



Number 61

3rd quarter, 2013

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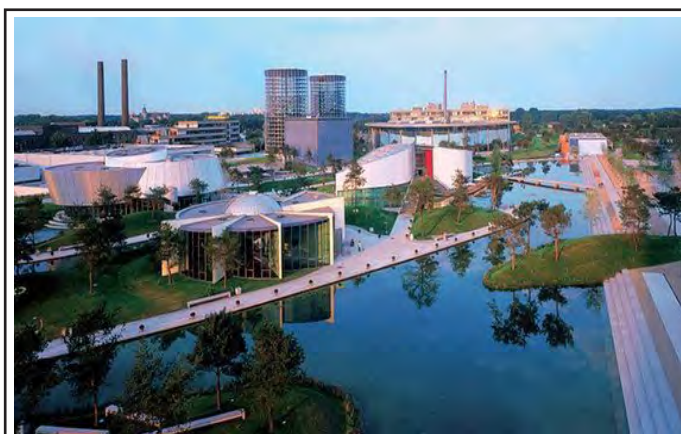
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Volkswagen Group's vast Autostadt museum has, with the option of factory tours, presented the automobile production system to millions of visitors. Dietrich Soyez questions how much light it shines on the darker aspects of the industry's history

Opinion

Our pasts are in foreign countries and their pasts are in ours: the challenge of transnationalising industrial heritage

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Issues at stake

A contemporary point of departure for industrial heritage efforts would ideally include what could be called 'representative excerpts' from our industrial pasts. This term would comprise not only individual sites or objects, but preferably illustrative functional entities, central elements of industrial production systems/ value chains and even integrative parts of industrial landscapes. Comparing current realities with this vision, it is immediately clear that there are – despite undisputable progress made during the last generation – characteristic deficits in most countries, such as

- biased selection, most often with a predominance of mining as well as iron and steel industry
- the exclusion of darker and painful facets or periods of industrialisation processes (with the exception of the recently increasing depiction of social and environmental problems)
- entrenchment in national contexts, i.e. neglecting or excluding transboundary aspects linked to the elements, sites, ensembles or processes displayed

Opinion

In the following, some ideas related to these issues will be presented.

The transnational and the dark

Industrialisation processes are inherently transnational, or marked by transnationalisation. These terms are here understood in the sense of social practices criss-crossing transboundary circuits of communication and interaction, generating (and at the same time generated by) flows of people, resources, inventions, capital, armies, ideas or patents...

Given this general background, it is surprising that industrial heritage initiatives almost anywhere in the world remain firmly rooted in clearly national contexts, i.e. linked to national territories, histories, identities and patterns of interpretation. Furthermore, they tend to highlight the bright sides while excluding the darker, accidental or ideosyncratic outcomes so typical of many historical contexts.

Consequently, the undisputable fact that numerous sites bearing witness to our industrial pasts are widespread in foreign countries, and that the industrial pasts of these countries are represented in our pasts, is generally forgotten or remains unmentioned, not to mention those contexts where this 'foreignness' is actively concealed or even intentionally erased.

Obviously, in order to create representations of our industrial pasts that are closer to historic realities, we need to cope with these issues more consistently, both thematically and conceptually, not in order to replace current foci, but to complement and enrich them.

Typical transnational (and/or) darker facets of our industrial heritage realisations include two aspects:

Migrating industries both single objects or complete plants, transferred to other countries

Recently, the migration of complete factories, historically an exception rather than a rule, has become quite a common phenomenon. In Germany (as in other European and North American countries), this movement is characterised by an almost unidirectional thrust: to the People's Republic of China. Well known examples from the Ruhr industrial area have been the transfers of substantial parts of iron and steel works, such as from the former city of Dortmund Westfalenhütte or Phoenix-Hörde.

Such migrations do not only comprise tangibles. They also involve intangibles, linking the country of origin and the new host country. The engagement of the Chinese artist Ms. Wang Fang with the Westfalenhütte issue not only provides an illustrative example. It also provokes, in a new context, the classical question of 'Whose heritage': Is it German, Chinese, or German-Chinese?

This article is a summary of the paper presented at TICCIIH's XV Congress 2012 in Taipei (full version on congress CD).

The Other's past in our industrial worlds

Until a few years ago, one of Germany's most important industrial branches, the automotive industry, was almost entirely absent from the country's heritage arena.

This changed dramatically with the opening of the Volkswagen Group's *Autostadt* in Wolfsburg, a highly sophisticated and attractive industrial brand world, opened in 2000 and visited since by roughly 26 million people. In the meantime, BMW, Daimler, Opel and Audi have opened similar, if not entirely comparable, platforms for a more intense interaction between the firms and their (potential) customers.

Even if heritage purists would not agree, the multi-faceted presentation of the companies, complemented by the option of factory tours, makes a whole production system more transparent in both its historical and modern aspects. As a result the companies are new 'heritage guardians', as these innovative sites can be regarded as preserving and celebrating industrial legacies in ways not realised to date in any other industrial branch. And, unlike other sectors, important transnational aspects of current production and consumption patterns are extensively presented.

However, a very specific period affecting all of the companies mentioned above, i.e. the Third Reich / World War II is at best mentioned only in passing. In other words: the deep entanglement of these companies in allegedly the country's darkest period as some of the war's main armament producers, is not presented properly. *Firstly*, this production could only function by using innumerable forced labourers from all over occupied Europe, a fact now properly documented and remembered in other societal contexts; *secondly*, German corporations, including those mentioned above, had taken over almost complete control of all the industrial systems in the occupied countries relevant for the constantly growing military needs, an aspect only insufficiently remembered publicly - and all but absent in Europe's industrial sites of memory. While such forms of suppression are understandable from a company point of view - a brand world, after all, is created to increase customer loyalty and a company's reputation -, from a heritage perspective it is deplorable.

Conclusion

At best these presentations leave an ambiguous impression. All heritage actors and institutions (including individuals) have to learn to cope with transnational, dark, dissonant and contested heritage and contribute to minimize, if not stop, all efforts to sanitise it.

TICCIIH and its members, as a truly transnational institution and community, would be predestined actors to address more consistently issues linked to these blind spots characterising many, if not most, of our current industrial heritage approaches, and not only in Europe.

Report

A Historical Information System (HIS) to conserve a cultural landscape: Dasheng Cotton Mill in Nantong, China

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Though the protection of industrial heritage sites in China began rather late (see Que Weimin, *TICCIH Bulletin* 1, 2006, p.1), during the last years it has gained momentum.

One of the eleven officially designated national monuments of China's Industrial Heritage (2/2001+9/2006) is Zhang Jian's Dasheng Cotton Mill in Tangzha, Nantong City. Then a small town at the northern embankment of the Yangzi River, today it is a million city two hours from Shanghai.

Zhang Jian (1853 – 1926) was among the most prominent social and political reformers of late Imperial and early Republican China. Holding the highest possible examination degree of a jinshi/zhuanqian, his thought was deeply founded in the great tradition of Chinese philosophy, while simultaneously being open to the innovations of the industrial age. His textile enterprise, established between 1895 and 1926 and partly supported by the technical expertise of foreign consultants, documents a genuinely Chinese approach towards modern industry, distinctly different from contemporary textile factories in semi-colonial Shanghai.



View of Tangzha Textile Mill (1910 – 1920) looking from the sports ground towards the south-west. The tree line in the centre of the photograph accompanies the River Road along Tongyang Canal, the chimney indicates the location of the steam engine, the Italian-style belfry with the big clock marks the main gate.

Photo: Zhang Xuwu 2004, 46

Photographs: Zhang, Xuwu (2004). Zhang Jian, a collection of photographs. Beijing: All-China Federation of Industry & Commerce Press - Zhongguo gongshang lianhe chubanshe

So far, only the specific industrial buildings of one of the four cotton mills in the Nantong region have been marked as an industrial heritage site, while the Nantong museum, the first public museum in China, as well as the Lang Shan – scenic landscape ensemble, also initiated by Zhang Jian, - are identified as cultural heritage sites. But this approach of conserving fragmented pieces cannot express the qualities of the Zhang Jian's multi-faceted legacy. We need to adopt a broader view towards conservation, as it is expressed in point V of the TICCIH Taipei Declaration of 2012:

"... Industrial heritage in Asia is always part of a comprehensive cultural landscape, either in urban or in rural settings. In addition to the built environment, it strongly reflects the interaction of humans and the land, featuring the characteristics of hetero-topography."

Zhang Jian considered the cotton mills always just as one, though a decisive component of a holistic strategy of modernization. So conservation work also must take into account the results of educational reform, of urban renewal and regional development as well as agrarian reform in its relation to the new industrial base.

This integral approach, for which the German term "Gesamtkunstwerk" (a total piece of art) may be appropriate, manifests itself most clearly in the emphasis which Zhang Jian gave to Urban Greening. Inspired by ideal gardens and landscapes of the Chinese history of gardening, he initiated a public park and other green open spaces in the vicinity of the factories as well as at the fringe of walled Nantong, children's playgrounds, sports fields, a green setting for hundreds of primary schools as well as for institutions of advanced learning, the restoration of recreation areas, the greening of new highways and large scale land reclamation along the marine coast to insure the supply of high quality cotton for the spinning mills.



Zhang Jian at the age of 60, in front of a bamboo grove next to his Villa Haonan, in Nantong.

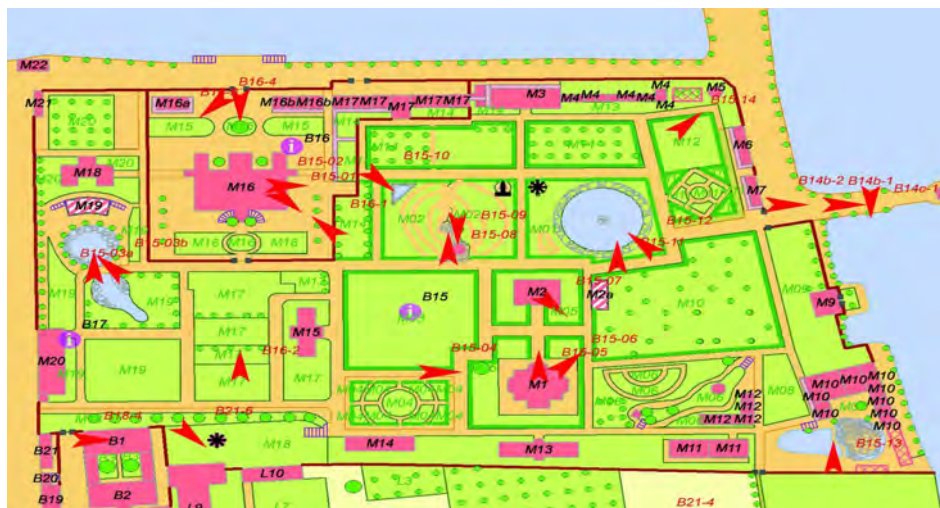
Photo: Zhang Xuwu 2004, 209

Report

Thus it would be legitimate to speak of an *industrial cultural landscape* which requires an integrated regional conservation approach rather than a restricted local one. This approach however is not yet generally accepted.

In order to prove its validity the substantial source materials of the Zhang Jian era – maps, plans, photographs, statistics – were structured using a conservation-oriented GIS, which might be called a Historical Information System (HIS). Being flexible and open, it permits the integration of different sources on different scales, from an individual building, a single building plot up to the territory of a municipality or a region. All of a sudden these diverse and disparate sources, so far hidden in archives and libraries, are contributing to a “panoramic” view on the complexity of the industrial cultural landscape. The value of the information system is its multi-functional usefulness. On the one hand it aims at the general public. It is helpful to raise awareness for the wealth of the industrial heritage and the problems as well as the advantages of its conservation. It thus permits the participation of an informed public in controversial debates. For professionals on the other hand the HIS will be supportive to identify open questions as well as the discovery of certain heritage qualities, which so far have been overlooked.

For more details please check: Shao Yaohui: Der grüne Beitrag zum Gesamtkunstwerk Nantong, Berlin 2012, Universitätsverlag der TU Berlin German language publication (with English and Chinese summaries and map legends)



Nantong, Jiangsu: Sample Section showing the Museum and the attached Botanical Garden, locating historical photographs. Using ArcGIS/QuantumGIS program the Town Plan of Nantong of 1914/1925, at a scale of 1:6.000, was digitized as the base map. Overlays with differing scales drawn from certain public open spaces were integrated. Signatures provide links to further information. Red Arrows represent historical photographs and indicate direction, into which they were taken. Black signatures refer to buildings, green to open spaces and plants. Source: Shao Yaohui, 2012

Worldwide

United States

Notes from Anthracite: outsider artist Frank Wysochansky

Dr Bode Morin, Historic Site Administrator, Eck- ley Miner's Village, Pennsylvania

Formal documentation of industrial places and landscapes takes many forms including engineering drawings, photographs, and commissioned paintings. Meanwhile residents and structures serve as subject matter for professional artists seeking the sublime in light and form or making a statement about corporate control, working conditions, or environmental events. A less familiar form of recordation comes from the ranks of the people directly engaged in the industrial society who have often received little or no formal training but feel compelled to document their surroundings in a very raw and objective form with whatever materials they compile. These artists, referred to as outsider artists because they lack a connection to the fine art world and usually come from the fringes of or below the more dominant social classes, are found across the globe in every culture and every type of social organization from agricultural, to urban, to subsistence, to industrial.

Frank Wysochansky was a prolific outsider artist who lived near Scranton, Pennsylvania (USA) and whose primary subjects were the anthracite coal miners and mining landscapes of this part of the United States. Born in 1915, Wyso left over 5000 works of art and thousands of cartoons by the time of his death in 1994.

Coming from a poor family in the hard coal region, he lost his father to a mine disaster; his four brothers were sent off to orphanages and ultimately became priests, and, from the time he withdrew from school at 12, he struggled to stay employed.



Although he worked for the Civilian Conservation Corps, a U.S. federal government works program set up during the Great Depression, and enlisted in the U.S. Marines during WWII, he never worked at one job for more than 30 days the rest of his life. Never married, Wyso didn't drive and wasn't very good at self promotion, yet he worked 12 hours each day, except Sundays. He lived with his mother until she passed away, then stayed in her house until he died.



Worldwide

Despite Wysochansky's eccentricities, he was a prolific producer working in a variety of media but focusing heavily on the subject of Pennsylvania coal miners. Although he made a living for a short period as a professional cartoonist, he blossomed late as an artist despite never having received formal training. Using ink, crayon wax, and paint, he depicted underground mining scenes capturing the danger and darkness associated with the profession, the above ground camaraderie, harsh living, and industrial omnipresence of his surroundings, and even affectionate scenes of family life.

In addition to his two dimensional works, the impoverished artist developed a sculpting technique using found materials and Bondo, an inexpensive, fast-drying automobile repair epoxy. Wyso would form his sculptures using any material available from cardboard and chicken wire to curtain rods and masking tape. Early in the development of his style, he molded paint-soaked toilet tissue to form the top coat. Later, the impatient artist discovered the car body epoxy that not only provided a soft-spreadable material, but was easier to prepare and dried much faster.

Wyso's work is typical of the outsider tradition. He didn't have formal training and used materials that he found or bartered for. The hard coal region of Pennsylvania produced several outsider artists who worked with found materials and depicted the hard yet sweet life of the regional miners. Many became quite proficient in their process, some sculpting and polishing anthracite coal and others using more traditional materials like oil paints on cardboard, wood panels, or rough boards. A small exhibit on Frank Wyso will be held at Eckley Miners' Village, a restored and interpreted 19th century Pennsylvania Anthracite patchtown just 95 miles north of Philadelphia and 110 miles west of New York through August 31, 2013.

All photos courtesy of Steve Lichack/Wyso Foundation.



www.frankwyso.org and www.eckleyminersvillagemuseum.com



Worldwide



Yokosuka No.1 Dry dock: The first dry dock built with stone in Japan (1871)

Values for conserving historical dry docks in Europe and Japan

Professor Kunio Wakamura
Department of Applied Science, Okayama Science University, Japan

Technology transfer and development of dry docks

Dry docks are indispensable equipment for repairing ships. They were built by excavating the ground beside the sea or river and setting gates at the entrance. Water in the dock was drained by pumps moved by men, animal, or wind power. Graving docks first appeared in England in 1495. The English style of dry dock is characterized by many levels on the outer walls with stairways set perpendicular to them. It was mainly transferred to Sweden, the Netherlands and Belgium in the 18th and 19th century. In France, the structure was modified to fewer levels with parallel stairways. This was mainly transferred to the Netherlands, Belgium, Germany, Japan in the mid-19th century.

The gate door developed from the wooden French type to iron ship doors which originated in England in 1801. For moving the pumps, steam power was first employed at Portsmouth in 1799. For the material of the docks, brick walled dry docks were built in the Netherlands. This transferred to Germany and Japan. A new style able to repair two ships simultaneously was devised in France, where we find the dry docks with two ships entering in series and in Germany we find dry docks with two ships entering parallel. Today, we can see those technology developments on dry docks conserved in many European countries.

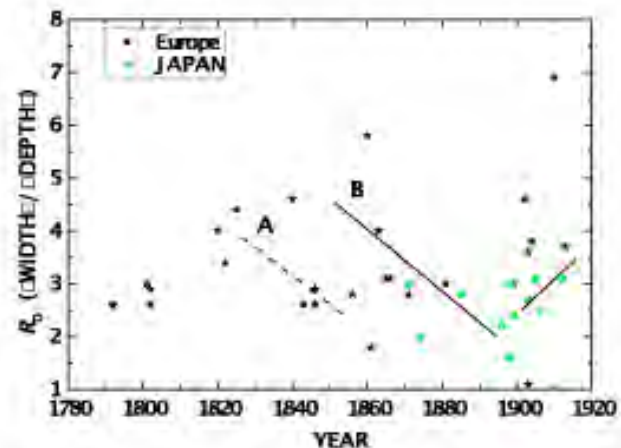


Fig. 1 Dock Ratio (width/depth) versus year of building

The technological developments described above produced larger dry docks, and made it possible to repair huge ships easily. This fact is known from the shape R ($=$ width/depth) since the year dependence of the R for dry docks shown in Fig. 1 takes corresponding variation for that of ships. This correspondence indicates that dry docks have contributed effectively to ship service, and therefore to the progress of marine transportation in the world. Historical dry docks must be evidence for national and economical power.

Worldwide

For this reason, dry docks should be conserved as the whole system containing gate door, pump, cranes, etc. Further simultaneous conservation of the dry docks connected under the technology transfer is more significant to learn the technology development and the history of technology transfer.

Modification of dry docks in Japan

In Japan, dry docks were first built by French engineers in 1871 at Yokosuka and in 1879 at Nagasaki. Dry docks were also planned by English engineers in 1896 at Yokohama and by Dutch engineers in 1899 at Uraga. In that period many Japanese engineers were educated in the French style school. Then the combination of English and French styles and also that of Dutch and French styles appeared on dry docks. These are clarified by comparing those dry docks with those in England, France, and the Netherlands.

Japanese engineers modified the structure of French type dry docks. It is found on the year dependence of the numbers of stairways per level on the outer walls. The number of stairways increases rapidly between 1875 and 1900. We attribute this large number of stairways since Japanese people generally like to work for a short time. Many stairs on the dock wall shorten the time for workers to travel from the upper rim of the outer wall to the bottom of dock, as in Fig. 2.

Value of historical dry docks and effective method for the conservation

For smooth technology transfer, modification of the technology to the form harmonized with natural climate and local culture is very important. In particular, for recent active transfer of technology from USA and Europe to Asian countries, such modification is most important because the climate and culture in Asia are so different from those in USA and Europe.

We believe that active development of the technology in Japan after the mid of 19th century was based on the harmonized modification of transferred technology as seen in historical dry docks. Such docks in Japan are therefore a good example for memory of transferred technology and the modification of technology to harmonized form. However there are very few conserved dry docks in Japan, though a historical dockyard museum is necessary for the purposes described above. For this case, we propose effective method, to list dry docks by TICCIH with respect to the technology transfer, technology history, and application of natural material since this action clarifies the value of dry docks from the international point of view.

See K. Wakamura, selected papers on TICCIH congress, 2012 in Taiwan, p58.



Fig. 2 - Uraga No.1 dry dock built with soil bricks (1899)

Worldwide

Anglo Frigorífico, Fray Bentos, a candidate for World Heritage

Eusebi Casanelles

The Government of Uruguay is driving the nomination of the Anglo Frigorífico works and landscape of Fray Bentos and its surroundings beside the Uruguay river, 300 km from Montevideo, the capital of Uruguay as a World Heritage landscape. In 1996 while TICCIH president I was invited to visit it by the Rio Negro Government Departmental. I was impressed by the size of the whole industrial process, and the authenticity and integrity of both its productive and social heritage.

On a personal level what struck me most was the will and high esteem in which the heritage is held by both the people who live there as well as by the authorities working that it be recognized internationally.

The Fray Bentos Anglo refrigerator is the birthplace of a form of production, preservation and marketing of meat products which has been instrumental in the history of the 20th century. Its packaged meat products and Liebig concentrates had a major impact for most of the century. Such was their international popularization, especially during the two World Wars, that some people call this factory the “world’s kitchen”. Several generations from many countries have eaten at some point one of their products.

Fray Bentos is the best place in the world to explain the history of the preservation of meat products internationally. Few food-related sites have developed four different types of meat preservation: salting, extracts, preserves and concentrates.



The rusting meat processing sheds of the Anglo factory,
©Ricardo Cordero

The great value of this factory and its global uniqueness is the fact that it was the first to produce meat extracts. A meat concentrate which maintained its nutritional value was invented by the scientist Justus von Liebig in 1840. His goal was to create a product that was nutritious and inexpensive and intended for people who could not afford fresh meat. In 1865, along with the German engineer George Giebert, Liebig created “Liebig’s Company” in Fray Bentos. Liebig was one of the most important chemical scientists in history in the field of organic chemistry, especially in agricultural applications and in biology.

The factory was built where there had been a meat salting industry. In 1873 he began production of the famous “corned beef” of cured and canned meat which under the “Fray Bentos” label became the first global brand, feeding a large number of people and especially soldiers in the Second World War.

Finally, in 1924 the Anglo company bought the “Liebig Meat Extract Company” which led to the name change of the company to “Anglo del Uruguay”. It installed the large refrigerators which began a second very flourishing stage and came to employ 5,000 workers.

The Fray Bentos Cultural Landscape based on the Liebig-Anglo works is one of the great monuments of the industrial architecture of global agribusiness. The whole of the Fray Bentos mill and its industrial town has been preserved almost intact for thirty years. Anglo, in the jargon of English industrial heritage, is a “time capsule” or “sleeping beauty”.

The two major qualitative values of the Anglo factory are the authenticity of its movable and immovable heritage and the integrity of the whole and of each of its elements.

Authenticity

Most of the landscape components of the Fray Bentos Cultural and Industrial Landscape are in their original state. This concept includes extensions and constructions that were made until the closing of the factory. No new buildings have disfigured the landscape of the whole. The machinery and furniture are those elements that worked at the site. *The factory is a dream for lovers of industrial photography, as this site shows.*

Integrity

The integrity of the ensemble has been maintained. Naturally in a company characterized by its dynamism, some elements have been replaced by others and there are always some losses as is normal taking into account the size of the heritage. What is more valuable is the fact that most of the productive and social assets have been preserved. No significant piece of built heritage is lost.

Worldwide

The natural environmental heritage integrates with the built cultural heritage due to the large area preserved around the factory. Here the connection is the historical industry with the pastures that constitute a large part of the country and where the cattle were grazed. Overall, the factory by the river, the town and the natural environment compose a landscape related to livestock and industry deriving from it that is unique worldwide.

The Fray Bentos Cultural and Industrial Landscape is “an outstanding example of human settlement, in which land was used for pasture created a distinctive landscape of this part of the world, one that used the river and the sea to bring the products made here to their destination, which was mainly countries from other continents. It is an example of human interaction with the natural environment without having produced irreversible changes”.

a) Testimony of a scientific discovery applied to industry

As indicated above the factory is a testament to the direct application of a scientific discovery, in this case the production of meat extract, applied to industry. It is also one of the first examples of the application of scientific invention to the production of a product made by the same scientist. In this sense it can be considered to represent “a masterpiece of scientific and technical creative genius.”

b) The value of the finished product

While there are several industries that have a global value because of their architecture, history, or social impact, few have made a specific product which itself has a universal value. The various places of the agricultural industries nominated for the World Heritage are for generic production, such as coffee, wine or tequila, but not the product manufactured by a specific company with a specific brand.



Inside Fray Bentos Museum of the Industrial Revolution.

©Ricardo Cordero

In the case of Fray Bentos, its concentrates and the “corned beef” were exported only under the name of “Fray Bentos”, forming part of the popular diet in many countries for a significant part of the 20th century. The cans containing the meat were part of the kitchen and domestic landscapes of many homes on a planetary scale.

Fray Bentos products and Anglo are “an important witness to the exchange of human values” since Liebig’s goal was to improve the diet of the underprivileged classes, through much of the 20th century, which has resulted in the development of an architecture, a technology and unique agrifood landscape.

c) Anglo and Fray Bentos is a singular historic asset, the best conserved cold store in the world

The meat industry, mainly concentrated in the countries of South America, created several cold stores in Uruguay, Argentina and Chile. Much of them are in ruins. To my knowledge apart from Fray Bentos, the best preserved refrigerator is Bories in Chile, considered part of the country’s national heritage but at least a portion of it has been reused into a hotel. Its authenticity is not that of Fray Bentos.



The time-capsule offices form part of the Museum

©Ricardo Cordero



The brewery in Pancevo, early 20th century

(Institute for Protection of Cultural Monuments, Pancevo)

The oldest brewery in the Balkans

Anica Tufegdzic
Faculty of Technical Sciences, Novi Sad, Serbia

The Weifert brewery in Pancevo, Serbia, was the first industrial monument in Serbia to be included in the National register of cultural properties, in 1948. Today the oldest industrial monument in the country is only a ghostly ruin needing an imaginative new use.

Brewing in Pancevo, Serbia, dates back from the early 18th century when the first workshop for the production of beer was opened. Established in the conditions of the mercantilist economic policy, the state-owned brewery was leased until the end of the century, when it became private property. In the following period, due to the volatility in commodity markets and the emergence of competition, ownership of the brewery changed until 1847, when it was bought by Ignaz Weifert. It was the beginning of continuous development, its *golden age*.

In the late 19th century the industrialization of Pancevo intensified. The modernized brewery was much more than a factory. In the mid-19th century, according to the report of valuation commission (1857), in the factory complex was a public steam bath, much more sophisticated compared to previously only one in the city. It testifies to the business and socially-engaged politics of its owner, the great industrialist and entrepreneur,

but also a humanitarian and philanthropist, Georg Weifert. He was the first manufacturer who paid sick leave to workers, in an effort to achieve the maximum correct relationship between employer and employees. In the factory complex, in addition to health care, workers had the opportunity of living, education and socialization. The Weifert brewery, as the venue of charity events, concerts, theatre performances and other events organized by the humanitarian, women's and artistic societies was the center of social life. Therefore, in the pre-war period, when Pancevo becomes an important industrial center of Torontal County, brewery had dual significance - economic and cultural.

George Weifert was one of the few industrialists who invested in his factories during World War I. In fact, already in 1916 a new icehouse was built in the brewery complex. In the inter-war period production was constantly expanded and capacities were modernized. During the second decade new workshop and icehouse were built, factory facilities were extensively reconstructed, cellars and drying were adapted, and a pub was opened. The biggest investment was construction of one of the most modern brewhouses in the region (1929). Contrary to many factories which stagnated due to the Great Depression in the 30's, Weifert's brewery operated successfully thanks to the outstanding entrepreneurial spirit of its owner until the beginning of World War II. A new 40m-high chimney, even 14m higher than the previous one, was an expression of the growing economic power and brewery success, also a symbol of industrialization and new urban landmark.

Worldwide

After the establishment of the communist government the brewery was nationalized and complete property was confiscated because of alleged cooperation of owner with the German occupying forces. Besides the factory buildings, postwar brewery property consisted of a hotel, pubs, workers' dwellings, a few apartment buildings, church, and playground. It was a period of workers' self-management, technology development and integration processes. During the 70's entire production was moved into a new factory complex, so the old brewery got new tenants. Using buildings for other types of production and storage, the tenants have not invested in their maintenance. However, some pieces of original equipment are preserved. Quite dilapidated and ruined, in 2005 the former brewery was badly damaged by fire and its wooden ceiling and roof were completely destroyed.

Conservation works on the oldest extant building, which served as a warehouse and malt drier, were carried out in 1995. Two years later the brewery acquired the status of 'Cultural monument of great importance' on the national List of monuments, "Building of National brewery." Cultural monuments in Serbia.

There are ideas, but still no concrete initiatives or investments! In the Institute for Protection of Cultural Monuments is created a conceptual project of brewery reconstruction as a cultural center with the department of ethnology.

Despite the large loss of the oldest brewery architectural values, its historical, economic, social and cultural importance cannot be ignored. Considering its historical context, the former brewery seems perfect place for socio-cultural *Center of the German Community*, which belonged to the Weifert family. Including a *Family Memorial Museum* and headquarters of *George Weifert Fund*, which does not have its office in Pancevo, new Center would preserve tangible and intangible heritage of local brewing. Otherwise, evidence of an important industry, tradition and culture will disappear forever.

The potentials and possibilities of brewery revitalization and presentation have been researched by the author for her doctoral dissertation "*Three Centuries of Breweries in Vojvodina: Context and Continuity*"



The brewery in 2012

(Zoran Boldorac, Institute for Protection of Cultural Monuments, Pancevo)

Worldwide

Does industrial heritage need political support to find a place in academic research?

Dr Anja Borck [artborck@googlemail.com]

The process of industrialization in Quebec played a major part in the development of Canada. Since archeological research in the 1970s on Canada's oldest ironworks, the Forges du Saint Maurice, the province has had a group of experts in Industrial Archaeology. For the first thirty years or so, this generation of industrial archaeologists made great efforts to increase interest in and recognition of Quebec's industrial sites.

What are the fruits of their efforts?

For my recently completed doctoral thesis "From disposable architecture to industrial monument – The concept of contemporary industrial heritage in Quebec and in Germany" which discussed industrial sites built after 1940, I conducted case studies in Quebec, Canada and in four of Germany's sixteen provinces to analyze whether recently-built industrial sites have already been recognized as part of each countries' heritage.

They are in Germany, but Quebec has given little official recognition to the buildings of its industrial past. I am convinced that there is a direct connection between the lack of formal recognition of industrial heritage in the province and the lack of significant academic study of the subject. Most of my art history colleagues in Montreal regarded my choice of subject as exotic. More academic research and teaching in this area would educate the public and lead to greater visibility of this side of Quebec's heritage and thus increase the likelihood of a more sites being recognized as historically significant. Public support is the strongest driving force behind recognition of heritage status.

My research clarifies past and current problems specifically faced by Quebec society when it comes to protecting industrial heritage sites. Despite a history of commemorating industrial sites since the 1920s, heritage advocates in Quebec never established them as a separate group, as was done early on in Germany. In Quebec, officials use the same criteria in designating for official heritage status important public or religious buildings as they use in evaluating industrial buildings. The result in Montreal, for instance, is that not one production site, old or new, has attained legal provincial heritage status, although all levels of government, federal, provincial and municipal, recognize the importance of the city as the cradle of Canada's industrialization process.

My research also showed that to municipalities, the larger a heritage site is the less favourable is Quebec's tax system. Once a site has been listed as a monument, its exterior has to retain its original appearance – which prohibits, for instance, any in-

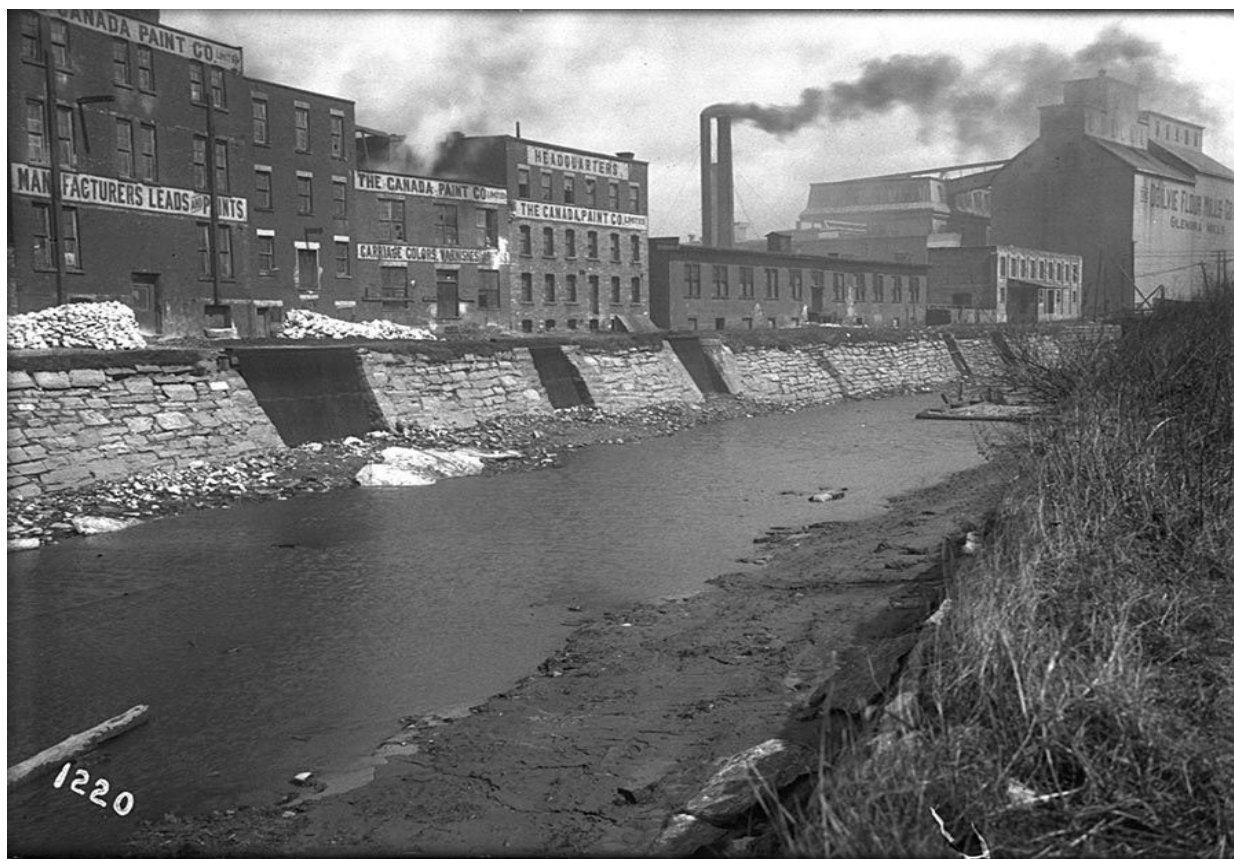
crease in a building's height, which would increase its taxable value. In comparison to new, higher buildings, a historic factory generates limited revenues from the property taxes that municipalities rely on for financing public services. And many industrial heritage sites are large, but rather low! It is known that a region such as Germany's Emscher Park can draw benefits from the preservation of its obsolete factories and industrial installations and give them a more positive image. On the other hand, not one municipality in Quebec which includes industrial sites (often not just a few but many), is able to generate a direct benefit from protecting any of them – and since 1985, the municipalities are the main decision makers in this area.

With no support from cities or towns to preserve and promote decommissioned industrial complexes for their heritage value, citizens only recognize the sites that private interest groups make public, often for their nostalgic character. Yet it is this random collection of industrial sites which captures the interest of scholars because they are seen as an important part of the public heritage. Valuable master's theses and dissertations have studied Hydro Quebec's spectacular power dam Manic 5, Montreal's last historic grain elevator, the conversion of the city's Darling Foundry into a gallery and artist-in-residence studios, the Lachine canal, with Canada's oldest large-scale factories, and the itself as a manufacturing hub, to name a few.

But there is no entity that ties these separate studies together, no department or group fostering research to fill the gaps and form a larger picture of the province and the country, or of conceptual questions. The few IA experts engaged by Quebec's universities in history or art history departments have been able to expand our knowledge to only a small extent. Now approaching retirement, their numbers are diminishing without a second generation ready to continue in the same numbers and with similar expertise. Understanding how past and present industrial technologies, constructions and working conditions interrelate precisely and individually with our historic and current societies is an important part for the understanding of our society's identity. No aspect of modern life remains untouched by industry. However, without political support, universities in Quebec will not be able to give this subject the place in their institutions it deserves.

Industrial sites and the industrialization processes will certainly continue to be part of my interest in the future. But to make them a more significant role in university research, there is a primary need to understand what may obstruct the protection of these sites, and work to remove these obstacles. It is likely that Quebec's problem is not an isolated case but is repeated in other societies where industrial heritage is evaluated and managed using unsuitable criteria. As a result, these societies will not support the important academic research in this field that is so badly needed.

Worldwide



Commercial conversion has kept visual aspects of the former factories that border the Lachine Canal, known as Canada's cradle of industrialization.

(Historic images: Musée Pointe-à-Callière).

Worldwide

Switzerland

Pilsen Culture Factories Week

The use of 'culture factories', industrial sites for activities in culture, art and community life is the subject of this event being organised with the support of a grant through the Swiss Contribution to the enlarged European Union by Pilsen, European Capital of Culture in 2015, in cooperation with the Research Centre for Industrial Heritage of the Faculty of Architecture of the Czech Technical University and the Technical Monuments Committee of CKAIT and CSSI, as part of Vestiges of Industry 2013. The conference from 16-20 September, 2013 will be free and registration will open early August: www.plzen2015.eu.

The programme includes three workshops for the organisers of culture factories and people interested in projects designed to make the cultural and community use of abandoned industrial heritage structures.

Two are led by Swiss partners from the famous Rote Fabrik in Zurich. They will draw on their experiences running similar facilities that have built their profile out of the development

of a programme, financing, and marketing, but also by cultivating supporters and forging a relationship with the town and the public. The third will be organised in the framework of the European project CreativeCH by the representatives of the mNACTEC, Museum of Science and Technology in Barcelona: the topic is the integration of the private and public sectors and the involvement of the community in the revitalisation of the industrial heritage.

The week will culminate on 19 September in an international conference on experiences, examples and opportunities for the development of cultural activities in industrial spaces, on their advantages and limitations, and on culture factories as a catalyst of urban life and urban development. It will conclude with an exhibition in the Smetana Orchards in Pilsen, where selected examples will be presented of conversions of industrial heritage for cultural, artistic, and community use drawn from a number of European towns, as a reminder or inspiration for successfully run 'culture factories'.

Information on the programme will be regularly updated on the website: www.plzen2015.eu
<http://vcpd.cvut.cz> and www.industrialnistory.cz

Correction: The Royal Spanish Brass Factory of Riópar (TICCIH Bulletin #60): author Marta Vera notes that she's has not yet received her doctorate and asks that the support for her research from the Juanelo Turriano Foundation be acknowledged.

Industrial Museums



Façade of the Fabrique des Savoirs in 2010: c. 1870 (left) and c. 1950 (right), Elbeuf

© La Crea, photograph J. F. Lange

Industrial Museums

Elbeuf or the rebirth of an industrial museum

Nicolas Coutant, Directeur du musée d'Elbeuf - attaché de conservation, Elbeuf, France

Located by the wooded banks of the river Seine 20 km from Rouen in Normandy, the town of Elbeuf has long been acquainted with the history of the textile industry. After the first drapers that we know about, from the end of the 15th century, Colbert created a royal cloth factory in 1667, the *manufacture royale*. In the second half of the 19th century the city experienced a booming industrialization making it one of the most significant French textile centres. But the crisis of the 1960's and 70's marked the downfall of textile activity which ultimately disappeared at the beginning of the 1990's.

A new museum

The museum of Elbeuf was not originally intended as a repository of industrial history. Created in 1884 to welcome the ornithological collection of Pierre Noury (1818-1894) it has become richer over the years in many diverse areas. While some works of art were acquired around 1890, in the first half of the 20th century the museum was mostly aiming at the natural sciences. Then it actually became a museum of learned society, dominated by the approach of the naturalists who were practising their skills in the area. It was not until the post-war years, and thanks to the vigorous new curator Charles Brisson (1890-1979), that the museum came to develop its archaeological and historical collections.

Starting from the 1960's the awareness of the dying local wool industry brought the museum into acquiring the first records of textile activity. When the last factory closed its doors in 1992, the museum acquired most of its machinery.

Eager to refurbish the 1870's Blin et Blin textile works, situated at the very heart of the town, as a true symbol of the textile past of the territory, the community of the conurbation decided during the 2000's on the relocation and complete refurbishment of the museum.

In October 2010, after two years of construction work, the museum of Elbeuf has reopened its doors to visitors within the vast amenities called the «Fabrique des savoirs» or Knowledge Works, which also brought together an archive centre and a *Centre d'Interprétation de l'Architecture et du Patrimoine* (CIAP), a centre for the interpretation of urban and architectural heritage.

A restored factory

The «Fabrique des savoirs» takes up a part of the Blin et Blin factories built from 1872 by Alsatian manufacturers. The company was soon distinguished by its great size - almost 2000 workers were accounted for at the start of the 20th century - and by the modernity of its workshops, divided into various buildings. After the factory closed in 1975 its rooms were refurbished, following an initiative of the town council, into flats, commercial premises and public facilities. The operation was lead by the architects Reichen and Robert from 1979 to 1983.



The museum connects the local textile industry and natural history.

© Service régional de l'Inventaire de Haute-Normandie, photograph Christophe Kollman

Industrial Museums

In 2005 the restoration of one of the factory buildings, which was meant to accommodate the «Fabrique des savoirs», was entrusted to Archidev architects, whose project was chosen particularly for its acknowledgement of the industrial nature of the place. The museographical arrangements, which were more specific, were achieved by the museographer architect Yves Kneusé. Today the reconverted factory is the perfect frame for the textile collections of the museum as well as for the archives of the area.

The museographic project

The writing of the museum's scientific project in 2006 allowed a complete rethink of the idea developed about the collections. At first there was a strong will to avoid the simple juxtaposition of the collections of natural science, archaeology and industrial history, which had prevailed until then. The organisation of the collections was then directed towards the new idea of «territory»: the territory of Elbeuf and its surroundings is marked by a long industrial history and is structured by an acute meander of the river Seine. The presentation of this particular space in its complexity and the multiplicity of its aspects is clearly subjected to the very nature of its collections.

Many themes held our attention: local natural environments; geological formation and ancient environments; archaeology and settlement history; river activities. The reformulation of the museum's identity around this notion of territory is mainly focused on the idea of giving to a population, which is still scarred by the economic disasters of the 1960's and 1970's, some keys to understand and reaffirm its identity, especially regarding the issues connected to the industrial past.

That necessarily brought up questions about the sense of an identity based upon the textile activity which disappeared more than thirty years ago. This topic is particularly meaningful in Elbeuf, a town in which the conservation of the industrial heritage was initiated by a few local elected officials and the museum, without any real movement from the community itself. No former workers' association or friends of the museum was created, unlike other textile centers in France such as Fourmies or Cholet, and the machinery of the museum does not work anymore, for lack of skills.

In this respect, but having also in mind the idea of a «musée de territoire», a 'territorial' or 'area museum', it appeared important to propose a discourse which was not just technical, even if textile machinery forms the most spectacular part of the collections. The idea of rebuilding a factory wing was immediately rejected. Although keeping in its design many clues from its primary vocation, the building was in fact emptied out after the closure of the factory in 1975 and underwent significant change, in particular by becoming a museum. As the transmission of the skill and techniques was not made in Elbeuf, contrary to other ancient textile centres, it is also very difficult to put the machinery to work.

Nonetheless, an important place has been dedicated to the social and environmental aspects of industrial history so that we can offer the visitors a global view of this activity, and particularly of its human issues.

Accompanying all the segments of the public

The presentation of the textile industry of Elbeuf and its surroundings is based primarily on the museum's collections but also on many auxiliary devices.

First considered as a serious disadvantage, the obstacle of the machinery not working finally grew to be a stimulant. Audiovisual devices using archival film allow thus to reintroduce the movement and materials. The educational workshops and the guided tours provide an opportunity for visitors to handle the weaving machines. The museum team takes particular care to evoke every dimension of this textile heritage. There is a link that has to be made between the production chain, spectacular as it may be, and the visually more modest collections like the archival documents, which nonetheless allow an approach other aspects of the local industrial past.

In this regard, the coexistence in the same building of the museum of the Centre of Local Heritage Archival Records with the Urban and Architectural Heritage (CIAP) allows different approaches to be combined. Discovering the textile industry also implies finding out about the built heritage and its written records.

Finally, the museum is also fully aware of other textile practices. A very special space is devoted to contemporary creation, so as to explore in a more sensitive way the current textile issues. The museum is also looking forward to sharing experiences, making for example its industrial collections meet the textile traditions brought on by the immigrant populations which settled in Elbeuf in the second half of the 20th century.

Today the « Fabrique des Savoirs » has become a place that cannot be renounced in the knowledge of the French industrial heritage, and more particularly the Normandy heritage. One of its biggest challenges today is to be able to take into account the industries which succeeded the textile, like the automobile or chemical industries, so that the museum will keep on being, in the decades to come, a reference centre.

Further information: For a recent review of the Elbeuf Museum, see Nicolas Coutant, « Le musée de l'Agglo d'Elbeuf : identité et modèles », Anne Solène Rolland and Hanna Murauskaya (éd.), *De nouveaux modèles de musées ? Formes et enjeux des créations et rénovations de musées en Europe, XIXe-XXIe siècles*, Paris, 2008, p. 179-193.

See Jean-Claude Daumas, *L'amour du drap*, Blin et Blin, Elbeuf, Besançon, 1999 ; Nicolas Coutant and Elise Lauranceau, « Une nouvelle réhabilitation de l'usine Blin & Blin à Elbeuf », *L'archéologie industrielle en France*, 2011, n° 59, p. 28-37

Professional Profile

Industrial archaeologists: Bengt Norling



This occasional series profiles the work, training and skills of a professional industrial archaeologist. Bengt was educated as a geographer specialized in physical planning. He worked with the Swedish National Heritage Board on the industrial heritage during the 1990s but changed focus at the end of the decade and became a mission-based freelancer within industrial archaeology. His main focus is to explain and describe different manufacturing processes, sometimes in combination with the corporate histories which are the cornerstone of his work.

After dealing with varying manufacturing processes such as flour milling, manufacture of meat products, shipbuilding, fresh water production and manufacture of sanitary ware, to mention a few, I was recently contracted to research the processes of an abandoned oat mill. The project, which appeared to contain some difficulties, may serve as a case study as well as a description of my work with the industrial heritage.

Erected 1927-28, just outside Stockholm, the oat mill was one of the earliest functionalist industrial buildings in Sweden. The construction also marked the rise of a co-operative cereal conglomerate in the site, which ended abruptly by its closure in 1992. This was motivated by filling the deficit in the co-operative economy by realizing real estate values but as the following crisis in the world economy caused these to fall the co-operation was left with non-saleable premises which were let out for other activities while waiting for better times.

Plans to develop the area for dwellings were finally concretized a couple of years ago, but during the postponement the mill had been proposed for listing and re-use for commercial and general purposes in the local community. The interior would be a record of the former process, and since quite a few curators had failed to clear this out, I was contracted to perform the work.

I entered the mill a cold and gloomy morning in the middle of February, which quite well marked the shutdown 33 years earlier. The mill had been “unplugged” for several years, so there was no electricity for either heating or lights. These wouldn’t have worked properly anyway since the fittings had long been removed and sold for aesthetic interior decoration. Through the dusk, covered by mould and dust, a nearly complete interior appeared. Traces of removed machinery were exposed by holes in the floor, while other machine parts were hanging askew or falling off of their fittings. Easily removable and valuable machinery were gone while the heavier was left. These losses stressed

that recording would be quite a difficult task.

It was obvious that I needed some descriptions to follow the former process, which surely could be found in the records, but I was worried to find that the records were either stolen, thrown away, or otherwise not available. To find background material I visited an active grain mill south of Stockholm, but the process wasn’t very helpful as it differed a lot from the one I had to describe. However, the visit resulted in an unexpected find since the plant manager was well acquainted with the former manager of the oat mill. With his help I had the process “paper-stripped” which implied that the work could be methodically accomplished.

To sum up, a comprehensive record would have required more time than was available, but the research resulted in some findings. Naming it an oat mill was quite misleading since the output of the mill had a wider cereal range. But most interesting was that already in 1934 it had been adapted to manufacture cornflakes, equipped with machinery, still there, by E.R. & F. Turner, Ipswich, England and roasters by Adolph Johnson Co, Michigan, US. This was the only complete manufacturer of cornflakes ever in Sweden. Making space for this line required a re-arrangement of the layout in the mill which also demanded an extension of certain parts of the building, all drawn by the original architect in the same functionalistic style.

Faced with the prospect of being listed, the architects have proposed that the mill be deconstructed to its original 1928 shape. How the authority’s cultural section has reacted to the plan is wrapped in mystery, but a disquieting sign is that the aesthetic cleansing has already begun with the demolition of the adjacent corn grits silo tubing - a fate which also removed the office of the packaging division.

Considerations of preservation were outside my mission, but I can hardly see the point of reshaping the building to an appearance that lasted only six years between 1928-1934, demanding demolition of extensions that have been part of the building for nearly 80 years. These elements are the physical expression of the one and only cornflakes factory in Sweden.

Is this an appropriate way to treat the industrial heritage?



Conference Reports

 **Central Europe towards Sustainable Building 2013 – Sustainable Building and Refurbishment for Next Generations, 26-28 June, 2013, Prague, Czech Republic**

Jana Horická, Architect and assistant lecturer at the Czech Technical University, Prague, Fac. of Civil Engineering, Dpt. of Architecture

Industrial heritage in the Czech Republic has a tradition of conferences under the International Biennial: 'Vestiges of Industry' banner since 2001. Demonstrating a broader awareness, industrial heritage was one of the main topics of a sustainable building conference in Prague. *Central Europe towards Sustainable Building* (CESB13) took place at the Faculty of Civil Engineering of the Czech Technical University in Prague, part of the 2013 international conferences series, and focussing this year on sustainable refurbishment. As industrial heritage comprises a significant stock of buildings to be refurbished, bearing embedded historical and cultural values, plenty of scope was given for discussion within the programme.

There were many valuable contributions showing a wide range of issues included in the industrial heritage regeneration, including industrial heritage tourism, regeneration strategies and adaptability to be mentioned among all. *Keynote lectures covered all conference topics, thus there was a lecture by architect Rasmus Radach considering values and assets of industrial inheritance. The industrial heritage tourism topic was introduced by prof. Massimo Preite. Dr. Miles Oglethorpe pointed out an importance of strategy to persuade local communities to deal with 'their' industrial heritage.* The case study of Leipzig Main Station, presented by Professor Burkhard Pahl, showed how professionals in the field of industrial heritage assist the discussion regarding the regeneration project.

The industrial heritage sessions were well attended; even other sustainable building researchers and architects found their way to the lectures and were interested in the themes discussed. Thanks to many TICCIIH members who reviewed abstracts and papers and who chaired the sessions, the contributions were topical and the sessions were followed with a lively discussion, continuing outside the hall. Moreover, a social evening was hosted at a former waste-water treatment plant – the unique experience to visit historical premises including remains of original technologies and running steam engines. This attention of 'non-specialist' and their experience with industrial heritage is the asset of the conference as I see it.

A participant's viewpoint, Nina Bartošová Slovak University of Technology in Bratislava and at the Department of Architecture, Institute of Construction and Architecture, Slovak academy of Sciences

As an attendee who works in the field of industrial heritage, I appreciated that the subject was included among materials and technologies for sustainable buildings, urban planning, infrastructure and other wider themes. The conference demonstrated why it is important to invite industrial heritage into a larger discussion about sustainability. I see this as a very strong moment, especially coming from Slovakia, where architects and planners generally see industrial heritage as a burden rather than a potential, a field of rigid heritage preservation with no space for discussion, while simultaneously traditional preservationists often overlook the issue.

Already one of the keynote lectures *Waste or resource? Thoughts about our industrial inheritance* by German architect Rasmus Radach interestingly pointed out that "many plants and facilities might not be considered heritage, but offer qualities well-suited for urban regeneration and adaptive reuse". This observation softens borders between uncompromising types of preservation and reasonable practice that uses what already exists – action which is both respectful and sustainable. While for especially valuable heritage it is necessary to safeguard the authentic industrial features to the maximum, where planners and architect are allowed to act more freely there may be an excellent opportunities to promote potential of further use.

Some speakers stressed an aspect that is typical for a number of East European countries: misperception of industrial heritage caused by an interruption of historical continuity. For example, Lenka Burgerová and Jan Hanzlík pointed out in *Industrial heritage of north Bohemian Cities – Unrecognized opportunity*, that many cities lost historical memory "caused by several episodes of forced relocations of inhabitants", talking either of relocation of the Jewish population or later transfer of German population and the arrival of new Czech inhabitants. In cases like this it becomes more difficult to reconnect the notion of place's memory with a wider public, although it is still possible. The paper by Anica Tufegdžić [*partly republished here in Worldwide*] showed an example of German beer manufacturing inheritance that is cherished today in the Serbian town of Vojvodina.

Sustainable industrial heritage reuse demands that certain steps should be followed to preserve what is precious. As Dr Miles Oglethorpe revealed in his keynote talk *Industrial heritage: realising the value of our historic assets*, reuse of historic industrial buildings can help to initiate larger regeneration projects, while demolition "can work against the re-establishment of a sense of place." This is one of the main points that strengthens significance of industrial heritage reuse and makes it a valid part of sustainable building. CESB13 has proved in many ways that the reuse of our industrial past is part of our future, it relates to us all, and it cannot be ignored in the discussion about sustainability.

Conference Reports

Industrial heritage in the context of Franco (1939-1975), TICCIIH-España VI Congress, 12-14 June, Madrid

Eusebi Casanelles, TICCIIH Honorary President

In 1936, Spain began one of the worst wars any country may suffer, a civil war that lasted three years and ended just months before the start of World War II. The Spanish Civil War pitted two conceptions of society. On one hand, the Republicans in which radical groups emerged including anarchists and communists because of the radicalization produced by Franco's military uprising. On the other, the conservative-led fascist ideology which, supported by the Germans and Italians, finally emerged victorious. The victors conducted a major repression of the losing Republican armies and supporters, while the defeated had social wounds which took decades to heal. After WWII there was an international embargo that ended in 1953 in the context of the Cold War with the Madrid Pact and a collaboration agreement with the United States.

The proposal of the Sixth TICCIIH España Congress in Madrid in June was to examine the industrial heritage and public works in these years that are very little known. Most industrial heritage studies in Spain focus on the period that began in the eighteenth century and continued until the 1930s.

There are two distinct periods in the Franco era. The first runs from 1939 when he took power as leader of the victorious new regime, and finished with the 1959 Stabilization Plan. The first decades saw an intense political repression and economic policies of fascist ideology. Industrial policy was directed by the state which was aimed at replacing market mechanisms with centralizing administrations and industrial policy decisions. He pushed forward the state's participation in the production of goods. In foreign policy he promoted isolationism under a policy based on autarky. The consequence of this disastrous policy was that it was not until 1953, coinciding with the treaty with the United States, that per capita income reached 1935 levels.

The second period began in 1959 when the government of General Franco changed its economic policy and integrated Spain into the Western economy. In the sixties there was a great economic development following the path taken by the Western world. Mass tourism was promoted providing much needed foreign exchange to buy foreign products.

The Congress was organized into four main themes. The first gathered papers on industrialization and territorial transformation. The government defined the industries which were needed and where they were to be settled. It led to the establishment of factories outside the traditional industrial centers where there was conflict from a social standpoint. It also promoted a public works policy centered on the one hand in the construction of dams and reservoirs to produce electricity and irrigate the fields and on the other to improve communications. The second theme was on the memory of work in enterprises and public works, some of which were done by prisoners of war. This theme joined with the fourth which dealt with employers and workers involved in economic change. The country's situation could be defined as the establishment of a long economic misery until the 1960s, when there was a substantial improvement of working conditions and social benefits. Furthermore, entrepreneurs in the sixties had to change their business model to follow those in the contemporary world.

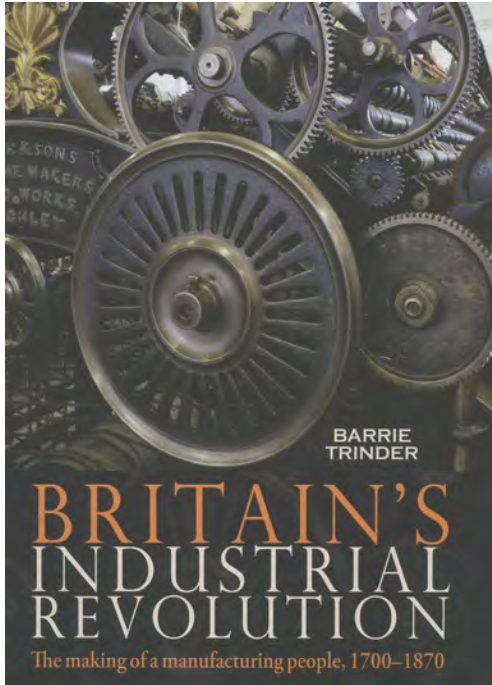
The third theme dealt with the works of construction and industrial engineering, which presented a number of papers on industrial and civil construction sites (bridges, drainage, roads). They showed very traditional architectural models and other aesthetics following the structure of modern rational architecture.

The Congress generated great interest. Through the 120 papers that were presented a thorough overview of the industrial and employment situation during the years of the Franco dictatorship emerged which, over its almost forty years of existence, modelled a culture that for better or worse helps us understand today's society.



General Franco (left of centre) at the opening of the uranium factory "General Hernández Vidal" in Andújar, 1951.

Publications



Britain's Industrial Revolution: The Making of a Manufacturing People, 1700-1870, Barrie Trinder, Carnegie Publishing Ltd. Hardback, 688pp, (2013). Profusely illustrated in colour and B &W

Barrie Trinder has written a wonderful book on the changes to the British economy from c. 1700 to 1870, generally known as the Industrial Revolution (a phrase Trinder works hard to avoid). Naturally it is not a slim tome but who would expect as much from a well-presented, lavishly illustrated and above all readable work?

Taking on these big themes is not for the faint hearted, it requires a great depth of knowledge and considerable skills in synthesis and writing. One of the strengths of this work is that it isn't repetitive or boring and Trinder writes with authority and control, systematically surveying his topics and covering relevant geographical areas.

Two aspects stand out. The integration of instructive illustrations with the text is excellent. Too often in books like this illustrations are merely decorative or worse the same clichéd images, but here they add information and support the argument. Secondly there is a tight combination of documentary and physical evidence that supports Trinder's arguments. This approach demonstrates the strength of industrial archaeology in integrating many forms of evidence to focus on a particular topic.

Trinder sets the scope of his work well in the opening chapter, taking as his theme the transformation of Great Britain called industrialisation and the emergence of the British as a manufacturing people. Rightly, Trinder drops the term "Industrial Revolution" as one that obscures more than it enlightens and prefers the broader term "industrialisation". Right from the start he is at pains to emphasise that these transformations were not universal or simultaneous, that there were earlier factories and that some industries remained unchanged at the 1870 cut off.

The book is in three main parts. Part I looks at the development of enabling technologies such as energy, machine-making and transport, with an underlying theme of the development of engineering in its broadest sense. This section reads like a virtual history of ideas as expressed in plans and documents and physical evidence and is thus very easy to understand. The point behind the chapters is one of changing mindsets – new ways of thinking and the application of these to problems of power, mechanics, transport and construction which the author argues are the "enabling technologies", the change in which opened the door to changing manufacturing and industrial processes.

Part II comprises five chapters dealing with what Trinder sees as the "core sectors" of industrialisation: coal, iron (and to some extent steel), non-ferrous metals, paper and textiles. The approach in each case is to introduce the broader strands of the discussion and then survey their application in the key regions where each sector developed.

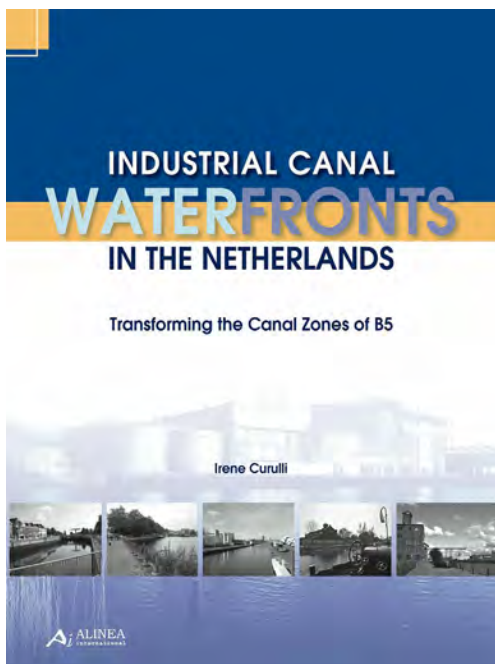
Part III focuses on industrialisation in cities and the development of industrial communities. Trinder begins by looking at the growth and speed of transformation of cities and the development of an industrial urban pattern and related structures. Typically he starts with a survey of regional cities before moving inevitably to a chapter on London. The focus then turns to look at resort communities which developed as an industry of their own and then moves to look at "utopian" and planned communities.

Finally there is a short conclusion which tidies up all the themes but to some extent begs the questions of what happened next (i.e. Britain's slow industrial decline) and the export of Britain's industrial expertise. But these themes are of course for other books and other authors to explore.

In *Britain's Industrial Revolution* Barrie Trinder has set a high standard of scholarship and skilful writing to provide a key work on industrial history. It will be read by scholars of British history but also from those seeking to place their own research into a broader context.

Dr Iain Stuart
JCIS Consultants

Publications



Industrial Canal Waterfronts in The Netherlands. Transforming the Canal zones of B5. Irene Curulli (ed.) Alinea International: Florence. 2012. Pp.128. € 28,00 ISBN: 978-88-6055-774-2 Transforming the Canal Zones of B5

Urban canal waterfronts form a remarkable interface between water and land, between the local life and the territories they connect. This scenery calls for quality that allows for the coexistence of old and new and focuses on a great variety of prospective uses and at the same time is open to experimentation. This is the theme addressed in *Industrial Canal Waterfronts in The Netherlands. Transforming the canal zones of B5*. It shows the results of research comprising theoretical work and educational activities and aimed at enhancing the stratified layers and intertwining complexities of these canal zones, with a view to their future reuse.

Large-scale transformation inevitably encompasses multiple parties and disciplines. In fact, one of the issues of this book concerns the opportunities resulting from the collaborative and integrative exchanges between research and design, profession and education.

The name B5 refers to the territory formed by the five Dutch cities of Eindhoven, Helmond, 's Hertogenbosch, Tilburg and Breda, which are located in the southern part of The Netherlands, the Brabant region. A former industrial canal area characterizes each city and needs a revamping plan. The B5 canals, dug at the end of the 1800s and highly active until the 1960s, are connected to each other by a large system of navigable canals that physically connect the cities and smaller heritage towns. The canals cross unique urban man-made landscapes structuring a transport circuit with a high potential.

Textile goods and peat were transported through them. Valuable buildings of different scales and architectural styles, which are listed monuments, stand along the canals as witnesses of the industrial past and expressions of local identity.

The existing 'fluid network' formed by the B5 industrial canals is regarded as a formidable challenge to respond to inevitable changes in the urban and architectural setting of our cities. This allows us to recognize the peculiarities of canal zones in the configuration of an 'industrial canal town'.

A historical overview of each canal illustrates the triangular relationship between water, canals and industry and lays emphasis on the indissoluble relation between them as well as pointing out the paradox of this correlation when transforming canal areas.

Each canal zone is analysed in relationship to the city, the canal's history and architectural characteristics, and also according to specifications of 'singular' buildings deserving attention in the transformation. Black-and-white illustrations, maps, diagrams and experimental projects highlight their characteristics and heritage values.

Industrial Canal Waterfronts concludes with a series of design goals which aim at achieving quality results from the issues debated and the challenges triggered by the canal zone circuit. The goals are consistent with the guidelines of 'The Groningen Declaration' (World Canal Conference 2011) on the future of disused canals.

If these goals are combined and integrated appropriately, the B5 canal waterfront can be turned into a high level laboratory in this field of transformation.

Irene Curulli Dr.Arch [G.I.Curulli@bwk.tue.nl]
Unit Architectural Design & Engineering,
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Views of the industrial heritage buildings along the canal in Breda

Coming Soon

United Kingdom - The Association for Industrial Archaeology Dundee Conference

9/8/2013 - 15/8/2013 The AIA 40th conference will be held this year at Dundee University, organised with the Scottish Industrial Heritage Society, Scottish Transport and Industry Collections, Knowledge Network, and others.

Germany - Circulating Natures: Water—Food—Energy

20/8/2013 - 24/8/2013 Seventh Biennial Conference of the European Society for Environmental History, Munich. Oil and Energy as a Challenge of Contemporary History Contact Frank Bösch, Potsdam University, boesch@zzf-pdm.de

Canada - Big Stuff 2013

25/9/2013 - 27/9/2013 Triennial international meeting focused on the challenges and triumphs of conserving our large technology heritage. Canada Aviation and Space Museum and Canada Science and Technology Museum, Ottawa

Switzerland - Pilsen Culture Factories Week

16/9/2013 - 18/9/2013 The development of cultural activities in industrial spaces, as part of Pilsen's European Capital of Culture

Spain - XV International Conference on Industrial Heritage - Gijón (Asturias), CfP

25/9/2013 - 28/9/2013 Maritime, River and Fishing Heritage: identity, sustainability, technical and practices, history, architecture and town planning, transport, tourism, landscape and sustainability.

United States - Society for the History of Technology (SHOT), Annual Meeting

10/10/2013 – 13/10/2013, Portland, Maine

Canada - Nova Scotia Museum of Industry, Industrial Strength Conference

16/10/2013 - 19/10/2013 Stellarton, NS. Triennial conference drawing together museum and heritage professionals, scholars, architects, planners, and enthusiasts from across Canada and beyond, interested in sharing research, projects, news and ideas.

Ireland - Industrial Archaeology/Mining heritage conference, Glendalough

18/10/2013-19/10/2013 The Forgotten State of Industry? Irish industrial landscapes in a global context, conserving, managing and presenting our historical industrial landscapes.

Mexico - VII Latin American Symposium on Conservation of the Industrial Heritage, San Luis Potosí, Mexico. CfP 21/10/2013 - 27/10/2013 III International Seminar of TICCIIH Mexico. Industrial Heritage and Regional Development: Rescue, awareness, reuse and social participation.

United States - National Trust for Historic Preservation, Annual Conference

29/10/2013 – 2/11/2013, Indianapolis, Indiana

Opinions expressed in the Bulletin are the authors', and do not necessarily reflect those of TICCIIH. Photographs are the authors unless stated otherwise.

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ISSN: 1605-6647

TICCIIH is the world organization for industrial archaeology promoting conservation, research, recording and education in all aspects of industrial heritage. It holds a triennial conference and organises interim conferences on particular themes. Individual membership is \$30 (USD), corporate membership \$65, and student membership. \$15

There is an online membership form on www.ticcih.org

The **TICCIIH Bulletin** welcomes news, comment and (short-ish) articles from anyone who has something they want to say related to our field. The Bulletin is the only international newsletter dedicated to industrial archaeology and the conservation of the heritage of industrialisation. The TICCIIH Bulletin is published online to members four times a year.

Back issues can be downloaded as a pdf file from the **TICCIIH** web site, www.ticcih.org.