



NUMBER 80

2nd Quarter, 2018

CONTENTS

REPORT

- U.S. Waterworks, Museums and Sites, *Dennis J. De Witt*

WORLDWIDE

- Uncovering Greenland's Industrial Heritage, *Hans Harmsen and Inge Seiding*
- The Familistère and the Utopia Program, *Frédéric Panni*
- Machines to Serve the People - Godin and Mechanics, *Claudine Cartier and Frédéric Panni*
- The Black Bridge of Ahwaz, *Hasan Bazazzadeh and Mohsen Ghomeshi*
- Gasholders, Industrial Relic to Modern Architecture, *Barbara Berger*
- Water Towers Research Project, *Šárka Jiroušková*
- Big Stuff 2019, *Alison Wain*

TICCIH NEWS

- Help Shape the Future of TICCIH, *Stephen Hughes*
- TICCIH Board Meetings 2017, *Stephen Hughes*
- TICCIH and the 19th ICOMOS Triennial General Assembly, *Stephen Hughes*

INDUSTRIAL MUSEUMS

- Sònia Hernández, Director of the Museu Agbar de les Aigües

CONFERENCE NEWS

- TICCIH Conference on the International Heritage of the Water Industry, *Meisha Hunter*
- Nuclear Power Stations. Heritage Values and Preservation Perspectives, *Norbert Tempel*
- Railway Heritage-Specifics, Challenges and Limits of Preservation and the New Uses

BOOK REVIEWS

- Industrial Heritage and UNESCO by Massimo Preite *Edoardo Currà*

EVENTS CALENDAR



Professor Martin V Melosi (second left) expresses final thoughts at the TICCIH thematic water conference in Barcelona; from right: Stephen Hughes, TICCIH Secretary, Dr Šárka Jiroušková, Dr Jorge Tartarini, Dr Manel Martín, Professor Susan Ross, Rolf Höhmann, and (far left) James Douet. See [page 24](#) for the conference report.

OPINION

WATER AT THE END OF THE RAINBOW

Steve Hall, Kalgoorlie, Australia

The last great gold rush in Australian history followed the discovery of gold at what became Coolgardie (1892) and Kalgoorlie (1893). On June 15 and 16, 2018, a **mining heritage conference** will be held in Kalgoorlie-Boulder to celebrate the 125th anniversary of the discovery of gold there in 1893.

Thousands travelled to these remote, almost waterless, locations in search of wealth. The easily won alluvial gold was quickly exhausted. Soon many were employed in cutting timber as fuel and roof supports for the underground mines that developed along the 'Golden Mile'.

Public health issues, including typhoid outbreaks, resulting from the high cost and availability of drinking water was a threat to the revenue and growth of the colony of Western Australia. The Chief Engineer, Charles Yelverton O'Connor, devised a plan to pump water more than 500 kilometres from a new dam outside of Perth, the State capital, to Kalgoorlie. Work commenced in 1898. The estimated cost was equal to the annual budget of the colony and the pressures on O'Connor to deliver the project on budget and on time contributed to his suicide in 1902. However, the project was successfully completed the following year and provided agricultural communities along the pipeline with secure supplies of drinking water, as well as to the gold-mining communities.

OPINION



The Goldfields 'Golden' Pipeline (Photograph: Dr Nina Hall)

The pipeline construction employed a novel technology, devised by an agricultural engineer, Mephan Ferguson. The locking bar system that removed the need for riveting is the symbol of the **Golden Pipeline Heritage Trail**. For many years this was the longest water supply pipeline in the world.

The south-west of Western Australia (the 'Wheatbelt') is now a significant supplier of wheat and barley to the world's markets from around 4,000 farms, worth AU\$ 3-4 billion dollars to the State economy. Gold exports are still worth over AU\$8 billion a year and the pipeline still keeps flowing. In 2009, the American Society of Civil Engineers named the pipeline an International Historic Civil Engineering Landmark. The pipeline continues to operate today, and it appears on the National Heritage List.

The first pumping station at Mundaring Weir, the dam constructed for the project, is now part of the National Trust WA and a number of the original eight pump stations are maintained as museums, while other are just ruins in the bush.

ATTENTION TICCIH MEMBERS IN THE EUROPEAN UNION:

In order to comply with the EU's new General Data Protection Law, **WE NEED YOUR PERMISSION TO STAY IN TOUCH** – even if you're a long-term supporter or you've given us permission before.

IF YOU DON'T OPT IN TO HEAR FROM US, YOU MAY GET LEFT OUT

Please agree to stay in touch with TICCIH via email or by using the **automated form on the TICCIH website**.

To opt-in via email, send your name and the following message to ticcih@mtu.edu:

“Yes, I am happy to hear from you. Please keep me connected with TICCIH via email.”

Please include “GDPR Opt-In” in the subject line.

At any time you can change your mind whether to receive information from TICCIH.

Find more information about TICCIH and the GDPR at <http://ticcih.org/ticcih-and-the-gdpr/>

REPORT

U.S.A.

WATERWORKS, MUSEUMS AND SITES

Dennis J. De Witt, Metropolitan Waterworks Museum, Boston, U.S.

With very few exceptions, U.S. waterworks of any size initially involved steam pumping. Long distance diversion of the cleanest water from higher elevations by aqueducts, pressure pipes, and deep tunnels was and remains extremely rare. 19th government interventions, often involving chicanery, may have facilitated land and water rights acquisition for industrial purposes and railroads. But rarely was there the same political will to allow watershed/reservoir land acquisition and/or the imposition of regulations on large catchment areas, nor for aqueducts, such as those developed by New York and Boston.

Even where the topography permitted, as in Philadelphia, expeditious, less expensive pumping of polluted water from nearby rivers remained politically acceptable. One only-partial exception to this pattern was Washington D.C. whose 12 mile Washington Aqueduct of 1855-65 was modelled on those of New York and Boston, but it transported 'murky' Potomac River water. In a city of icons and monuments, it has little public recognition, no related museum, and some of its associated structures are at risk. It is best known for having been built under the supervision of U.S. Army engineer Montgomery C. Meigs.

In the vast, flat, mid-west, for cities such as Buffalo, Cleveland, Louisville, Cincinnati, Chicago, and St. Louis, there was no alternative to pumping. And, by the mid-19th century, coal was relatively cheaply mined and transported by railroad or river. Later in the century, and coincidental with the use of elevators in even modest-height buildings, iron water towers became a ubiquitous feature of the U.S. townscape skyline. Only gradually, over a century and a half, did pollution source control, combined with improving filtering and treatment standards, compensate for the originally poor quality of some of these sources.

There are many surviving historic U.S. pumping station and other waterworks buildings. Because of the understandable scrapping of unused, space-consuming equipment and the need for improved technologies, only a few retain their steam pumping engines and/or remain museologically desirable. Boston's engines survive because they were replaced by deep pressure-tunnels from a higher elevation reservoir, not by newer pumps.

As most systems draw from rivers, lakes, or wells, there are very few major historic U.S. aqueducts. In the following, necessarily



The Neoclassical 1860 pumping station and standpipe of the Louisville, Kentucky, WaterWorks Museum. (Photo: Creative Commons)

limited notes, sites are grouped by shared characteristics. Access to active waterworks in the U.S. is typically very restricted, so they cannot function as museums. Some important, still-active, sites are inaccessible for security reasons.

Two small southern pumping station museums with compound engines operable under steam. No other identified steam pumping engines in original U.S. locations can presently be powered under steam or rotated by other means; steam operation is probably infrequent.

McNeill Street Pumping Station Museum, Shreveport, LA. This architecturally modest museum has two Worthington horizontal compound engines. It was the last steam powered station in the U.S.

Crystal Springs Pump Station Museum, South Roanoke, VA: This

REPORT



Metropolitan Waterworks Museum, Boston, Massachusetts. (Photo: D J. De Witt)

very small museum has a 1905 Snow compound horizontal engine.

Two waterworks museums in more substantial museums in architecturally significant buildings with inactive triple-expansion steam pumping engines:

WaterWorks Museum, Louisville, KY: This is the only U.S. waterworks museum with a steam pumping engine that is also related to an operating waterworks. That is probably allowable because Louisville's water is now drawn below ground and treated elsewhere. Open Wednesday-Sunday. Its iconic feature is a (reconstructed) Neo-classical standpipe, part of a circa 1860 Greek Revival pumping station, whose original outer wings and paired smokestacks are gone. Its empty original engine room is now used for weddings and private events, a common practice in the U.S., where many museums are not government supported. The museum's, largely graphic, displays are in a wing of this building.

One of two semi-paired 1893 and 1919 riverside pumping buildings houses a 1919, 115-million liters/day, Allis Chalmers vertical triple-expansion engine. Those buildings are connected by a bridge to an intake building in the river. There is also a coal store, boiler house, and monumental, flared-base smokestack.

Metropolitan Waterworks Museum, Boston, MA: The Romanesque Chestnut Hill High Service Pumping Station of 1888 and 1899 has three steam pumping engines. An 1894, 95-million liters/day,

Leavitt-Riedler vertical triple-expansion engine is the innovative Leavitt's only surviving engine. Among features unique to his engines or this one are: high speed 50 RPM operation; mechanically actuated (not passive) pump valves; a Krupp forged crank shaft; cam-operated slide steam valves and hydraulically controlled, high-pressure cylinder inlet valve timing. An 1899, 115-million liters/day, Allis vertical triple-expansion engine is the earliest of this standard Allis-Chalmers design. And there is a 1921, 60-million liters/day Worthington-Snow horizontal compound engine. When built, the Allis and Leavitt-Riedler were tested and rated by MIT as the most efficient to date.

Adjacent to the Museum are the 1848 Cochituate Aqueduct, the 1870 Chestnut Hill Reservoir, the terminus of the 1870 Sudbury Aqueduct, and the 1899 Neoclassical Chestnut Hill Low Service Pumping Station (internally repurposed). Nearby are the folly-like gatehouse of the Fisher Hill Reservoir (now a park) and the 1848 Cochituate Aqueduct's effluent gatehouse with the oldest extant U.S. iron roof and roof structure and oldest extant U.S. iron stairs intended for public use.

The preservation of the Chestnut Hill Pumping Stations' site and creation of the Museum, which operates without admission charge, was made possible by an innovative financial mechanism devised by the Commonwealth of Massachusetts.

The Museum stands at a nexus of Boston's system of mid-19th

U.S.A. WATER continued, page 17

GREENLAND

UNCOVERING GREENLAND'S INDUSTRIAL HERITAGE: A PROLOGUE

Hans Harmsen and Inge Seiding, Greenland National Museum and Archives

The Greenland National Museum and Archives (Nunatta Katersugaasivia Allagaateqarfialu or NKA) has recently joined TICCIH to galvanize both domestic and international public interest in the rapid industrialization and centralization of Greenland. This is one of the surest ways to promote future conservation and protection of industrial heritage areas as a cultural resource.

Archaeological remains older than 1900 are protected under Greenland's Heritage Protection Act. However, in recent years the NKA has shifted attention to a new category of historic and modern archaeological remains that reflect Greenland's post-world war two era of modernization.

Greenland has a small population of 55,877 people, but its natural wealth, both on the land and sea, brought rapid industrialization in the latter half of the 20th century. These forces had a profound effect on the lives and livelihoods of Inuit Greenlanders who often times were required to adapt rapidly to changes imposed upon their traditional lifestyles and customs. The enduring legacy of this period has inextricably modified and altered Greenland's natural landscape and people. Monuments of this era are seen in the many derelict fish-processing factories, mining operations and US military installations scattered along the country's ice-free coasts.

Greenland's era of industrialization begins during the second world war and continues through to the present day. However, this does not exclude places and phases where earlier pre-industrial and proto-industrial roots are also observed. Danish colonial trade was fuelled by the European demand for sea mammal blubber (seals and whales) for much of the 18th and 19th centuries, and many remnants of this period are still found in the Disco Bay and other parts of the West coast of Greenland. Colonial trade in sea mammal products continued in Greenland until the European market for train oil dwindled in the late 19th century.

This industry was replaced by large-harvest fishing and the processing of fish products. To a lesser extent, the early 20th century also saw the re-introduction of farming and sheep herding in the southern parts of West Greenland as well as several continuous mining ventures (cryolite, iron, graphite, copper, marble, coal, lead and zinc). These changes are still remembered by a living genera-



Færingehavn was the largest of a series of fishing harbors, but closed down in the late 1980s and is now a ghost town.

tion of Greenlanders and had a significant impact on their descendants.

Study of this gradual shift toward industrialization draws on the work and history of technology and the economic transitions that set the stage for many Inuit Greenlanders to change completely from subsistence hunting to a government-subsidized cash economy by the mid-20th century. Documenting and creating awareness around the development of an industrial era in Greenland requires seeing this not-so-distant past through a different lens that acknowledges the rapidly changing conditions of life and culture in Greenland over the past few decades.

A recent example of the attention now given to the period of industrialization at the national level is seen in the discussions taking place between Greenland and the Faroe Islands regarding the cleanup of the ghost town of Færingehavn in West Greenland. Only a two-hour boat ride south of Nuuk, the capital city, Færingehavn marked the introduction of non-Greenlandic/Danish fishing and fish-landing. The property was acquired by the Faroese, Norwegian and Danish company Nordafar in the 1950s and quickly became renowned as one of the most modern fishing harbors and fish processing plants operating in Greenland. When it closed it was solely Faroese-owned but still employed and traded with many Greenlanders. The case of Nordafar is highly significant as an example of the development of the fishing industry and memories and material remains that connect to the impact it had on the local communities around the town of Nuuk.

WORLDWIDE



Train oil press outside the Greenland National Museum in Nuuk. Michael Nielsen, 2018.

Another important set of case studies involves the legacy of military installations left behind by the US Army and Air Force. In 1941, the United States assumed responsibility for the defense of Greenland and this required building several airfields and weather stations along Greenland's west, southern and eastern coasts. A total of 14 installations were constructed during the war years. Some of these bases and stations were decommissioned after the war, while others remained operational through the Cold War era. Bluie West Six or Thule Air Base is the only US base still operational and currently one of the US military's northernmost installations in the Arctic. Airfields at Narsarsuaq (Bluie West One) and Kangerlussuaq (Sonderstrom Air Base or Bluie West Eight) were gradually scaled back and closed and converted into commercial airports that are now important economic and transit hubs. These bases hold innumerable stories. Interactions with US personnel during the war years would have been the first contact for many Greenlanders with the outside world beyond the Danish colonial administration. These places impacted in both positive and negative ways and their historic role in the shaping of Greenland's society remains a rich area for future study.

Consequently, the lingering presence and future cleanup of US installations that were left derelict has become a significant political debate between Greenland and Denmark. In 2017, an agreement was made between the two governments to initiate the removal of industrial machinery and waste at Ikkateq (Bluie East Two) and Marraq (Bluie West Four) at the cost of 180 million Danish kroner. Enormous challenges remain on how these sites will be effectively 'cleaned up', and at the moment it seems promising that the NKA will be invited to document and record any remains at these sites before the cleanup begins.

The strengthening of research around the era of industrialization in Greenland is timely as the country has recently entered a new intensive phase of infrastructure expansion and commercial development. This is juxtaposed against the recent addition of a large area in South Greenland to the UNESCO World Heritage List and a second pending nomination listing further north between the town of Sisimiut and the international airport Kangerlussuaq. At a time when the remnants of industrial and military sites are under considerable discussion for removal, it falls upon the NKA to contribute to the debate and emphasize their importance as cultural landmarks. The knowledge and stories of these places has frequently remained inaccessible to the Greenlandic population and should be explored and communicated. Besides activating people's memory, focus will also examine the material relics from the period that provide greater contexts to the technological advances and larger economic trends that shaped people's lives in profound and important ways.

These places contain memories, oral histories and personal experiences that are part of Greenland's living history and deeply emotional subjects for many people that lived through these transitions first-hand.

WORLDWIDE



Aerial view of the Familistère of Guise to 1990. (Photo: anonymous, circa 1990)

FRANCE

THE FAMILISTÈRE AND THE UTOPIA PROGRAM

Frédéric Panni, Head Curator of Heritage, Director of the Familistère

The Familistère at Guise was a unique social experiment, a concrete utopia founded in 1859 near the stove factory of the Fourierist manufacturer Jean-Baptiste André Godin. It is now an inhabited heritage and site museum with residents, working schools, an active Italianate theatre and gardens open to the public. The museum is the corner-stone of the Utopia project for the cultural, architectural, economic and social redevelopment of the Familistère.

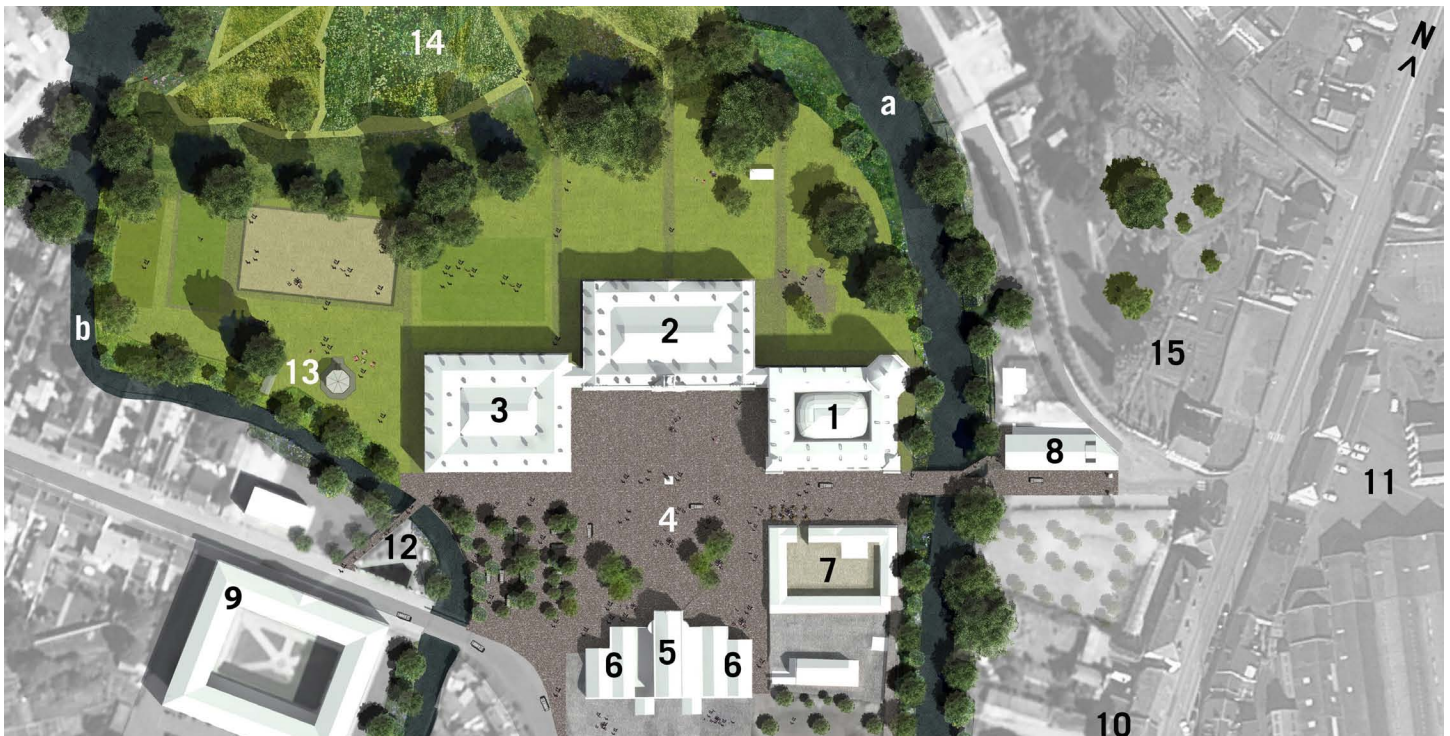
In 1968, a public company was created to take over the Cooperative Association of Capital and Labor which Godin founded in 1880, and the new shareholders decided to discontinue the social heritage of the Familistère, which had now become a financial burden. The Godin SA Company sold the former collective services to the Guise municipality and parceled out the apartments of the Social Palace, the large housing block, to private owners or tenants. Over the next two decades, the increasing importance of

landlords, combined with the lack of social housing in the Guise region, caused a marked change in the population of the Palace, and the social and material aspects of the situation deteriorated. Only the Cambrai Pavilion, which better reflected the standard of contemporary collective housing, functioned properly.

Around 1990, associations supported by the City of Guise began focusing on the recognition of the site's heritage. The Association for the Godin Foundation was dedicated to spreading Godin's work and ideas, and began to organize visits to the Familistère. The Theater, Music and Dance Association began activities for the preservation and life of the theater. The various buildings of the Familistère, with the exception of the factory and Landrecies and Cambrai pavilions, were classified as historic monuments in 1991 due 'to the exceptional interest afforded by this unique example of concrete application of the principles of 19th century phalansterian socialism, as well as the architectural and historical value of the various elements that make it up'.

In 1996 the City of Guise supported by the Ministry of Culture made plans to develop a presentation space for the Familistère in the Economat. A report written by Jean-Loup Pivin ambitiously went beyond the initial purpose of the municipal application with a global renewal program called Utopia. The City of Guise could not commit to this business by itself so in 1998 the Department

WORLDWIDE



The Familistère: 1. Left Wing of the 'Social Palace' 2. Central Pavilion 3. Right Wing / Square / 5. Theatre 6. Schools 7. Economats (cooperative stores) 8. Laundry – swimming pool 9. Cambrai Pavilion 10. Landrecies Pavilion 11. Factory 12. Familistère War Memorial 13. Bandstand 14. Peninsula Garden 15. Pleasure Garden a. Oise River b. Canal.

of Aisne adopted the Utopia program and supported its financing. The investment budget for the Utopia program from 2000 to 2020 is just under €57 million, financed by Department of Aisne: 50%, State: 25%, Picardy region then Hauts-de-France: 20%, and European Union: 5%. In 2000, the Department and the City of Guise formed the Syndicat mixte du Familistère Godin to oversee the program, administer the Familistère and bring it to life on all cultural, tourist-related and economic fronts.

As its name suggests, the Utopia program settled on the idea that 'Utopia, a reflection about society, and the different systems of projection of society into the future, is of interest to all audiences of our time'. The program committed to creating a large-scale cultural and tourist establishment on this theme in a small town located in an isolated rural area. It is a real city project, embracing the whole of the historical site of the Familistère and its various components: apartment buildings, service buildings, gardens and public spaces. The Utopia program foresees the creation of a large site museum, the rehabilitation of the architecture of the Social Palace, the urban and landscape requalification of the Familistère and the amelioration of the living quarters. In 2015, the Familistère at Guise was awarded the Silletto Prize by the European Museum Forum. The right wing of the Social Palace is reserved for housing, while the left wing is intended to accommodate a 'multi-standard' hotel. The Utopia Program intention is for the Familistère to become a major tourist attraction in the region.

The condition for public intervention at the Familistère was the reunification of land ownership by the Syndicat mixte du Familistère Godin. In 2000, there were 202 housing units in the Social Palace and 130 different owners, occupiers or landlords, many of modest means. The current inhabitants of the palace are tenants or former resident owners who enjoy a right to continue living in their apartment for as long as they wish. Since 2010, the entire Familistère is public property.

Conceived in its entirety by Godin, the Familistère was built and organized progressively during the 19th century. The Utopia program for its renewal has been proceeding in stages, following a global plan of development. Two important stages were defined from the start: the restoration and the development of the annex buildings and gardens; and the rehabilitation of the buildings of the palace. This is how the Utopia program began: starting with the renovation of the Economats, pleasure and peninsula gardens, laundry-pool, Godin's apartment and the theater, before continuing on with the central pavilion and the two other wings of the palace.

MACHINES TO SERVE THE PEOPLE - GODIN AND MECHANICS

Claudine Cartier, Honorary Curator of Heritage and Frédéric Panni, Head Curator of Heritage, Director of the Familistère in Guise

The power of machines harnessed by productive associations will create well-being and comfort for the working classes.

– Letter from Jean-Baptiste André Godin to Edward Vansittart Neale, 2nd June 1886.



View of the exhibition. Photo: Familistère de Guise, 2017.

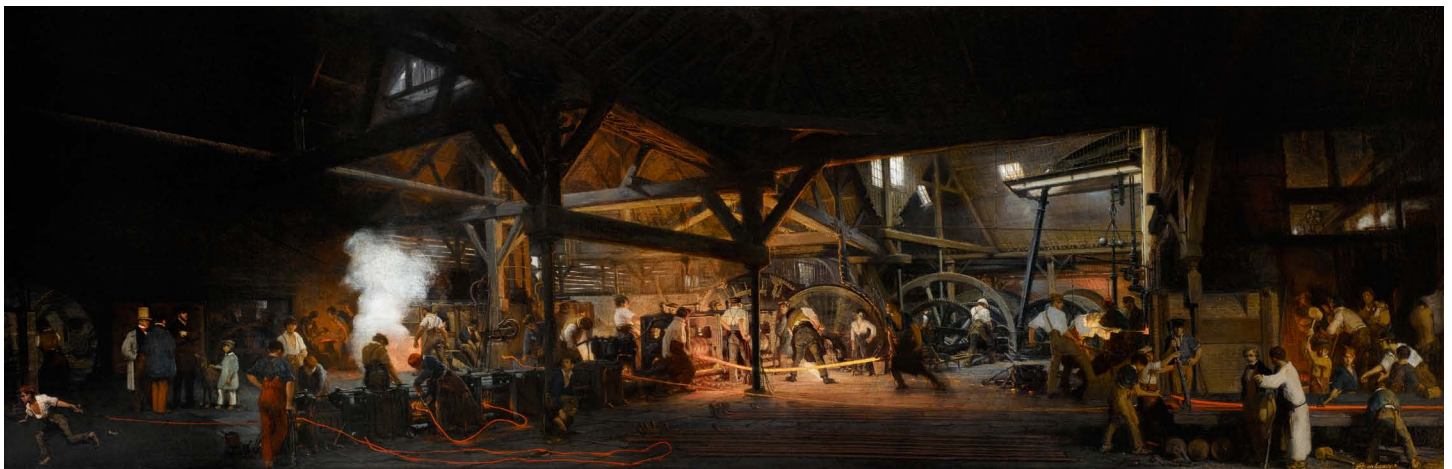
The new temporary exhibition at the Familistère in Guise commemorating the bicentenary of the birth of its founder, Jean-Baptiste André Godin (1817-1888), is about the mechanical imagination of this reforming industrialist.

The Familistère utopia was founded on industry. Its economy depended on the foundries, stove and cooker factories at Guise and Brussels and its organisation was based on Saint-Simonian industrialist thought. The founder, Jean-Baptiste André Godin (1817-1888), was convinced that technological progress would bring about radical social changes, just as it had brought about an industrial revolution in Great Britain.

Although he drew a distinction between productive machinery and destructive machinery (weapons of war), Godin, in keeping with many other contemporary socialists, believed in the neutrality of technology. In a capitalist system machines enslave the working classes; in a system which associates capital, labour and

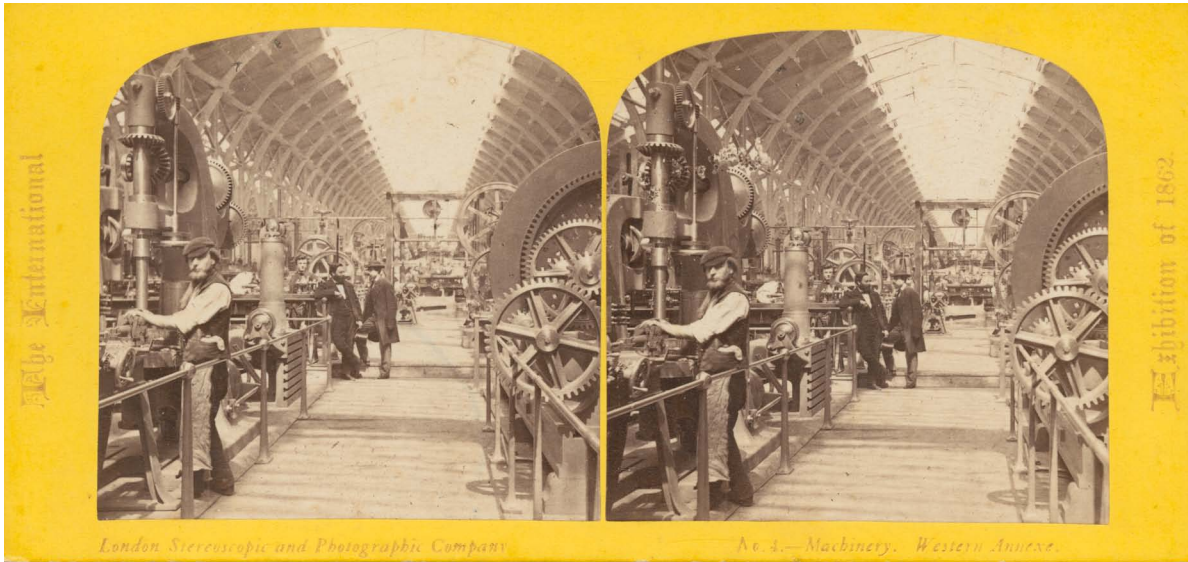
talent machines bring them benefits. By itself, technical innovation does not bring about social justice, as can be easily observed in a capitalist industrial society. However, as he wrote in *Solutions sociales* in 1871, 'Major Industry nevertheless represents significant progress achieved by the Human Mind in this century; it is a preliminary improvement in the methods and processes of general production, an improvement essential to the imminent Emancipation of Workers by the Association'. Godin believed in a dialectic between technical progress and social utopia. Mechanisation would always end up benefitting the working classes; because labour would eventually control capital.

For Godin, as for the Fourierists of his generation, modern machines were the means of fulfilling the prophecies of Charles Fourier: their productive capacity would enable the Association to create an affluent society enjoyed by all its members. Engineers' mechanical achievements competed with Fourierist mechanics of passions. But the phalanstery needed more than ideas. Before the



Les forges d'Abainville, painting by François Bonhommé, 1839. Private collection. Photo: Guillaume Benoît with courtesy Galerie Talabardon et Gautier, Paris.

WORLDWIDE



Stereoscopic views of the Universal Exhibition in London in 1862, London Photographic and Stereoscopic Society, 1862. Musée français de la Photographie à Bièvres. Photo: musée français de la Photographie / Conseil départemental de l'Essonne, Benoit Chain.

Familistère was founded in 1859, this former worker appeared to his Fourierist technologist friends as the phalanstery mechanic. (The phalanstery was a type of building designed for a self-contained utopian community, ideally consisting people working together for mutual benefit, and developed in the early 19th century by Charles Fourier). He could lay claim to industrial success which owed much to his talent for innovation. In 1849 Godin wrote an essay on the central heating system in a collective palace, and in 1855 he evaluated the mechanical devices that would be needed by the Reunion colony in Texas (of which he was one of the managers). From 1859 the creation of the Familistère enabled him to develop a large number of original technical systems. If Charles Fourier was seen as the scientific heir to Isaac Newton, Godin could be compared to Robert Fulton, the early 19th century steam boat engineer. Social reform is indeed a form of mechanics. Godin doubtless subscribed to this declaration by Victor Considérant, a graduate of the Ecole Polytechnique, in his *Manifeste de l'École sociétaire* (1841): 'We are social engineers'.

In his books, correspondence and diary (*Le Devoir*), the founder of the Familistère can be seen to take an interest in technological developments - industrial, domestic, even spiritual. The exhibition and its accompanying book are dedicated to Godin's mechanical world.

The exhibition is based on five different aspects of Godin's social approach to machines: The steam engine, symbol of progress shows how early socialists considered the steam engine to be a democratic machine. The railway, a major component of social change describes the development of French railways and their importance in terms of social reform for Saint-Simonians and Godin. Machines admired by Godin displays a selection of machines and machine models which Godin saw or could have seen, particularly at the Universal Exhibitions in Paris and London in 1855, 1862, 1867 and 1878. Machines devised by Godin deals with the

domestic and industrial machines invented by Godin, including one to record spirits of the dead. Finally Domestic workplace machines reviews the 20th century mechanisation of domestic tasks - the dream of Fourierists ... fulfilled by capitalism.

The exhibition comprises some 150 objects, rarely seen or displayed for the first time, on loan from private collectors or from institutions such as MuCem in Marseille, the Musée des Arts et Métiers, Musée Carnavalet, Musée d'Orsay or the central library of the Conservatoire National des Arts et Métiers in Paris, the Académie François Bourdon in Le Creusot, the Musée Français de la Photographie in Bièvres, the Musée Gallé-Juillet in Creil, the Conservatoire de l'Agriculture in Chartres, the Institut National de la Propriété Industrielle in Courbevoie and the Orange historical collection (at Soisy-sous-Montmorency). Items on public display for the first time include a recently discovered painting by François Bonhommé (*Les forges d'Abainville*, 1839, private collection); one of the oldest steam-driven merry-go-rounds in France (*Le petit train de Remilly*, ca. 1875, MuCEM); a London Photographic and Stereoscopic Society box with views of the Universal Exhibition in London in 1862; and an extraordinary railway map, produced around 1865 by the Compagnie des Chemins de Fer du Nord (Musée Français de la Photographie).

The exhibition is curated by the authors at the Familistère at Guise www.familistere.com and will be open until 24th June, 2018. The book based on the exhibition (in French): 160 pages, hardback, 200 colour illustrations. Retail price: 24.80 € (incl. VAT) Order on-line on Familistère website.

IRAN

THE BLACK BRIDGE OF AHWAZ

Hasan Bazazzadeh, Jundi-Shapur University of Technology and Mohsen Ghomeshi, University of Tehran

The great railway of Iran was established in the early years of the 20th century connecting Bandar-e-Shapur (Bandare-e-Emam) to Bandar-e-Pahlavi (Bandr-Torkman) in order to speed the trading through Iran and between its two naval borders. This railway possessed stations, track, tunnels and bridges, but the longest bridge for the railway was built over the river Karun in the heart of Ahwaz. As there was another bridge named the white bridge, and for the color of the new bridge, people called it the Black Bridge. The Black Bridge of Ahwaz was built in 1929 and was also named the Victory Bridge by the Allies in world war two as it played an undeniable role in transporting forces and supplies from the south to the north of the country. This bridge is registered on national list of cultural heritages of Iran since February, 2000.

Ahwaz is the capital of Khuzestan province and is located in the very center of the territory beside the Karun, longest river of Iran. Khuzestan is believed to be the most strategic and economic part of Iran, known as the center of oil exploitation of the country and is famous for its long rivers, vast agriculture, active ports and blossoming industry.

Several industries have been established in Ahwaz and numbers of them are still in progress. Despite the deep culture that existed in the area it was the Industrial Revolution and modernization of Iran that developed Ahwaz towards being the most important city of the south. There are oil wells, silos, banks, labor settlements, railways and bridges that prove the importance of the city after industrialization. Among the various industries, railways and roads play the most significant role in the evolution of the city for Ahwaz is located in a vast plain crossed by the long Karun river (which is navigable for sailing vessels) and is close to the main ports of Iran by the Persian Gulf, Bandar-e-Emam, Khorramshahr and Abadan). Thus Ahwaz acted as a central node of a network which connected different veins of economy in modernizing Iran.

The main structure of the bridge is steel and joints are bolts and rivets. It stands on a concrete foundation believed to lie on the remains of a Sassanid hydraulic structure. The length of the bridge is more than 1050m, standing on 52 piles and it is 6m wide, its deck contains two rail tracks and two sidewalks, as the bridge was first used for trains, pedestrians and for cars, by the time it was used particularly for trains and the sidewalks are useless these days. There are also two controller stations at both ends. The bridge



An old picture of the Black Bridge.



The Black Bridge in these days.

was designed and built by the Danish engineering firm Kampax, who were in charge of Iranian railway development.

The Black Bridge was the first connecting the two sides of the city and this connection led the expansion of the city and developing of Kianpars district. The Black Bridge of Ahwaz used to be very vibrant and popular during its first decades of use. Nowadays Ahwaz enjoys eight bridges and the Black Bridge is not as functional as it was before, and used only for limited transportation of trains. Two riverside roads and two parks are developed on each side of the bridge and helped the bridge gain its new role in the city. Concerning the flatten skyline of the city by the river and bridge's outstanding form, nowadays the Black Bridge is one of the monuments which shapes the identity of Ahwaz and its history, the bridge is also used as one of the main tourist attractions of Ahwaz even though the deck of bridge is closed for visitors. Thanks to municipality managers of Ahwaz the bridge is lighted at nights, let's hope it will be opened for visitors soon.

Contact: **Hasan Bazazzadeh** and **Mohsen Ghomeshi**

WORLDWIDE



Rehabilitation of a payab, the access gallery to qanāt/kāriz in the urban structure of Yazd (Canavas, 2015).

IRAN & P.R. OF CHINA

TRADITIONAL WATER TECHNOLOGIES AS HERITAGE TOURISM

Professor Constantin Canavas, Hamburg University of Applied Sciences

A traditional technique of extracting and transporting water in arid regions from North Africa and Middle East up to East Asia is generally known as qanāt or kāriz or other local names. Thus, qanāt (pl. qanawāt) is used in Syria, Ewpt, and Western Iran, as well as in medieval historical sources from Norman Sicily and al-Andalus (the Muslim Iberian peninsula). Further terms still in use among Arabic speaking populations are foggara in Algeria and Tunisia, khaṭṭāra in Morocco, and falaj (pl. aflaj) in Oman. The term kāriz/kāhrez is used in Eastern Iran, Afghanistan, and in Western China (here in the form of the Uyghur term karez or korag), whereas the Mandarin term kānérjīng is also used in Chinese sources referring to the underground water network systems in the West.

Such pluralism of trans-regional and local terminology can be regarded as an indication of a generic traditional technique imbedded

in local culture, although some scholars use the distribution of terminology as evidence for their claims considering models describing the temporal and regional transmission of the specific technique.

This technique is characterised by sophisticated (mainly empirical) know-how, high labour demand on construction and maintenance, but low-tech demand on (traditional) equipment. Such water networks, whether for irrigation or drinking, consist of underground canals leading water from the source (generally near a mountain) to the places of consumption, and are visually traceable through the rings of accumulated soil dug out from the aligned shafts between the mother-shaft and the outlet of the underground canal.

The intensification of water demand and the pressure of technological modernisation have created a new frame for 'rediscovering' and re-assessing the 'old-fashioned' but long-established water management technique. In certain cases this re-assessment has induced novel social and political negotiations regarding preserving or abandoning of the qanāt/kāriz networks. The current examples of Iran and the PR of China are remarkable because, though on different historical backgrounds, similar decisions were taken regarding both the continuation of using at least a part of the network, as well as its listing as cultural heritage in combination with its partial access in form of heritage tourism. However, introducing the issue into heritage discourse and tourism policy has followed different ways in each of these countries.

WORLDWIDE

Qanāt/kārīz (kāhrez) networks were used in the past for a large part of irrigation in agriculture as well as for urban water supply (e.g. Teheran) in the Iranian highlands. However, motor-driven wells, surface water reservoirs and dams cause lower groundwater horizons; under this influence, qanāt/kārīz networks increasingly get put out of use. The re-assessment of the qanāt/kārīz-based traditional water technology in Iran gained impetus and institutional representation at the end of the 1990s. The International Centre of Qanāts and Historic Hydraulic Structures in Yazd is a symbol of and a leading institution in this development. The new impetus led to the foundation of the **Yazd Water Museum** in 2000.

Moreover, the integration of the old qanāt/kārīz-network in the rehabilitation project of the old town of Yazd became a major political and administration issue. The underground water network is not any more in function; its public accessibility, however, became a major part of the novel heritage tourism concept of the town. In the Yazd Water Museum as well as in further (partially private) exhibitions in Yazd, the traditional urban water management on the basis of the qanāt/kārīz technology is demonstrated at several stages. The information provided to the visitor reflects the dominant Iranian qanāt/kārīz discourse, which also applies on the ongoing preservation projects in Yazd and elsewhere. This discourse considers the qanāt/kārīz networks as sustainable ancient systems for underground water exploitation and as major representative examples (if not the most important ones) of traditional Iranian technology.

The case of Turfan, an oasis at the edge of the Gobi desert in the Xinjiang Province, West China, is a remarkable example of politically and socially motivated changes in the adaptability of the karez technique. A real revival of the karez technique in Xinjiang set on with a movement of karez (re)construction in the 1950s-1960s. The motivation and the organizational basis (e.g. arrangements with the potential users for participating at the reactivation and maintenance of the extant karez system at that time) were provided by the new local communist authorities. 60 years later the karez water is no longer considered the main source for irrigation and water supply in the Turfan region and the province. The interest has shifted from the role of survival technology in the 1950s to a factor of political influence and prestige in the relations between the (autonomous) provincial and the central government.

On the provincial level, the Xinjiang authorities promoted and supported the presentation of the traditional technique in a karez museum located in extant karez segments in Turfan (Turfan Karez Paradise). The museum was launched in 1992 with an investment by Xinjiang Karez Research Association. In 2000 a second karez museum opened its gates, Karez Folk Custom Garden, with more pronounced event and commercial character. Both exhibitions stress the strong linkage between society and the specific traditional water technology. In both Museums the attention and the involvement of the Central Government in the integration of the traditional technology into the political programs is demonstrated by documents (photographs, signed agreements etc.) of visits to the Turfan karez museums attended by several members of the Central Government. This engagement demonstrates how the karez issue becomes a part of the strategic balance between Central and Provincial Government regarding the major issue of ethnic minority nationalities in the PR of China. A more recent evidence of the increase of political awareness towards the traditional technique is the 'Ordinance of the Karez Protection in Xinjiang Uyghur Autonomous Region' released in 2006; this decision sets the karez networks in Xinjiang under the protection of the Water Administration Department of the Province.

A new dimension in the political and public awareness regarding qanāt/kārīz networks in both countries was introduced through the UNESCO World Heritage List. The qanāt/kārīz network as part of the cultural landscape of Bam was listed in 2004. In 2016 'The Persian Qanāts' including networks in eleven regions were inscribed in the list with the recommendation of 'extending the management strategy and plans to include a risk preparedness strategy and a comprehensive tourism strategy for all property components.'

In China the 'Karez Wells of Turfan' have been in the tentative list since 2008. New perspectives open, however, through the listing of the Silk Roads (2014) for the PR of China, Kazakhstan, and Kyrgyzstan. In this frame the qanāt/kārīz technique can be considered as a link between China and the Iranian plateau in Central Asia – an aspect that would allow new orientations in the touristic policies of the countries involved regarding the qanāt/kārīz heritage issue across the Silk Road(s).

Contact the author

CZECH REPUBLIC

WATER TOWERS RESEARCH PROJECT

Dr Šárka Jiroušková

Water tower: a raised water storage structure serving to accumulate water, in particular to compensate uneven flows and consumption, to provide required pressure ratios in the network and to create a reserve for short-term interruption of operation; the water accumulation tank is located on the supporting structure at the required height above the terrain according to the technical requirements of the relevant water system.

A new research project will provide information on the history of technical equipment of the buildings and settlements in water infrastructure in the Czech Republic. Modern infrastructure, which we take for granted today, is the result of many years of technical development, but the history of technical infrastructure is forgotten.

An overview of the history of water distribution will be mapped through tower water reservoirs, which are the visible structures of water systems concealed underground. Despite its unequivocal structural arrangement, their construction and architectural design are highly varied, often in an appropriate period style. The research includes constructions from the medieval beginnings of the water tower to the construction of water mains in the Czech Republic to the present time.

Water towers are specific by the development of construction, its inherent water technology and the application of architectural period trends in these vertical constructions. Water in the Czech Republic towers feature over 600 years of documented history. Some of them served for over a hundred years. They have been built with wood, steel, brick and concrete. Some of them are designed by the most important designers, builders and internationally renowned architects.

The first wooden water towers can be dated to the late Gothic period and the early Renaissance. At that time, residential urbanization reaching a relatively high level, cities were growing, technology improving. There was a need to solve questions of living conditions including water supply. Since then, the development of water towers has continued. After the wooden towers, the era of masonry towers arrived, using stone, brick and later cast from concrete, with metal tanks in the 19th century. Steel structures (at the beginning industrial ones) were also promoted, but gradually expanded in the form of prefabricated buildings for public drinking water supply.



Water tower from 1907, a combination of brickwork and concrete, architectural design by Jan Kotěra (architecturally important building in the Czech republic), construction by companies K. Kress and B. Hollmann, height 42 meters, steel tank with a volume of 400 cubic meters, the reservoir supplied the territory of Vršovice, later Braník, Krč and Michle.

A specific group are railway water towers. These buildings can be considered without exaggeration as one of the most endangered groups of historical industrial structures of the present time, as they are no longer needed.

At the time of the expansion of modern municipal and urban water supply systems from the end of the 19th century, leading Czech designers and construction companies tendered for the work. The courage and creativity of the then designers and builders resulted in the design and construction of internationally-recognized buildings, especially design and constructions in the 1920s and 30s.

WORLDWIDE



The water reservoir built in 1927 by A. Hádl and F. Hájek, utilization for the railway station Roudnice (supply of steam locomotives with water), reinforced concrete structure with brick masonry, two reinforced concrete reservoirs (total volume of 120 cubic meters).

The construction of water towers, as well as water networks, was formerly perceived as a prestigious event. Vertical structures were a challenge for creative facade design. Although the design of structures and façades are similar, each tower is an original.

This research project started in March and within five years the seven-member research team will develop a database of water tower reservoirs and will present their typology, architecture, technological equipment, building historical surveys of selected towers and assessing the importance of buildings with a view to their preservation. The project will look for new uses for major buildings that are no longer in operation.

The project also envisages that the facilities open to the public will cooperate with the ERIH Czech Republic tourist network.

The research institution in charge of the project is T. G. Masaryk Water Research Institute, a public research institution, supported



One of the oldest tower reservoirs in the Czech Republic, a building from quarry stone, built in 1588-1592, supplied water from the Vltava River to the New Town of Prague, in 1648 very damaged during the war, it served until 1881, height 47 meters, is deflected from the vertical axis about 42 centimeters, in the past in the upper part of the tower water reservoir with a volume of 2 cubic meters.

financially by the Ministry of Culture of the Czech Republic. Project leader Dr Robert Korinek follows up twelve years of research and on the completed project of mapping of chimney water reservoirs in the Czech Republic. Proposals, recommendations and comments are welcomed at the project manager's address: robert.korinek@vuv.cz. The first results will be presented at a conference in Prague in 2019 and presentations of similar projects from other countries will be welcomed. ture, which we take for granted today, is the result of many years of technical development, but the history of technical infrastructure is forgotten.

GERMANY

GASHOLDERS, FROM INDUSTRIAL RELIC TO MODERN ARCHITECTURE

Barbara Berger, Research Associate, Technical University of Munich

Before the rising structures of gasholders changed the cityscapes, it was the gas light itself that was revolutionizing the daily life in cities in the beginning of the 19th century. In 1813 public illumination from gas was inaugurated for the very first time in the London district of Westminster. This new lighting technique revolutionized cities worldwide, Paris in 1819, Hannover in 1825 and Turin 13 years later.

The gasholder was introduced as a technical building for the storage of locally produced coal gas. Its emerging iron structure presented a new kind of industrial architecture and became symbolic of the gas industry.

The gasholder's structure was determined by its function. It had to fulfil two basic requirements: first a variable capacity, and secondly a gas-tight construction (See fig. 1). A water-based system met both requirements. It was composed of a water tank and a lift for the gas. The latter was immersed into the tank and rose and fell according to the current content of the gas. An external guide frame guaranteed the reliable movement of the lift. Because of the increasing demand for gas, receptacles with more storage were needed. In the 19th and early 20th century there were generally two different kinds of water sealed gasholders, the Bell-type gasholder (or single-lift gasholder), and the Telescope-type gasholder (or multi-lift gasholder).

Initially the lifts of both types were guided via an external linear guide frame, but at the end of the 19th century the new spiral-guided technique allowed the building of gasholders even without a guide frame. Another special form was the so-called gasholder house, that totally hid the filigree iron structure of the gasholder; façades were often architecturally ornate.



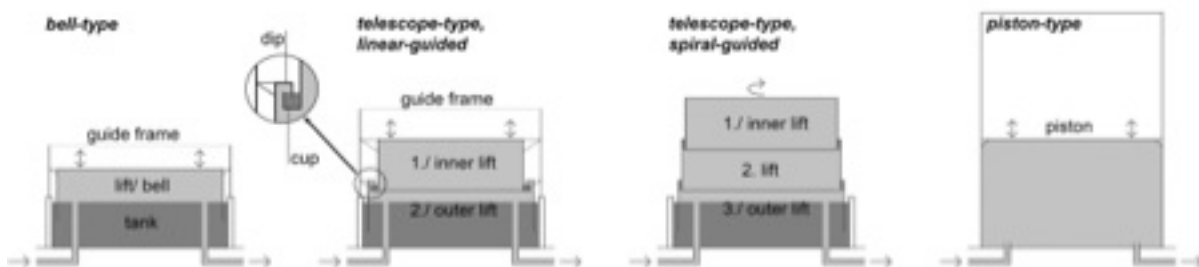
Reused gasholder house in Berlin (Photo: B Berger, 2013).

Over the century, development advanced from the water-sealed to the waterless or dry-sealed system: the Piston-type gasholder was invented 1913 in Germany. The new sealing technique was adapted along the edge of the piston and guaranteed a gas tight contact between the piston and the shell of the cylinder. This new sealing technique led to a new appearance and form of the gasholder.

The arrival of natural gas was the beginning of the decline of coal gas and historic gasholders because the increasing demand on gas required new storage systems - thus new types of gasholders. Today historic gasholders are industrial relics although very many have already been demolished. The remaining examples are often abandoned and their architectural value is not realized. A gasholder facilitates a column-free, tall, symmetrical space, that offers a wide range of reuse projects.

One of the very first examples of revitalization was due to the second world war: a massive gasholder house in Berlin was transformed into a bunker known as the 'Fichtebunker' (See fig. 2). The inner lifts were demolished and the circular brick walls reinforced. After being modified into a storage depot and shelter for homeless men and women this space is used nowadays as a museum. However, the dome of the building was developed differently. Under the filigree iron structure, exclusive, elaborated loft houses are located with a spectacular view over the city of Berlin.

Other very early examples of reused gasholder houses can also



Development of the gasholder (Berger B., 2017).

WORLDWIDE

be found in Scandinavia such as in Østre, Copenhagen (DK) and in Gävle (SE) the circular space was used as a theatre.

As part of the construction works for the Barcelona Olympic Games in 1992 the guide frame of a freestanding gasholder was integrated as a central, eye-catching structure in the middle of the Parc de la Barceloneta. Not only water-sealed gasholders have been successfully reused. As part of the International exhibition Emscher Park (1989-1999) the tall piston-type gasholder of Oberhausen was transformed into a unique exhibition space, popular for its excellent programs.

The number of reused gasholders increased with the turn of the millennium. The famous the ensemble in Vienna from 2001, or the gasholders in Leipzig, Dresden and Pforzheim, Germany. That the reuse of rusty, industrial relics is getting more in vogue is demonstrated by King's Cross in London. The elegant Victorian guide frames of a historic gasholder triplet were implemented/ equipped with apartments (on-going constructions works) and the fourth gasholder was transformed into a park.

The history of gasholders underlines their significance, develop-



Reused guide frame as a park in Barcelona (B Heitzer, 2016).

ment, shape and structure as a part of engineering and industrial heritage. Regarding its architectural value the gasholder should be considered a suitable object for reuse rather than irreversible demolition.

Contact the author

U.S.A Water, Continued

and early 20th century aqueducts and of the later deep tunnels that now deliver water from the 1906 Wachusett Reservoir without pumping. These aqueducts, with their multiple dams and architect designed gatehouses, are being developed as walking trails.

Exceptionally, Boston and New York have retained water catchments of such high quality that virtually no treatment or filtration is necessary.

Three iconic waterworks sites with no steam pumping engines. Of the following three differing types of sites, only one is a museum. They have varying iconic status for their cities.

Fairmont Waterworks Museum, Philadelphia, Pennsylvania. Its photogenic early 19th century, Neo-Classical pavilions on a dam once housed water driven pumps, little of which survives. The poor quality of the city's water sources requires constantly upgraded, with intensive multi-stage treatment.

'Water Tower' (standpipe) and Pumping Station Chicago, IL. These two rock-faced, limestone, 1869, parochial Neo-Gothic buildings are not a museum. However, due to its form, location, and having survived the 1871 Chicago Fire, the Water Tower is a symbol of the city. The pumping station's historic equipment has been re-

placed and part of it now houses an unrelated theater.

The most notable aspect of Chicago's water supply is the steps taken to protect its Lake Michigan source. Water is drawn from inlet 'crib' buildings out in the lake, 3 km in 1867, 8 km in 1874, and fed to the city through tunnels below the lake. To keep the city's (originally untreated) sewage out of the lake, locks were installed at the Chicago River's mouth and its direction reversed, so that it flows through a canal towards the Mississippi River.

Old Croton Aqueduct, New York City. There is also no New York waterworks museum, only the 42 km Old Croton Aqueduct State Historic Park which follows much of its route north of the city. Although barely evident in the city, except for its 'High Bridge' across the North River to Manhattan, the 66 km, 1837-42, aqueduct retains an iconic status. Long out of service, its original dam and monumental receiving reservoir are lost. The central arches of the High Bridge, as built, the longest, tallest aqueduct type bridge in the U.S., were replaced by a 1927 steel span.

Two not-accessible, operating water works with inactive triple-expansion engines.

River Pumping Station, Cincinnati, Ohio. Houses three beautifully

U.S.A. WATER continued, next page

WORLDWIDE



Steam machines from 1904, at "Walcownia", Museum of Zinc Rolling Mill. (Photo: P. Gerber 2017).

POLAND

BIG STUFF 2019

Alison Wain

Canberra, in Australia, was the site of the first Big Stuff conference, a gathering of people who grappled daily with the challenges of technology objects that were too big to fit in showcases, too big to be handled easily, routinely tested the limits of floor loadings and expense budgets, and brought up awkward questions of operation vs static display. Conferences focusing on industrial built heritage are a regular occurrence, but meetings that delve into the different ways to preserve, restore and display the machines that

industrial buildings once held are a rarer beast.

The first Big Stuff meeting was highly practical, with papers covering the details of significance assessment, maintenance, and handling methods. It also challenged received wisdom on the need to remove original nitrate doped fabric from aircraft, and the need to strip paint right down to the metal and repaint it, showing that old materials that would not function well in a service environment are often just fine in a heritage environment, and keep the history and provenance of an object intact. The meeting clearly filled a gap in the heritage world, and in 2007 it was held again at the Deutsches Bergbau (German Mining) Museum in Bochum in Germany.

The first conference had focused on cultural heritage that, while

U.S.A Water, Continued

preserved R.D. Wood 115-million liters/day, vertical triple-expansion engines, arranged in a triangle within a cylindrical caisson reaching below the level of adjacent Ohio River. It is inaccessible in a wooded setting within a modern water treatment facility site.

Col. Francis G. Ward Pumping Station, Buffalo, New York. Has five 1914 Holly vertical triple-expansion engines within a vast hall built

for twice that number. It draws Lake Erie water through a tunnel from a 1913 'crib' 2 km. off shore. Because Buffalo's population has radically decreased, there is little evident external upgrading of the facility.

WORLDWIDE

large, was still movable, and indeed made to move – boats, planes and vehicles - while the Bochum conference focused on the super-scale heritage of the mining industry, where the machinery in many cases is also a building. This raises a different set of challenges, as while the machinery is no longer required to function, the original maintenance regimes and the operational income that made them possible are also usually gone. A heritage income stream rarely brings in the cash to support permanent teams of painters, and in the outdoor environment the large metal elements of mining and smelting industries take on a colourful patina of rust – beautiful in its way, but not an authentic representation of the original life of the machinery, or a recipe for long-term survival.

The 2010 conference at the Imperial War Museum in Duxford, UK, had a strong emphasis on planning, and managing people's expectations. These issues are not specific to large objects, but large often means also long lived, with objects having multiple owners and changes in function and operating parameters. A lorry may be in one paint scheme, but be required for a display about an earlier phase of its life when it had a different paint job, different wheels or a different superstructure. How do you keep the history that makes an old machine special, but display it in ways that audiences can understand and relate to?

With the 2013 conference at the Canada Science and Technology, and Aviation and Space Museums, and the 2015 conference at the Centre Historique Minier in Lewarde, France, these threads came

together, with detailed papers on conservation treatment and research sharing space with strong initiatives in risk management, planning, significance and new display development. The importance of drawing on experience, methods and innovations from other areas of conservation and heritage was recognized and the Big Stuff community began discussing how to define a distinct identity as well as connect with other communities of practice and knowledge.

This process will be continued at the next full Big Stuff conference, which will be held at the Zinc Metallurgy Museum 'Wal-cownia' in Katowice in Upper Silesia, Poland, on 12-13 September, 2019. This conference will also discuss the future of large scale industrial heritage in the face of a rapidly changing environment, where social relations, architectural and urban design, landscape environments, transport and spatial functions are all being transformed, and where climate change adds another unknown to the preservation of machinery and the historic buildings that house it.

If you are interested in presenting at the 2019 conference, please send a 500 word abstract to **Alison Wain**. Papers from the conferences, and updates on the 2019 conference, are available on the **Big Stuff website**.

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

TICCIH

President: Professor Patrick Martin, Professor of Archaeology
Michigan Technological University, Houghton, MI 49931, USA
e: pemartin@mtu.edu, t: +1 906-487-2070

Secretary: Stephen Hughes
e: secretary@ticcih.org, t: +44 1970 621215

Editor: Articles and news of recent and future events should be sent to the Editor, James Douet, C. Bruc, 176, 2. 4., Barcelona 08037, Spain, e: editor@ticcih.org

Bulletin layout: Daniel Schneider, e: ticcih@mtu.edu
TICCIH Membership: Daniel Schneider, e: ticcih@mtu.edu
TICCIH Website: Daniel Schneider, e: ticcih@mtu.edu

TICCIH 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 **TICCIH Bulletin** welcomes news, comment and (shortish) 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 TICCIH Bulletin is published online to members four times a year.

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

ISSN: 1605-6647

TICCIH NEWS

HELP SHAPE TICCIH'S FUTURE: 2018 ELECTIONS

Stephen Hughes, TICCIH Secretary

Elections will be held at this September's TICCIH congress in Santiago de Chile to determine the President and Board of TICCIH for the next three years. Under the TICCIH constitution, the composition of the Board will be decided at the General Assembly in Santiago on 14 September, 2018.

All National Representatives are entitled to vote so it is very important that TICCIH members contact their National Representatives to discuss potential candidates, but also to state their preferences once the candidates are known. This is a great opportunity to influence the future of TICCIH, and to ensure that it has the drive and energy to tackle the challenges facing our organisation over the coming years.

You will be able to find information on National Representatives on the TICCIH website. Any paid-up member of TICCIH can stand for the TICCIH Board, to help guide and develop the organisation across the three years between congresses. If you are not sure whether you have paid for 2018 check the online Directory of members at www.ticcih.org. It is very easy to attend Board meetings as most are held virtually over the Internet. They are at least once and usually several times a year, sometimes also at a convenient TICCIH, ICOMOS or other conference or meeting.

Candidates need to be nominated and seconded by two other current paid up members. Nomination forms will be issued shortly to all National Representatives and nominations can be made not less than fourteen nor more than thirty-five clear days before the date appointed for the meeting (that is between Friday 10 and Friday 31 August). Nomination forms can also be obtained directly from the TICCIH Secretary.

The present TICCIH President, Professor Patrick Martin, has served three consecutive terms and so is not eligible for re-election. According to the TICCIH statutes, presidential candidates should be an active member of the TICCIH Board. TICCIH has a maximum of fourteen, one third (i.e. 5) of whom must retire at each General Assembly although they can stand for re-election. Nomination forms can be obtained from the Secretary.

The following four Board members were first elected at Freiberg in 2009 and are due to step down, though they can be re-elected: Hsiao-Wei Lin of Taiwan, R.O.C.; Professor Massimo Preite of Italy; Dr. Iain Stuart of Australia and Patrick Viaene of Belgium. There may be more vacancies as not all the Board members have confirmed with the Secretary if they want to continue or not.

My thanks on behalf of TICCIH for all those who have so generously given of their time to further the progress of the organisation

TICCIH BOARD MEETINGS 2017

The TICCIH Board usually has at least two to three meetings a year, chaired by the President, Professor Patrick Martin. In 2017 two of them were held online and took place on 14 April and 26 July, attended by Board Members from fourteen countries across five continents. Sir Neil Cossons and Eusebi Casanellas, both former Presidents and current vice-presidents for life, were in attendance on the meeting on 26 July.

On-line Board Meetings are an effective way of carrying forward our work, but face to face meetings are also valuable for a more detailed discussion of some issues and for wider liaison. A third and open Board Meeting was held in Delhi on 10 December attended by six Board members and over thirty members of the public from twelve different countries (see below for a report on the Delhi Board Meeting).

At both online meetings the TICCIH Treasurer, David Worth, produced detailed reports explaining the healthy state of TICCIH's finances. The principal financial activity has been the funding and production of this, our quarterly TICCIH Bulletin, and the regular publication and very full content were commended by the whole Board. A new funded activity for this year has been the international thematic studies programme in fulfilment of the joint TICCIH - International Council of Monuments and Sites (ICOMOS) action plan. The Water Industry Thematic Study and Barcelona Conference is presented elsewhere in this issue of the Bulletin. Joint TICCIH/ICOMOS World Heritage Studies have facilitated the recent inscription of many industrial and functional world heritage sites and landscapes on the World Heritage List.

Daniel Schneider of the TICCIH office at Houghton, Michigan Technological University, was in attendance at the meeting on 26 July and commended for both his work in making the office efficient and in undertaking the layout and distribution of the Bulletin.

A major part of both meetings was taken up with the develop-

TICCIH NEWS

ing relationship between TICCIH and ICOMOS based on two evolving processes. The first was the opportunity to build on the TICCIH - ICOMOS Memorandum of Understanding (MOU) which had been approved at the Florence General Assembly in 2014. The second was the ongoing examination within ICOMOS of whether to set-up an Industrial Heritage International Scientific Committee (ISC) to sit alongside some thirty other functional committees in its internal structure.

To explore these topics the TICCIH Secretary, Stephen Hughes, gave a presentation on the joint work of TICCIH and ICOMOS in Sydney, Australia, in January 2017 and spoke to the Chair of the ICOMOS Advisory Committee Sheridan Burke and Peter Phillips, one of the ICOMOS vice-presidents.

In March 2017 the ICOMOS Board approved the TICCIH - ICOMOS Action plan and ICOMOS vice President Grellan Rourke

subsequently started discussions for a proposal for a joint two-year Action Plan for implementing the MOU. The TICCIH President, Patrick Martin, and Secretary, Stephen Hughes, worked with Grellan in producing a draft two-year action plan which closely mirrored the structure of the MOU. Attached to the action plan was an annex for a renewed programme of World Heritage Studies which was circulated to the TICCIH Board.

A working group of the President, Secretary and Board Member Irina Iamandescu, who is Secretary of ICOMOS Romania, would continue to co-ordinate with the ICOMOS Initiative examining the effectiveness of its own arrangements on the Industrial Heritage.

19TH ICOMOS TRIENNIAL GENERAL ASSEMBLY, DELHI, 11-15 DECEMBER 2017

The International Council on Monuments and Sites (ICOMOS) has held General Assemblies annually since 2015. However, its main General Assembly, during which its President, officers and Board are elected, doctrinal texts are adopted, and resolutions proposed for adoption, is held only every three years. Some 800 delegates attended the Delhi Meeting last December, one of six (out of 19) held outside Europe since this particular large meeting of heritage professionals and enthusiasts was first established in 1960.

March 2017-18 is the first year in which the joint TICCIH-ICOMOS Action Plan is operational. ICOMOS's own proposed Industrial Heritage International Scientific Committee (ISC) was also being also considered for adoption, so it was particularly important for TICCIH Board Members to be present.

On the morning preceding the formal start of the Assembly the results of a questionnaire on the possible formation of an Industrial Heritage ISC were discussed at the ICOMOS Scientific Council Meeting. Several countries considered that the importance of the Industrial Heritage merited its inclusion in the formal structure of ICOMOS. The continuing critical role of liaison with TICCIH was acknowledged.

The Annual General Meeting of the 20th Century Heritage ISC Committee attracted some fifty delegates. The relationship be-



The TICCIH Secretary Stephen Hughes talking to Indian delegates at the ISC Forum in Delhi (Photo Miles Oglethorpe).

tween the ICOMOS 20th Century Committee and the earlier (1988) International Committee for documentation and conservation of buildings, sites and neighbourhoods of the modern movement (DOCOMOMO) is seen by many in ICOMOS as future a model for that between TICCIH and ICOMOS. In 2014, the committee had published the international standard Approaches for the Conservation of the Twentieth Century Architectural Heritage ('the Madrid Document') which had been extended to include urban areas and landscapes and was launched by the outgoing ICOMOS President, Gustavo Araoz.

TICCIH NEWS

The author has been acting as the liaison point between the ISC 20 and TICCIH in extending and enhancing the Madrid Document to cover the industrial heritage of the period and in the on-going work as previously on the ambitious Getty Institute co-ordinated 20th Century Historic Thematic Framework Project Document (as previously reported in the TICCIH Bulletin).

Stephen Hughes reported on TICCIH's contribution to 20th century industrial heritage World Heritage studies which was widely acknowledged.

The first formal day of the Assembly on the 11 December largely consisted of the ICOMOS Advisory Committee Meeting, attended by ICOMOS National Presidents or leaders of national representatives. The TICCIH President Patrick Martin attended as an observer whilst the TICCIH Secretary Stephen Hughes (UK) and TICCIH Board Member Irina Iamandescu (Romania) were there as heads of their national ICOMOS delegations. The break provided the opportunity for the first of two meetings with ICOMOS vice-president Grellan Rourke (Ireland) who sees an internal ICOMOS Industrial Heritage ISC as necessary for effective liaison with TICCIH. The Chair of the Advisory Committee, Sheridan Burke, conveyed the recommendation that an Industrial Heritage Committee be set-up to the national representatives. The TICCIH Secretary welcomed the fact that ICOMOS recognised the value of the industrial heritage but noted that it was also very important that the action plan already agreed between TICCIH and ICOMOS be activated. It is intended that the form of the ICOMOS Industrial Heritage ISC should be approved by the ICOMOS Board in March 2018.

In the evening there was an open meeting consisting of several TICCIH Board members: Patrick Martin, Hsiao-Wei Lin, Miles Oglethorpe, Florence Hachez-Leroy, Irina Iamandescu, Stephen Hughes and over thirty members of the public from no less than twelve different countries: India, South Korea, Malaysia, Taiwan

ROC, Australia, Canada, Netherlands, Spain, Norway, Slovenia, Portugal, Poland and the U.K. Patrick Martin gave an introductory talk on work of TICCIH and this was followed by a lively question and answer session. It was emphasised that a particular value of industrial heritage thematic studies has been a multiplication in the number of industrial heritage World Heritage sites to about 72, an exponential rise from the 1990s.

It was accepted that the fee structure of TICCIH at present reflects the developed world. Patrick Martin noted that this will be changing in the coming year and will become graduated so that members from countries with a lower GDP will pay lower fees.

On the third evening of the conference there was a very successful forum held on the 'Silver Oak Lawn' when TICCIH and various International Scientific Committees (ISCs) were given stalls at the conference venue and food provided. TICCIH Board members staffed the stall and much interest was shown in the TICCIH Bulletin pages and membership leaflets presented on the stall particularly by Indian attendees at the conference who may not have encountered TICCIH beforehand.

On the fourth day well over 100 delegates packed into a workshop organised by ICOMOS Netherlands on 'Water and Heritage for the Future.' Previous to the meeting the TICCIH President and Secretary had met with the workshop organiser Henk van Schaik to discuss co-ordination between TICCIH and this initiative which is exploring the desirability of establishing a new international scientific committee (ISC) on the topic and will submit a report in 2018. The Secretary has since been invited to join the steering-group of the Netherlands Water Initiative.

The conference concluded with the election of Toshiyuki Kono of Japan as the new ICOMOS President and Peter Phillips of Australia as the new ICOMOS Secretary General.

**RENEW YOUR TICCIH
MEMBERSHIP FOR 2018 TODAY!**

WWW.TICCIH.ORG/JOIN-TICCIH

TICCIH: The International Committee for the
Conservation of Industrial Heritage

INDUSTRIAL MUSEUMS

INDUSTRIAL MUSEUM DIRECTIONS



SÒNIA HERNÁNDEZ

Sònia Hernández is the director of the Museu Agbar de les Aigües in Barcelona which jointly hosted with TICCIH the thematic water conference in April. The museum is a private one, owned by the Aigües de Barcelona corporation - Agbar - but this is no ordinary corporate museum.

The Central de Cornellà waterworks, which is the home and most important object of the collection of the Museu Agbar de les Aigües, took an unorthodox route from old steam pumping station to a museum of water. It opened in 2004 after a cool, considered examination of what such a conserved site should and could become. Director Sonia Hernandez took over six years later, and she still has a clear idea of what the museum is and who it is for. While the 1909 engine and boiler house and the four horizontal engines built by the Société Lyonnaise de Mécanique et d'Électricité are the centrepiece of the exhibitions, it is definitely water, rather than steam, which is at the heart of the museum's strategy. 'The industrial heritage formed by the buildings and machinery must be valued as part of a global discourse. But the main theme of the museum should be the management of water in the urban environment: the integral cycle of water from a metabolic point of view.' The waterworks, largely complete, stands in a grassy enclave on the southern edge of the metropolitan area of Barcelona, and the museum sees the industrial heritage, the gardens and the invisible aquifer underground, from which modern pumps continue to raise water, as the three legs on which the museum's discourse stands.

The Museum won the Micheletti European Museum of the Year award in 2010 for its 'kaleidoscopic' understanding of water from a scientific, environmental, social and humanistic perspective. Last year 48,000 people came to the museum, about a third school groups, and this is the highest number since the museum opened. The sizable educational team provides support and material for teachers, from primary through to high school groups, with thematic weeks tied to the calendar of Science Week in November or World Water Day in March.

The permanent exhibition has remained stable, based around the restored steam engines and boilers, while the programme of compact temporary exhibitions is built around single evocative objects, like a water inspector's hat. The museum's acquisitions policy is also restricted to the heritage of Agbar. Sònia describes this collection as representing the tangible 'know-how' of the company. It is also coherent with the large industrial collections of the national Catalan museum of science and industry, the MNACTEC, as well as the Barcelona city museum, MUHBA, whose network of historic sites includes a small pumping station on the other side of the city.

Aigües de Barcelona is celebrating this year its 150th anniversary. In differing forms the company has been supplying water to the citizens and industries of Barcelona since the early years of its transformation into one of the only cities in southern Europe to experience industrialisation. That Agbar is proud of this history is evident in the Cornellà pumping station, but it is also aware of how a water museum is capable of advancing the company's modern strategic aims. A private company needs a good relationship with its customers - invitations to the museum sent out with the water bill nudged up the number of visitors this year - , and making customers aware of the water cycle and the priority of sustainability is vital in the context of Mediterranean rainfall levels. Sònia stresses that 'the environmental factor and civic awareness should not be too explicit in the museum's discourse, but it must be present indirectly: it must impregnate everything. The museum and its activity must speak by themselves. Sustainability is an inseparable part of the company's water management story.'

The joint thematic conference with TICCIH, described below, was one of the public events planned to promote the museum internationally, and as well as being a member of TICCIH the museum is part of the ERIH network of European industrial museums, within the thematic Water Route. In an international context, what distinguishes the Central Cornellà and its steam engines is their use to generate electricity for the electric borehole pumps which raised water from the aquifer, rather than to pump it directly. As the conference discussed, this puts the Central at the beginning of the end of the steam pumping station as a proud statement of modernity and civic responsibility. So it is apt that the Museu Agbar de les Aigües has these same virtues as its modern mission.

CONFERENCE REPORTS



Sònia Hernández (centre right front row) with TICCIH life president Eusebi Casanelles and all the delegates at the TICCIH water conference in April on the steps of the Cornellá engine house. (Photo: Museu Agbar de les Aigües)

SPAIN

INTERNATIONAL HERITAGE OF THE WATER INDUSTRY, TICCIH THEMATIC CONFERENCE, APRIL 13-14, 2018, BARCELONA

Meisha Hunter, Senior Preservationist, Li/Saltzman Architects

The thematic conference which rounded off the TICCIH comparative study of the water industry heritage was educational in content, inspiring in terms of architecture and engineering, and intimate in scale. The event drew international representation from fifteen countries including Argentina, Belgium, Canada, Czech Republic, France, Germany, Spain, the United Kingdom, South Korea, China and the United States. On the first day, attendees were

welcomed by Sònia Hernández, Director of Agbar's Museu de les Aigües, and TICCIH's President Professor Patrick Martin, as they sat in a beautifully repurposed former water reservoir that is currently the museum's conference venue.

The conference proceedings kicked off with a keynote address by Professor Martin Melosi, Director of the Center for Public History at the University of Houston. Dr Melosi focused on the water industry and the 19th century sanitary crisis, with historic examples drawn from around the globe illustrating the integral relationship between water delivery and sanitation over time. The conference organizer, James Douet, shared the conclusions from TICCIH's comparative study of the water industry in which criteria are being proposed for considering World Heritage nominations, as well for assessing historic water industry sites everywhere. Augsburg is on the German tentative list and its integrated group of water sites, dating from the 12th century to the 1970 Olympics, was presented by architect Rolf Höhmann. The two very large water treatment sites in Prague are also being tentatively proposed, and their history was explained by Dr Šárka Jiroušková.

CONFERENCE REPORTS



Far Left: TICCIH President Patrick Martin discusses water heritage with conference delegates.

Left: The author of the TICCIH thematic study of the industrial heritage of water, James Douet. The report will be formally submitted to ICOMOS later this year, and can be downloaded from the TICCIH web site.

Dr Manel Martin, the historian of Barcelona's water supply, illustrated the city's protracted issues with sourcing reliable and abundant supplies of drinking water, as well as the challenges of the city's wastewater infrastructure. Dr Jorge Tartarini, Director of the Museo del Agua at the Palacio de las Aguas Corrientes in Argentina, focused on one of the city's architecturally stunning reservoirs, which artfully concealed the water functionality within its walls. Finally Professor Susan Ross illustrated how attitudes towards water infrastructure altered once the sanitary crisis had passed with the water reservoirs built for Toronto, once landscaped parks, but later covered over.

After the first day's proceedings, conference attendees were treat-

ed to a behind-the-scenes tour of the Museum's grounds, including several preserved boreholes around the property. The second day of the conference offered (whirlwind!) guided tours of select Barcelona's water heritage sites, including the Torre del Tibidabo, the Casa de les Aigües, and the Torre de les Aigües del Besòs. Arguably, the soaring brick arches of the former 15,000 m³ capacity reservoir (Edificio de les Aigües) recently repurposed as a library for Universitat Pompeu Fabra was the highlight of the day.

GERMANY

NUCLEAR POWER STATIONS: HERITAGE VALUES AND PRESERVATION PERSPECTIVES, DEUTSCHES TECHNIKMUSEUM BERLIN, 20 -21 OCTOBER, 2017

Norbert Tempel, TICCIH Germany Representative

The consequence of the German Federal Government's 2011 decision to abandon nuclear energy is that the seven nuclear power stations still in operation will be closed down by 2022. The buildings erected for nuclear power generation are worth preserving, but at the same time they are an uncomfortable legacy of German

industry and politics which is difficult to preserve.

Preservation of a large-scale nuclear power station has not been investigated or discussed so far. According to the legal situation in Germany, there are plans to dismantle these power stations completely and without exception, which in a few years will lead to the loss of all architectural witnesses of nuclear power generation in Germany.

The aim of a well-attended conference in Berlin in October 2017 was to discuss how to handle in a conscious and differentiated way the important architectural heritage of an industry that has probably preoccupied and impacted society like no other in recent history. Without discussing the possible monument values and characteristics, without evaluating the chances to preserve characteristic elements of these power plants, and without an early integration of conservation and monument concerns into the long preparation of the costly dismantling, then interventions at a later stage will involve tremendous costs and an enormous planning effort.

CONFERENCE REPORTS



The so-called 'nuclear egg' in Garching was the first research reactor to be listed as a monument in Germany, in 1997 (Creative Commons).

In his introduction to the conference, Thorsten Dame wished to open the urgent debate in time, relying on an exchange of experience between all parties involved in the operation, dismantling and potential preservation. Experts from Germany and abroad discussed models for the definition of the monument value, for documenting and safeguarding entire nuclear plants and/or parts of them. The experiences already made in neighbouring European countries gave information about chances, questions and conflicts. These matters were discussed and evaluated by comparing them for the first time in Germany, although a conference 'Nuclear Legacies' was held in Stockholm in September 2017, as reported by Magdalena Tafvelin Heldner.

In his keynote speech, Frank Uekötter introduced the development of the 'nuclear dream' in western Germany. When the first nuclear power stations were built in the 1960s and '70s they were considered as part of a more comprehensive fuel cycle which itself was only one dimension of the 'atomic age' dreamed of in the 1950s. His lecture outlined the long path from utopian expectations to real technologies, which was accompanied, not only in Germany, by continuous disappointments. He presented his idea of carrying out the museumisation of nuclear power in Germany against instead of together with the objects. Some participants from eastern Germany missed the description of the very different development of nuclear power generation in the GDR.

Even today it is obvious that the preservation of nuclear power stations has to face two major challenges regarding their authenticity and integrity: on the one hand, the radioactive pollution of certain buildings and their technical equipment; on the other hand, the idealistic 'charge' as a result of decades of fundamental discussions about the use and the consequences of power generation through nuclear fission. While radioactive pollution limits the preservation of nuclear power stations in their entirety, the political debate splits the involved stakeholders and interest groups into two camps. To preserve closed-down nuclear power stations as listed monuments is a complex responsibility for the parties concerned, not just technically but also socially and politically.

Michael Maria Bastgen and Dominik Geppert reported on the heritage value of nuclear power stations and their preservation perspectives. They explained the very different chances of preserving pressure and boiling-water reactors. In addition they suggested that the production chain of nuclear power, from uranium mining to final storage (a question that is unsolved until today!), should also be made visible.

Gunnar Klack described the various construction types which were developed according to the operating principles of the reactors used. He pointed out the essential steps in the development of technology and design that eventually resulted in the constructions representing the architectural heritage of nuclear energy production. Ralf Borchardt described the major operations of disassembling a nuclear power plant, using the example of the Greifswald nuclear power station. Germany has a rich experience in the dismantling and decontamination of nuclear sites. The first commercial nuclear power station (Kahl) was closed down in 1985 and needed some 25 years for total dismantling.

A special case in Austria, 'the Gentle Marketing of the Zwentendorf Nuclear Power Station' was reported by Stefan Zach. In the late 1970s a power station which was never put into operation deeply changed Austria. In a referendum, Austrian citizens decided not to operate the first and only nuclear power station constructed in their country. In 2005 the EVN (an energy and environment company from Lower Austria) took over the site. The area measuring 24 hectares is an authorised site for a power station in a prime location (at the banks of the Danube). For the time being there is no need for any large power plant of whichever kind of technology. Nonetheless, it has been possible to create a place for excursions to the site, interpretation, conferences, events and leisure. A monument without legal monument protection...

The only realistic way to preserve a nuclear power plant seems to be keeping a reactor that was ready built but never went into operation. In Germany there is an opportunity to preserve one

NUCLEAR POWER, CONTINUED NEXT PAGE

CONFERENCE REPORTS

CZECH REPUBLIC

RAILWAY HERITAGE: SPECIFICS, CHALLENGES AND LIMITS OF PRESERVATION AND THE NEW USE, 20 OCTOBER 2017, CZECH TECHNICAL UNIVERSITY (CTU), PRAGUE

Karel Hájek

The third annual conference organized by the PhD study programme Architecture and Building Engineering of the Department of Architecture, at the CTU. Although railway heritage is a very topical issue, especially in connection with on-going large-scale railway modernization projects, this area remains somewhat at the periphery of public interest.

The morning block of lectures was focused on mapping the historical development of railway structures, evaluation of their impact on the development of urbanism, architecture, civil engineering, and heritage conservation in this area. Axel Föhl provided an insight into the history of world railway structures, not only with regard to its influence on the further development of architecture and civil engineering, but also mentioning the modern milestones that contributed to interest in the preservation of industrial monuments, and to the definition of principles of preserving the 19th century industrial heritage.

Franziska Bollerey, an architectural historian and a Dutch emeritus professor at the Technical University Delft, devoted her presentation Railway Station – Gateway to the Life of the City to



Axel Föhl with examples of the successful implementation of re-use principles reconstructing major stations such as the London St. Pancras and King's Cross terminals or the Parisian Gare du Nord or Gare Central.

the long-term research of metropolitan life in artistic expression, film, and photography. Her contribution introduced the station as a modern gateway to the city, a melting pot of transport, social phenomena, and social purposes. Interpretation of artistic expressions within transport and industrial buildings and structures is a long-term theme of the research by Prof. Francizka Bollerey and Axel Föhl. In cooperation with the Faculty of Civil Engineering at CTU in Prague, the publication Industrial and Art mapping these manifestations both temporally and geographically, and also in connection with given typologies – and transport structures, was published in Czech.

Alena Borovcová of the Czech National Heritage Institute summarised the results of long-term research into the history of rail transport from the point of view of heritage care and conservation. The methods of coping with the extensive building and technical fund of the Czech railway network and the setting of assess-

NUCLEAR POWER, CONTINUED

complete non-contaminated Russian type WWER-440/213, 408 MW in Greifswald-Lubmin, on the shore of the Baltic Sea. Unfortunately the accompanying steam turbines, housed in one of the largest industrial halls in Germany, were scrapped – to create a space for wind turbine manufacturing! But perhaps a reactor building, heavily damaged by the disassembly of all nuclear contaminated parts, might be a 'monument of the threats of radiation' by using nuclear energy?

The conference, with some 80 participants and speakers not only from Germany and Austria but also from Sweden, France

and the UK, was organised by the Technical University Berlin, the German national committee of the International Council on Monuments and Sites (ICOMOS), the German section of TICCIH and the Deutsches Technikmuseum Berlin. Conference papers will be published end of 2018 as print and PDF versions in German and English and will be announced in the TICCIH Bulletin. Contact via t.dame@campus.tu-berlin.de

Contact the author

CONFERENCE REPORTS

ment criteria for an empirically immeasurable monument value can help other experts to systematically map the extensive fund of preserved railway structures.

Jiří Kupka of the Faculty of Civil Engineering, CTU, focused on the urban planning relations of the integration of the railway into the landscape and its historical and contemporary impact on landscape character, especially the demanding, and from a long-term aspect, not always unambiguous evaluation of positive and negative interventions of railway management into landscape values.

Afternoon presentations focused on the re-use potentials and examples of different conversions of rail architecture. The speakers presented a number of successful examples of building conversions from abroad (Karel Hájek: Experience from Abroad with Conversions of Railway Structures), a comprehensive approach to the rescue and restoration of the defunct local railway (Lenka Zelená: Zubrnice Museum Railway), or the successful reconstruction of the torsion of the historically protected railway structure for the needs of the railway museum (Petr Lédl: Kořenov Locomotive Shed). On the other hand, the unfortunate fate of the dilapidated art nouveau building of the Prague Vyšehrad Railway Station serves as a significant reminder for today's times (Jiří Chmelenský: Vyšehrad Railway Station and Its Destiny).

The closing block of the conference was dedicated to presenting successful examples of an active approach to finding a new life for abandoned or unused railway buildings for cultural and community purposes, such as the Plzeň Jižní předměstí (in Eng-

lish: Pilsen South Suburbs). In their presentations, they described the Plzeňská zastávka (in English: Pilsen Railway Station) project (Helena Šimicová: Plzeňská zastávka – a conversion project implemented by three women), and the Žilina Zářečie (Marek Adamov: Stanica Žilina Cultural Centre). Another example of Radlická kulturní sportovna (in English: Radlice Cultural Gym) showed the limits of the sustainability of these projects in practice (Jakub Zajíček: Radlická kulturní sportovna), similar to the documentary film Industrials which was made by two students, and was created at the Research Centre of Industrial Heritage under the Faculty of Architecture at the Czech Technical University in Prague (Petra Boudová, Veronika Kastlová - Industrials).

Because there is not enough space to provide an overview of all twenty presentations that were given at the conference, the above mentioned selection is also a caption for an upcoming publication, which is being prepared this year under the supervision of Assoc. Prof. Lenka Popelová and Prof. Tomáš Šenberger. It will deal in more detail with the topic of protection and use of the railway heritage and summarise the outputs of the conference and other activities of the PhD study programme Sustainable Development and Industrial Heritage under the Department of Architecture of the Faculty of Civil Engineering at CTU in Prague, which is highly concerned with railway heritage. The conference was organized in cooperation with the National Heritage Institute represented by Ing. arch. Eva Dvořáková.

BOOKS RECEIVED

Paesaggi Industriali e Patrimonio UNESCO

Massimo Preite
C&P Adver Effigi, 2018

Reviewed by Edoardo Currà, Professor of Building Design for Architecture, Sapienza University of Rome

In *Paesaggi industriali e Patrimonio Unesco* (Industrial Landscapes and Heritage of UNESCO) Massimo Preite delineates a general frame concerning the nature of industrial landscapes in Italy and in Europe. He also illustrates the presence and the role of this kind of heritage in UNESCO's categories.

The Italian title involves the definition of the industrial landscape.

Over the last twenty years the author, a member of the board of TICCIH, AIPAI and ERIH, has paid attention to the regeneration phenomena in Italy and across Europe. The volume, which follows the essay "Toward the Industrial Heritage", offers a critical review of the interventions of regeneration and valorization of the last 30 years.

The book was presented at the faculty of Civil and Industrial Engineering of Sapienza University of Rome last April, and in that occasion the urbanist Paolo Colarossi recalled that there are dozens of definitions of landscape, but among them the most interesting, according to a multi-disciplinary approach, are the ones which highlight the relations between natural territory and human modifications.

For this reason Preite opens the discussion with mining landscapes, where the past big anthropic activity is resolved in a strong trans-

BOOKS RECEIVED

formation of the territory that is not only 'poised' above the natural environment, but which is also characterized by the material modification of the superficial layers of the earth's crust.

There are other categories of landscape associated with the mining areas, dependent on the nature of the production, the belonging or not to an urban landscape. In the volume these are discussed with reference to Italy and then to Europe, so gradually the text reaches the heart of the theme, the industrial landscapes in the UNESCO list. Therefore, in the first paragraph of the fourth part, landscape is rated as the appropriate discipline, the right scale, to measure the issues of the decommissioned industrial areas and to work in order to achieve an effective regeneration.

In many cases the plan and the project have passed through a strategy of transformation of the industrial landscape into a cultural landscape.

Borsi, in his introduction of the catalogue of the exhibition "Le paysage de l'industrie" (Brussels, 1975) individuates some difficulties in recognizing Industrial site in terms of the "landscape". The industrial landscape is a negative asset whose appreciation, in addition to excluding any referral to principles of natural beauty, can

absolutely not be limited to simple consideration of the plastic-architectural or functional aspects.

Instead, a complex multidisciplinary approach is needed to fully understand the historicity of the landscape, as a product of human's fatigue and as a visible sign of anthropic action. Here mankind made extensive use of technical-scientific knowledge.

The author recommends that in coming years the World Heritage Committee, in the elaboration and refinement of its heritage categories, reclassifies the concept of cultural evolutionary landscape in such a way as to give recognition also to those landscapes (like industrial ones) in which the value of historical testimony is paramount compared to less characterizing naturalistic or sustainability values.

Finally, the book is enriched by a lively sequence of photos by the author, a twenty-years long reportage on the transformation of Italian and European industrial sites in the eyes of a passionate photographer.

COMING SOON

2018

U.S.A.

SIA 47th Annual Conference, 31 May-3 June, Richmond, Virginia.

www.sia-web.org

GERMANY

Kernkraftwerk Rheinsberg - Zukunft eines kulturellen Erbes (about future developments of the decommissioned Rheinsberg nuclear power station)

14 and 15 June, 2018.

Info and registration: stadtgeschichte.rheinsberg@gmail.com

FRANCE

La Fête du Patrimoine Industriel, 8 July, Alsace, Lorraine, Champagne-Ardenne, Franche-Comte, Rhone-Alpes.

patrimoineindustriel

BELGIUM

6th International Congress on Construction History, 9-13 July, Brussels.

6icch.org

FRANCE

ICOHTEC 45th Symposium in St Étienne, 17-21 August.

<http://icohtec.org/annual-meeting-2018.html>

CHILE

XVII TICCIH Congress, the first in Latin America.

13 and 14 September: Congress, Universidad Central de Chile, Santiago.

15 September: Closure and Visit to Sewell World Heritage Site

First registration until 15 June 2018: TICCIH Members US \$250, General Public US \$300, Students US \$80

patrimonioindustrial.cl

IRELAND

World Canals Conference

10-12 September, Athlone.

wccireland2018.com

SPAIN

Resilience, Sustainability and Innovation, XX International Conference on Industrial Heritage, 29 September, LABORAL Ciudad de la Cultura, Gijón. Cfp: 2 July.

Conference Technical Secretariat at incuna@telecable.es.

www.incuna.es

CZECH REPUBLIC

Creators of Industrial Buildings, Research Centre for Industrial Heritage of the Faculty of Architecture, September. Czech Technical University in Prague.

Symposium to define the international context of industrial heritage buildings in the region.

<http://vcpd.cvut.cz/symposium-2018/>

PORTUGAL

Ibero-American Journeys of Young Investigators in Industrial Heritage, 8-10 November, University of Évora

<https://jornadasiberoamericanas2018.weebly.com/>

2019

POLAND

Big Stuff 2019: Preserving Large Industrial Objects in a Changing Environment

12-13 September, Katowice, Upper Silesia.

Contact **Piotr Gerber**