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From Factory to Symbol: Identity and Resilience in the Reuse of Abandoned Industrial Sites of Belgium

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ABSTRACT

The economic crises of recent decades have resulted in the appearance of numerous brownfield sites across Belgium. In order that urban regeneration remains sustainable, the country will need to make strategic decisions in terms of the preservation, conversion or destruction of such industrial relics. At the same time, the rise in population, consumption and changing lifestyles require more and more space for urban development. It now appears that priority is being given to the remediation of these disused industrial sites in order to reinvest them with new functions and architectural forms. Is it really necessary to destroy everything when doing so means losing so much in terms of the cultural legacy and identity represented by these brownfield sites? This paper examines how former production sites can evolve an identity and develop the character of a heritage site of benefit to the community.

KEYWORDS

Brownfields site; heritage status; urban resilience; reconversion; Belgium

Introduction

For a number of years Belgian news media have been debating the uncertain future of several abandoned industrial sites. Despite the capacity for sustainable redevelopment of certain buildings, neighbourhoods or cities in numerous European countries, differences of opinion between citizens and decision-makers on whether or not to preserve buildings constructed during the Industrial Revolution are still the cause of controversy in Belgium.

To illustrate the point is the example of the Saint Albert Tower at Perennes-lez-Binche (Belgium), built in the 1950s and composed of a concrete headframe this structure attracted a great deal of interest at the end of 2014.

Rumours of the possible demolition of the site encouraged the association *Archéologie industrielle en région Du Centre* (AIRDC) to conduct a survey of residents as part of a general call to arms. It demonstrated the desire of local residents to preserve this piece of industrial heritage and, following the survey, a petition was launched demanding the conservation and rehabilitation of the tower. The 1,000 signatures required to apply for heritage status were soon collected. In the meantime, the application for a demolition permit, approved by the commune of Binche, was refused by the Walloon Region. In addition to gaining the support of a majority of residents and press, the AIRDC secured the support of, among



Figure 1. The Saint Albert tower, Peronnes-lez-Binche (Belgium) (© Iscaro, 2016).

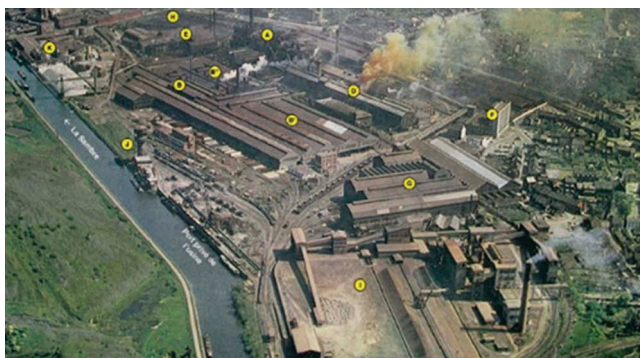


Figure 2. The Solvay plant, Porte-Est de Charleroi (© Inconnu, 1964).

others, the nonprofit organisation *Patrimoine Industriel Wallonie Bruxelles* (PIWB) and The International Committee for the Conservation of the Industrial Heritage (TICCIH). Such support confirmed the architectural, technical and industrial significance of the site, as well identifying the symbolic importance of the tower to the community of Wallonia. However, in July 2015, a demolition permit was approved by the Region. An appeal to the Council of State was lodged in mid-September 2015 by the AIRDC to overturn the demolition decision. The AIRDC won its case in January 2017 and in September 2017, the



Figure 3. The *Porte-Est* site in Charleroi (Cenci, 2015).

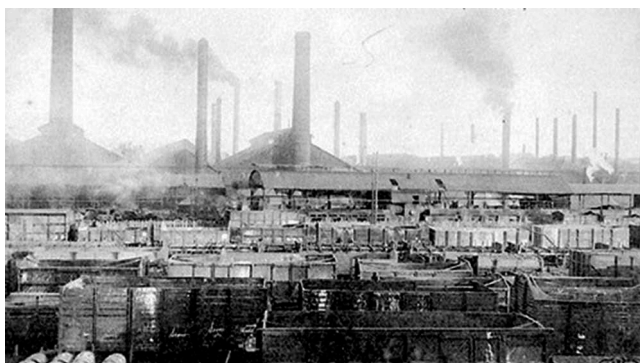


Figure 4. The *foundries and steelworks of La Providence*, Hautmont (© Unknown, s.d.; reproduction P. Dapvril; General inventory, ADAGP © Private collection).



Figure 5. The former site of the *foundries and steelworks of La Providence* (Cenci, 2015).

Faculty of Architecture and Urban Planning of the University of Mons organised a conference and an exhibition based on the projects of students involved in the redevelopment of the site. Today, however, the building is still under threat of demolition and further legal proceedings are planned by its owners.



Figure 6. The Belval site (Grand-Duchy of Luxembourg), (©Henriette, 2017).

From this example alone, several questions emerge, for instance how can we avoid the destruction of sites with high heritage value when confronted by the potential of rapid financial benefits arising from a *tabula rasa* approach? How can these former factories, intended for the production of goods, be transformed into resilient symbols of social value?

This article addresses questions such as these and others related to the heritage designation of disused industrial sites, how to identify their heritage values and their architectural and development potential in conservation planning. To this end it is important to understand the slow and stuttering development of the institutional recognition of industrial archaeology in Belgium and to compare this to the designation regimes in neighbouring countries. It is also important to appreciate that the process of creating a *tabula rasa* from a former industrial site transforms it into an object of 'natural heritage' at the same time turning the negative image of an industrial site into a tangible piece of heritage. Examples of these processes from Belgium will be



Figure 7. Two steel head frames, one made of bricks and one slag heap, *Bois Du Cazier*, Marcinelle (© Unknown, s.d.).



Figure 8. Steelworks site, Clabecq (© B. & H. Becher, 1985).

supplemented by others from France, Germany and Luxembourg; neighbouring countries which have all seen the Industrial Revolution radically modify social, economic and urban development. Finally, by reviewing the principal typologies of industrial archaeology, it is possible to define and determine the varied elements that are constitutive of industrial heritage, symbolic of regional identity and supportive of resilient local conservation.

The Development of Industrial Heritage in the Context of Land Use Planning in Belgium and Neighbouring Countries

The preservation of industrial architecture is accepted in many countries of north-western Europe. Numerous studies, such as the archetypical post-industrial

redevelopment of the Ruhr region (Emscher Park), confirm the high level interest in this form of conservation. Similarly, brownfield redevelopments in the Haut-de-France Region and at the Belval site in Luxembourg express the same concern for industrial heritage.

In some areas, however, communities struggle to keep industrial heritage and its retention as a symbol in the landscape remains a continuing battle. It is important, therefore, to consider or at least to determine, what regulatory and planning tools are best suited to the preservation and redevelopment of these buildings. This section contextualises and analyses regulatory developments in Belgium. It shows the growing but limited interest in the conservation and redevelopment of disused industrial sites and highlights the need for continuing awareness and consciousness raising. This review is contextualised by a brief survey of the regulatory instruments in neighbouring countries.

Since the birth of Belgium in 1831, its leaders have shown their awareness of its general heritage through the creation of the *Commission royale Des Monuments, Sites et Fouilles* (CRMSF) in 1835. In 1911, the *Destrée* law¹ required industrialists to replant disused industrial sites, including waste heaps. Yet it was not until 1931 that a law on the *Conservation Des monuments et sites*² provided regulatory protection for buildings. It gave a legal framework to the recognition of a number of elements defined as industrial heritage at the time of World War II.

Some years earlier, supported by the Association of the Ruhr mining district³ in Germany, Robert Schmidt, a town planner and an early exponent of environmental urban planning, affirmed the value of safeguarding and reinforcing green spaces and free zones at infra-local, local and global scales, while integrating an effective transport network and the planning of housing and industrial zones. As Joly describes, 'Schmidt thus appears to be the instigator of the practice of a development philosophy based on the rational and sustainable planning of space, something that was missing in other major industrial regions of the period, and placed the Ruhr at the forefront of regional development'.⁴ In 1951, the first plan for the redevelopment of German industrial brownfield sites was established by the Land.⁵ This date marks the birth of awareness and involvement by the authorities responsible for Land, planning and SVR,⁶ in the reconciliation of economic redevelopment and the rehabilitation of brownfield sites.

It was not until a decade later in Belgium that the first inventory of historic monuments and heritage was created in the Walloon Region. A clean-up policy introduced through the intermediary of Royal Decrees states that by 1967 there were almost 520 industrial sites, representing almost 4,500 hectares, two-thirds of which were abandoned slag heaps. However, it was not until the 1970s, as awareness grew, that there was an increase in the number of classifications for industrial buildings which now included railway stations, pumping stations, textile mills. Belgium, therefore, has lagged behind its North European neighbours in terms of industrial heritage, redevelopment and forward planning.

In 1973, G. van den Abeelen created the *Centre d'archéologie industrielle*, which held the *L'homme et La machine* exhibition in 1975 in Brussels. This is recognised as being the key event in raising concern for heritage in Belgium. In 1976, the *Califice* law⁷ was adopted to govern protected former historic centres. In 1978 the birth in Flanders of the *Vlaamse Vereniging voor Industriële Archeologie* (VVIA), saw this organisation very quickly become the most representative Belgian association for this movement. Since then, numerous

symposiums and exhibitions have been held, including le *patrimoine industriel et sa reconversion* (Industrial Heritage and its redevelopment – 1987) and many studies have been carried out. 1984 saw the creation of the nonprofit organisation *Patrimoine industriel Wallonie-Bruxelles* (PIWB) and in 1990 The International Convention was organised in Belgium by the TICCH⁸ with the support of the PIWB. Two inventories (1994–1996) resulted from this growing interest, involving almost 1,310 industrial sites, 120 of which were selected for their historic and architectural qualities. Conducted by a Minister's office, though, these inventories cannot now be found. In 1990, heritage was brought within the scope of the Ministry of the Walloon Region via the *Directorate-General of Planning, Housing and Heritage* (DGATLP).

At the same time, the notion of industrial heritage was emerging in France⁹ evident in the texts of the symposium *The knowledge of Industrial Heritage in contemporary societies* at Creusot.¹⁰ However, the process had begun much earlier with the exhibition *Factory, work and architecture* organised by V. Grenier and the *Centre de création industrielle*¹¹ (*Centre of industrial creation* – CCI), which actually started the movement in 1973. However the CCI did not benefit from the quality and challenges created by such an event and it did not lead to the establishment of a stable body dedicated to archaeology and industrial heritage.¹² This first initiative was followed in 1975 by the organisation of the exhibition '*The landscape and industry*' created by the Archives d'architecture de France which displayed photographs of factories in northern France, Wallonia and Germany.¹³ A newsletter *Industrial Archeology* in France was distributed in 1976, followed by the formation in 1978 of the Information and Liaison Committee for the study of industrial heritage and archaeology (CILAC). This Committee organised, among other events, the 4th International Conference for the '*Study and promotion of industrial heritage*' in 1981,¹⁴ which was followed by numerous conferences and symposiums.¹⁵ The year 1978 also saw the creation of the Heritage Department within the Ministry of Culture. The recognition of industrial heritage continued with the publication in 1979 of an atlas of the work of L. Grenier and H. Wieser-Benedetti *Les châteaux de l'industrie*¹⁶ which followed the exhibition of the same name at the Pompidou Centre in 1978. A complementary review *Industrial Archeology* was published in the same year. In 1983, the *urban and architectural heritage protection areas* (*zones de protection de patrimoine architectural et urbain* – ZPPAU) were created and in the same year the *Industrial Heritage Unit* was formed within the sub-directorate of the *General Inventory* for the purpose of selecting elements to be preserved. The interdepartmental report of JP. Lacaze¹⁷ *The major industrial brownfield sites* and the reform of the *Commission supérieure Des monuments historiques* initiated the creation of the industrial heritage section and designation began in 1985.

In Belgium, in 1993, at the behest of Robert Collignon, Ministre-President du Gouvernement Wallon, a survey of the population was conducted, from which two conclusions were drawn. The first concerned a substantial rise in the awareness of heritage. The second showed that this was not the usually recognised form of heritage, but a *living* heritage based on *day-to-day experience*. The survey showed that this form of heritage 'is for them [the population] the point of reference that enables them to place themselves in time and space. This heritage that teaches them, day after day, who they are'.¹⁸ Although the term industrial heritage is not mentioned, a contemporary heritage is broadly favoured. The following year, the first industrial heritage day began by stating that it is 'important to

honour, before they are buried in the cemeteries of forgetfulness, the main witnesses of our technical genius comprising the catalyst of the Industrial Revolution of the whole of Europe, but also some of the most important edifices that symbolise for us one of the key pages in our social history'.¹⁹

At an international level, the International Committee for the Preservation of the Industrial Heritage (TICCIH) prepared an important document: the Nizhny Tagil Charter. Ratified in 2003, it sets out the principles for the preservation of industrial remains, the importance of accurate identification, a global inventory and the need for criteria for assessing their intrinsic qualities. Meanwhile, throughout the Croissant Houiller region, numerous slag heaps and several redeveloped post-industrial constructions have been classified by UNESCO as World heritage.²⁰ Elsewhere, the Nord Pas-de-Calais mining basin (France), the major mining sites of Wallonia (Belgium) and the industrial complex of the Zollverein coal mine in Essen (Germany), now form the European Route of Industrial Heritage (ERIH).

Although there have been regular publications and research projects for over 20 years, they have not inspired any real enthusiasm on the part of the Walloon government. Indeed, although the European Commission suggested to member countries and regions that they make 2012 the European Year of Industrial Heritage (at the suggestion of several associations from different countries, including the PIWB), the 27th Heritage Day in Wallonia did not follow this approach. Instead, it maintained the sombre image it has for decades been trying to erase. The question, therefore, arises of how those sites with a very negative ambience can evolve into places of heritage value?

Transforming Disused Economic Sites into Natural Heritage

Arguments for the redevelopment of abandoned industrial sites, while preserving traces of a bygone era, suggests that these sites include elements that are important to bequeath to future generations. This concept goes directly to the definition of *heritage*. The passing down of memory by material attachment is specific to western societies²¹ and results from a 'social production with ideological, political and/or economic purposes'.²²

Numerous authors have expressed their concept of heritage in the broad sense and of its development. In the nineteenth century it was defined 'goods that are passed down, in accordance with the law, from fathers and mothers to their children'²³ and later broadened to include 'a set of representations, of fixed attributes on a non-contemporary object [...] for which there is an agreed collective intrinsic importance requiring its conservation'.²⁴ From this general premise, other authors have developed different visions within the framework of industrial heritage. The variety of approaches enables us to understand the transformation of disused industrial sites into 'natural' heritage, despite the sometimes divergent views of academia. This iterative process conducted in different stages is explored below. Each sequence is clearly dependant on the next, and although the different stages are an integral part of the research employed, they are also the result of personal observations in the field:

To begin with, the perception of industry was positive. It reflected progress and modernity, in spite of the pollution and the back-breaking work of the factory workers, and despite major industrial disasters like that of the Courrières mine (Pas-de-Calais,

France) in 1906, the Oppau silo explosion (Germany) in 1921 and the fire at the *Bois Du Cazier* mine (Marcinelle, Belgium) in 1956.

Yet, in the second stage, the demise of heavy industry and the succession of social and economic crises, which have led to the appearance of industrial wastelands within our landscapes, have generated a real sense of disenchantment among the population. The mill towns which once produced, exported and distributed their produce throughout Europe are now deserted, transformed into brownfield sites. The perception of these remains, though, is changing.²⁵ The expertise, knowledge and lifestyle of that era are also disappearing and it is in this context that G. Di Méo commented that: 'heritage creation takes shape, accelerates and expands mainly during or after periods of intense social crisis, whether they result from political, ideological, religious, economic or environmental causes'.²⁶ Paradoxically, successive socio-economic crises can act to trigger the development of heritage.

The third stage concerns the perception that almost all industrialists, politicians and citizens want to draw a line under what are regarded as failures and unhappy memories. As C. Luxembourg²⁷ states, referring to the words of L. Andres and C. Janin, 'The wasteland marks the end of a territoriality, of interrelations between the city and the productive space, made real by peripheral spaces, while also offering new development opportunities'.²⁸ Often the decision to demolish factories and their infrastructures is made quickly. This mourning stage is extremely destructive²⁹ and has been favoured for a long time.³⁰ However, completely rebuilding a city on ruins of former structures makes it possible to start a new chapter in the history of the society and its people. Now, investors could invest in this *new* land. Yet, such destruction does not necessarily destroy the memory and symbolic character of the land, and its image can often remain negative. In Belgium, for example at the *Porte-Est* de Charleroi³¹ where all industrial traces have disappeared, demolition has left an 'orphan' site without a masterplan or even coherent proposals.

A similar example can be found in France at Hautmont, following the demolition of the superstructures at the *Cockerill* steel plant by the Etablissement Public Foncier Nord-Pas-de-Calais between 1997 and 1998.

Confronted by the evidence that, in many cases, a tabula rasa approach encourages a negative image of the cleaned-up land, some political decision-makers have decided not to follow this path. However, in a large number of former heavy industrial areas, numerous disused sites have, until recently, been completely destroyed, landscaped and re-planted with vegetation. Quite unlike other traditional heritage structures, disused industrial sites and their infrastructures, nevertheless have a contemporary symbolic and social identity. There often remains a social link, a collective appreciation and a recognition shared by the population, which is maintained even after demolition. As C. Carballo and C. Emelianoff note that 'it is the awareness of the disappearance that stimulates the heritage interest'.³² The destruction of traces from the industrial era could, therefore, be seen as the transforming disused industrial sites into 'natural' heritage.

Eradication of former industrial sites represents the choice of the stakeholders, though in heritage terms these sites reflect the history of this land and its communities and, therefore, of their identity. The phenomenon of appropriation gradually generates a need to conserve and develop these architectural *objects*. The idea of taking over these

structures and transforming them into symbols of regeneration becomes an attractive alternative for both stakeholders and community. The benefits of conservation and the potential of redevelopment, then becomes a political decision. The question, however, remains which sites should be conserved and redeveloped, to create an 'intangible landmark and the symbolic frame of reference for collective identities'.³³ Which are sustainable?

Like a narrative concept, a disused industrial site can be thought of as heritage which tells a story. As G. Di Méo says, 'it often seeks to justify a cause, to recall a memory, to enhance a past sequence of social life for the purpose of social [...] edification [...] in all its dimensions: cultural and ideological, political, economic and territorial'.³⁴ A building or site can symbolise the grandeur of one or more past generations, the social or economic contribution made by the land and its inhabitants in terms of heritage and collective identity. This historic value must not be regarded as a constraint requiring conservation and redevelopment, but rather as an asset, a support mechanism for growth. Choosing to conserve and regenerate a site is a commitment to land redevelopment to be made by political decision-makers. A 'back-up alibi' to 'ease your conscience' must be avoided.³⁵

Once the choice has been made, conservation begins. This is one of the foundations of the heritage action.³⁶ However, the process of transforming disused industrial sites can lead towards two possible courses of action: either *preservation* of the existing situation, at the risk of turning it into a museum³⁷; or *transformation*, at the risk of disrupting the heritage of the future. The second possibility can lead to a change in how it is perceived,³⁸ thus causing possible alterations between the *signifier* and the *signified*³⁹.

It is, therefore, crucial that once a site has been selected, it finds a place in a territorial dynamic and that the community remains engaged for as long as it continues to exist. To achieve this, it seems that the site must retain a symbolic identity and, as a consequence, the desire to invest in the premises is inspired by a programme in line with society's needs and expectations. The historical knowledge of the site and the symbolic appropriation of the space are necessary for a sustainable, material transformation.⁴⁰ If simple conservation is possible, conversion should reflect the durability and resilience of the land. The enhancement of post-industrial architecture by contemporary work is, therefore, to be encouraged.

Conservation of existing industrial heritage, its reuse and redevelopment can also occur through the creation of contemporary iconic and symbolic architecture, *evolving heritage*,⁴¹ thus making it possible to maintain the heritage object with a view to its sustainability. This is evident at Emscher Park (Germany) and Belval (Grand-Duchy of Luxembourg). The initiation of the programme at Emscher Park was the intervention of the I.B.A. (*International Bau Ausstellung*) in the mid-1980s. The major challenge was to make the site economically attractive by the innovative method of redeveloping the area into an industrial culture network with ecological, cultural and heritage-based elements. Defined by a space of some 800 km², the I.B.A. planned a strategy following four major axes to create a new image for this urban area:

- Using history and the past as a lever by integrating an Industrial Culture with the preservation and use of industrial brownfield sites as a symbol;

- Changing the negative image of the location on the ground and in popular thinking by creating cultural activities at the former sites;
- Developing an ecological vision in view of serious pollution;
- Establishing the need for architectural quality and landscape development.

This resulted in a coherent set of changes that radically modified the image of a large former industrial area. A number of sites such as Zollverein in Essen were redeveloped in the same way into places of memory and culture. Others, like the steel works site Landschaftspark in Duisburg-Nord, which has been preserved in its original condition and is accessible to the public with urban developments and light shows, was similarly transformed.

At the Belval site, redevelopment has reflected more contemporary responses. In 1909, the clearing of a huge forest created space for the construction of a steel plant that radically changed the Luxembourg landscape. Less than a century later (1997), after production ended, the site was sold and partially demolished. There soon followed a period of reflection on the future of this immense 120-hectare site. A public-private partnership was formed to plan and create a new quarter including the vestiges of the region's industrial era. In 2015, less than 10 years after the plant was closed, the results were encouraging. A university centre, a business incubator, cultural and commercial spaces, and housing were all constructed on the site of this former plant. A resolutely contemporary architecture mingles with the symbols of an industrial era, radically altering the image associated with this site.

This rapid overview of notable examples shows the real potential and challenges of such renovations. It suggests that the decades-long presence of brownfield sites in urban landscapes, in fact, reflects a lack of funding and the absence of a global and strategic vision on the part of the authorities concerned rather than a lack of potential.

Choosing to convert, and therefore to *transform*, disused industrial sites brings an additional dimension and is different from the concept of monument heritage.⁴² Indeed, for industrial heritage, and especially its conversion, several factors need to be taken into account, such as the function, the materials and the planning relationships between urban centres and factories. Studying these characteristics, architectural and town-planning typologies, therefore, appears to be an important factor to be taken into account in discussions leading to the conservation and conversion of a symbol of our industrial past.

The Symbolic Role of Architecture at Disused Industrial Sites in the Transformation Process

Throughout its development, industrial architecture has been characterised by advances that were technical and economic as well as social. The industrial development of the eighteenth century gave rise to technological innovations related to the sector's increased production capacity. The need to increase the supply of raw materials and to cut labour costs required the use of substantial technical solutions. The steam engine made it possible to improve the speed of extraction as well as the transport of raw materials to the newly mechanised manufacturers and it facilitated trade. These

advances benefited the textile, coal and metalworking industries, not to mention the mechanical sector, which was about to become much more widespread.

The creation of monumental architecture gave way to infrastructure dedicated to functionalist architecture, where form follows function. The constraints linked to the functions took precedence over the industrial concept. However, amongst the larger enterprises architectural studies have identified a variety of stylistic trends. We have therefore identified two styles of industrial architecture: *functionalism* and *functional aesthetics*. From these styles emerge chimneys and other distinctive elements appearing in a variety of changing landscapes. Metal-framed constructions filled with bricks proliferate and alter the ornamental detail of factories.⁴³

Towards the end of the nineteenth century, the innovations related to the increased use of electricity, oil and chemistry further revolutionised the sector. Industrial production space was becoming organised. Mechanisation transformed industrial architecture, demanding greater floor space resulting in the proliferation of single storey structures. The problem associated with the need to light up these larger areas more efficiently was resolved by the creation of the shed or 'north light' roof. These hall-style factories with asymmetrical roofs and natural light became, with their high chimneys, symbols of industrial architecture.⁴⁴

At the same time, the streamlining and restructuring of industrial systems was essential to increase the return resulting from speeding up the production process. In 1880, to achieve this goal, the American engineer Frederick Winslow Taylor (1856–1915) introduced new working methods that rethought job design and execution, along with production spaces. These principles were adopted and implemented by the development of *Fordism* in the early twentieth century, resulting in assembly-line work and mass production while improving the purchasing power of the workers. Such theories and new technologies evidently had an impact on the layout of sites and their buildings. New materials, such as steel and concrete, made it possible to increase the internal spaces beneath load-bearing structures, and new techniques such as prefabrication changed the appearance of the buildings. However, most buildings continued to be built using traditional materials, and only the largest industrial sites introduced metal into their new building in the nineteenth century, and concrete in the early twentieth century.

Following on from these economic priorities, social needs and the desire to improve the living conditions of the workers also impacted on architecture and urban planning. Hygiene and well-being were studied and introduced through the provision of suitable housing, sanitation and even festival halls and libraries, for example, transforming the major industrial sites into self-sustaining cities.

To begin with, workshops, factories, plants and industries were principally family assets run by a company director. Later, most such businesses belonged to shareholders whose firm objective was profit. Industrial architecture was, therefore, no longer made to last. It existed only to accommodate an economic activity, which caused architectural quality to decline. In the 1950s and 1960s, with the design of the hall-style factory surrounding both production and services, spaces started to undergo streamlining. In addition, the impermanence of the economic markets caused by constantly evolving products required changing infrastructures, made possible by ever-larger structures. The building had become 'a tool in the service of the product'.⁴⁵ The focus on *aesthetics* gave

way to a purely *functional* style. We are, therefore, faced, with few exceptions,⁴⁶ by a shift from a representation of industrial might to structures that minimise construction costs in favour of the company's balance sheet. However, we note that the concerns related to brand image or sustainable development can partially influence present-day architecture. Nevertheless the wish of some manufacturers to incorporate construction and planning concepts of sustainability is taken into account and positively influence their architectural choices.

The Construction of Heritage-Based Symbols: The Example of the Walloon Region (Belgium)

The industrial heritage of Wallonia is part of the wider phenomenon of the mining and heavy industrial region of north western Europe. It is characterised by the emergence of the extractive industries, such as coal, iron, stone, clay and sand; by manufacturing industries including coke plants and refining; by metalworking, in particular the steel industry with its blast furnaces, foundries and mills; and glassworks all of which were firmly established in the Croissant Houiller region in the nineteenth century. In the earliest stages of development, the industrial architecture of Wallonia was symbolised by its roof designs, brick chimneys, and metal frames and structures. In the following section, key structures which have come to symbolise the industrial sites in the region are discussed. Identifying the symbolic value to these buildings prior to development is a means of enabling the resilient renewal of the heritage asset.

Mining Symbols

Two images represent the collective memory of mining activities. First of all, the exploitation of deep coal deposits requires a significant underground infrastructure and has had an impact on the surface and the surrounding countryside. The visible part of the pit, the head frame, called *chevalement* or *chevalet* in France and *châssis À molettes* or *Belle fleur* in Belgium, characterises most coal mines. This *tower*, carrying the winding gear at the top, is made successively of wood, traditional brickwork, metal and concrete. Viewed from a distance, it is part of this new landscape and becomes a symbol of the mine though there are further buildings at the site which met its operating needs.

Next, there are the wastelands. Coal extraction leaves unclean shale waste. Distributed in former mining areas, their size makes them an imposing feature of the landscape. They are now recognised as a common heritage. In addition, the planting of disused sites, whether it is natural or artificial, enables the countryside to continue to evolve. It should be noted that the unique nature of such areas means that they tend to shelter a new and unique biodiversity.⁴⁷ Oblivious of national borders, the deserted mines form a cross-border network that extends into France and Germany.

Metalworking Symbols

From 1850, the Croissant Houiller can be seen as a steel working region with a strong concentration of blast furnaces in the Wallonia region of Belgium. The mechanisation and creation of metalworking sites near collieries, facilitating the use of coke led to the

exploitation of the river network and resulted in the creation of large factories. Over time, the sites gradually specialised and were modified to allow manufacturing of nails, weapons, locomotives, railway equipment and even axles.

The symbols of the metalworking industry are the blast furnaces, the steelworks, with the mixers, the converters and furnaces, the mills and foundries complemented by the metal structures of the buildings and the vast crane bridges. The process of transforming iron ore into pig iron, steel or finished products determined the overall layout of the site and the structure of these huge infrastructures and due to their impressive size, they make a significant impact on the landscape.

The invention of the blast furnace is the key event which triggered the industrial conversion of the Ruhr. Photographs by H. & B. Becher memorably depict Belgian blast furnaces and in his analysis of the architectural style of these industrial cathedrals, B. Becher noted that 'while the advantages or aesthetic appearance remain possible to a certain degree for the other massive industrial constructions [collieries for example], the heat, pressure and release of gas of the blast furnaces rules them out. Their various components remain visible from the outside. From an anatomical point of view, the blast furnace is therefore similar to a skinned body'.⁴⁸ The imagery of the blast furnaces and their related structures were to a greater extent than many structures driven by their functions. Yet despite the photographs and their equivalents in Germany, it is noteworthy that such remains have not inspired conservation or conversion in Belgium.

Conclusion

Disused and abandoned industrial sites are all traces of the past. However, it is questionable as to whether all such sites have the potential for profitable conversion of benefit to the community. The answer is undoubtedly that some sites have greater heritage value than others. Nevertheless, most have a rich history that forms part of the identity of a neighbourhood, city or region.

Each trace of the past is important. These remains are, among other things, tools for land reclassification that possess an 'identifying force to sustain'.⁴⁹ However, it is important to consider the growing number of sites deemed to constitute built heritage and to recognise that the process of transforming some industrial installations into 'natural' heritage has become a real issue of land revitalisation leading to marketing, tourism and cultural development. Nevertheless, this 'heritage-based intensification and claim'⁵⁰ could be diminished through *commodification*, the original aim of the concept heritage, as transmission or passing down. The overuse of heritage classification could also deny any future reinterpretation, thus sites leaving them with no further potential for technological, economic and cultural development.

The conversion of these sites means positioning the heritage elements to act as triggers to future action. However, it seems necessary to clarify that not all of the disused industrial sites, or not all of the infrastructure and buildings on a single site, warrant conservation. The knowledge and selection of heritage-based and symbolic elements are crucial to the durability of the concept and of the process of regeneration, as well as to the development of the land. Each abandoned site is unique. Identifying its symbolic values and the process through which it can be transformed into 'natural' heritage appears to us to be vital to ensuring the resilience of these

industrial areas. We are, however, aware that this is just one stage in a selection process. An overall perspective of the area, such as a statement of significance along with a methodological evaluation guide, must be established to complement and refine the approach.

Notes

1. 12 August 1911.
2. 7 August 1931.
3. SRV – Siedlungsverband Ruhrkohlenbezirk.
4. Joly, "Loisirs, Cadre De Vie Et Développement," 328
5. In the 1960s and 1970s, this plan was supplemented *inter alia* by plans for the development of the basin (1962), the green spaces system (1966) and by landscape plans (1975).
6. Siedlungsverband Ruhrkohlenbezirk.
7. 23 July 1976.
8. The International Committee for the Conservation of the Industrial Heritage.
9. Luxembourg, "Patrimonialiser, Revitaliser, Habiter L'industrie En Ville."
10. We should also note the first survey of *industrial buildings of the 18th and 19th centuries* in France by M. Dumas in 1975.
11. The CCI is a French cultural body founded in 1969 associated with industrial design.
12. Payen, "A Propos De L'archéologie Industrielle."
13. The *Editions Des Archives de l'architecture moderne* published a catalogue of the exhibition *le Paysage de l'Industrie: région Du Nord-Wallonie-Ruhr* [exhibition from 10–31 October 1975], *Ecole nationale supérieure d'architecture et Des arts visuels*.
14. CNRS, *L'étude Et La Mise En Valeur Du Patrimoine Industriel*.
15. See note 12 above.
16. Grenier et Wieser-Benedetti, *Les Châteaux de l'Industrie*.
17. (DATAR) (Délégation interministérielle à l'aménagement du territoire et à l'attractivité régionale – Interministerial Delegation for Territorial Development and Regional Attractiveness).
18. Sarlet et al., *Région Wallonne - Les Cahiers de L'urbanisme* 12, 107.
19. Ibid.
20. Remarkable landscape shaped by three centuries of coal extraction.
21. Gravari-Barbas et Guichard-Anguis, *Regards Croisés Sur le Patrimoine Dans le Monde*.
22. Di Méo, "Processus De Patrimonialisation Et Construction Des Territoires," 88.
23. Littré, *le Dictionnaire de La Langue Française*.
24. Levy et Lussault, *Dictionnaire de La Géographie Et de L'espace Des Sociétés*, 692.
25. See note 9 above.
26. Di Méo, "Processus De Patrimonialisation Et Construction Des Territoires," 97.
27. Luxembourg, "Patrimonialiser, Revitaliser, Habiter L'industrie En Ville," 3.
28. Andres et Ambrosino, "Friches En Ville."
29. Beslay, Daynac et Grossetti, *La Construction Des Politiques Locales*.
30. Deshaies, *Les Territoires Miniers, Exploitation Et Reconquête*.
31. One of the approaches to Charleroi.
32. Carballo et Emelianoff, "La Liquidation Du Patrimoine, O Ula Rentabilité Du Temps Qui Passe," 50.
33. See note 22 above.
34. Ibid., 100.
35. Verschambre, *Traces Et Mémoires Urbaines*, 174; Woronoff, *Histoire de L'industrie En France, Du XVIème Siècle À Nos Jours*.
36. Di Méo, "Processus De Patrimonialisation Et Construction Des Territoires."
37. Serfaty-Garzon, "Muséification Des Centres Urbains Et Sociabilité Publique."

38. See note 9 above.
39. de Saussure, *Cours de Linguistique Générale*.
40. Verschambre, *Appropriation Et Marquage Symbolique de L'espace*.
41. Gasnier, "Territorialisation Urbaine Et Processus De Patrimonialisation."
42. See note 36 above.
43. Cenci, *La résilience Des territoires industriels en mutation*.
44. Ibid.
45. Letellier, "Qu'est Donc Devenue L'architecture Industrielle," 5.
46. de la Broise, "Esthétique Et Mises En Scène Du Patrimoine Industriel Architectural."
47. Howard, Kinsey et Carey, "Challenges for the Heritage Community"; Water framework Directive 2000/60/EC .
48. Becher and Becher (2002).
49. Gasnier, "Territorialisation Urbaine Et Processus De Patrimonialisation," 1178.
50. Verschambre, "Le Recyclage Urbain, Entre Démolition Et Patrimonialisation," 83.

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