discriminated against Bavaria. [...] Today every Prussian coming to us from the North over the highway becomes aware, that things are happening here." (Own translation of the original text: "Man hatte uns damals einen Reaktor in Aussicht gestellt, aber nur einen kleinen, da wir Bayern immer benachteiligt werden. [...] Heute kann jeder Preuße, der aus dem Norden über die Autobahn zu uns kommt, gleich sehen, daß bei uns was los ist." The citation was taken from: Wolfgang D. Müller, *Geschichte der Kernenergie in der Bundesrepublik Deutschland. Anfänge und Weichenstellungen* (Stuttgart: n.p., 1990), 250.)

under the chair of Heinz Maier-Leibnitz (1911-2000, fig. 4.8.5).⁸²¹ Maier-Leibnitz was a worldwide respected expert in a variety of nuclear research fields and would prove capable to bring the nuclear research back to its glorious days. Already in 1961, one of his students, Rudolf Mössbauer (1929-2011), was awarded the Nobel Prize for Physics (together with Robert Hofstadter) for research on the recoilless nuclear resonance fluorescence, known as Mössbauer Effect. Instead of focussing on the commercial use of reactor technology, Maier-Leibnitz selected to do basic research on an interdisciplinary basis for which a smaller reactor proved eventually more beneficial than a high output nuclear facility.

Short after the Minister for Nuclear Energy, Franz Josef Strauß, returned from his information trip to the States, he gave a speech in the Bavarian *Staatskanzlei* (minister office) on June 6, 1955.⁸²² Strauß pushed for a fast decision on the acquisition of a reactor so that Bavaria could gain the American grant. Frankfurt am Main, Hamburg and Berlin had already plans for an acquisition, as well, and Aachen, Bonn and Darmstadt showed increased interest, too.⁸²³ It took the Bavarian government under Dr. Wilhem Hoegner less than a week to decide on a reactor type and to send their chief researcher, Heinz Maier-Leibnitz, to New York on this special shopping trip. Eight more days and the Federal Minister for Nuclear Energy was back in New York to sign the contract.⁸²⁴ The federal government may have preferred a different financial outcome but supported

⁸²¹ Pabst and Koester, *40 Jahre Atom-Ei Garching*, 25-26.

⁸²² It was at the third meeting of the "Bayerischen Staatlichen Kommission zur friedlichen Nutzung der Atomkräfte" at the Bavarian Staatskanzlei in presence of Bavaria's Prime Minister Dr. Wilhelm Hoegner ("Geschichte zum FRM alt," unpublished note by the FRM administration (n.d.), (Archives Technische Universität München Projektgruppe FRM II).

⁸²³ Pabst and Koester, *40 Jahre Atom-Ei Garching*, 27.

⁸²⁴ Image of Heinz Maier-Leibnitz, General Walter Bedell Smith and Franz Josef Strauß during the signing of the buying contract in New York in May 1956, published online at "Atomminister," fjs.de, accessed July 23, 2012, <http://www.fjs.de/der-politiker/atomminister.html>.

generally a decentralization of research facilities. A centralized research approach after British model was unpopular in Germany.⁸²⁵ Strauß's open support for his native Bavaria had no negative consequences for the federal politician. The same year, Strauß advanced to Federal Minister of Defense.

The US company American Machine & Foundry Corporation N.Y. (known as AMF) planned to deliver the swimming pool type reactor by summer 1957. In just a year, the Technical University needed to find a construction site, create the architectural plans and build the structure for the reactor. The university took the rush to proceed with this project with enthusiasm. The urge was probably not only the agreed delivery date of the reactor. An ideological battle could be won, which was to open the first nuclear reactor in the Federal Republic and write history for that reason. More important at that time may have been the competition with the German Democratic Republic, which had also aspirations to open a nuclear research centre and was on the best way to succeed soon, too. In the end, thanks to Bavarian's efforts, Garching's reactor became critical six weeks ahead of the one in Dresden-Rossendorf which started on December 16, 1957.

Plans for a Bavarian nuclear research centre with a reactor for the Max-Planck Institute existed since 1954 but had never moved beyond the initial stage.⁸²⁶ For the reactor now part of the university, the planning had to be modified, including finding an appropriate location for it on university ground. For security reasons, the nuclear research institute needed space outside of the city. Under all other options, the provincial building

⁸²⁵ Pabst and Koester, *40 Jahre Atom-Ei Garching*, 25.

⁸²⁶ The former Chief of Technical Support had found a document from December 1954 with the title: "Vorschläge für Errichtung des Max-Planck-Instituts für Physik und der Reaktorstation im Raum München." According to this note, the reactor was planned near Munich on city owned land between Dieterheim and Eching. "Geschichte zum FRM alt," unpublished note by the FRM administration (n.d.), (Archives Technische Universität München Projektgruppe FRM II).

agency (*Oberste Baubehörde*) chose in January 1956 the village of Garching as location because two highways made it easily accessible and the location had ample grounds available with access to the Isar River, granting enough water-supply for the cooling process of the reactor without risking a dramatic drop of the water table. The reactor established a constantly growing satellite university campus for Munich's Technical University's science departments. In May 1956 the provincial government and the university agreed on Garching and published their decision in August. By then, the construction planning had already started. In June 1956, the provincial building agency gave the contract to architect Gerhard Weber (1909-1986, fig. 4.8.6), who taught civil engineering at the university. His responsibilities included the technical and administrative organization of the project. Weber preferred the modern style. Part of his education had taken place at the Bauhaus during the school's last two years and the influence of Ludwig Mies van der Rohe remained strong in his work.⁸²⁷ Munich's city-hall preferred a local vernacular style;⁸²⁸ Weber was therefore an unusual choice. He qualified for other reasons. During the Nazi years he had found an occupation in industrial construction where he gained ample experience in planning and constructing large industrial complexes, often under enormous time pressure.⁸²⁹ Weber gave most of

⁸²⁷ "Gerhard Weber," Jan Lubitz, accessed July 30, 2012, http://www.architekten-portrait.de/gerhard_weber/index.html.

⁸²⁸ Winfried Nerdinger, ed., *Aufbauzeit, Planen und Bauen, München 1945-1950*, exhibition catalogue (Munich: Verlag C.H. Beck, n/d).

⁸²⁹ Winfried Nerdinger and Katarina Blohm, ed., *Architekturschule München 1868-1993, 125 Jahre Technische Universität München* (Munich: Klinkhardt und Biermann, 1993), 215. During the Nazi regime Weber was involved in the construction of the Henschel airplane factory, Berlin-Schönefeld, and at the Reichswerke Hermann Göring. From 1942 to 1943, he was head of the architectural office of Herbert Rimpl, architect of the Heinkel Werke.

the preparatory work and theoretical testing to his university colleagues.⁸³⁰ He took over the task to create a new model for a reactor building. The option to copy an already existing American model was refused because of extensive earth work related to it. Commonly, engineers placed laboratories beneath the reactor hall (fig. 4.8.7)⁸³¹ which, struggling with the locally high water table would have slowed down the building process in Garching.

Weber based his first design for the university reactor from February 1956 on an additive concept (fig. 4.8.8). A flat L-shaped single storey building would have carried two higher additions, one with windows for workshops and one without windows and exceeding the other in height for the reactor. A flat roof covered all parts except the reactor tower whose roof would be slightly bent. The plan is unspecific on the material but reinforced concrete with little additional cladding is likely. The functional and economic design lacked inspiration. The university wanted obviously more of a statement made with the reactor. During the summer of 1956, Weber developed over several steps a building of a more representative spirit (fig. 4.8.9+4.8.10). In the final plans, he gave the reactor a dramatic thirty meter high and thirty meter wide free-standing elliptic outlined dome. Laboratories and workshops found place in a low ring-shaped building surrounding the dome and doubling the diameter of the circle-shaped floor plan. Four entrances led into the building from the four main directions, north, east, west and south. The design had a grandiose, close to cosmic feeling which pleased the university even if

⁸³⁰ Heinz Maier-Leibnitz, ed., *FRM, der Forschungs Reaktor München*, 2nd ed., (Munich: Verlag Karl Thiernig KG, 1958), 10.

⁸³¹ *FRM, der Forschungs-Reaktor München* (Munich: Verlag Karlthiemig KG, 1958), 11 (Archives Bayerisches Landesamt für Denkmalpflege). The High Flux Reactor in Petten, Netherlands, from the early 1960s shows such a structure with the laboratories in the basement "The High Flux Reactor (HFR) in Petten," Commissariat à l'énergie atomique et aux énergies alternatives (CEA), accessed July 31, 2012, <http://www.emtr.eu/hfr.html>.

such a shape was unrelated to the building's function and created some practical problems. The Demag ring-crane which sat at a twenty two meter high elevation inside the dome could not reach low areas that were close to the wall and the building complex could not be easily increased in size without destroying the idea of the design. Indeed, the architect created all additional room which the department needed for the facility in unspectacular barracks at some distance to the building. The central dome, in contrast, he planned to stand out like a "temple",⁸³² not only because of its symmetric composition, but also by the choice of the dome's material, pricy copper.⁸³³ For financial reasons, the architect had to agree to replace the copper with aluminum sheets. The dome shape allowed a support-free interior with a thin-shell reinforced concrete construction of relatively high strength, a fast building method asking for a minimum amount of material. The dome went up first so that it could give shelter for the construction of the swimming-pool.

Work on the dome began on November 6, 1956 and continued over the winter which was an unfavorably cold season that year. The site needed extensive heating to enable the construction of the concrete shell. Nevertheless, the topping out ceremony, the moment the dome structure stood, took place three weeks ahead of schedule, on January 12, 1957. When the reactor arrived in June 1957, the interior of the dome was finished including the massive swimming pool. The U.S. by Babcock & Wilcox Company

⁸³² In a letter from August 1, 1997, Michael Petzet talked about: "Geometrische Grundformen verdichten sich hier zu einer Komposition höchsten Suggestivität, die nicht zufällig an einen urtümlichen Tempel erinnert." (Basic geometric forms are concentrated towards a composition of highest suggestive power, reminding us, not just by chance, of a ancient temple. Author's translation), (Archives Bayerisches Landesamt für Denkmalpflege).

⁸³³ On the architectural plan of the reactor shell following description was added: "Stahlbetonschale nach Zeiss Dywidag, Isolierung 5 cm Kork, Deckung in Kupfer." (Archives Technische Universität München Projektgruppe FRM II, plan 49/14).

delivered the first nuclear fuel on September 9, 1957 and the Bavarian Premier Hoegner celebrated the arrival of the delivery in a formal ceremony (fig. 4.8.14). Seven weeks later, on October 31, the first nuclear test run took place with which Germany entered the nuclear age. The physics department of Munich's Technical University celebrated the official inauguration of the reactor on February 3, 1958.⁸³⁴

Since its opening, the administration of the research facility organized an open-house day each year for the public. Regularly more people show interest in visiting the reactor than the organizers can accommodate. The university welcomed each year up to three thousand national and international researchers, visitors and guests to give tours through the building, including a visit into the reactor dome. When demonstrations against commercial nuclear power stations started in Germany in the late 1970s, the public started to see the Garching reactor also more critically. It prospered nevertheless.

After the inauguration of the FRM, the Technical University Munich increased its campus in Garching constantly. Initially, departments that closely collaborated with the nuclear research centre built facilities in Garching, but the down-town university had no space to expand and other departments followed the move to the north. By 1990, the farmer village of two thousand souls had grown into a town with over fifteen thousand citizens.⁸³⁵ The university became the economic motor of the area with fifteen thousand people studying and working on the Garching campus.⁸³⁶

⁸³⁴ Pabst and Koester, *40 Jahre Atom-Ei Garching*, 36/38. The ceremony was celebrated with 200 guests and many of the involved provincial politicians.

⁸³⁵ Pabst and Koester, *40 Jahre Atom-Ei Garching*, 71.

⁸³⁶ Marcel Burkhardt, "Aufschwung des Münchner Nordens: Garching – das explodierte Dorf," *Süddeutsche.de*, accessed July 30, 2012, <http://www.sueddeutsche.de/geld/aufschwung-des-muenchner-nordens-garching-das-explodierte-dorf-1.909834>.

The Atomic Egg advanced to Garching's best known landmark. When the expanding town asked for permission to carry a coat of arms in 1967, the designer placed the reactor building on the lower half of the shield (fig. 4.8.12).⁸³⁷ At that time, the *Atom-Ei* was more than just a local landmark; it represented nuclear reactors in general, its silhouette was used all over Germany on signs and in brochures.⁸³⁸ Only slowly a more generic nuclear reactor form or the international symbol of the dot with three rays replaced it.

Since the 1980s a new reactor had been in the planning because the old reactor's neutron flux was too weak to satisfy new research methods.⁸³⁹ Building activities on the new reactor started in August 1996 to the east of the old reactor. In August 1997, the European Commission gave their permission for this new research reactor, finalizing the planning.⁸⁴⁰ Three months later, in November 1997, the preservation office listed the Atom Egg as heritage (fig. 4.8.11). The listing came as no surprise to the university, talks having reached back to 1993. The university agreed to re-use the old reactor building as an extension of the new FRM II for the preparation of experiments (fig. 4.8.16+4.8.17). All older equipment would be removed, except for the built in concrete block of the old swimming pool.⁸⁴¹

⁸³⁷ "Bayerns Gemeinden," Bayerisches Staatsministerium für Wissenschaft, Forschung und Kunst, accessed July 23, 2012, http://www.datenmatrix.de/projekte/hdbg/gemeinden/bayerns-gemeinden_detail.php?gkz=9184119.

⁸³⁸ Pabst and Koester, *40 Jahre Atom-Ei Garching*, 47. In a footnote it is remarked that the form of the building was even used on signs when they were related to commercial reactors for energy production. Johannes Abele reported in an unpublished evaluation paper from August 2000 that the Deutsche Bundeswehr/German Federal Army used the silhouette on their signage boards to indicate a nuclear plant. (Archives Bayerisches Landesamt für Denkmalpflege).

⁸³⁹ Pabst and Koester, *40 Jahre Atom-Ei Garching*, 72.

⁸⁴⁰ Ibid.

⁸⁴¹ The small pool used roughly the same amount of concrete as the entire rest of the structure had needed.

In the early correspondence from 1994 between the education ministry as the official owner of the reactor and the conservation authority, Bavaria's chief curator, Michael Petzet (he became well known as president of ICOMOS 1999-2008), established the importance between the iconic architecture and its technical equipment.⁸⁴² In 1996 the preservation office declared also the three old barracks as part of the heritage complex (fig. 4.8.13). Since 1997, the preservation office contacted the FRM for detailed information on certain parts of the research equipment. University officials responded without hesitation but suggested to have heritage worth equipment relocated to the *Deutsches Museum*, to enable a reuse of the building. Simultaneously to this correspondence, the FRM had welcomed experts from the *Deutsches Museum* to evaluate the reactor's inventory. Because the university had modernized or altered all parts, and because the reactor itself was an American standard model, the museum's experts attested to none of the technical equipment a high enough historic or technical value to be acquired by their museum and would not object the removal of it to make space for a new use of the architecture. The FRM took the *Deutsches Museum's* evaluation as their guideline and argued with the preservation office accordingly. To them, the *Deutsches Museum* was a recognized authority when it came to technical equipment. The FRM discussed not further that the museum's evaluation may have been based on different needs and scope than that of the provincial preservation office with a wider range of interests.

In 2000 the preservation office felt obliged to get a second expert opinion for the technical instruments and equipment. They asked a historian of technology from the

⁸⁴² Archives Bayerisches Landesamt für Denkmalpflege.

Technical University in Dresden, the city with the oldest GDR nuclear reactor, for an evaluation.⁸⁴³ Contrary to the expert from the *Deutsches Museum*, the historian “strongly recommended” the preservation of many of the instruments under the premise that radioactive contamination allowed such procedure. He reasoned that the equipment would be a useful tool to explain the functioning of the reactor and that specific apparatuses should be saved to document groundbreaking experiments done in Garching. Parts of the equipment were by that time unique or rare enough to attribute them significant historic value. The Bavarian preservation office used this evaluation as guideline in deciding on the heritage value of the equipment. They forwarded the text to the FRM for a comment which came back in detailed form in December 2000. Two of the institute’s leading physic professors had signed the six page long letter, demanding respect for their highest level of expertise.⁸⁴⁴ The FRM admitted that certain pieces of equipment may be worthwhile to be preserved, specifically boards and models used to control the reactor’s set-up and suggested contacting the *Historisches Museum* in Berlin which may show interest in such pieces, in most cases, however, they repeated their earlier stand that the equipment was not unique enough as many similar installations still existed worldwide or that radioactive contamination would prohibit preservation. The law would further oblige the FRM to ensure the proper disposal of radioactive contaminated material; the preservation office would have no other choice than to respect this. They conclude their comment with the remark that in their opinion the preservation of the architectural shell of the reactor satisfied sufficiently any heritage concern. The

⁸⁴³ Evaluation from August 19, 2000 ,TU Dresden, Institut für Technik und der Technikwissenschaften, Archives Bayerisches Landesamt für Denkmalpflege.

⁸⁴⁴ Letter from the FRM to the Bavarian preservation office from December 15, 2000, Archives Bayerisches Landesamt für Denkmalpflege.

historian's idea to preserve equipment as didactic tools or for their symbolic relationship to research was not supported. The preservation office ordered an additional evaluation by the organization of non-governmental museums in 2006 which saw little option to safeguard the technical equipment for reasons of radioactive contamination and suggested as a compensation for the loss of the original material a detailed documentation. They recommended producing written reports documenting the relationship between pieces of equipment and related experiments since the start of the reactor's activity, photographic documentation of immobile and mobile equipment following guidelines for inventory documentation; further photographs should be produced to capture the atmosphere of the space. Already existing as well as new documents should be properly catalogued. The architectural model of the complex from 1957, which the university had stored improperly, should be professionally restored and made publicly accessible.

In 2009, the conservation authority informed the administration of the FRM that they agreed on the removal of the technical equipment under the condition of the recommended proper documentation and with the safeguarding of all non-contaminated equipment as far as it could help in the interpretation of the site. The financial burden for the documentation and restoration would lie generally on the university but governmental grants would be available. The FRM administration produced a report in 2010 which described the forthcoming of the reuse work on the old reactor building and the efforts taken to keep some key aspects of the equipment. Specifically the reactor bridge would be kept (fig. 4.8.15) which could be placed on a replica of the swimming pool in a former entrance area of the dome and made accessible to visitors. When the author received the copy of this report from the FRM's administration, the initial evaluation of the *Deutsches*

Museum was attached to it as to clarify that the aimed target will be, if it becomes in all facets realized, a fair compromise between the initial expectations of the preservation office to keep the equipment intact and the university to allow the Atomic Egg to be reusable as part of their new nuclear research facility. At the author's site visit in June 2012, the nuclear reactor was still intact albeit without nuclear fuel elements. The technical equipment inside the dome stood around, as it seemed, untouched.

The report of the preservation office based its evaluation on the reactor's significance as a technological milestone, for its research achievements⁸⁴⁵ and as an architectural monument. Michael Petzet added that in all three aspects the reactor belonged to the "post-war period" (*Nachkriegszeit*), a completed architectural historic era (*abgeschlossene Stil- und Bauepoche*).⁸⁴⁶ The Bavarian administrative court enforced the request that a listed monument has to belong to a completed architectural historic era but admitted that it leaves ample room for interpretation. The interpretation of the law based on architectural styles is problematic when technical buildings are evaluated that commonly do not follow these styles;⁸⁴⁷ the Atomic Egg is rather an exception than the rule. The justification of the curator left the points out that the reactor had also gained symbolic local and national significance.

⁸⁴⁵ The distinction between a monument of technology (Denkmal der Technik) and one of research (Denkmal der Forschung) is not commonly pointed out, in the wording of the Bavarian Preservation Law, both would fall under the value "scientific interest." To the author's knowledge, the wording of the Bavarian Preservation Law used in 1997 was not different to the wording in 2012.

⁸⁴⁶ Document from August 1, 1997, Archives Bayerisches Landesamt für Denkmalpflege.

⁸⁴⁷ Martin and Krautzberger, *Handbuch Denkmalschutz und Denkmalpflege*, 192. It was mentioned in the *Handbuch*, that this legal requirement relays heavily on single opinions and interpretations. In Bavaria, for instance, the post-modern style is seen as a still current architectural design in 2010 and therefore buildings of this style do not enter the heritage list. For technical monuments that commonly ignore architectural styles, this requirement makes, of course, no sense.

In a certain contrast to the building's public appearance reflected by the exterior, the conservation authority included the instruments, tools and devices in their evaluation, which should preferably be kept at their original location, a request regulated in article 2 of Bavaria's preservation law. But the university, not much different to industrial companies, was hesitant to accept the protection request of this more complex setup. They based their argument on article 5 of Bavaria's preservation law which recommends a re-use close to the previous use of a monument with the assumption that a similar use would in most cases prevent invasive modifications of the monument, – the university ignored that this would certainly include the equipment.⁸⁴⁸ The conflict was settled to both parties' satisfaction. Mostly because the radioactive contamination prohibited the preservation of most artifacts, nuclear law regulations not only allowed but enforced their removal.⁸⁴⁹ The conservation authority on the other hand was able to secure the execution of a proper documentation and the salvation of some pieces. The debate between the two parties based on expert opinions from different fields may have facilitated the university's re-evaluation of their equipment. One needs to wait for the outcome as in 2012 all was still in the planning.

⁸⁴⁸„Konzept zur denkmalpflegerischen Behandlung des Forschungsreaktors München (Atom-Ei)“, September 22, 2010, Archives Technische Universität München Projektgruppe FRM II.

⁸⁴⁹ The German Radiation Protection Ordinance (*Strahlenschutzverordnung*) as part of the Nuclear Law regulates the safe disposal of nuclear waste in Germany and overrides most other laws.

Conclusion

The purpose of comparing Quebec's attitude towards its contemporary industrial heritage to that of Germany's was to understand what elements played a role that lead to different outcomes, even though a number of significant parameters in both locations seemed very similar. The first two chapters of the thesis have shown that although both Quebec and Germany look back to a century old tradition in commemorating historic industrial sites, the motivation to do so was coming from very different sources. The two countries started their involvement in industrial heritage protection from different positions, which consequently shaped the way in which each attempt the preservation of their more recent significant industrial sites.

It is close to impossible to summarize all possible interpretations that can be extracted from the case studies as they cover a large variety of situations and their small number forbids any generalized conclusion. However, there are some observations that the author would like to make. At the beginning of the research, very little information was readily available on how Quebec or Germany conducted the evaluation of their contemporary industrial sites, as it made up such a small part of the body of research on the subject of national heritage. No prediction how societies saw and evaluated their contemporary sites seemed possible. However, the impact of contemporary industries on any society is undeniably large and consequently the material remains of these industrial sites require our attention when it comes to selecting objects to represent us and our world for future generations.

The low number of protected industrial buildings in Quebec surprised the author. By European standards, Quebec (as in the rest of Canada and North America) has a rich

history of industrialization of high importance for their societies. It was sometimes painful to see with how little respect Quebec's society treated not only contemporary but also historic industrial sites. Much of Quebec's industrial architecture seemed to belong to – what Germans call the Wegwerfgesellschaft – “the throw-away society”. In the best case these buildings provided architects with a canvas for their own creativity, carelessly overwriting any historical elements. At the beginning of the research, the author assumed that factories and alike that could be viewed as valuable records reflecting the defining aspects of the province's identity, were of no historic worth to Quebec's population. However, by the time the author came to an end of her research, this view needed modification. Local researchers displayed a profound knowledge reflected in governmental reports they wrote; and the members of industrial heritage societies and individuals cared passionately for all parts of their society's industrial past. Further, the quality of research and its presentation is unmatched in what the author found on the other side of the ocean. It is interesting to note that the low number of contemporary industrial sites listed and legally protected, could not be claimed on the lack of interest and involvement by parts of the public or knowledge which buildings could qualify. There had to be something in the legal heritage ruling of the province that disabled or, at least, made it very unlikely for contemporary industrial sites to gain legal protection.

Trying to uncover these obstacles confronted the author with an unforeseen mess of regulations. Over the last century, provincial governmental responsibilities had changed from one ministry to another and each time many other urgent aspects needed these ministries' attention beside of that of heritage. Over time, on the provincial level alone, four different legal regulations interacted on the cultural property act touching land

use, environment, sustainability and protection of the natural environment. The laws cross-referenced each other, disabled or contradicted one another and were of intimidating length. Heritage issues, further, often conflict with tax regulations and tax privileges. Some case studies interacted on two (provincial and municipal, the latter varied from borough to borough), many on three levels of government, including federal rulings. The governments formulated some laws specific to one single case and kept other laws very generally. Understanding the different legal categories defined by the federal government for sites under their responsibility, and the categories used by the province or the municipal rulings and their different implementation for the studied sites was a challenge the author was not always able to master.

How can a society interact on aspects of public interest or concern, of which heritage is certainly one, if the rules dictated by the government are so cryptic? Such a mound of regulations is either a result of longstanding neglect or put in place to undermine the enforcement of any of the rules. The new provincial heritage law⁸⁵⁰ ratified in October 2012 that promised to simplify the situation has so far done little to ease this confusion, but it may be also too early to realize its impact.

The subject of industrial heritage is complex and often complicated because it touches so many aspects related to a variety of disciplines. Contemporary industrial heritage also has an aspect of urgency because the change-over of these buildings is faster than that of other buildings. The author found it surprising that the few experts that had gained a broad understanding of the industrial aspect of Quebec's current society had no public or political mandate in the province to act on behalf of these places. In Quebec,

⁸⁵⁰ *"Loi sur le patrimoine culturel."*

elected political representatives decide what belongs to the province's heritage with no obligation to hear the opinion of these industrial heritage experts.

Germany offered a contrasting experience, even if it was not in all aspects related to a positive outcome for the industrial site. The author had little difficulty in finding contemporary industrial sites that had designated heritage status in Germany. Online databases or local authorities provided a long list of sites to choose from. The various offices provided documentation, shared their knowledge and provided referrals to outside experts when they could not satisfy all the author's research requests. The documentation on the heritage sites was often less organized than one would expect in Germany, which may be related to the recent building dates of the case studies and therefore recent date of legal protection that normally defined the moment, information is collected. However conservation authorities and lower protection agencies proved to be a valuable and detailed source of information in the overall protection, preservation and conversion of the sites that their experts had cared for and which were often under their professional purview over decades.

The investigation into archival material revealed that protecting and converting industrial sites in Germany faced challenges in a variety of ways despite the fact that the protection rulings that have been in effect since the 1970s helped to identify key characteristics of industrial heritage. The technical aspects of heritage preservation caused less problems than the author had expected. Nevertheless experimental materials, which were increasingly used since the 1950s and the remote location of industrial sites could impede a curator's mandate while the large size of industrial complexes was of no concern. The author observed that monument curators in conservation authorities agreed

not always on what actually reflected the heritage value of an industrial site. Older, conservative views were challenged by newer approaches, in particular those conducted by the Rheinland that established the earliest department of industrial heritage. The conversion of industrial sites, specifically those of large size and close to residential quarters, touches also their surrounding social fabric. Public interaction is often unavoidable. Some of Germany's curators, for instance in Hamburg, dismissed this aspect in their work and concentrated their effort to only ensure the intactness of a site. While the author criticised this, conflicts in Hamburg between government and citizens led to exciting innovative projects such as the Museum of Work with a focus on the social aspect of industry, which was formerly dismissed. Analyzing over the duration of the research the different ways, in which curators interacted with contemporary industrial sites in Germany, the author became aware of the importance of properly communicating the value of these sites to the public. Where curators disregarded the quality of a building – even when the quality of the architecture had found international recognition – these significant sites can be lost, as in the case of the Lauffenmühle in Blumberg. In contrast, in the case of Garching's nuclear research reactor, the curator's insistence to assign value to the site's technical equipment and even challenging the evaluation done by internationally recognized experts (experts outside of the field of heritage protection) in the end convinced the other side and led, or may lead (the project was still in work in 2012) to a more inclusive preservation than initially envisioned.

There is certainly a temptation to promote Germany's concept of industrial heritage to Quebec's preservation communities. Quebec's industrial heritage experts show a keen interest and look to Germany for inspiration. A visit by seventeen industrial

heritage experts from Quebec to the international building exhibition, IBA Emscher Park, already took place in November of 2011.⁸⁵¹ The group seemed impressed by the results of commemorating a dysfunctional industrial landscape by turning industrial wasteland littered with obsolete factories into cultural, economic and – most remarkably – ecologic assets through integration. Rehabilitation on a large scale of an entire region that during the last decades had endured the loss of all its traditional industry, proved that practicing industrial heritage was not only possible, but could provide social and economic ancillary benefits. However, having analyzed Germany's and Quebec's past and current attitudes towards historic and contemporary industrial remains, the author concludes that “inspiration” cannot be put into action by a simple copy and paste process. While both societies are similar in many respects, neither can successfully move forward in a new direction without looking back to where they have come from.

Germany's industrial monument curators generally agree that in industrial heritage, each site, building or piece of technical equipment needs a different approach to identify it, analyze the criteria for its protection and lastly preserve the site. This is due to the enormous variety inside this field of heritage, the different building materials, construction techniques and the incomplete knowledge the monument curators have regarding many important aspects and details related to the development of contemporary

⁸⁵¹ The Numéro spécial Voyage d'études 2011 Landschaftspark Duisburg-Nord, *Bulletin Aqpi* 23/3 (2012) 42, listed following participants: René Binette (directeur, Écomusée du fier monde), Joanne Burgess (professeur, Département d'histoire, UQAM), Claude Charbonneau (architecte en conservation), Diane Chevalier (membre de l'Aqpi et amatrice de patrimoine industriel), François Cinq-Mars (muséologue et historien, directeur, Musée minéralogique et minier de Thetford Mines), Lisette Cloutier (membre de l'Aqpi et amatrice de patrimoine industriel), Pauline Desjardins (anthropologue-archéologue industriel, ARCHEMI), Nicole Dorion (ethnomuséologue), Martin Freeman (avocat à la retraite), Alain Gelly (historien), Jean Laguë (architecte, Société du Vieux-Port de Montréal), Lise Noël (présidente de l'Aqpi et directrice, Collection historique Bell), Gisèle Piédalue (archéologue et consultante en patrimoine), Jean-Claude Robert (professeur émérite, UQAM), Katy Tari (consultante culturelle, Orange Kiwi), Marc Vallières (professeur associé, Département d'histoire, Université Laval).

industries, to date. The German case studies give an idea of the different ways industrial heritage has been discussed and what kind of challenges it faces. German monument curators do not need to provide a reuse option for any of the sites they put on the heritage list but their advice has binding impact for developers when a conversion takes place. The discussions between the industrial heritage experts of the different Länder and their discussions on the international level through TICCIH conferences offer opportunities to learn about the best possible conversion options and their different outcomes. For the many cases where the conservation authority cannot decide on a final reuse concept, as in the case of the Central Cattle Market Hall in Hamburg, a temporary solution offers an economical feasible compromise without blocking development options for the future. If a satisfactory solution is not in sight, it has proved to be better to do less or even nothing to a site and to wait for changing circumstances, than allowing irreversible changes in its fabric, including the temptation to strip what are deemed aesthetically unpleasant, later additions such as access ramps and the like. However, taking this approach as a doctrine for all cases can be as devastating as to convert a site impulsively. Fragile structures, such as Gerresheim's glass-covered water tower, request immediate intervention⁸⁵² while decommissioned nuclear power plants may survive decades without deterioration.

If heritage is to be a faithful image of the society to which it belongs, and if the goal of preservation is, further, to respect the needs and rights of future generations, then caring for industrial buildings does offer a guarantee of sorts for those future generations. In the best case, careful and inclusive preservation will enable a population's strong sense

⁸⁵² Further structures easily destroyed by vandalism (thieves ripping out copper cables can cause major destruction in buildings where cables run inside of ceilings) may be better off when converted short after their closing. The social impact on the immediate environment of abandoned industrial complexes may dictate a fast or allow a slow interaction with a site.

of belonging to its own history and culture.⁸⁵³ Supportive, clear, and comprehensive governmental heritage protection laws serve not only this social purpose; they provide effective tools to guide and foster the growing tourist industry.

Quebec's industrial heritage achievements look weak in comparison to Germany's because of the low number of protected contemporary industrial sites. Moreover, these few instances all have citation status only on the lowest, municipal level, while barely representing the scope of the province's industrial landscape. Up until the mid 1980s the province undertook the effort to catch up to higher, international standards.

Unfortunately, since then, the development of industrial heritage has moved only in one direction: retrofitting. After the feasibility study by A.J. Diamond Associates, published in 1976, developers successfully transformed factories along the Lachine Canal⁸⁵⁴ into residential and commercial real estate. In the publication's thoughtful foreword by Harold Kalman, he stated that one should convert only "non-landmark buildings" because "if [a landmark building] becomes an apartment block, the act of conservation will paradoxically detract from the very reason why it should have been conserved."⁸⁵⁵

However, an evaluation of the factories' heritage value had not taken place. In Quebec, the discussion closed on any other option for better protection of these, in many instances, historically important and unique sites. Contemporary industrial ensembles, such as the eight megablocks on Chabanel Street are, in the author's opinion, clearly

⁸⁵³ East Germany's government tried to manipulate their citizens with heritage sites selected for their political agenda, instead of representing heritage as the historic past. This proved to have catastrophic consequences for the government. The "disrespectful treatment of historic heritage buildings was one of the main reasons for the revolutionary events in 1989" (Die Welt, "Denkmalschutz bekommt Status wie zu DDR-Zeiten," July 8, 2010, author's translation). A government disrespecting the different aspects of its heritage also shows a lack respect for its society.

⁸⁵⁴ Marie Lessard, "Reuse of Industrial Space in Montreal," *Plan Canada* 29/1 (1989): 22-28.

⁸⁵⁵ A. J. Diamond Associates, *The Conversion of Industrial Buildings*, foreword by Harold Kalman, n.p.

landmark buildings. They formed for decades the heart of Canada's textile industry. Without dialogue on alternative ways of preservation, such as temporary, non-invasive conversion, they share the same fate as the factories along the Lachine Canal. We should further realize that many contemporary industrial buildings do not offer a conversion option to residential or commercial use. How will the people in charge of Quebec's heritage face the challenge when the industrial sites that need their attention, fall outside the old feasibility study?

Looking to common practices in other countries can help any discipline to more effectively position itself. For the reasons presented throughout, this dissertation advocates an ongoing comparison with and learning from the example of Germany. In spite of Germany's similarities to Canada and Quebec, it cannot, however, provide a direct model. The historically grounded concepts of industrial heritage and the framework of the legal heritage regulations in the two places are too diverse for any simple translation of Germany's principles and regulations to Quebec.⁸⁵⁶ This above comparison and case studies offer, instead, a mirror. In and through this mirror, Quebecers, and specifically Quebec's political decision-makers, can better analyze their own position, its strength and its shortcomings, and past practices. This, in turn, will benefit the province when taking on the inevitable chore of continuing Quebec's industrial heritage inventories, which so far barely progresses beyond the 1940s, and the government's future preservation responsibilities.

⁸⁵⁶ Needless to say that France, Great Britain and the USA will provide even less fitting models. Problematic is, as far as the author can judge, that Quebec's heritage laws are based on a French model crossed with the American idea of private funding or the least possible government financial involvement.

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Archives City of Montreal

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Archives Vaudreuil-Dorion

Bernard Goldberg, private archives

Ibs Ingenieurbüro für Bauwesen Schweizer, private archives

APENDIX

0



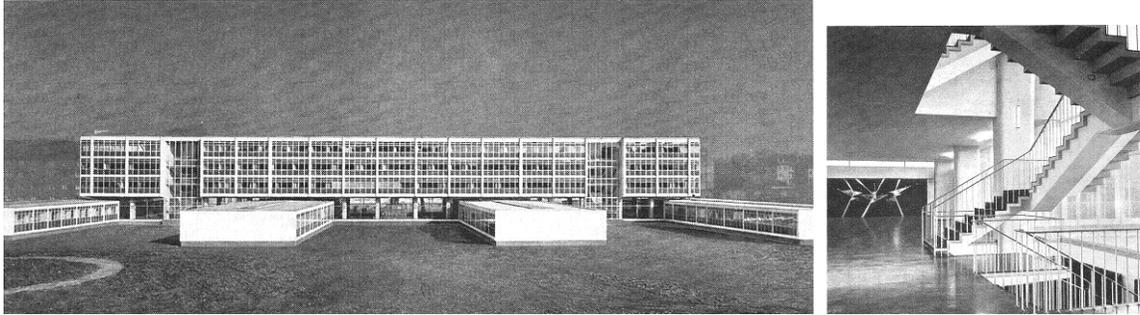
0.1 Segovia mint, sixteenth century, Spain, is probably the world's oldest still intact industrial site where once water-powered machines produced coins, without the help of direct manual labour (photo: Association Friends of the Segovia Mint).



0.2 + 0.3 In 2012, the owner of the building at 2001 TransCanada Highway (it was built in 1966 for Scouts Canada) demolished the complex after it stood vacant for some time. It was one of the selected sites by architectural historian France Vanlaethem in 2011 to demonstrate the industrial heritage corridor along the Highway 40 (photos: Anja Borck).



0.4 The future building on 2001 TransCanada will offer five industrial rental spaces, serving new and small companies (photo: Anja Borck).



0.5 + 0.6 The Landesversorgungsamt, an office building in Munich by Hans and Wassili Luckhardt 1955-1957, could have been reused as part of the Technical University but instead was demolished by the city in 1989 despite protests from several groups (Photos: Herbert Rimpl).



0.7 + 0.8 The ship propeller factory Zeise, once the largest in Germany, closed its doors in 1978 after hundred ten plus years in operation. It stood vacant for nearly twenty years before the architects of me di um architekten helped to redeveloped it into a multi functional commercial and office building. In the floor, the large pits for the molds remained visible, the walls still show traces of the building's age (photos: Kay's Weblog).



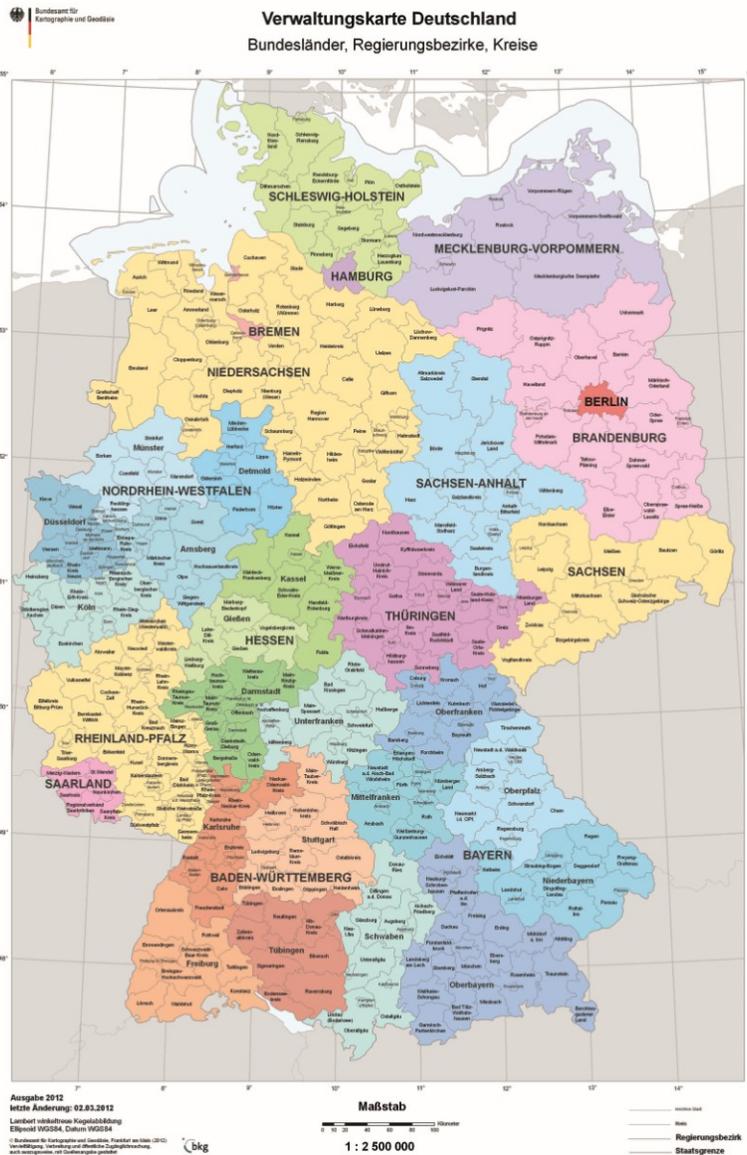
0.9 + 0.10 Manufacturing in Quebec today still produces specific building types according to needs, left: Metal-workshop for mining equipment, right, casting of primary steel in Quebec (photos: Robert Adamczyk).



0.11 + 0.12 In Knappenrode, Saxony, between the large turbines of the disused lignite power station, today part of Saxony's industrial museum, banquets and conferences can take place. In the power station in nearby Plessa (Land Brandenburg), windows show the soot that had accumulated. During restorations, glass was exchanged only where windows had been broken or were missing, with glass from the site where possible. Sun light penetrates them like stained glass (photos: Anja Borck).

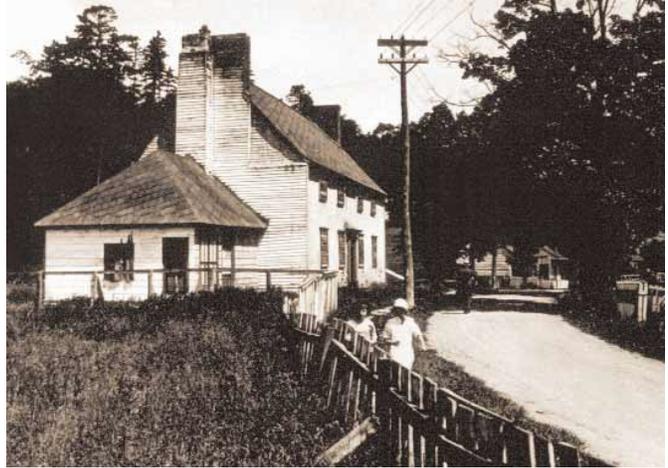


0.13 Quebec compared with the size of Germany and their geographic location at 50° latitude. Germany's climate benefits from the Gulf Stream making it slightly milder than that of southern Quebec. Case studies include the town of Baie Comeau (top arrow) and sites in and close to Montreal (bottom arrow).

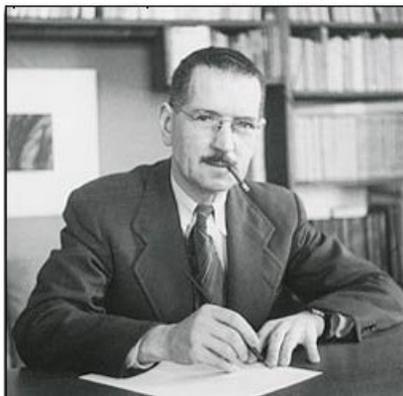


0.14 Germany's sixteen Länder after reunification. The ten old Länder without Berlin are from North to South: Schleswig-Holstein, Hamburg, Lower Saxony (Niedersachsen), Bremen with Bremerhaven, North Rhine Westphalia (Nordrhein-Westfalen), Hesse (Hessen), Rhineland Palatinate (Rheinland-Pfalz), Saarland, Baden-Wurttemberg (Baden-Württemberg), Bavaria (Bayern). The five new Länder plus Berlin are from North to South: Mecklenburg-Vorpommern, Brandenburg, Berlin, Saxony-Anhalt (Sachsen-Anhalt), Saxony (Sachsen) and Thuringia (Thüringen).

1.1

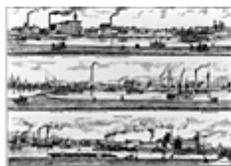


1.1.1 + 1.1.2 The church Notre-Dame-des-Victoires (left), inaugurated in 1723 and known as the oldest church in Canada (here in a photograph from circa 1870) and the house of the Jésuites à Sillery around 1920, together with the Château Ramezay were the earliest recognized historic monuments in Quebec (photo left: Louis-Prudent Vallée, right: unknown).



1.1.3 Gérard Morisset (1898-1970) became the first director of the *Inventaire des Œuvres d'Art* for the province of Quebec. He supported the idea of a stylistic restoration to achieve the original character of a historic monument, eliminating all later modifications on a building (photo: unknown).

IA THE JOURNAL OF THE SOCIETY FOR INDUSTRIAL ARCHAEOLOGY



THEME ISSUE
WATERPOWER, THE LACHINE CANAL, AND THE
INDUSTRIAL DEVELOPMENT OF MONTREAL

Volume 29, Number 1, 2003

1.1.4 The Montreal Conference of Industrial Archaeology on the history of the Lachine Canal found its most noticeable resonance in an issue of *The Journal of the Society for Industrial Archaeology*, Volume 29, Number 1, 2003.

1.2



Archambault Photo



1.2.1 + 1.2.2 Benjamin Sulte (1841-1923) wrote the first publication on “Les Forges Saint Maurice” in 1920 (photo right: Archambault, left: watercolour, anonymous, 1844).



1.2.3. + 1.2.4 Priest and filmmaker Albert Tessier (1895-1976,) and dentist Conrad Godin (1904-1998,) supported Benjamin Sulte’s efforts to preserve the memory of the Saint Maurice Ironworks (photo right: Dupras & Colas, left: unknown).



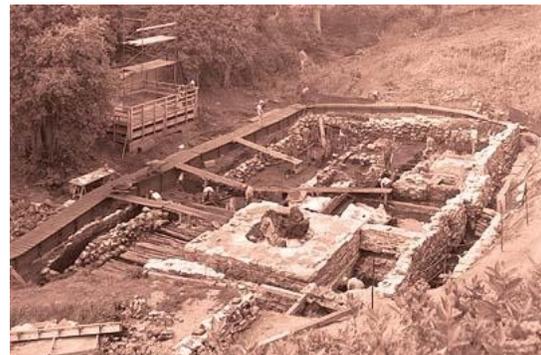
1.2.5 Some household items produced at the Saint Maurice Ironworks after 1770 (photo Anja Borck).



1.2.6 First plaque at the Forges du Saint Maurice from 1923 (photo: Anja Borck).



1.2.7 + 1.2.8 The National Historic Site of Louisbourg in New Brunswick and the Saugus Iron Works near Boston, USA, were the initial models for the park of the Saint Maurice Ironworks. After the publication of the Charter of Venice in 1964, however, the faithful recreation of lost structures was less acceptable (photo left: Aconcagua, right: National Park Service).

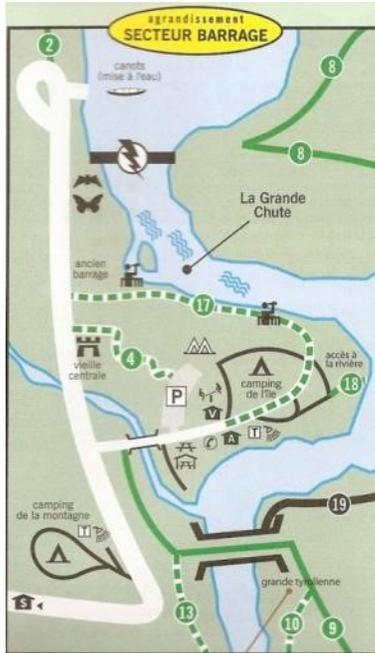


1.2.9 + 1.2.10 In 1976, the American architect Robert Venturi re-imagined the house of the American President Benjamin Franklin (Philadelphia) in generic outlines. In 1977, archaeologists at the Saint Maurice Ironworks discovered the foundations of the vestiges of the upper forge (photo left: Mark Cohn, right: Jean-Pierre Elie).



1.2.11 + 1.2.12 The Grand Maison was recreated after images and archeological finds, the blast furnace followed Robert Venturi's example (photos: Anja Borck).

1.3



1.3.1 Campground in the *Parc de la Rivière Batiscan*, to reach the ancient power station one must enter and pay a day-fee for the private park.



1.3.2 + 1.3.3 Old photographs show the first hydro-electrical power station, which was removed in 1950, leaving only the annex from 1904 (photo top: Anja Borck, bottom: Fonds Shawinigan Water and Power Company).



1.3.4 + 1.3.5 In 1954, collectors rescued stones from the old power station for a stele to attach a commemorative plaque for the first high-tension transmission of electricity in the British Empire. In 1997, Hydro-Quebec added a second plaque. A turbine wheel is the only technical historic equipment that remained (photos: Anja Borck).

1.3.6 Quebec's actually first long-distance transmission of hydro-electricity was operated by Quebec & Levis Electric Light Co. in 1885 at the Montmorency Falls to serve power for electric lighting to the Dufferin Terrace in Quebec City. The upper station is still in place. The local museum documented neither the kind of current nor the voltage, however, by this time, Americans preferred direct current which needed a higher voltage for the ten kilometers transmission due to inefficiency (photo: Anja Borck).



1.3.7 + 1.3.8 Under Quebec's natural resource minister René Lévesque (1922-1987) and Premier Jean Lesage (1912-1980) the second phase to nationalise hydro-electricity took place in 1963 (photo left, Archive La Presse, right: Duncan Cameron).



1.3.9 + 1.3.10 With the slogan "Now or Never! Masters of Ourselves" and a fist holding arrows that symbolized electrical power, Quebec's government communicated effectively the cause for taking-over private energy-companies. Electricity, as a national domain, became a governmental concern, including free education in Hydro-Quebec's electricity museum "Electrium" near Montreal (photo right: google street view).

1.4



1.4.1 + 1.4.2 Montreal's architect Michael Fish founded the city's first successful grassroots preservation movement, "The Friends of the Windsor Station" in 1969. He was joined by colleague Phyllis Lambert. Both became co-founders of the non-profit organization "Montreal Heritage" to help preserve historic buildings (photo top: John Kenney, bottom: Arthur Schatz for Time Life).



1.4.3 + 1.4.4 + 1.4.5 The Windsor Station circa 1896, designed in 1887 by American architect Bruce Price (1845-1903) for CPR under the railroad's general manager William van Horne (1843-1915), (photo top: Wm. Notman & Son, middle: unknown, bottom: unknown).



1.4.6 + 1.4.7 The re-enactment of the Battle of the Plains of Abraham caused a heated controversy in 2009, leading to the cancellation of the performance. (engraving: Laurie and Whittle, 1759, screenshot of www.cbc.ca).

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Organizers cancel mock Battle of the Plains of Abraham

Federal minister accuses sovereigntists of playing politics with commemoration

Last Updated: Tuesday, February 17, 2009 | 1:28 PM ET CBC News

The National Battlefields Commission has cancelled a re-enactment of the Battle of the Plains of Abraham set for Quebec City this summer due to security concerns that the mock battle could turn into a modern-day conflict.

The federal body, which is responsible for the Plains site outside the fortified walls of Quebec City, announced Tuesday that a commemorative recreation of the 1759 battle is no longer



History buffs were to re-enact the Battle of the Plains of Abraham on the site of the battle this summer in Quebec City to commemorate the 250th anniversary of the British victory over the French. (National Battlefields Commission)

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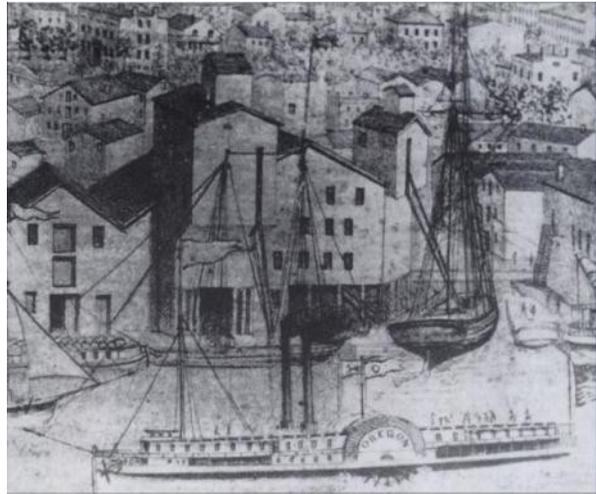
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- Mock battle may move off Plains of Abraham
- Harper tries to

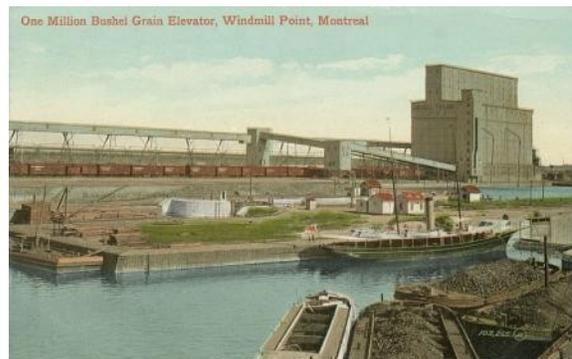
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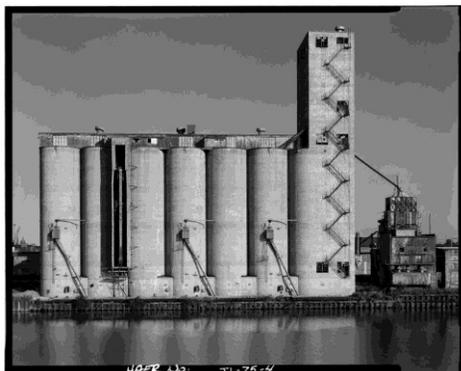
1.5



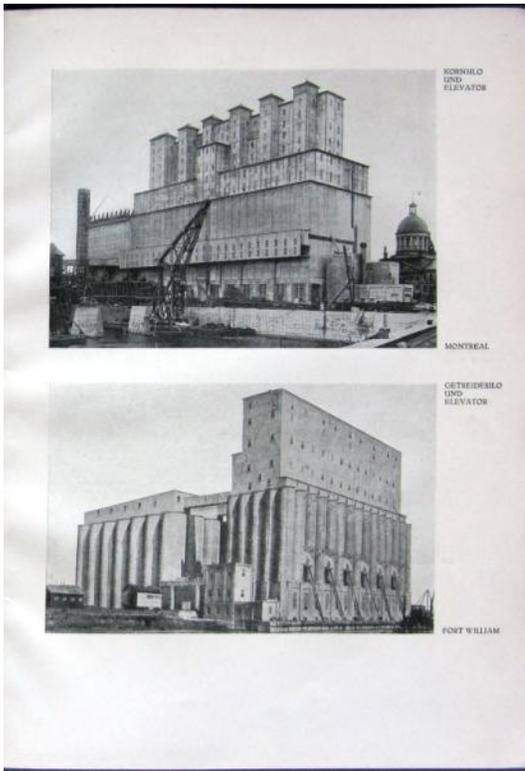
1.5.1 + 1.5.2 John S. Metcalf (1847-1912), who was born in Sherbrooke, Quebec, operated his engineering firm from Chicago, Illinois. He designed most of Montreal's terminal grain elevators. The earlier generation of engineers had built elevators using wood, of which none survived in Montreal. The image shows the Dart Elevator by Robert Dunbar in Buffalo, which was the world's first mechanized grain elevating and storage warehouse, built in 1843. Similar structures were found in Montreal's harbour. (photo left: unknown, image right: unknown).



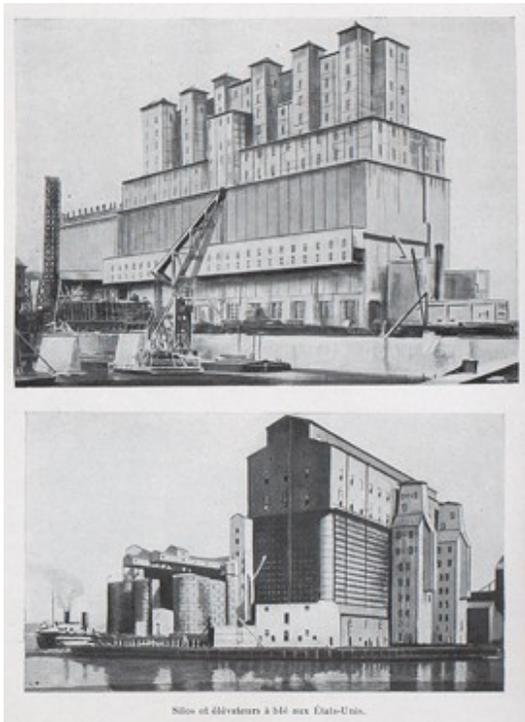
1.5.3 + 1.5.4 Montreal's first grain elevators, No. 1 (left) and elevator B (right) were the only such storage facilities in the port built using steel. An extensive network of railways and conveyers united the large structures (postcards, photos: unknown).



1.5.5 Metcalf used reinforced concrete for the first time in the construction of the grain elevator in Chicago, Illinois, for the Burlington Northern Santa Fe Railway, which was completed in 1906; at the same time he constructed a metal elevator in Montreal, elevator B (photo: Jet Lowe of the Historic Engineering Record, <http://american-colossus.blogspot.com>).



1.5.6 Jahrbuch des Deutschen Werkbundes, 1913: Walter Gropius' article on "The Development of Modern Industrial Architecture" began with seven pages of industrial structures from North and South America. The first of his images shows Montreal's Grain Elevator No 2, in the background the Bonsecours Market is visible.



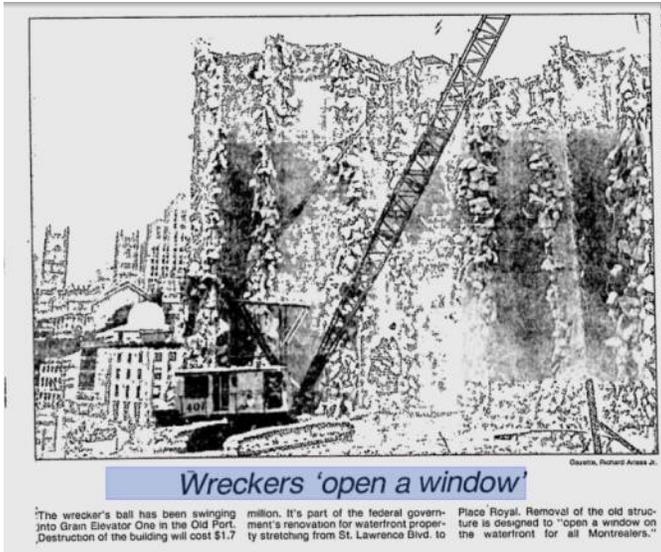
1.5.7 Le Corbusier used the same photo material for the Montreal No 2 elevator but had the market erased for his publication *Vers une architecture* from 1923, an observation Reyner Banham pointed out in his book *A Concrete Atlantis* from 1986.



1.5.8 The slipform construction, which engineers developed to build grain elevators, was used for Toronto's CN Tower (1972-1976). The photo shows the tower under construction in 1974 with the mould visible which is moved upwards during the construction process (photo: unknown).



1.5.9 + 1.5.10 The failed demolition of the Grain Elevator No 2 in 1978. After a second, successful attempt, only some foundation work (arrow) remained visible, which grass had covered by 2012 (photo left: unknown, photo right: Société du Vieux-Port de Montréal).



1.5.11 The Montreal Gazette reported on Thursday August 18, 1983 on the demolition of the Grain Elevator No 1.



1.5.12 The Écomusée du fier monde presents the labour, industry and culture of one of Montreal's oldest industrial districts, the Centre Sud. The museum was founded in 1980 and moved in 1996 into the former public Bain Généreux. It shares its facilities with the *Association québécoise pour le patrimoine industriel (Aqi)*, (photo: Anja Borck).



1.5.13 Despite difficulties to find reuse options for the colossal Grain Elevator No 5, all levels of Canadian government agreed that it should be protected as a historic monument (photo: Anja Borck).



1.5.14 In June 1997, Atelier In Situ illuminated the annex of the Grain Elevator No 5 with "projections n°5." (photo: Atelier In Situ).

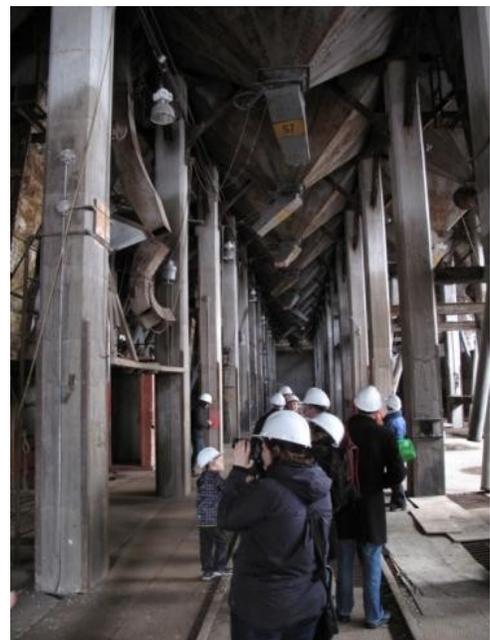


1.5.15 + 1.5.16 In 2000, architect Thomas McIntosh and composer Emmanuel Madan set up a sound installation in one of the elevator No 5's silo's bins, a commission for the millennium celebration in Montreal (photos: Anja Borck).



1.5.17 One of the suggestions to re-develop the Grain Elevator No 5: project "Silo No 5 mode d'emploi" by Ouvrage Collective (Boutros + Pratte, Bosses Design, Box Architecture, Morse Architecture and Vlan Paysages), (images: docomomo, 2003).

1.5.18 Guided visits in fall 2010 and spring 2011 by Heritage Montreal offered the public a rare occasion to see the interior of the oldest intact steel elevator in North America, part of the Grain Elevator No 5, which operated from 1906 to 1995 (photo: Robert Adamczyk).

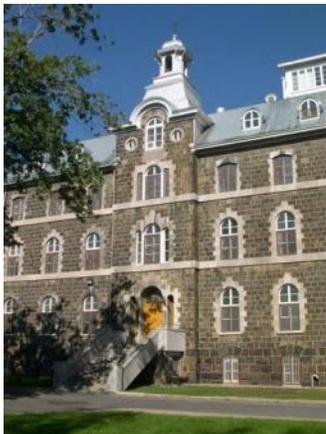


1.6

1.6.1 The National Park of the *Pulperie du Chicoutimi* with one of Lemay's buildings visible in the back (photo: Anja Borck).



1.6.2 + 1.6.3 + 1.6.4 Julien-Édouard-Alfred Dubuc (1871-1947, left) found support for his enterprise of a pulp mill from the mayor of Chicoutimi and newspaper owner Joseph-Dominique Guay (1866-1925, centre). Dubuc commissioned architect René-Pamphile Lemay (1870 – 1915, right) from Quebec City to extend the mill (photo left: Collection Musée du Saguenay; photo centre: Collection Société historique du Saguenay; photo right: Fonds Joseph-Eudore Lemay).



1.6.5 René-Pamphile Lemay's main clients came from the clerics, for whom he designed, for instance, the *Chapelle de l'Hôtel-Dieu-du-Sacré-Cœur* in Quebec City in 1902-1903 (photo: Conseil du patrimoine religieux du Québec).



1.6.6 Sir William Price III (1867-1924) ran Price Brothers & Company Limited in the third generation, after his great uncle had explored business opportunities in the Saguenay region (photo: unknown).



1.6.7 The Price family supports the Centre d'histoire Sir William Price, located in a former private chapel of the family (photo: google street view).



1.6.8 The Price Monument from 1882 in Chicoutimi showed clear signs of deterioration in spring 2011 (photos: Anja Borck).



1.6.9 In 2010, the City of Saguenay included parts of the working class district of Sainte-Thérèse d'Arvida in their heritage listing.

1.7



1.7.1 Since 1843, weirs offered access to hydro-power for industries along the Lachine Canal. The large request for hydro power then led to drainage of the actual canal, which caused problems with shipping (photo: unknown).



1.7.2 The new St. Lawrence Seaway welcomed the first ship on June 26, 1959. The opening of the seaway in 1959 enabled ocean-going vessels the passage to the Great Lakes without stopping in Montréal. This led to a decline of economic activities in Montreal (photo: unknown).



1.7.3 The Lachine Canal closed in 1970. Parts of the canal were filled in. The canal ran parallel to the Grain Elevator No 5, which was at that time still in operation (photo: Société du Vieux-Port de Montréal).



1.7.4 + 1.7.5 The former industrial district in Lowell, Massachusetts, became a museum site in 1990. Because many of the Lachine Canal's industries are still in operation, such a "museumification" is not an option in Montreal (photos: Jlpapple).



1.7.6 + 1.7.7 Many national heritage sites, such as the historic fur trade house in Lachine, were converted into museums by Canada's Federal Government (photos: Julie Buiza).



1.7.8 + 1.7.9 Commemoration efforts in Montreal's former industrial buildings, that were converted into apartments or condominiums, for example the Lowney apartment development on William Street, are on a minimal scale. Here, the developer hung some photographs in the entrance area offering a glimpse of the chocolate production, which had taken place in the factory (photos: Anja Borck).



1.7.10 Large panels along the eastern part of the canal inform visitors of the history regarding the Lachine Canal. The Federal Government financed and maintains them (photo: Anja Borck).

1.8



ENTRANCE TO THE LONDON & BIRMINGHAM RAILWAY STATION, Euston Square, London.



1.8.1 + 1.8.2 Euston Station, London, in 1851 and during the demolition in 1963 (illustration from Samuel Sidney, *Ride on Railways*, 1851, photo right: unknown).

De nombreux témoins industriels du canal de Lachine sont partis en fumée dans l'indifférence totale. Ici, la Dominion Flour Mill en 1992.
Photo: Jean Bélisle

infrastructures du canal, ont créé un pôle d'attraction très intéressant. Mais ce nouveau pôle a provoqué un développement pour le moins anarchique. Le fédéral, propriétaire du canal, n'a même pas pu empêcher le CN de détruire, en 1994, le pont historique de Saint-Henri pourtant



CONTINUITÉ
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Dossier

1.8.3 In 2003, Jean Belisle reported on the ongoing demolition of significant production sites along the Lachine Canal in his article "Le Canal Lachine: Les Métamorphoses d'un quartier" in the publication *Continuité*.



1.8.4 Balconies and galleries on the backside of the Redpath apartments obstruct the facade of the former sugar factory, located on the Lachine Canal (photo: Benoit Papineau).

2.2



2.2.1 Oskar von Miller (1855 – 1934) first row, second from left, with colleagues on the steam ship “Amerika“, during a study journey to the USA in 1912 (bottom row from left: Rudolf Diesel, Oskar von Miller, Clemens Graf von Podewils, Wilhelm von Borscht, Walther von Dyck; top row from left: Franz Fuchs, Kurt Trautwein, Colin Ross, Friedrich Orth), (photo: Deutsches Museum).



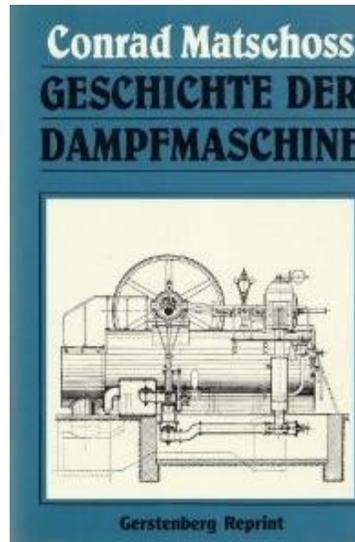
2.2.2 Engraving of the French physicist, Marcel Deprez (1843- 1918). In 1882, he showed that electrical energy is most efficiently transferred over large distances using high voltage (engraving: Science Photo Library).

2.2.3 In 1891, von Miller and Deprez proved at the exhibition in Frankfurt/Main that switching to a different, alternating electrical current, energy could travel a distance of 175 kilometers. One thousand electrical light bulbs illuminated the entrance; in the back, an artificial waterfall was created, powered by the electricity produced at the power station in Lauffen (photo: unknown).

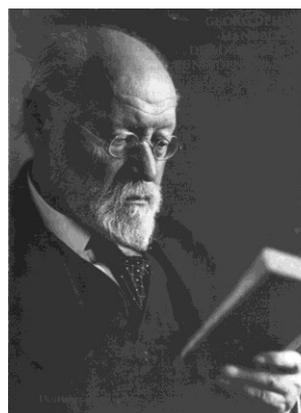




2.2.4 Postcard of the German Museum of Masterpieces of Science and Technology in Munich just after inauguration (c. 1918). The museum became the world's largest museum of technology and science. Oskar von Miller founded it 1903. In 1925 the museum's collection could move into its new facilities on an island of the Isar River. The museum's library wing was not added before 1932.



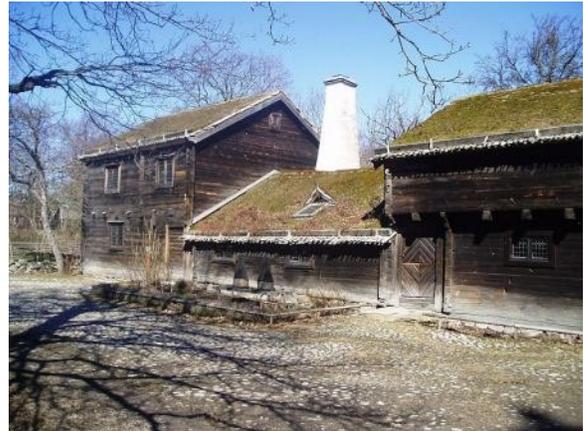
2.2.5 + 2.2.6 Conrad Matschoss (1871-1942) wrote the first German publication regarding the technical history of the steam engine, published in 1901 (photo: unknown).



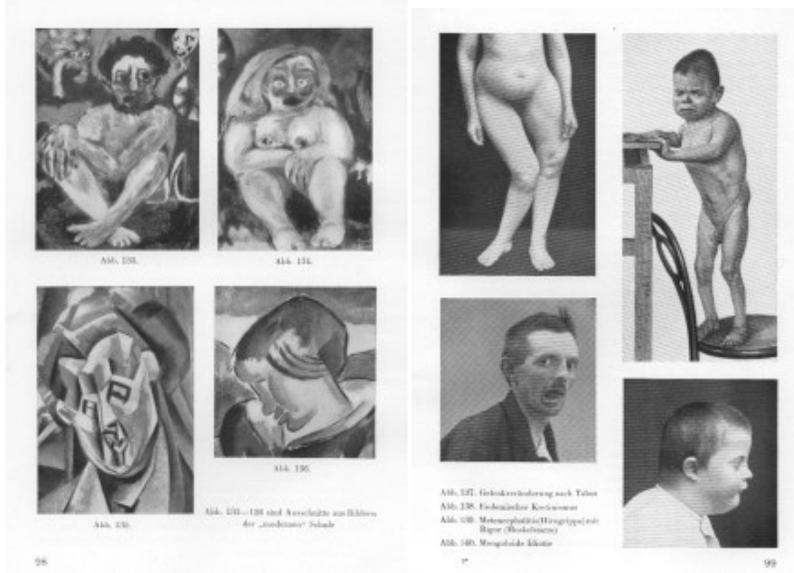
2.2.7 + 2.2.8 + 2.2.9 The three art historians, Alois Riegl (1858-1905), Georg Dehio (1850-1932) and Max Dvořák (1874-1921), were the first generation of Austrian/German preservationists. (photo left: unknown, middle: unknown, right: Atelier Kolm).



2.2.10 + 2.2.11 In 1891, Artur Hazelius established Skansen as the first open air museum, he transported historic buildings to Skansen near Stockholm, to foster Sweden's national identity, showcasing traditional buildings and crafts (photo: Udo Schröter).



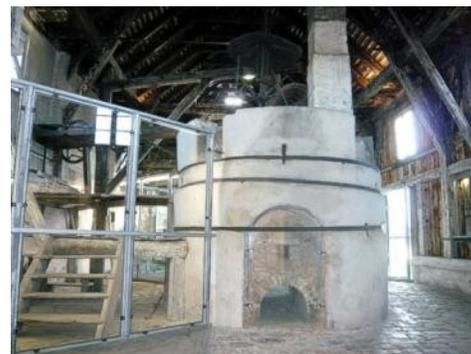
2.2.12 + 2.2.13 + 2.2.14 Paul Schultze-Naumburg (1869 – 1949, left); Gutshaus in Heiligengrabe-Grabow by Schultze-Naumburg (centre); page from „Die Kultur des weiblichen Körpers als Grundlage der Frauenkleidung“ by Schultze-Naumburg. He showed a naturally formed female body next to the shape wanted by the fashion industry (photo left: unknown; middle: Doris Antony; book illustrations: Paul Schultze-Naumburg).



2.2.15 Juxtaposition of contemporary art and human deformations in Paul Schultze-Naumburg's book "Kunst und Rasse" published in 1928. The publication became the model for the exhibition of Degenerate Art in Munich in 1937, which traveled to thirty two other cities till 1941 and was visited by over three million visitors (illustrations: Paul Schultze-Naumburg).



2.2.16 + 2.2.17 In 1932 Werner Lindner (1883-1964) and Conrad Matschoss edited a book on technical cultural monuments, commissioned by the Agricola-Gesellschaft at the Deutsches Museum (photo left: unknown).



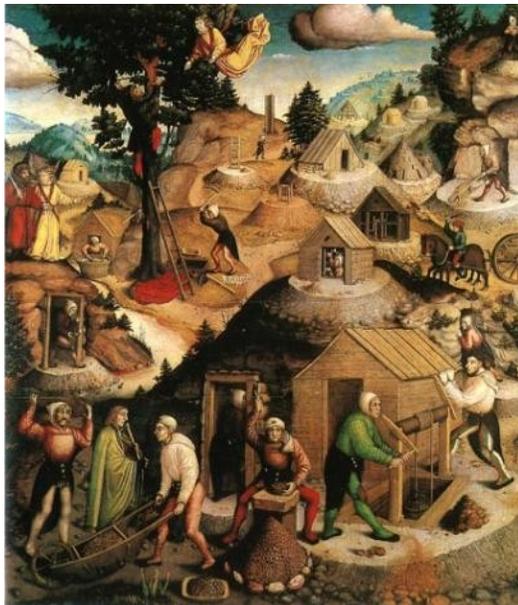
2.2.18 + 2.2.19 Historic ship mill in Ginsheim around 1920 and the original Fraunhofer Glassworks (photo left: unknown, right: Gästeinformation Benediktbeuern).

2.3



2.3.1 + 2.3.2 + 2.3.3 Frohnauer Hammer, exterior (top left); two of the three hammers (top right) and the former black smith residence, now a restaurant (left) (photos: Anja Borck).

2.3.4 + 2.3.5 Central altar panel of St. Anne's Church with mining scene (1521) and late gothic vault of St. Anne's Church (1499) in Annaberg, Saxony (photo: Hans Weingartz).



2.4



2.4.1 + 2.4.2 Ditherington Flax mill built in 1796, with the first known iron skeleton frame (photos: unknown).



2.4.3 Wood construction of the knitting machine factory in Kappel, Saxony (photo: Anja Borck).

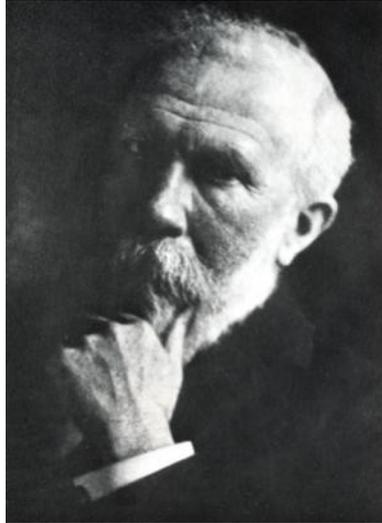


2.4.4 Karl Ludwig Althans (1788-1864), drawing by Karl Binzer.

2.4.5 - 2.4.7 Sayner Hütte, Bendorf, Rhineland-Palatinate, foundry by Carl Ludwig Althans from 1828/1830, main facade, today. Next two images: ball bearings and fishbelly trusses (photo below and top right: Anja Borck, bottom right: unknown).



2.5

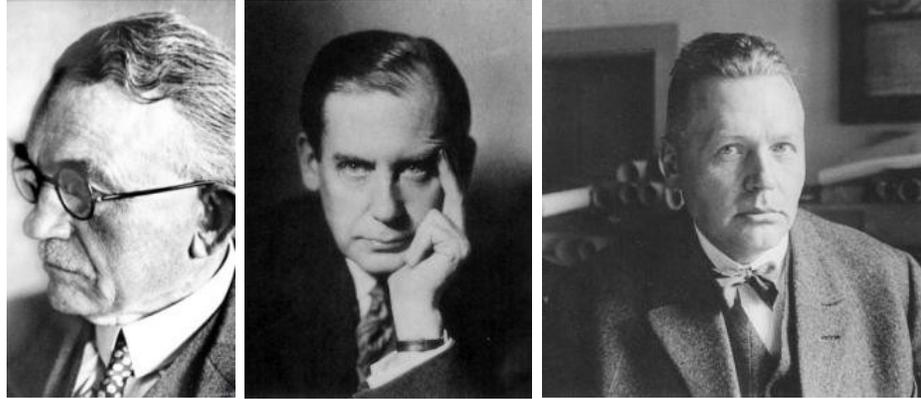


2.5.1 Ernst Rudorff (1840-1916) was the founder of the Bund Heimatschutz in 1904 (photo: unknown).



2.5.2 + 2.5.3 + 2.5.4 Fritz Todt (1891-1942, left) became head of the VDI in 1937, Wilhelm Murr (1888-1945, centre) appointed August Lämmle (1876-1962, right) director of the regional Swabian Bund Heimatschutz in 1939 (photo left: Röhn, centre: Dr. Dieterich, right: unknown).

2.6

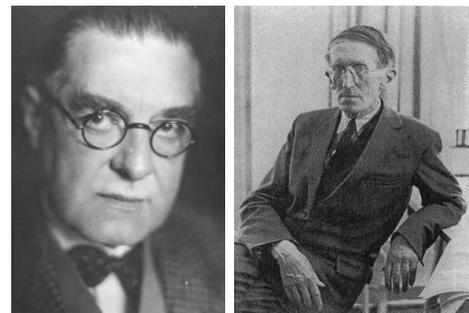


2.6.1 + 2.6.2 + 2.6.3 Carl Benscheidt (1858–1947, left) commissioned Walter Gropius (1883–1969, centre) and Alfred Meyer (1881–1929, right) in 1911 for the construction of his Fagus Shoe Last Factory (photo left: unknown, centre: E. Bieber, right: unknown).



2.6.4 + 2.6.5 Walter Gropius' Fagus Shoe Last Factory, Alfeld, Hesse, from 1911-1913: Exterior of administration building and interior workshop (photos: Anja Borck).

2.6.6 Neue Pinakothek, 1826-1836, by Leo von Klenze, with visible repairs by Hans Döllgast, completed in 1956 (photo: Anja Borck).



2.6.7 + 2.6.8 Peter Behrens (1868–1940) and his student Hans Döllgast (1891-1974), (photo left: unknown, photo right: unknown).



2.6.9 + 2.6.10 AEG Turbinen Hall in Berlin Morbit from 1909 by Peter Behrens, exterior and interior, used as storage when the photo was taken in 2004 (photo top: LDA, bottom: LDA).

2.7



2.7.1 Historic windmill outside of Wittenberg, Saxony-Anhalt (photo: unknown).

2.8



2.8.1 + 2.8.2 Damage to the Deutsches Museum after the bombing of July 21st 1944: railway hall and the hall for ship and airplane technology (photos: Archive Deutsches Museum).



2.8.3 German Chancellor Willy Brandt (1913-1992), (photo: picture-alliance/akg-images).



2.8.4 “Under the academic gown, mustiness of 1000 years.” November 9, 1967, Detlev Albers (left) and Gert Hinnerk Behmler (right) demonstrated in the Audimax of Hamburg’s University during the official ceremony with the former and new university presidents (photo: DPA).



2.8.5 Walter Scheel (1919), President of the Federal Republic between 1974-1979 (photo left: unknown).

2.8.6 Demonstration in front of the empty Stollwerk factory on May 20, 1980 (photo right: Eusebius Wirdeier).



2.8.7 + 2.8.8 Saint Nikolai church in Hamburg in 1943, and today as a monument for the victims of Nazi-Germany (photo left: unknown, photo right: AlterVista).

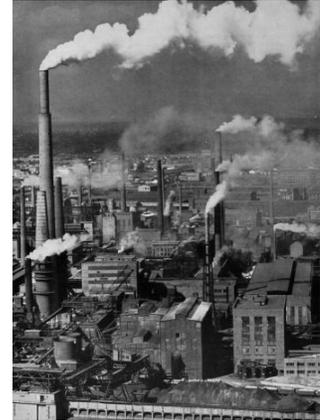


2.8.9 Hamburg: Kampnagel factory turned theatre venue (photo: unknown).



2.8.10 Hagen's open air museum opened in 1973 (photo: Anja Borck).

2.9



2.9.1 + 2.9.2 Zeche Zollverein was part of the IBA Emscher Park, 1989-1999, the mining complex belonged to the densely industrialized Ruhr region (photo left: Anja Borck, photo right: unknown).



2.9.3 Postcard of the IBA Estate Weissenhof in Stuttgart from 1927, planning Ludwig Mies van der Rohe, Berlin.

2.9.4 + 2.9.5 Fall of the Berlin wall after November 9, 1989 (photo, left: unknown, right: AP Archiv).





2.9.6 – 2.9.9 IBA Fürst-Pückler Land 2000-2010, Saxony, followed the IBA Emscher Park concept to mend a landscape damaged by open pit mining (photos: Anja Borck).



European
Route of
Industrial
Heritage



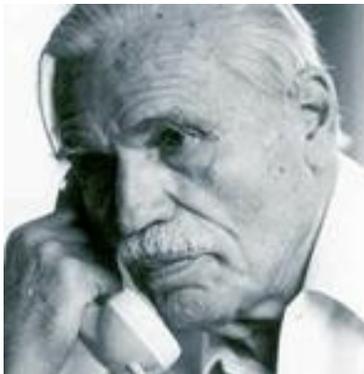
www.erih.net

2.9.10 In 2003 the European Route of Industrial Heritage, was created as an internet based tourism information network, regarding industrial heritage in Europe. It developed out of the Route der Industriekultur, a project of the IBA Emscher Park, over 30 countries participated.

2.10



2.10.1 Martin Hammitzsch (1878-1945) designed the cigarette factory Yenidze in Dresden, Saxony, in 1908-1919 in an exaggerated oriental style, disguising the factories chimneys as minarets (photo: Anja Borck).



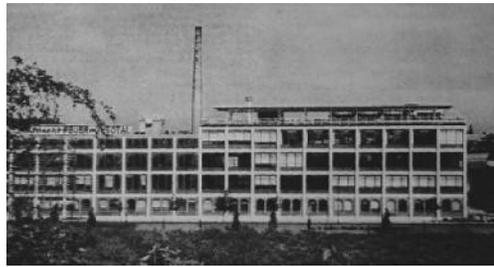
2.10.2 + 2.10.3 Ernst Neufert (1900-1986) worked exclusively for the industry during the Second World War and became an expert in this building type, as the fibre-cement plant in Leimen from 1954 displays (photo left: Neufert Stiftung, right: Eternit AG).



2.10.4 + 2.10.5 Herbert Rimpl (1902-1978) built the Heinkel-Factory for the production of airplanes in Oranienburg (Brandenburg) between 1934-1936 much in the style of American production facilities of Albert Kahn (photo left: unknown, right: Heinrich Heidersberger).



2.10.6 + 2.10.7 Bernhard Hermkes (1903-1993), likewise one of the architects able to work during the Third Reich by focusing on industrial commissions, built the Grossmarkthallen (central market) in Hamburg in 1958-1960. The halls are still in use as a distribution market for agricultural products and are under heritage protection (photo left: unknown, right: Akademie der Künste).



2.10.8 + 2.10.9 Egon Eiermann (1904-1970), designed in 1938 an extension for the Total Werk Foerstner & Co in Apolda, Thuringia, again, the American factory inspired the design (photo left: Werkbundarchiv, right: unknown).



2.10.10 Where the property rights are pending, houses still show the deteriorated state they had fallen into during the former GDR regime. But this was the condition of most buildings in Eastern Germany's cities prior to the re-unification (photo: Anja Borck).

3.1



3.1.1 + 3.1.2 Extension of Grain Elevator No 5 from 1959 and the log flume at Forestville from 1942 are under legal protection (photo left: Anja Borck, right: Ministère de la Culture et des Communications, Jean-François Rodrigue, 2009).



3.1.3 Parts of Arvida's residential area, here on a photograph from approximately 1928, built as an industrial model town, likewise gained legal protection (photo: unknown).



3.1.4 Produced in Pointe-Claire: fire proof terracotta building blocks (photo: Anja Borck).

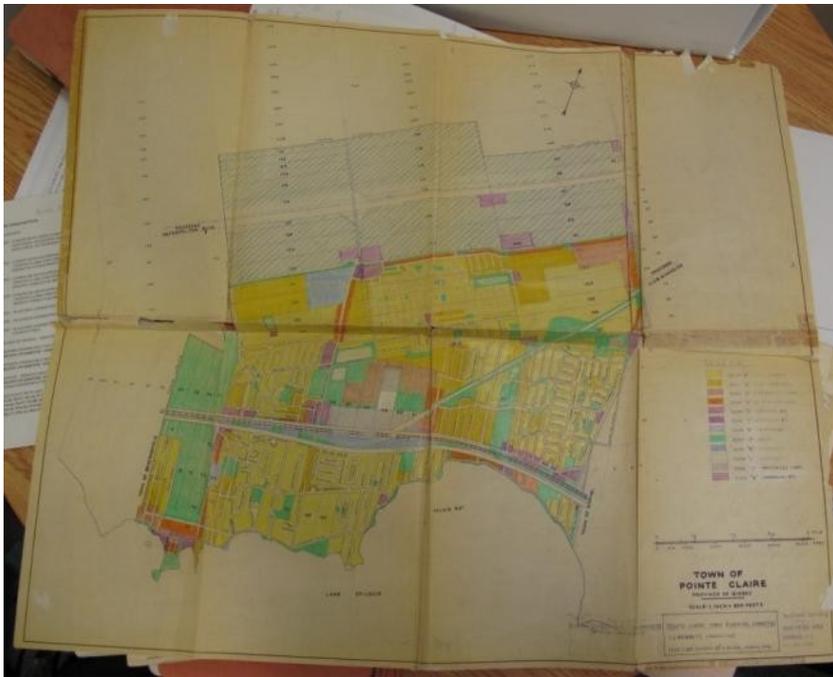
3.2



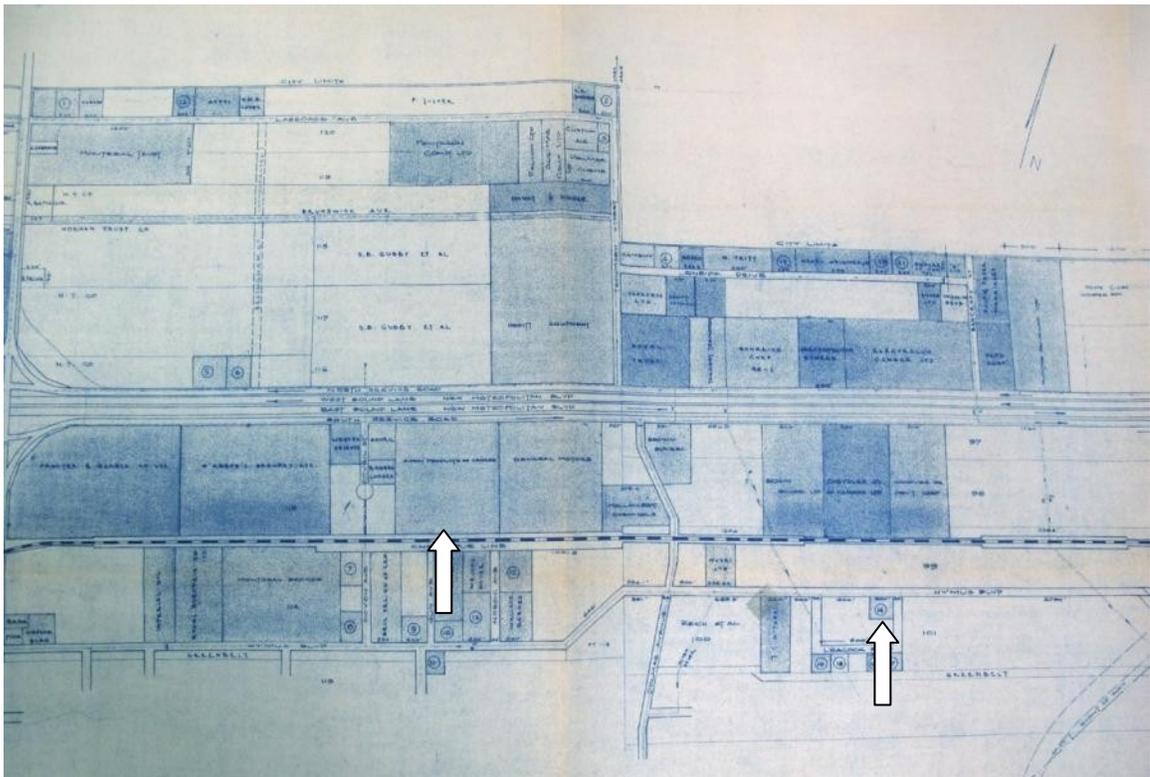
3.2.1 Avon Building in Pointe-Claire – of heritage interest since 2004 on a municipal level (photo: curtsey of Archives City of Pointe-Claire).



3.2.2 Proctor and Gamble constructed the first building of Pointe-Claire's industrial park in 1959-60. It was demolished sometime after 1992 (photo: Archives City of Pointe Claire).



3.2.3 “Plan no 1” for Town of Pointe-Claire’s future industrial park from November 1955 by J.C. Merrett, consultant (map: Archives City of Pointe-Claire).



3.2.4 Part of the plan of Pointe Claire’s industrial zone with the first stage of development in 1962, the left arrow points to Avon’s property, the right arrow shows the Norman Wade building (chapter 3.3), (map: Archives City of Pointe-Claire).



3.2.5 Hunter Douglas Ltd./Gentek by George F. Eber in Pointe-Claire, another early occupant in Pointe-Claire's industrial park (photo: google street view).



3.2.6 – 3.2.9 Bardahl Inc. likewise was one of the first twenty five companies to locate their plant in Pointe-Claire's new industrial park. The building was demolished in 2008 (photos left: Archives City of Pointe-Claire, right: Anja Borck).

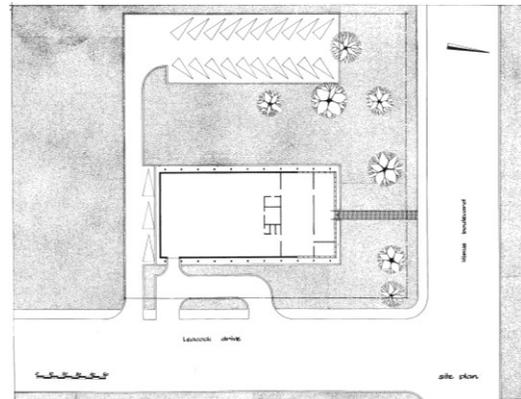
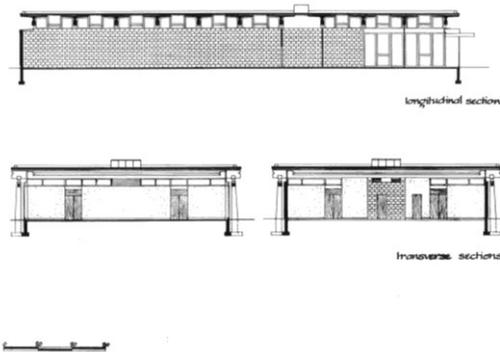


3.2.10 + 3.2.11 Avon's sign in front of their building (left); Pointe-Claire's by-laws regulated size and direction of all signs, requested green space but prohibited parking in front of buildings. Wire Rope's original, still unaltered administrative part of their plant (photo left: Anja Borck, right: Archives City of Pointe-Claire).

3.3



3.3.1 + 3.3.2 Norman Wade Building by Ray Affleck photographed 1961 in its park-like setting, (photos: Archives Le Groupe Arcop).



3.3.3 Norman Wade Building architectural plans and proposed landscaping, (plans: Archives Le Groupe Arcop).



3.3.4 + 3.3.5 Post Office in the Town of Mount Royal and Beaver Lake Pavilion on Mount Royal in Montreal, both by architects of Arcop and predating the Norman Wade Building (Photo left: Anja Borck, right: Imtl.org).



3.3.6 + 3.3.7 Interior of the Norman Wade building as in 1961 (left) and how it was changed during the renovations in 2012, disrupting the formerly visible main beam (right), (photo left: Archives Le Groupe Arcop, right: Anja Borck).



3.3.8 Detail of steel brackets for concrete beams at the Norman Wade building, emphasizing the frame construction (photo: Anja Borck).

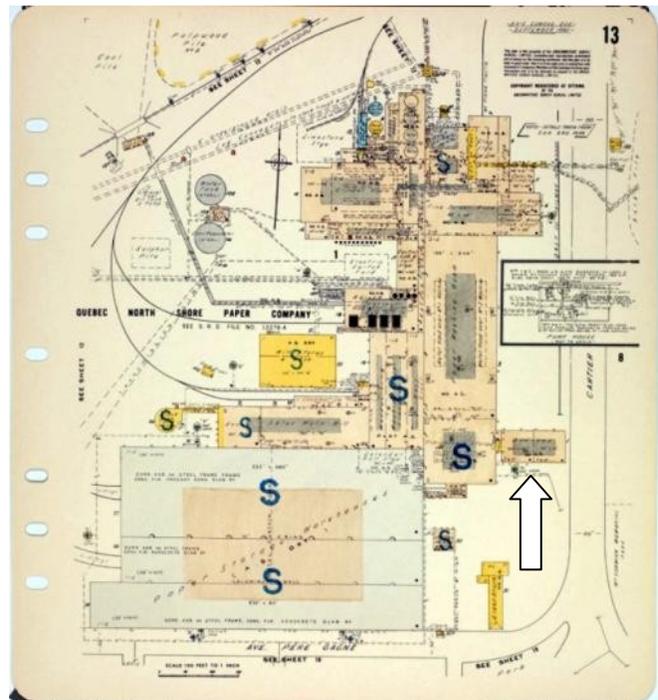


3.3.9 Saint Edward of Canterbury Church in Pointe-Claire's neighboring municipality, Beaconsfield, by Roger d'Astous was inventoried by 2013 but has not received legal heritage protection. Industrial sites, normally associated with a lower heritage priority, may need to wait long for recognition (photo: Anja Borck).

3.4



3.4.1 Quebec North Shore/AbitibiBowater Administration building from c. 1962 (photo: Anja Borck).



3.4.2 – 3.4.4 Robert Rutherford McCormick built Baie Comeau's first paper plant in 1937, which grew continuously, extending towards the back. The office found space in a small shack facing the street (see arrow), (photo top left: Anja Borck, bottom left: BANQ, map: Underwriters' Survey Bureau).



3.4.5 + 3.4.6 A number of postcards from the 1960s confirm Quebec North Shore's new headquarters advanced to Baie Comeau's most prominent landmark (postcards: BANQ).



3.4.7 + 3.4.8 When Quebec North Shore came to AbitibiBowater in 2007, the headquarters moved out. The building became vacant from that time on but looked well maintained in 2011 (photos: Anja Borck).



3.4.9 + 3.4.10 Eduard Fiset built the Baie Comeau City Hall after 1959, across the street from Quebec North Shore's headquarters, and the Charles-de-Koninck Pavilion for Laval University in Quebec City. Both buildings show stylistic similarities to Quebec North Shore's headquarters office whose architect remained unknown (photo left: Anja Borck, right: Université Laval).

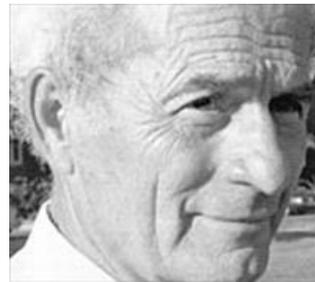
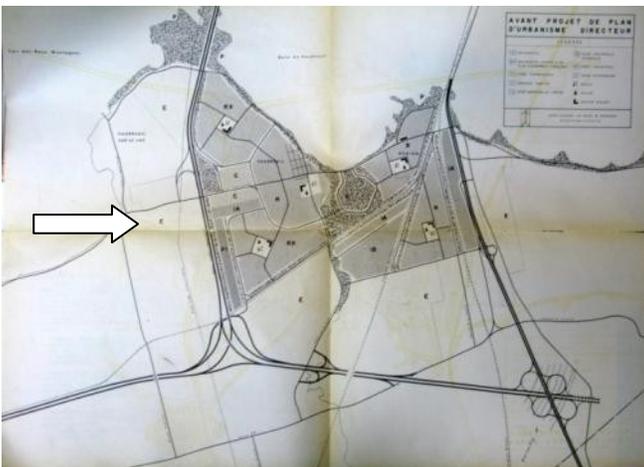
3.5



3.5.1 Hoffmann La Roche Complex Vaudreuil in 2009 seen from the south side, facing Highway 40 (photo: Anja Borck).



3.5.2 + 3.5.3 The laboratory building seen from the south and from the east (photos: Anja Borck).



3.5.4 + 3.5.5 Jean-Claude La Haye produced the urban plan (showing east to the top) with Cité-des-Jeunes in 1964, after new plans moved the highway to the municipality of Vaudreuil; arrow shows location of Hoffmann La Roche (map: Archives Vaudreuil-Dorion, photo: Ordre des urbanistes du Québec, undated).



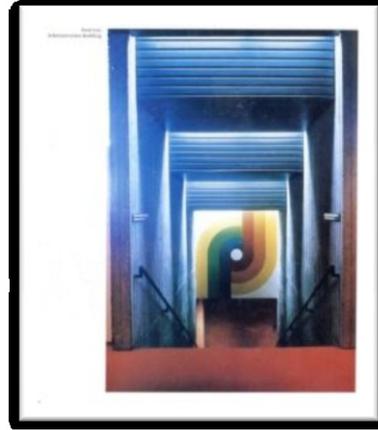
3.5.6 + 3.5.7 Montreal Star Building by Marshall and Merrett from 1957-61. Hoffmann La Roche building with landscaped park (photo: Christian Lemire, 2008, image: google map).



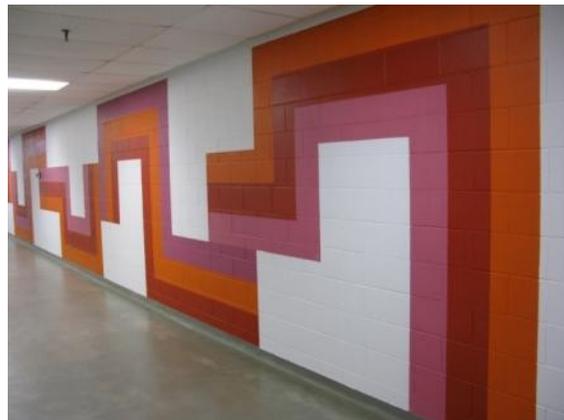
3.5.8 + 3.5.9 Ground floor foyer of Hoffman La Roche and second floor with spiral stairs (photos: Anja Borck).



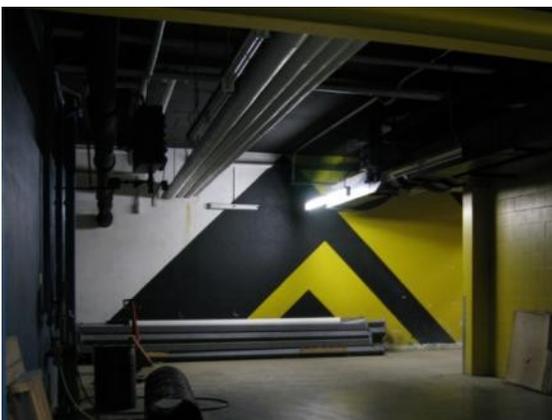
3.5.10 + 3.5.11 Twelfth floor with executive offices and view onto Lake of Two Mountains from the office (photo: Anja Borck).



3.5.12 + 3.5.13 Empty seventh floor. Entrance to the underground tunnel system with one of the murals, depicted in Leon Whiteson's *Modern Canadian Architecture*, 1983. This mural was removed before 2011.

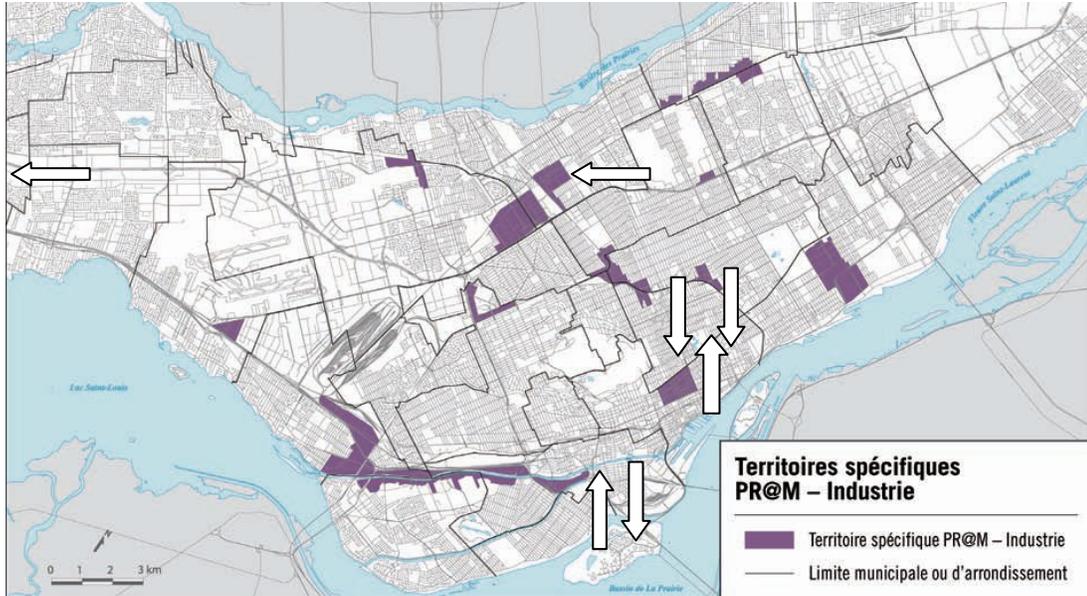


3.5.14 + 3.5.15 Murals in corridor and tunnel system in 2011 (photo: Anja Borck).

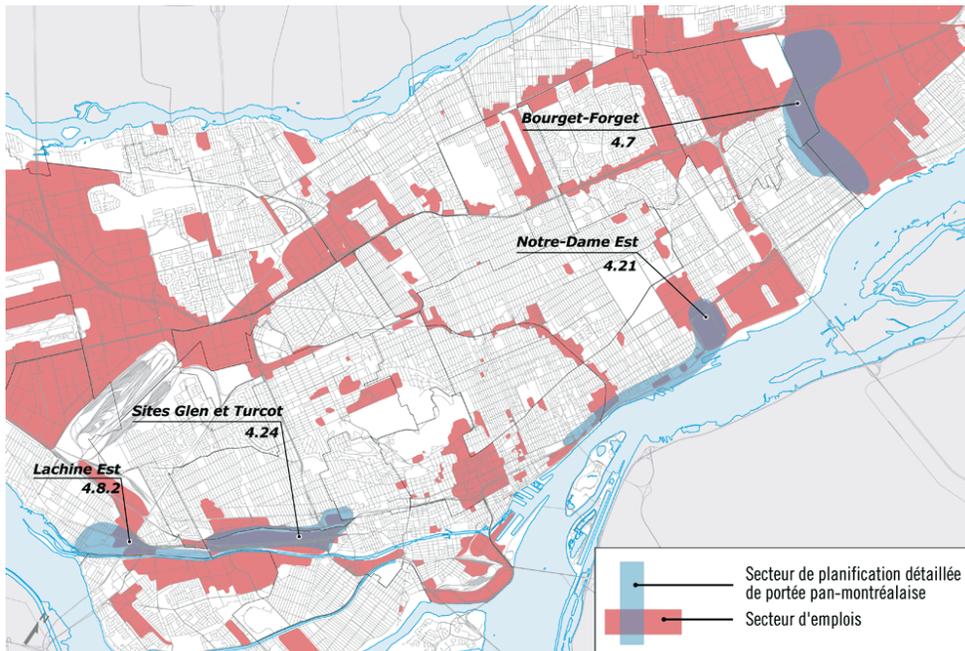


3.5.16 + 3.5.17 Underground space with design elements. Designer Rolf Harder created the decorative elements for Hoffmann La Roche in 1971 (photo left: Anja Borck, right: Roch and Harder).

3.6



3.6.0.1 Map PR@M-industries with the areas indicated as densified industries and de-industrialization of the other areas; arrows point to sites of the case studies on the Island of Montreal, from top to bottom and left to right: Avon building/Norman Wade building, Chabanel district, Canadian Power Boat Co., Esso gas-service station, 225 Roy Street, 1830 Marie-Anne Street East, 2205 Parthenais (map: City of Montreal).



3.6.0.2 Map of Montreal indicating areas of high density of employment (map: City of Montreal).

3.6.1



3.6.1.1 Canadian Power Boat Company (CPBC) seen from the north side of the Lachine Canal, historic photograph (photo: curtsey of Bernard Goldberg).



3.6.1.2 Canadian Power Boat Company, facing the Lachine Canal, 2012 (photo: Anja Borck).



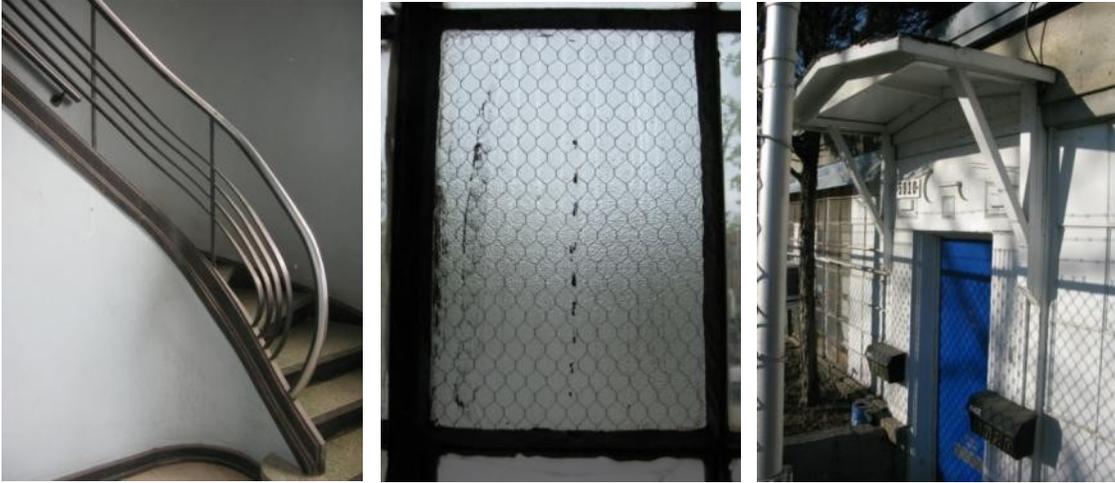
3.6.1.3 + 3.6.1.4 Women fitting boards at the CPBC (left), workers covering the hulls of motor torpedo boats under construction with linen fabric (right), (photo left: curtsey of Bernard Goldberg, right: Library and Archives Canada, MIKAN no. 3205298).



3.6.1.5 Torpedo boats waiting in the basin, ready to be released (photo: The Flying Boat Forum).



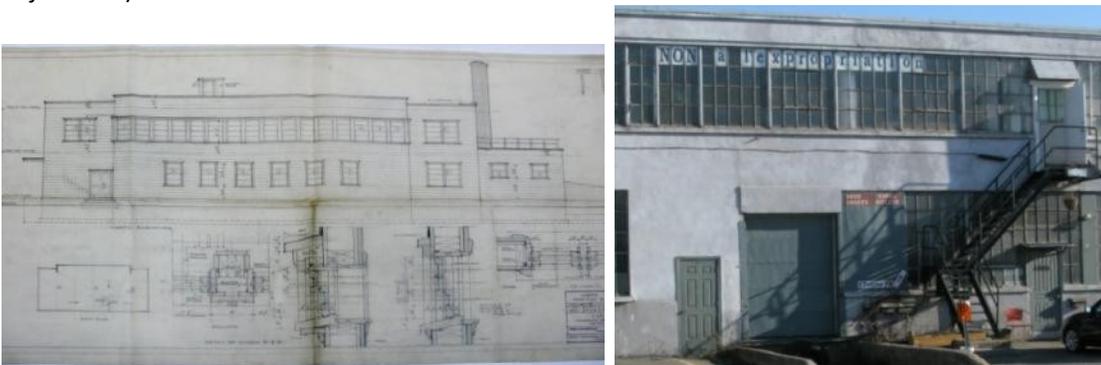
3.6.1.6 + 3.6.1.7 Interior front part with concrete frame (left) and interior back part (top) with steel frame and overhead rails (photos: Anja Borck).



3.6.1.8 - 3.6.1.10 Stair case and window probably from 1940, roofed doors were later additions (photos: Anja Borck).



3.6.1.11 + 3.6.1.12 Sliding door were still in place in 2013 but blocked by later extensions (photo: Anja Borck).

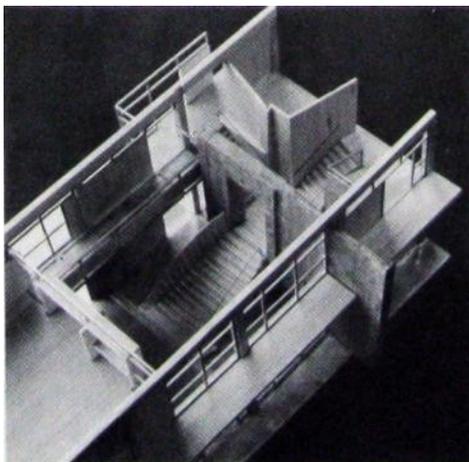


3.6.1.13 + 3.6.1.14 Disputed canteen by Montreal's architectural office of Ross and Macdonald for which plans exist, dating to 1943. Window of the Canadian Power Boat Company with "Non à l'expropriation"-message by tenants in spring 2012 (plan: CCA archives, photo: Anja Borck).

3.6.2



3.6.2.1 + 3.6.2.2 In 1988, Gilles Saucier designed a stair case for 225 Roy street, previously the site of Quebecor's headquarters, which brought the building some attention from architectural critics (photo left: ARQ, right: Anja Borck).



3.6.2.3 + 3.6.2.4 The model of Saucier's intervention in the building and the realized design (photo left: ARQ, right: Anja Borck).



3.6.2.5 + 3.6.2.6 Pierre Péladeau launched the Journal de Montreal on June 15, 1964 (1925-1997, right), here in an edition from 1972, printed at Rue Roy (photo right: unknown).





3.6.2.7 + 3.6.2.8 The district had mostly textile industry. The Halbro building with its small relief over the entrance is speaking witnesses of this past (photos: Anja Borck).

3.6.3



3.6.3.1 + 3.6.3.2 Former garage turned framing shop with penthouse extension, front and back (photos: Anja Borck).



3.6.3.3 + 3.6.3.4 The press featured the penthouse with retractable glass roof (left). The facade wall of the lower structure with differently coloured bricks, probably showing the original roof line (photo left: Christian Guay for Living with Style, right: Anja Borck).



3.6.3.5 + 3.6.3.6 Reconstructed horse gin Rudolphschacht Lauta, near Marienberg, Saxony, used for the vertical transportation of loads inside the mine shaft. They were once a common feature at farms and in mining industries, in Germany all but one disappeared (photos: Anja Borck).



3.6.3.7 Once common: small auto repair shops in North American become quickly rare (photo: Laurier Auto Repairs).

3.6.4



3.6.4.1 + 3.6.4.2 Pantel Building, the company mostly produced clothing for women, is today *Le chat des artists*, a centre of artists, run by a non-profit organization. The conversion kept most of the architectural features (photos: Anja Borck).



3.6.4.3 - 3.6.4.5 The Pantel Building at the start of renovations (top left). Bright colors on the ceiling enhance the parking area (bottom left). The architect subdivided the open floor plan into a variety of rental spaces of different sizes (right) (photo top: courtesy of Dorota Jonkajty, bottom: Anja Borck, plan: Ateliers Creatifs).



3.6.4.6 Artists turned the older Grover Building, a textile mill, into studios before a developer converted the building to residences (photo: Anja Borck).

3.6.5



3.6.5.1 + 3.6.5.2 View down Chabanel Street with eight super-blocks, housing Quebec's textile industry (photos: Anja Borck).



3.6.5.3 + 3.6.5.4 On the photograph from the 1970s the building 125 Chabanel Street West can be spotted at the far left, confirming a building date prior 1970. Across the industrial super-blocks begins a large residential district with row houses (photo left: Raphael Sewing Machines Inc., right: Anja Borck).



3.6.5.5 + 3.6.5.6 Weather damage on the exterior of building 99 Chabanel Street. Behind the textile factories is the old ammunition factory (photos: Anja Borck).



3.6.5.7 + 3.6.5.8 Entrance and foyer of 333 Chabanel Street West with terrazzo floors and travertine siding on the walls (photos: Anja Borck).



3.6.5.9 + 3.6.5.10 Entrance and foyer of 433 Chabanel Street West with escalator and gallery (photos: Anja Borck).



3.6.5.11 + 3.6.5.12 Renovated entrance and foyer in new design at 225 Chabanel Street West (photos: Anja Borck).



3.6.5.13 + 3.6.5.14 125 Chabanel Street West during work in 2012 to convert the block to a residential building (photos: Anja Borck).



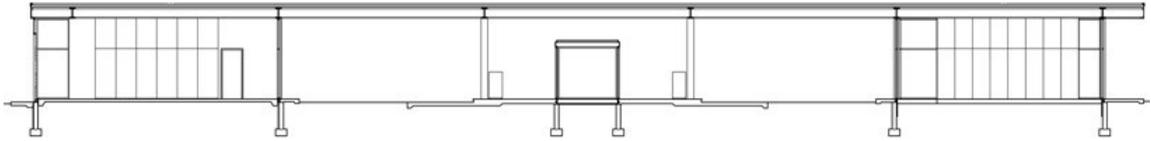
3.6.5.15 + 3.6.5.16 Images of 125 Chabanel Street West after the conversion process, published by Alessandra Mariani in "Territoire, patrimoine, quartier en développement," design by Workshop.



3.6.5.17 – 3.6.5.19 Chabanel Street as envisioned by Groupe Dayan (internet presentation).



3.6.6



3.6.6.1 Les architectes Fabg drawing from c. 2009 of Ludwig Mies van der Rohe's gas service station.



3.6.6.2 Westmount Square by Mies van der Rohe, 1968 (photo: Imtl.org).



3.6.6.3 – 3.6.6.5 Esso Gas station in older days (photo left: Chicago History Museum, top right: unknown, bottom right: unknown).



3.6.6.6 “Incomparable setting for a new life” advertisement brochure for Nun’s island from c. 1970. Arrow shows location of gas service station (images: curtsey of Jean Bélisle).



3.6.6.7 – 3.6.6.9 Esso Station after conversion, transparent, with clear lines and too precious to drill holes for a sign (photos: Anja Borck).



3.6.6.10 + 3.6.6.11 Berlin Neue Nationalgalerie, empty space for Germany’s new beginning. The historic gas service station *Tankstelle Brandhof* in Hamburg, restored by the owners with support from public funds, serves vintage cars (photo left: unknown, right: Johanna Klier).

4.1



4.1.1 The case studies were conducted in the four following parts of Germany, sorted from north to south: Hamburg, North Rhine Westfalia (Düsseldorf and Cologne, see arrows), Baden Wurtemberg (Blumberg, see arrow) and Bavaria (Garching, see arrow).

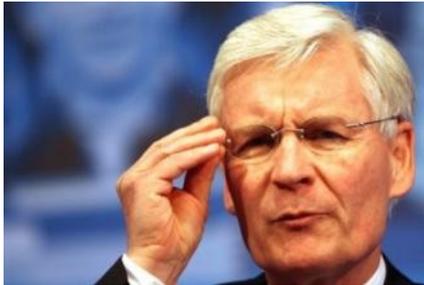
4.2



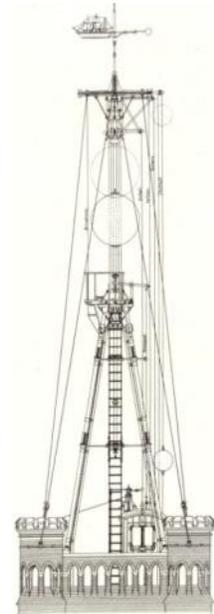
4.2.1 Kaispeicher A in the harbor of Hamburg seen from the Elbe River in c. 2000 (photo: unknown).



4.2.2 + 4.2.3 Map of Hamburg's centre and northern harbour, arrow points to the site of Kaispeicher A. The Kaispeicher A belongs to the district of the Speicherstadt, a historic warehouse development, of which it is the most southern part (map: google map, photo: T. Hampel).



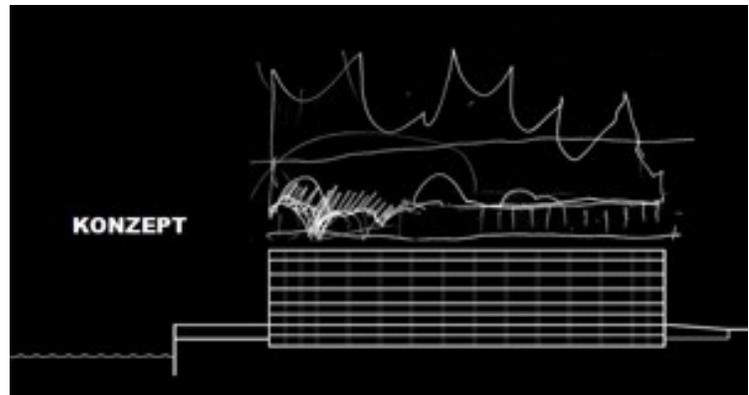
4.2.4 + 4.2.5 Henning Voscherau, mayor of Hamburg from 1988-1997, initiated the concept of a city expansion to the northern, underused harbour area, named Hafencity. The Kaispeicher A, in the model at the front right corner, sits prominently at the entrance to the new city district (photo left: dpa, right: blog "Observing Berlin's Built Environment").



4.2.6 + 4.2.7 The old Kaispeicher A, photo around 1910, with the widely visible time signal: A ball, one meter in diameter, would fall three meters at noon, Greenwich time, exact to a tenth of a second. Ships could adjust their navigation instruments to it (photo: unknown, drawing: Schramm).



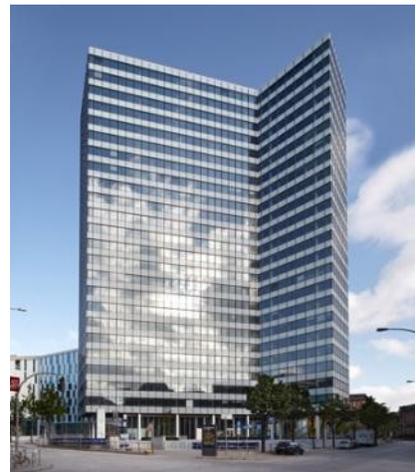
4.2.14 + 4.2.15 Image showing the “expressionist” corner of the Kaispeicher. The design for a media-centre by Benthon Crowell would have altered the ware house significantly (photo: Bestand Kallmorgen F29-1, Hamburgisches Architekturarchiv der Hamburgischen Architektenkammer, computer image: Benthem Crowell).



4.2.16 + 4.2.17 Swiss architect-team Jacques Herzog and Pierre de Meuron’s concept of a sculptural building on top of the ware-house in a first sketch for the Elbphilharmonie (photo: Todd Eberle).



4.2.18 + 4.2.19 Ole von Beust, Hamburg's mayor from 2001-2010, photographed in the Speicherstadt, pushed for the realization of Herzog + de Meuron's Elbphilharmonie, seen here in 2012 (photo left: E.S. Myer, right: Anja Borck).



4.2.20 + 4.2.21 The Unilever Tower (Emporio Tower since 2012) during renovation and extension in 2009. The tower kept its heritage status after the modernization and two-floor extension (photo left: Anja Borck, right: HPP Architects).

4.3



4.3.1 Central Cattle Market Hall by Hans Konrad Havemann, during renovations in 2012 (photo: Bothilde Borck).



4.3.2 The Old Lombards Bridge (front) and the 1953 inaugurated New Lombards Bridge (behind), renamed Kennedy Bridge in 1963 (free span of 94 meters) cross Hamburg's Alster Lake. Bernhard Hermkes designed the Kennedy Bridge with engineer Hans Konrad Havemann (photo: Wolfgang Meinhart).



4.3.3 + 4.3.4 Interior of cattle market during operations (photos: Archives Kulturbehörde Hamburg, Denkmalschutzamt)



4.3.5 + 4.3.6 Support-free stairs behind the large windows add interest to the front and the back of the building's facades (photos: Anja Borck).



4.3.7 + 4.3.8 Sculptures by Ernst Hanssen and inserted car parking garage for the supermarket on ground level (photos: Anja Borck).



4.3.9 + 4.3.10 Access ramps to the parking deck. Interior of the supermarket in 2009 (photo: Anja Borck).



4.3.11 + 4.3.12 Corrugated metal cladding hides the red brick in 2009. After renovation work, a new supermarket and other retailers will rent the space (photo left: Anja Borck, right: Bothilde Borck).



4.3.13 + 4.3.14 Sankt Pauli's Reeperbahn is Hamburg's famous red light district, the Hafensstraße on the shore of the Elbe housed workers from the nearby harbour (photo left: Dennyone, right: Anja Borck).



4.3.15 + 4.3.16 Theatre, turned hardware store turned autonomous cultural centre Rote Flora. Conflict in front of the Rote Flora, May 1, 2000 (photo left: Anja Borck, right: Rote Flora).



4.3.17 Local citizens designed Park Fiktion in Sankt Pauli to their needs (photo: Sabine Stövesand).

4.3.18 + 4.3.19 Since 2009, two hundred artists occupy the Gängeviertel in Hamburg. The banner reads: "Monument protection instead of glass, steel and plaster." A developer had planned to leave the exterior walls but insert a large commercial centre behind the historic facades (photo left: dpa, right: Das Gängeviertel).



4.3.20 + 4.3.21 Citizens installed the *Planungswürfel*, wood-boxes with removable walls to offer room for meetings and exhibitions to communicate their wishes to Hamburg's Senate. When planning went on without them, they transformed the dices into a monument, called "lighthouse of crippled public involvement" (drawing: Till F.E. Haupt, photo: Anja Borck)

4.4



4.4.1 + 4.4.2 Gerresheimer Glassworks at the beginning of the twentieth century and around 2005, arrows on the photograph point to the three heritage structures (illustration: Archives Untere Denkmalbehörde Düsseldorf, photo: Niemann + Steege GmbH).



4.4.3 The three heritage structures of the Gerresheimer Glassworks seen from the train station in 2012 (photo: Anja Borck).



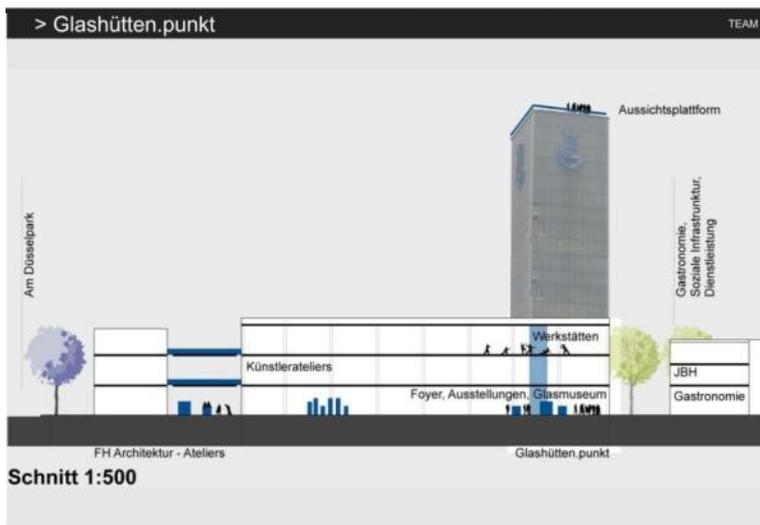
4.4.4 + 4.4.5 The company housing in Gerresheim and the Heyebad, both directly alongside the factory property, belong to Düsseldorf's heritage (photos: Anja Borck).



4.4.6 + 4.4.7 Photographs taken for the information brochure to promote the urban planning competition for the site's redevelopment. The structures were demolished by 2012 (photo left: Peutz Consult GmbH, right: Niemann + Steege GmbH).



4.4.8 Planning area without the earlier sold land parcels to the south and west (top and left), that belonged likewise to the Gerresheimer Glassworks (photo: Niemann + Steege GmbH).



4.4.9 – 4.4.11 Winning competition project by rha Reicher Haase and Hannelore Kossel/Jochen Füge, respects the integrity of the tower with its substructure (illustrations: Haase + Kossel).



4.4.12 + 4.4.13 Plans by Döring Dahmen Joeressen Architects suggest an alternative conversion of the substructure that the owner of the property plans to tear down (plans: Archives Untere Denkmalbehörde Düsseldorf).

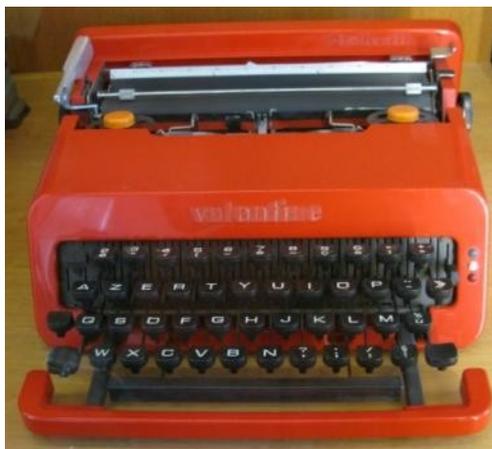
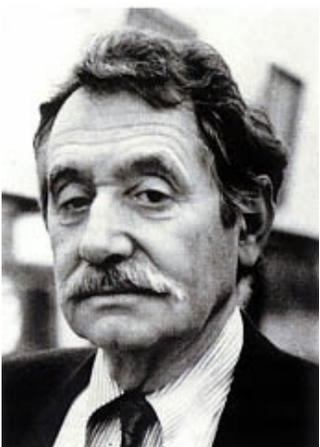


4.4.14 The translucent tower features the so-called Gerrix sign, a crowned “G”, once a common imprint on glass bottles in Germany (photo: Archives Untere Denkmalschutzbehörde Düsseldorf).

4.5



4.5.1 Esprit German headquarters and showroom in Düsseldorf, designed by Ettore Sottsass in 1985-1986 (photo: Anja Borck).



4.5.2 + 4.5.3 Ettore Sottsass (1917-2007) became famous as an industrial designer for the Italian company Olivetti for whom he created the look of the typewriter Valentine in 1969 (photo left: Sottsass Associati, right: Anja Borck).



4.5.4 Esprit rented a property (arrow) set back two lots from the street in a small industrial zone at the south-east of Düsseldorf (map: googlemap).



4.5.5 + 4.5.6 A look from the street and from the parking lot (photos: Anja Borck).



4.5.7 + 4.5.8 The parking lot and passage through the park are part of Sottsass' design (photos: Anja Borck).



4.5.9 + 4.5.10 Park with sculpture when approaching the building, and seen from the entry looking back towards the parking lot (photo left: Archives Untere Denkmalbehörde Düsseldorf, right: Anja Borck).



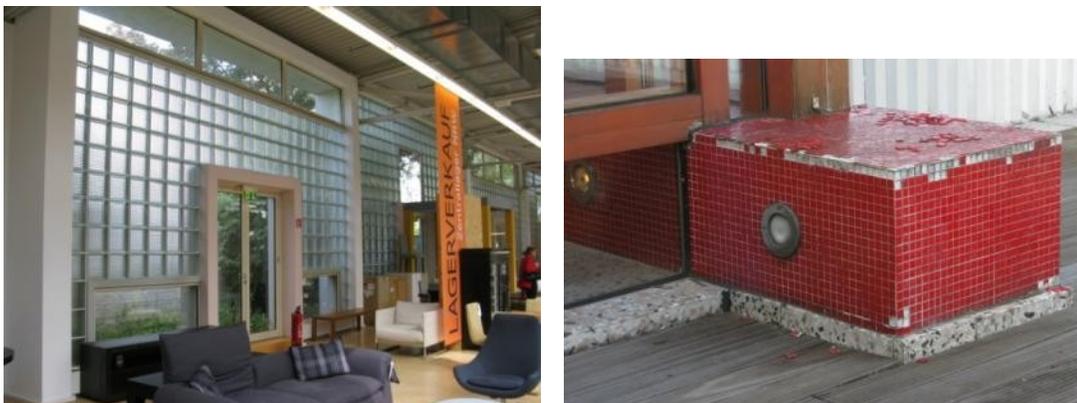
4.5.11 Entrance pavillon (photo: Anja Borck).



4.5.12 + 4.5.13 Sottsass designed a variety of colourful and surprising interior features throughout the building; a challenge for any user. Sottsass' movable interior design moved with Esprit to its new location to Rathing (photos: Anja Borck).



4.5.14 + 4.5.15 The gallery and the basement of the showroom (photos: Archives Untere Denkmalbehörde Düsseldorf).



4.5.16 + 4.5.17 The glass-block back wall. At the exterior, many of the tiles are loose and falling off (photo: Anja Borck).

4.6



4.6.1 + 4.6.2 The factory of 4711 in Cologne Ehrenfeld by Wilhelm Koep during construction; the firm produced cosmetic products. The brand's colours are gold and turquoise; advertisement from 1958 (photo left: Archives Untere Denkmalbehörde Köln, right: House of 4711).



4.6.3 + 4.6.4 After the factory closed in 1993, the new owner converted the site to the Barthonia-Forum, with offices, stores and residential housing (map, north is bottom, south is top: googlemap, drawing: Luczak+Jürgensen).



4.6.5 + 4.6.6 In 1794, Napoleon numbered all houses in Cologne, the house of Wilhelm Mühlens received the number 4711. After five generations, Ferdinand Mühlens (1937) sold 4711 to Wella AG, since 2004 Wella belongs to Procter + Gamble (illustration: House of 4711, photo: WAK).



4.6.7 + 4.6.8 The Blue-Gold House by Wilhelm Koep stands across Colognes gothic cathedral, the sign of 4711-Eau de Cologne may be as famous as the church itself (photos: Anja Borck).



4.6.9 + 4.6.10 The balcony of the administration building provided management with a view across the factory. The soap production and boiler house in the factory yard (photos: Anja Borck).



4.6.11 + 4.6.12 The warehouse before renovation and afterwards. Today, bright white window frames on the ground floor and a row of opaque glass to hide the concrete floor slab add visual weight to the building (photo left: Archives Untere Denkmalbehörde Köln, right: Anja Borck).



4.6.13 + 4.6.14 New turquoise safety glass sheets replace the glass tiles. Where larger areas of tiles had been mounted without a frame, new fixtures support the larger glass-sheets (photos: Anja Borck).



4.6.15 + 4.6.16 The high-rise administration building exchanged the old glass sheets with enamelled metal sheets. An extra layer of insulation pushed the windows deeper into the facade (photo left: Anja Borck, right: Archives Untere Denkmalbehörde Köln).

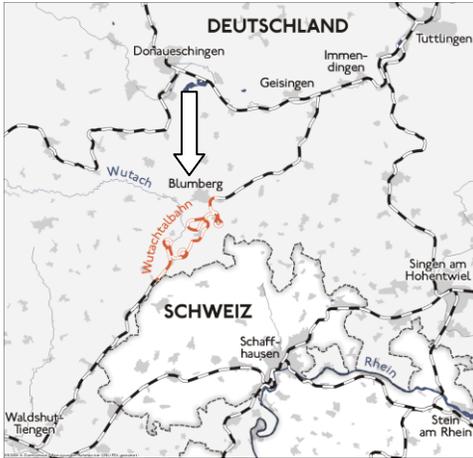


4.6.17 + 4.6.18 The staircase between the soap factory and the warehouse has not been altered. It enjoys heritage protection (photos: Anja Borck).



4.6.19 + 4.6.20 The foyer of the administration building was not changed, the conservation authority had given it heritage protection, as well (photos: Anja Borck).

4.7



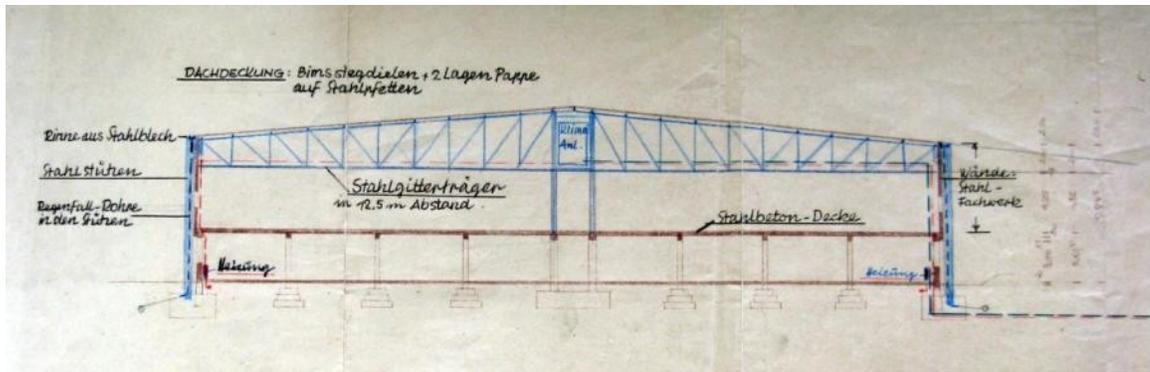
4.7.1 + 4.7.2 For Germany, Blumberg has a remote location (see arrows), twenty kilometers from the provincial town of Donaueschingen, which is also the closest access to a federal highway (map: Sansculotte, photo: Tilman Kluge).



4.7.3 + 4.7.4 The Lauffenmühle, established in 1836 in Silesia. After World War Two it was relocated to Blumberg, West Germany. The city's iron-ore mines had closed in 1942, leaving an intact infrastructure and thousands unemployed (photo left: Ibs, right: Anja Borck).



4.7.5 + 4.7.6 Baden's Premier Leo Wohleb (1888-1955) talks to Egon Eiermann at the initial meeting during the contract signing ceremony in August 1949. Entrepreneur Gustav Winkler signs the building contract, watched by the Premier (photos: Ibs Ingenieurbüro für Bauwesen Schweizer).



4.7.7 Drawing of section A-A by Egon Eiermann dated September 18, 1949 (curtesy of Archives Regierungspräsidium Freiburg, Referat Denkmalpflege).



4.7.8 + 4.7.9 Factory seen from afar in its rural setting. Production hall exterior with boiler house at the left around 1950 (photos: Ibs Ingenieurbüro für Bauwesen Schweizer).



4.7.10 When the company opened in 1950, they produced fashionable handkerchiefs with more than five hundred looms. At the beginning of the 1960's, the size of the production hall doubled (photo: Ibs Ingenieurbüro für Bauwesen Schweizer).



4.7.11+ 4.7.12 Interior, the ground floor structure is a reinforced concrete frame with low ceiling and short spans between the pillars. The stairs hang on four slender steel pillars. Photos were taken in 1996, after operations ceased (photo: Archives Regierungspräsidium Freiburg, Referat Denkmalpflege).

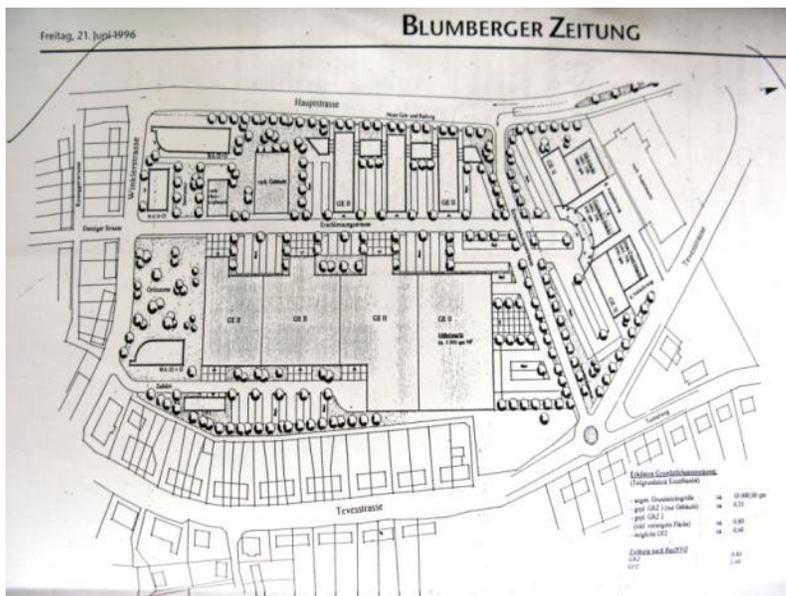


4.7.13 - 4.7.15 The second floor has pillars only on both sides of a narrow corridor (seen in 1996). The ceiling has no skylights, the inside is lit artificially. In contrast, the pathways connecting the different parts of the building have floor to ceiling glass walls (photos: Archives Regierungspräsidium Freiburg, Referat Denkmalpflege).





4.7.16 Images show, the north wall had not received the original wall coverage (photo: Archives Regierungspräsidium Freiburg, Referat Denkmalpflege).



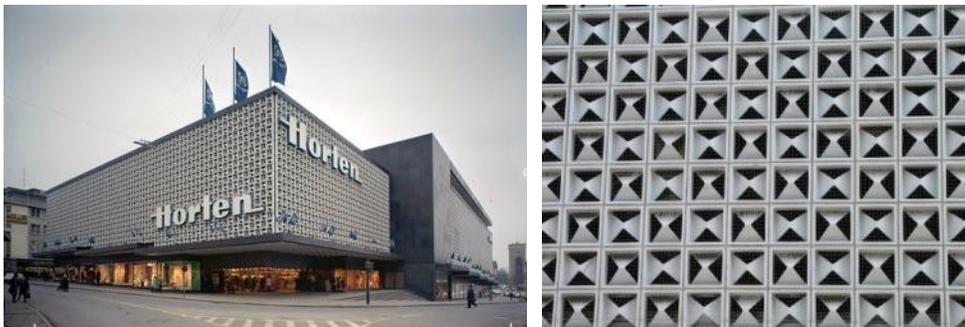
4.7.17 In June 1996, the local newspaper published a plan for a future conversion with vertical partitioning throughout the building (article, courtesy of Archives Regierungspräsidium Freiburg, Referat Denkmalpflege).



4.7.18 + 4.7.19 An energy company converted the boiler house, the only structure of Eiermann's original factory still standing in 2012 (photos: Anja Borck).



4.7.20 Ibs realized the demolition of the factory. The firm demolished the first part in 2005, the second in 2009 (ibs web page).



4.7.21 + 4.7.22 Egon Eiermann designed the Horten-tiles for the Horten department store around 1960. Horten used these tiles for their stores in all parts of Germany, much disliked by many citizens (photo left: Stadtarchiv Heilbronn, right: Wolfgang Meinhart).



4.7.23 + 4.7.24 The files and documentation on Egon Eiermann's Lauffenmühle at the conservation authority had a portion of the original architectural plan (in box), along with correspondence, newspaper coverage and documenting photographs taken since 1996. The private archives of Ibs held the photographs taken between 1949 and 1996 in four photo albums (photos: Anja Borck).

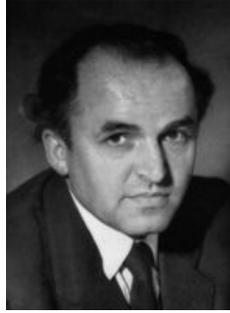
4.8



4.8.1 + 4.8.2 Germany's first nuclear reactor, called Atom-Ei (Atomic Egg) brought the future to Bavaria in 1957 – a quantum leap for the still agriculturally dominated region around Garching (photo left: unknown, right: Deutsche Landwirtschafts-Gesellschaft).

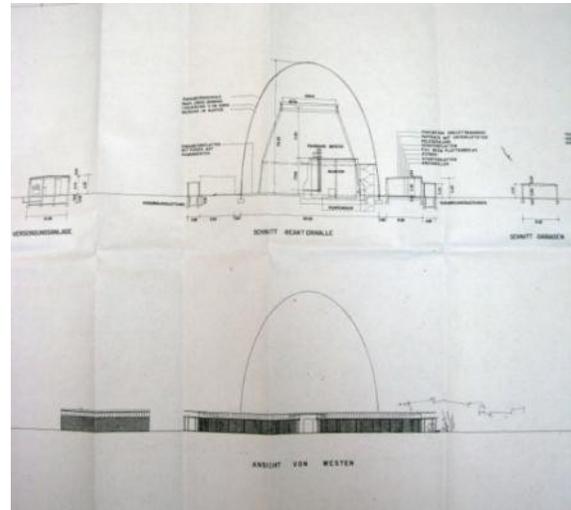
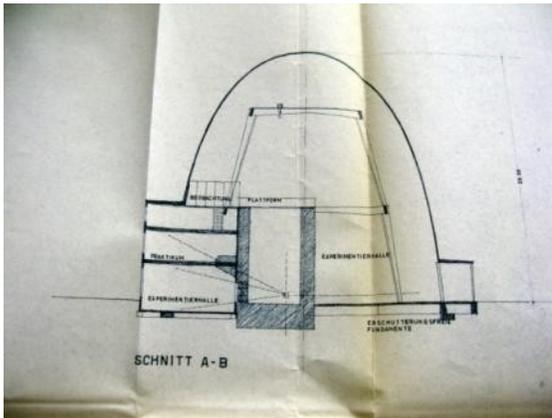
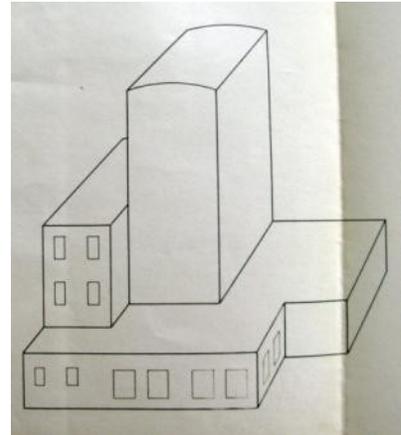


4.8.3 + 4.8.4 Dwight D. Eisenhower's UN "Atoms for Peace" speech on December 8, 1953 led to much discussion in Germany. Chancellor Konrad Adenauer (1876-1967) and the Minister for Nuclear Energy, Franz Josef Strauß (1915-1988) push for Germany's re-entry in nuclear research; a possibility that opened after the *Accords de Paris* on February 27, 1955 (photo left: United Nations IAEA, right: KAOS Archiv).



4.8.5 + 4.8.6 University professor Heinz Meier-Leibnitz (1911-2000) chaired the new nuclear research department with a focus on basic research, leading to the use of neutron-therapy in cancer treatment, for instance. Gerhard Weber (1909-1986), Leibnitz's colleague from the department of architecture at the Technical University, developed the plans for the nuclear research facility (photo left: Ulich Wienke, right: Architekten Portrait).

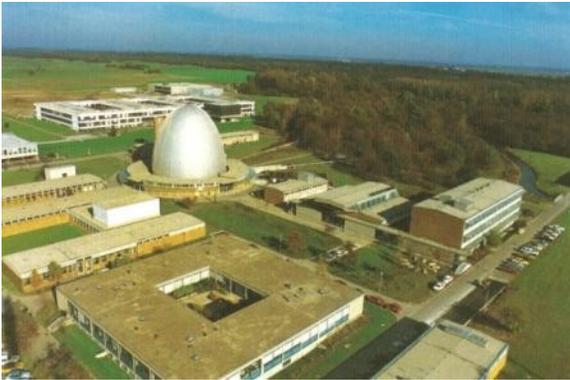
4.8.7 + 4.8.8 The prototype for research reactors had laboratories below the reactor (left). To decrease construction time, Weber preferred laboratories on the ground floor: his first plan, dated February 6, 1956, (image left: unknown, drawing: curtsey of Archives Technische Universität München Projektgruppe FRM II).



4.8.9 + 4.8.10 An advanced plan from June 11, 1956 and the final undated design, (drawings: curtsey of Archives Technische Universität München Projektgruppe FRM II).



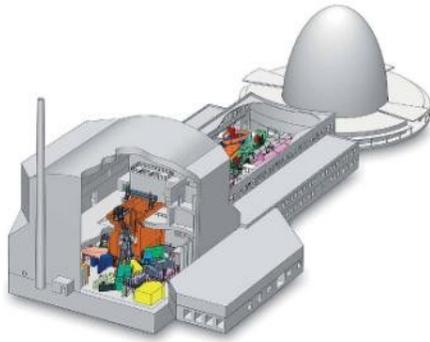
4.8.11 + 4.8.12 The Atom-Ei in 2012 and on the coat of arms of Garching (photo: Anja Borck).



4.8.13 The yellow brick barracks form an ensemble with the reactor, were included in the heritage protection (photo: FRM).



4.8.14 + 4.8.15 Premier Hoegner opened the first package of nuclear fuel on September 9, 1957 for Garching's reactor of the swimming pool type. The pool is visible to the left of the reactor bridge, which the university plans to preserve as an artefact (photo left: Jaeger & Goergen, right: FRM).



4.8.16 + 4.8.17 Since 2004, the Technical University of Munich uses the new reactor facility, FRM II, which is directly connected to the Atom-Ei. (photo and illustration: FRM).