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#### EVENTS CALENDAR



The company town of Kiruna in the far north of Sweden was established at the end of the 19th century, but is today threatened by the giant iron mine that once gave it life and whose extension requires the removal of a large portion of the town. *Lucie Morisset* discusses the varied destinies of company towns like Krunka, and initiatives to interpret and conserve them. Photo: Luc Noppen

## OPINION

### CHERISHING THE MOTORING HERITAGE

*Kathryn A. Morrison, Historic England*

Some splendid buildings were erected in England in the early to mid 20th century specifically for motor cars, as well as for their drivers and passengers. The finest are found in London and include the Michelin Building on Fulham Road (1905-10; Grade II), the Wolseley showroom on Piccadilly (1921; Grade II\*), the Bluebird Garage on King's Road (1923; Grade II) and the Daimler Hire Garage on Herbrand Street (1931; Grade II). How intriguing that the first three have discovered a new lease of life as top-notch restaurants.

But a host of historic buildings throughout the country belongs to the country's rich motoring heritage. Amongst them are car factories, motor houses (domestic garages), car parks, repair and maintenance garages, filling stations, roadhouses, motels and showrooms. The list might even include motoring museums and, at the opposite end of the spectrum, scrap yards. The infrastructure of roads and streets such as signage, roundabouts, bridges and flyovers is an equally tangible part of our heritage and should not be overlooked.



The Daimler Hire Garage, London, (1931; Grade II) by Wallis, Gilbert and Partners. Upper storeys provided parking reached by a spiral ramp which gave the building its unique appearance. © Tony Hisgett, via Wikimedia Commons

Appreciation of motoring heritage has grown notably in the 21st century, with a number of serious publications devoted to the subject. These studies have carried the story beyond the 'golden age' of motoring into the post-war world of mass car ownership. With information securely rooted in historical research undertaken thematically on a national scale, many buildings can be seen with new eyes. They are cherished not just for their architectural impact, but as integral components of England's motoring story. In the past decade this has been reflected in a number of new listings, underpinned by Historic England's selection criteria, **Buildings and Infrastructure for the Motor Car** (2016).

Some particularly early (i.e. pre-1906) garages, such as the 'motor stables' built for Sir David Salomons at his house (1900-02; Grade II), benefit from association with motoring pioneers. Lack of alteration is another important criterion, and structures eligible for listing should

possess features which demonstrate their special interest. Salomons' garages are very well preserved, including the original plan form, signage, heating, electrical fittings and inspection pits. In contrast, an earlier motor house built for Dr Barrett in Southport, dating from 1898-99, has been heavily altered. Similarly, the earliest multi-storey car park in the country, built in 1903 on London's Wardour Street, still stands but is not listed because its interior has been completely transformed. It is now a pub.

Other buildings are, quite simply, the last survivors of once-common building types. Amongst these rarities is a reed-thatched petrol store on the Rothschild's estate at Ashton Wold in Northamptonshire (1900-14; Grade II). Astonishingly, in view of its combustibility, thatch was not that uncommon for motoring buildings: it was in keeping with the 'olde-worlde' associations of motoring which encouraged the construction of quaint, themed filling stations like the Chinese

# OPINION



The zebra crossing featured on the cover of The Beatles' 1969 album Abbey Road was protected by 'listing' in 2010. ©Wikipedia Commons

Garage at Beckenham (1928-29; Grade II). Few of these buildings survive: those that do provide us with glimpses into a lost world.

Certain categories of motoring building prove more difficult to protect and preserve than others. In such cases it is vital to make a thorough record, including a photographic survey, prior to redevelopment. One sub-type which has vanished in recent years is the mechanical car park: very popular in the 1920s, and again in the 1960s, but not represented in the English national lists. The last one was the Greek Street 'Autosilo' in Leeds, built in 1970 and demolished in 2014. A new generation of mechanical parking garages is being built today, mostly in connection with private developments, and it will be interesting to see if these enjoy greater longevity or adaptability.

A similar, though less intractable, problem is faced by car factories. The first cars were built in rudimentary workshops, often in multi-storey buildings with lifts, but with increased production the benefits of single-storey factories were recognised. Huge sheds with north-lit, saw-tooth roofs became the norm. These rarely demonstrate anything unique to the car industry which might set them apart. Accordingly, as plants become redundant there has been a tendency to preserve (and often list) the architecturally ornate office blocks on street frontages but to demolish the visually less exceptional sheds

to the rear. A fine example is the Clement-Talbot factory in west London (1903-04; front range listed Grade II) whose rear sheds were demolished.

Indeed, much motoring heritage has proved ephemeral and some aspects of the national story will never be represented in our lists. Certain types of old signage, traffic lights and pedestrian crossings might be enjoyed in museums, but are no longer seen on streets. For example, a much loved Lucozade advert on the M4 was not listed because it could not be preserved in situ. Instead it was removed to a museum and replaced with a replica, but even the removal of that replica in 2016 caused a furor.

It might be assumed that many more examples of untouched motoring buildings survive from the post-war period than do from the first half of the 20th century, but that is not necessarily the case. Most of the futuristic concrete showrooms of the 1950s and 1960s have been superseded or altered beyond recognition. Thus the stylish Ewell Honda on the Epsom Bypass (1961; Grade II) and the circular Tower Garage at Alderley Edge (1962; Grade II) are rare examples.

When it comes to listing post-war buildings of any kind in England, the bar is necessarily raised. Fortunately, there are some outstanding



Markham Moor petrol station with its innovative hyperboloid concrete shell canopy (c.1960-61) was converted to a roadside restaurant in the 1980s. © Richard Croft, via Wikimedia Commons

examples. In addition to the showrooms already mentioned, post-war motoring buildings to receive this accolade include Preston Central Bus Station and Car Park (1969; Grade II), the landmark Penine Tower Restaurant at Forton (now Lancaster) Services on the M6 (1965; Grade II), the lollipop-shaped Mobil Canopies at Red Hill (c.1965; Grade II), a petrol station under a concrete shell canopy at Markham Moor on the A1 (c.1960-61; Grade II) and also by Sam Scorer, the architect at Markham Moor, a car showroom in Lincoln (1958-59; Grade II), now a restaurant.

All of this demonstrates how much Historic England, currently celebrating 70 years of designating, has done to raise awareness of the country's motoring heritage. However, recent proposals to ban the sale of petrol and diesel by 2040 and switch to electric vehicles are bound to have massive repercussions for our motoring infrastruc-

ture. It is quite possible that, in the 2040s, people will regard the humble filling stations and garages of the 2010s as antiquated and anachronistic. Which ones, I wonder, will survive long enough to be put forward for listing?

Kathryn Morrison and John Minnis' *Carscapes: The Motor Car, Architecture and Landscape in England* is published by Yale University Press with English Heritage, 2012

See also the Historic England blog '[8 Interesting Buildings that Wouldn't Exist if it Wasn't for the Car](#)'

## INTERNATIONAL VILLES-USINES AND COMPANY TOWNS: INTERNATIONAL STUDY PERSPECTIVES

**Professor Lucie K. Morisset, Canada Research Chair on Urban Heritage, professor at the Urban and Tourism Studies Department of the School of Management, University of Quebec in Montreal**

Searching for an appropriate name, Pierre Lavedan called them *villes-usines* - factory towns - for they seemed so unusual in France and continental Europe. Recently entered into the corpus of industrial heritage, company towns, as well as their smaller cousins, workers' villages, have come to the attention of an increasing number of researchers and political decision-makers in the last several years.

Long cursed by a Marxist-allied historiography committed to using them to illustrate the class struggle, company towns have been rediscovered thanks to the work of scholars such as Gràcia Dorel-Ferré, John Garner, and Louis Bergeron. In the Americas, in particular, from Marysville (Canada) to Fordlandia (Brazil), a growing body of work has revealed the sense of belonging, the proud sagas, and the somewhat utopian dreams of a better world that guided the destinies of these towns.

It is now understood that they do not form a homogeneous corpus,

far from it, and the "paternalism" that was commonly evoked in reference to their *modus vivendi* has given way, over time, to references to various forms of corporate commitment. In some countries, they literally founded what has become known as social housing; elsewhere, they actually created the populated territory itself. It is also clear that the Garden City paradigm, the benchmark by which some company towns have been measured, is no longer sufficient when it comes to understanding their forms and their contributions to the know-how that produced our towns and cities. Company towns indeed have a lot to offer to the history of town planning, a discipline still in its fledgling stages. And at a time when the Second Industrial Revolution is itself becoming heritage, these towns that remain after the departure of industry tell us much about heritage preservation.

While leaving unimaginable wastelands in a state of abandon, the deindustrialization process has already engendered new know-how and led to a reflection concerning reclassification: the problem regarding the extreme obsolescence of hectares of land left behind with the closure of gigantic factories could not be solved by way of simple heritage status or a few quick brush strokes. Industrial archeology has at the same time given aesthetic value to minehead frames, cranes, and other equipment formerly seen as very off-putting, so that everyone can now be moved by rusty steel stacks and mine craters: the success of Zollverein (Germany), declared a World Heritage Site in 2001, has clearly demonstrated this phenomenon.

Mostly made up of workers' dwellings, often interspersed with institutional and public facilities (schools, parks, etc.), and built according to an urban plan of varying complexity, company towns and villages



In Ivrea (Italy), a true anthology of modernist architecture bequeathed by Olivetti, the architectural needs of new economic activities still only partially replace those of the old company, a producer of typewriters and calculators. Photo: Luc Noppen

# REPORT



Sumptuous but antiquated, the commercial buildings of downtown Roanoke Rapids (US) serve only as a testimony to the former dynamism of this old textile town, where the unemployment rate now exceeds 10%. Photo: Lucie K. Morisset

Paranapiacaba (Brazil), a railway town on its nation's tentative list, has received sustained support for the preservation and the restoration of its heritage, thanks especially to the visibility provided by an influx of tourists. Weather conditions that give this elevated site its special feel are an important lure for visitors. Photo: Lucie K. Morisset



# REPORT

Silverton (Australia) is a ghost-village legacy of silver extraction, now home to no more than a few dozen people who accommodate tourists and film shoots. Photo: Lucie K. Morisset



In Glace Bay (Canada), where coal mines are still a bad memory for many residents, we see a duplex or "half house," a striking image of the results of the sale to individuals of houses formerly leased by the company to its workers. Photo: Marianne Charland

# REPORT



At Oak Ridge (US), the architectural vestiges of the Manhattan Project are ignored in the narrative concerning the development of the atomic bomb that secured the fortune of this "Secret City": the guest house, so characteristic of company towns, has stood abandoned for several years. Photo: Lucie K. Morisset

could be mistaken for any venerable historical centre, were it not for the factory, mine, or manufacturer which, for at least as long as it subsisted, clearly exhibited the town's history and meaning. The unity of composition of company towns and the possibility of clearly discerning their limits make them good candidates faced with the monumental concepts that still largely dominate our Eurocentric heritage practices. However, as in the case of the Distillery District (Toronto), 796 Art District (Beijing), and other post-industrial neighbourhoods, the heritage status that marks government intervention in heritage conservation is insufficient to ensure their protection or future: except in rare cases, such as that of Crespi d'Adda (Italy) in the past or Arvida (Canada) today, they acquire heritage status at the very point when the disappearance of their parent company strips the underpinnings of their existence. The experience of the Sewell mining town (Chile) is discussed elsewhere in this Bulletin.

This rupture, which for better or worse continues to dot the planet with ghost towns, constitutes the first heritage challenge for these entities, left without any real economic activity, generally in search of a new mission. Even when the original industry is still operating, the rationalization of production and the transformation of companies, whose social projects no longer include urban utopias, have forever changed the destiny of company towns, becoming especially burdensome when a mining company, for example, wants to expand its operations. Having marked the territorial conquest of entire continents and located where natural resources still remain, frontier towns are now being abandoned in favour of FIFO ("fly in-fly out") communi-

ties, as in the area of Fort McMurray (Canada) or in the new Gateway Village (Port Hedland, Australia). Company towns have thus come to belong to a bygone era.

But while tourism has provided the necessary impetus for the economic recovery of some venerable company towns, the usual solutions offered by our heritage institutions are generally inadequate. Their appropriation by public authorities or the creation of a museum are obviously not suitable solutions for residential settings generally covering a number of hectares. Furthermore, the interdependence between the town, the industry, and the company that has often remained owner of a major segment of the location, and even of the dwellings, is not only economic, but also symbolic. When it is not simply demolished by the company to become land to be subdivided, the company town is sometimes looked at with resentment by unemployed families and through the lens of misery by those who see only pollution, or who have endured the social or racial segregation that has characterized many such communities. These factors explain how easily certain company towns such as Val-Jalbert [see the article below] and Kemano in Canada have become exercise sites for firefighters.

Company-town heritage preservation often begins with a reconstruction of the community's social project and its various levels of

**COMPANY TOWNS, Cont'd pg. 20**

# WORLDWIDE



The pulp mill when it first opened in 1902. © Wikipedia Commons

## CANADA

### VAL-JALBERT, GHOST TOWN AND LIVING HISTORY MUSEUM

**Gaston Gagnon, historian and museologist, Heritage Advisor, MCC/QUÉBEC, UQAC lecturer**

Company towns and villages are typical of large industry in Canada as witnessed by the Val-Jalbert Historical Village in the Saguenay-Lac-Saint-Jean region of Quebec. With an area of 1.74 square kilometers, Val-Jalbert is a unique ensemble located within a large balsam fir-white and yellow birch stand. It is at once a company village and among the oldest in Quebec (1901-1927), and is an exceptional

example of archaeological, historic, and technical industrial heritage. Open to the public since 1963, Val-Jalbert is the region's main tourist attraction, visited annually by more than 80,000 people, mainly from Quebec and Europe. Visitors are attracted by the natural beauty of 72 m Ouatouchouan Falls and the region's river and canyons, which in themselves make a visit worthwhile. It has been the property of the Corporation of the Regional Park of Val-Jalbert since 2009.

Val-Jalbert brings to mind the glory of the Canadian pulp industry at the turn of the 20th century, when Quebec supplied American and European markets with newsprint. Since 1996, it has been included in the Cultural heritage register of Quebec and since 2006, in the **Canadian Register of Historic Places**. The value of its historic, urban, landscape, and technological character has earned it the status of site patrimonial (heritage site) granted by the Quebec ministry of culture and communications. This status ensures protection of Val-



Decaying buildings beside the waterfall today. © Wikipedia Commons

Jalbert's buildings, facilities, and artifacts.

The distinctive character of this historical village has already been pointed out by **several authors**, including Professor Luc Noppen of UQAM. For this architectural and heritage historian, although Val-Jalbert has the status of an **open air museum** it is not "one of those parks reconstructed with the help of buildings and objects brought from elsewhere; rather, it is an ensemble of rare authenticity." Moreover, "it is not a settlement from the traditional era, but an industrial site more like New Lanark, Ironbridge, and the Beamish Open Air Museum." (our translation) Even among such places, Val-Jalbert remains, for Luc Noppen, exceptional in that it is a "planned urban ensemble," a forerunner in Saguenay-Lac-Saint-Jean of towns such as Kénogami (1912), Port-Alfred (1916), or Arvida (1926). Other such ensembles, for example Pulmann, near Chicago, or chocolate-maker Henri Menier's Noisiel, east of Paris, remain "active urban sites." Their situation does not compare with that of Val-Jalbert, whose status as an abandoned or "ghost village" makes it possible to witness the inexorable and destructive march of time.

Damase Jalbert, a merchant and sawmill owner, founded the Ouia-tchouan Pulp Company in 1901. The following year, a mechanical pulp mill was built at the foot of the falls with a production of 30 tons of pulp per day. In the wake of the US industrial recovery of 1904, the Val-Jalbert mill was expanded in 1909 and 1917. Its production reached 110 tons as a result of its integration with Julien-Édouard-Alfred Dubuc's Chicoutimi Pulp Company. The company then merged with the North American Pulp and Paper Companies in 1915, with its importance stemming from its status as Canada's largest exporter of mechanical pulp.

Moving on to the forest front, after construction of a primitive nucleus located in front of the mill's esplanade and made up of two double houses, a chapel, and a dozen or so homes situated along the street leading to the falls and the mill, a model village gradually began to take shape as of 1910. Besides the building of a church, a presbytery, and a school convent at the entrance to the village, some 60 rental homes for the workers were built on the plateau and in the "upper town," with its road network and standpipes. The Société de construction

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The former school-convent now forms part of a popular open-air museum. © Wikipedia Commons

ouvrière de Chicoutimi and Ha! Ha! Bay Land and Building Co. used four models of four- or five-room wooden homes as a blueprint for construction. The settlement was equipped with water, electricity, and telephone services; a hotel, general store, railway station, and post office were also built. According to geographer André Brugeron, such settlements are “typical North American towns in miniature,” both in their conception and in their modernism. At its peak in 1926, when Quebec Pulp and Paper Mills acquired Val-Jalbert’s assets, the village had 950 inhabitants. More than 200 men worked at the mill and were members of the first Catholic union in North America. In 1927, the mill ceased operations, as did many others affected by the international paper crisis. The company began closing the village and directed its employees and their families to leave permanently in 1930. Their memories of Val-Jalbert remained with them for a very long time before being passed on to their descendants.

The built landscape of Val-Jalbert was in turn transformed by fires, the placarding of houses, and ruinification. Another scenario emerged at the beginning of the 1960s, with the ghost village first being seized by intruders before being protected, consolidated, and restored by successive owners, who turned Val-Jalbert into a site exemplifying

various states of conservation. We are reminded of its fleeting history when visiting the site, including during a multimedia presentation with a focus on several types of wood-pulp production machinery.

A visit also leads to various reflections concerning the obsolescence of an industry that failed to innovate and the fragility of places and things; it is the role of heritage to transmit such ideas and perceptions. The visitor will furthermore be pleasantly surprised by Val-Jalbert’s underground mini hydroelectric power plant, featuring on-site accommodations and a succession of suspended galleries overlooking the spectacular falls; this is community property, enabling site sustainability and fostering local development. As such, Val-Jalbert continues to be a key heritage player, showcasing the riches of the region.

## GERMANY

### HERITAGE CONSERVATION AND URBAN DEVELOPMENT: ZOLLVEREIN INDUSTRIAL COMPLEX

**Dr. Heike Oevermann, Georg-Simmel-Zentrum für  
Metropolenforschung, Humboldt-Universität Berlin**

Zollverein has undergone a process of transformation over almost 30 years and was designated a UNESCO World Heritage Site in 2001. It is acknowledged as a complete infrastructure in coal mining, providing evidence of the 150-year evolution and decline of this essential industry in the Ruhr region. Zollverein has played a pioneering role in setting standards for industrial heritage management from a regional, national, and international point of view; but what are the criteria for identifying good practice in heritage management?

In 1847, Franz Haniel started mining at Zollverein, which remained a family business until 1920. Mining activities encompassed twelve shafts and one coking plant, concentrated at four sites in northern Essen. In the 1930s, Zollverein was the most productive mines in the Ruhr region, with peak extraction of 3.588 million tons of lance coal in 1937. Coal extraction at Zollverein ceased in 1986, followed by the closure of the coking plant in 1993. Although all remaining shafts and buildings are designated as monuments in the German understanding (equivalent to listed buildings), only parts of them are included in the 2001 World Heritage classification, including the central shaft 12 (1928–1932). Shaft 12 not only provides evidence of the crucial period in the development of heavy industries (criterion iii), but is also of outstanding universal value due to its modern architecture by F. Schupp and M. Kremmer, referring to the Bauhaus Style and displaying a masterly combination of form and function (criterion ii).

The historic urban development of the northern part of Essen is mainly dominated by the coalmining industry, its infrastructure, its workers' housing and welfare buildings, and some social and religious institutions. The evolution and decline of Zollverein are engraved in the district's history and present, and the similar developments of further coalmines and other industries, such as steel, shaped the whole region.

In the 1990s, Zollverein was the anchor project of the International Building Exhibition (IBA) Emscher Park, and is an anchor project of the European Route of Industrial Heritage (ERIH). Guided tours, events, and activities of the Denkmalpfad (monument pathway) offer access and information to visitors. Since the 1990s, Zollverein has been transformed through establishing cultural and creative industries, museums, a performing arts center, and several businesses. New buildings were erected for the service industry, and for Folkwang

University which will open in autumn 2017, and further architecture will follow.

Opportunities to identify criteria and projects of good practice at Zollverein are provided by an ongoing transfer-of-knowledge project, funded by the German Research Foundation (DFG) in cooperation with the Zollverein Foundation (Stiftung Zollverein). This is based on a three-year research project into "Industrial Heritage Sites in Transformation" (Oevermann & Mieg, published by Routledge 2015; cf. Ian Bapty, TICCIH Bulletin 67; Marion Steiner, TICCIH Bulletin 77).

From UNESCO policies and guidelines, we can deduce eight criteria of good practice.

Conservation is the main concern in safeguarding the tangible heritage of each UNESCO World Heritage Site. Appropriate new uses, especially with regard to abandoned industrial sites and landscapes, are needed to ensure long-term conservation. Urban development has to enhance deprived urban environments (which are often the result of industrial production), and must reconnect heritage and city. Community involvement helps to ensure the acknowledgment and use of the heritage site, and can contribute to community empowerment. Research and heritage impact assessments help to understand the historic evidence and its vulnerability to changes. Information and education activities are essential for awareness-building among communities, visitors, and users. Here, access (physical, virtual, emotional, and intellectual) to the site can be improved. Sustainable development and responses to climate change are two core issues of UNESCO, and must always be considered in decision making. The management system organizes different stakeholders, authorities, and communi

#### Zollverein, Cont'd pg. 21



Systematization of good practice: eight criteria. © Oevermann & Mieg, 2017

## UK & U.S.A.

### HENRY FORD'S 1928 IA HOLIDAY, PART I

*Professor David Perrett*

In the 1920s, Henry Ford was the third richest American with a personal wealth of \$200 billion in today's terms. Whilst reducing his role in the company he was extending his diverse historical interests. Ford's early life was on the family farm in Dearborn, a small community west of Detroit. 1879 saw him apprenticed to a ship-builder in Detroit and on returning home he helped maintain some steam powered farming machinery, so starting his lifelong fascination with steam. In 1891 he joined the Edison Illuminating Co. in Detroit as an engineer working on steam-driven generators, rapidly becoming Chief Engineer. He met Thomas Edison in 1896 with hopes that Edison would encourage him to develop a 'horseless carriage', but that was not the case so he left and in 1899 started his automobile company.

Nevertheless, the pair later became great friends. In the mid-1920s Ford developed plans to build a museum like London's Science Museum. The Edison Institute along with Greenfield Village was to be built in Dearborn alongside a new motor factory. A major gallery was to show a fully comprehensive history of both stationary steam power and steam locomotion.

On March 31st 1928, Ford and his wife Clara, travelling in cognito as Mr & Mrs Robinson along with his private secretary Frank Campsall, sailed from New York for England. They soon blew their cover so by their arrival in Southampton on April 6th the press and politicians were aware of their visit. Speculation centred on Ford seeking site(s) for major new car plants. With exception of a visit the day after arriving in London to land purchased at Dagenham, Essex, site of a future Ford factory, business was not the prime aim of the visit. These were much more about filling his new Institute.

In London, they met with Herbert Frederick Morton, an engineer at Ford's plant in Trafford Park, Manchester. Morton had knowledge of early engines and was a member of the recently formed Newcomen Society. His interests were known to his managers, who had him sent to look at old engines at the request of the 'Chief Engineer' in Dearborn. Ford outlined to Morton his plans for his Institute to celebrate the genius of Edison, and said that it was to include a representative sample of early steam engines. Morton told Ford 'that just enough specimens are still in existence to enable the project to be carried out but the cost of obtaining them, and their dismantling, shipping and re-erection might be enormous'. Ford considered this for a few seconds and then said 'Well I'll tell you – I'll spend Ten Million Dollars'.

Neither Henry nor Clara kept records of this meeting or their travels with Morton round Britain looking for suitable engines to buy.



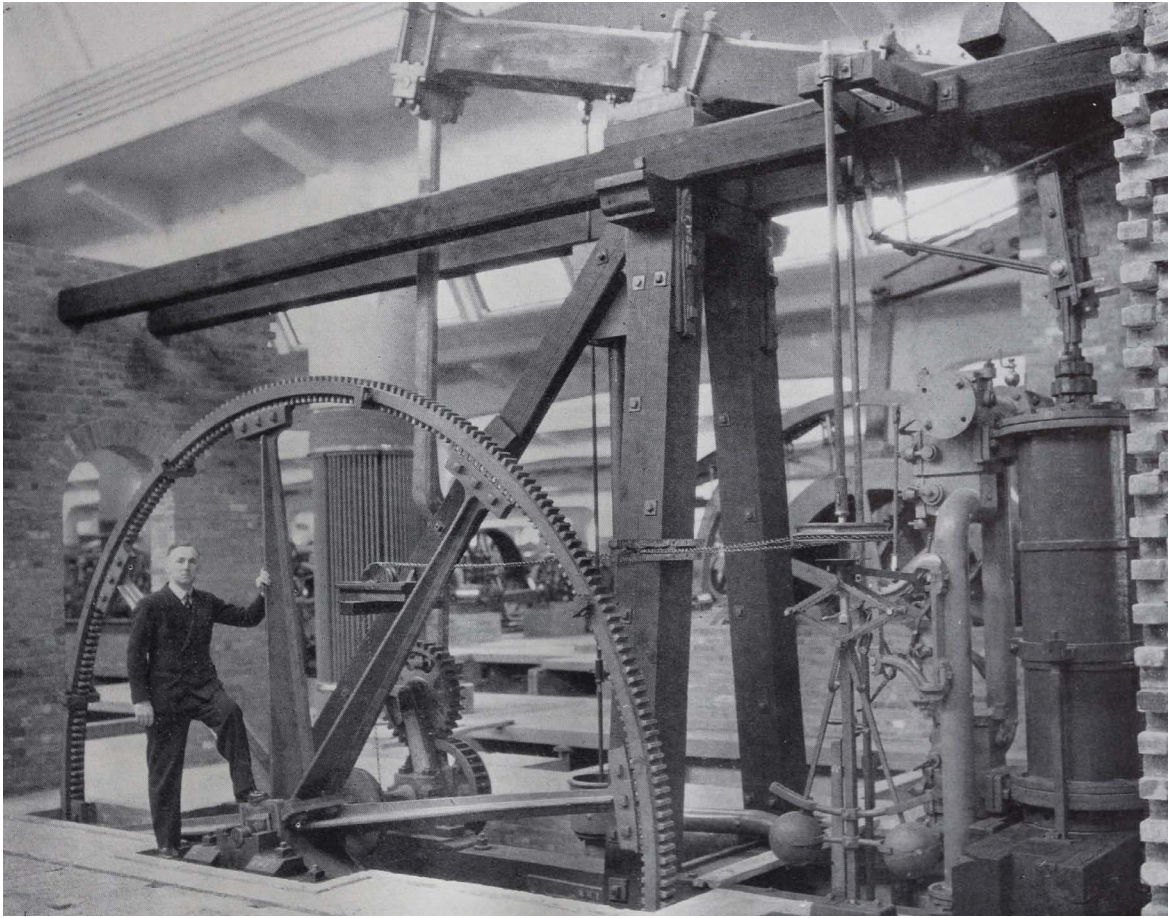
*The Oldest Engine*

Fairbottom Bobs ca. 1880 from *Strange Commissions* for Henry Ford. Morton's caption 'The Oldest Engine' is debatable.

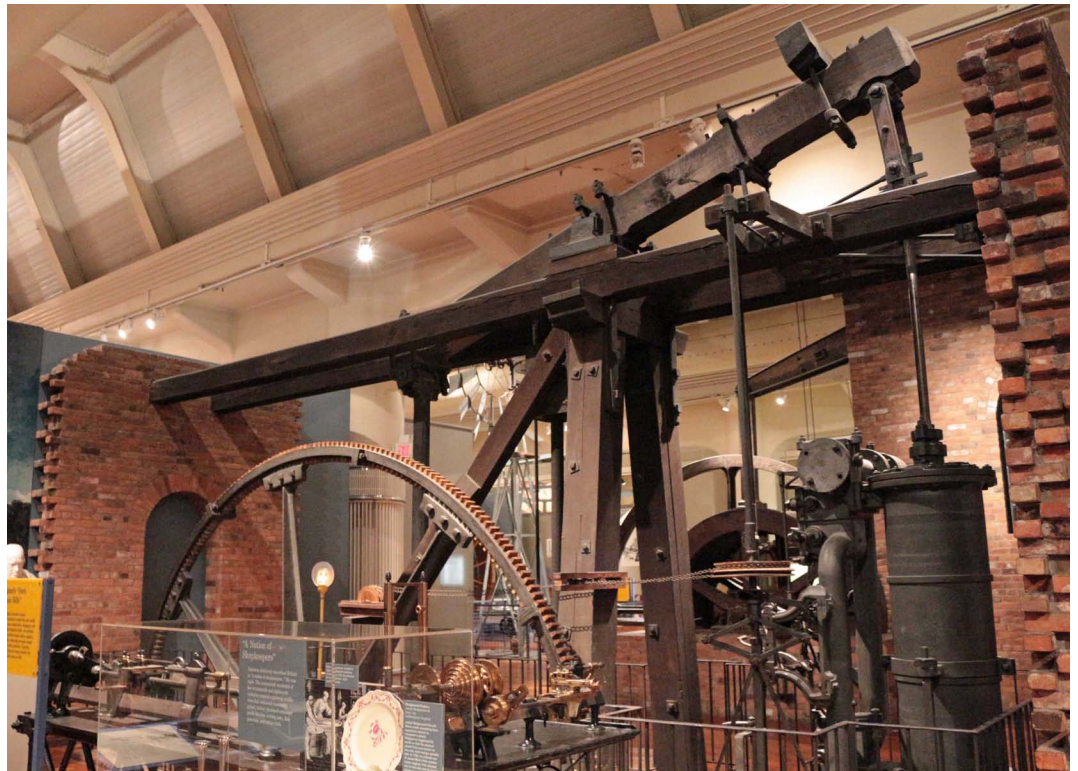
However, Morton wrote a memoir titled *Strange Commissions* for Henry Ford. When privately published in 1946 the printer advised that he only print 100 copies, given the specialist subject, so it is very rare. On retiring in the 1960s Morton wrote a fuller account called 'Spend me Ten Million' which was never published. Some of Morton's records are in Chetham's Library in Manchester U.K. and the Benson Ford Research Center at **The Henry Ford** in Dearborn, USA.

The following morning Ford insisted that they visit the Science Museum even though Morton said it did not open until 10 am. A surprised doorman was persuaded to tell the Director that a Mr Ford had come to visit. They were shown round with Ford offering to buy Stephenson's Rocket and the 1788 Boulton & Watt Lap engine. His offer was rejected saying they were national treasures but Morton would be allowed to make measured drawings. Robert Stephenson & Co of Darlington searched their archives for drawings but with little success. At the end of April Morton visited Stephenson, who agreed to build an 'exact' working replica using Morton's drawings and in July, £2451.7s.2d was sent for the work. All transactions for Ford by Mor-

# WORLDWIDE



Morton and the replica Sun & Planet engine in the Edison Institute ca. 1931 from *Strange Commissions* for Henry Ford.



The replica Sun & Planet engine in the Henry Ford in 2015. Photo D. Perrett

# WORLDWIDE

ton were informal and the cashiers were told not to question any the money requested. The replica was completed in May 1929 and after a short U.K. tour was shipped to Dearborn. Morton approached Hick Hargreaves & Co of Bolton to build the replica Sun and Planet engine. Amusingly they told him that it was a very old design and they could build him a much more modern one! The replica, completed by 1930, is still in the Henry Ford Museum.

Leaving London, they went to Warwick where its horse-hauled steam fire-pump attracted Ford. The Birmingham Navigation Co. showed them the 1777 Watt engine that worked until 1898 at Ocker Hill Pumping Station. Ford was astonished to see something that large and that old. They then went to Lawley St. Pumping Station where the 1812 Watt engine was still working. Ford's party now met the Warwick & Birmingham Navigation Co's manager, who took them to Bowyer St. Pumping Station with its giant 1796 B&W engine that, having stopped in 1854, was in a sorry state. Ford instructed Morton to try and get all three engines and their engine houses. Eventual Morton secured the Lawley St and Bowyer engines. The **Smethwick (Ocker Hill)** engine survives in Birmingham's Think Tank Museum.

Their next task was to find and secure a Newcomen Engine. Morton was able to show Ford the 1795 Newcomen Engine at Elsecar in South Yorkshire, which because of a failure in the colliery's electric pumps, was back in steam. Earl Fitzwilliam stated categorically that it was not for sale. Morton knew of the well-known Newcomen Engine on a former colliery east of Manchester. This engine, popularly known as **Fairbottom Bobs**, dated from ca. 1760 but having stood

in the open since stopping in 1827 it was totally derelict. Ford was so impressed that he jumped on Morton's shoulders to see into the cylinder but they collapsed to the ground laughing. Even in its then state Ford instructed Morton to acquire it. Henry and Clara returned to London where, seeing Bennett's clockworks in the City being demolished, he told Morton to buy it, too. Passing a steam wagon in the street he wanted one also. They sailed home on May 2nd. Morton was now left the task of acquiring the engines and their buildings and then dismantling them for transport to Dearborn.

*Part II of the Henry Ford's IA tour will be in the next issue of the TICCIH Bulletin.*

## THE INTERNATIONAL COMMITTEE FOR THE CONSERVATION OF INDUSTRIAL HERITAGE

[WWW.TICCIH.ORG](http://WWW.TICCIH.ORG)

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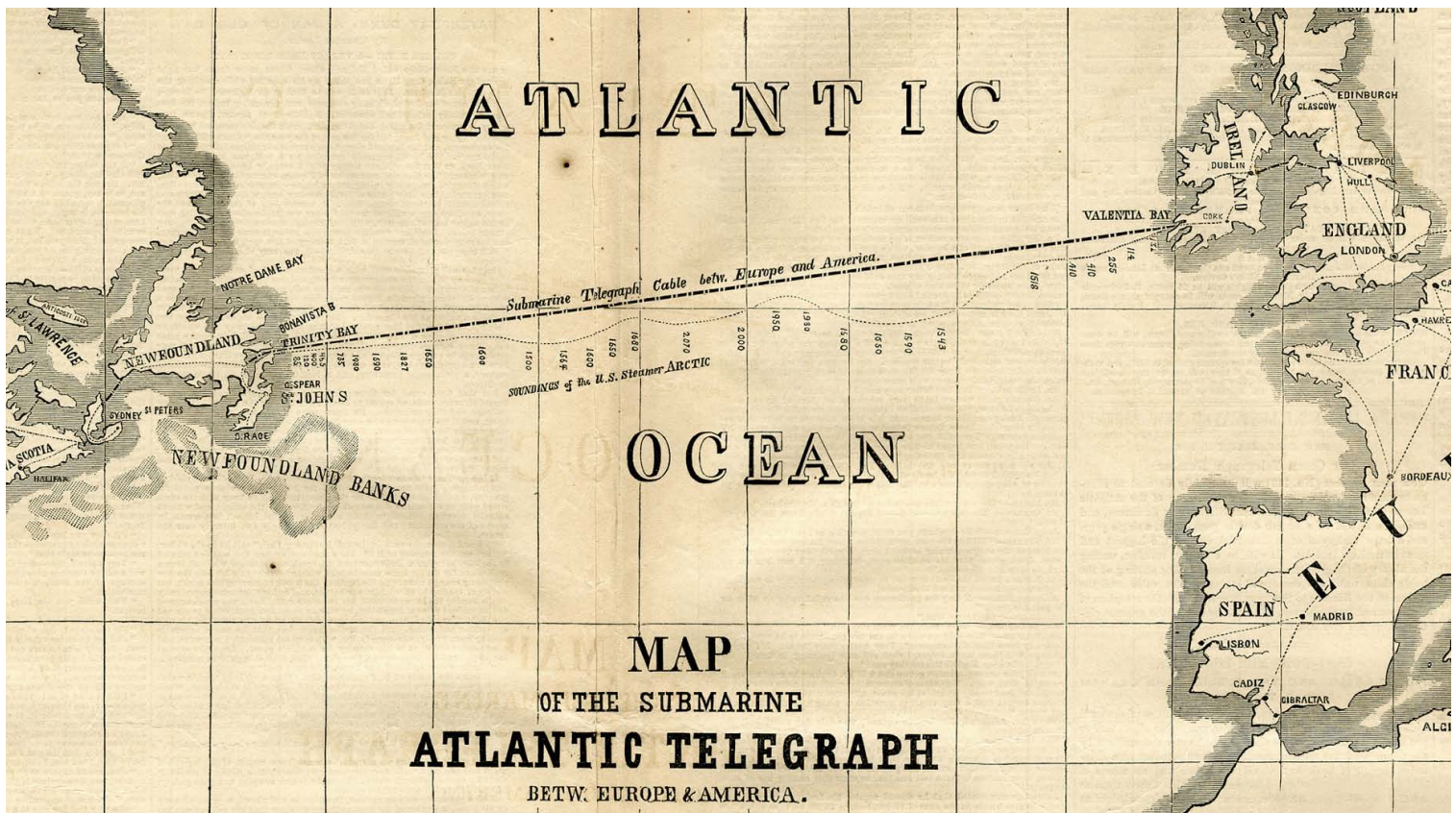
**TICCIH** is the world organization for industrial archaeology promoting conservation, research, recording and education in all aspects of industrial heritage. It holds a triennial conference and organises interim conferences on particular themes. Individual membership is \$30 (USD), corporate membership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

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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.

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A map showing the route of the 1858 Atlantic cable, with the depth soundings of the Atlantic beneath.

## IRELAND & CANADA IRELAND, NEWFOUNDLAND, AND THE ATLANTIC CABLE

**Bill Burns**

In 1858, the first **undersea telegraph cable** was laid across the Atlantic between Ireland and Newfoundland. Although it worked for less than a month, it proved the technical viability and commercial potential of reducing the message time between London and New York from weeks to minutes. The permanent success in 1866 of two cables on that same route was a key development in rapid communications, leading directly to the fibre-optic cable network connecting almost every part of the world today.

But why Ireland and Newfoundland? The Irish terminus of the cable was at Valentia, a small island on the far west coast of Ireland, over 500 miles from London. The Newfoundland station was even more remote, set on the shore of Trinity Bay, over a thousand miles from New York. The answer is suggested by an even earlier connection: the annual seasonal migration of Irish fishermen to the rich grounds of the North Atlantic off Newfoundland, which had begun in the 18th century. Navigating almost 2,000 miles in their small boats, they fol-

lowed a Great Circle route across the ocean and found the sheltered shores of Trinity Bay. This shortest route, running almost directly from the west coast of Ireland to the northern shores of Newfoundland, was an important factor in minimizing the time of a very hazardous voyage – and also for choosing the track for the first Atlantic cables.

While the subsea cable industry was effectively a British monopoly from its beginnings in 1850, and for decades to follow, the impetus for an Atlantic cable came from a New York businessman, Cyrus West Field. A retired paper merchant with a large fortune and a restless mind, but no technical background, in 1854 Field became involved with a project to reduce the communication time between London and New York by intercepting the mail ships at Newfoundland and transmitting their messages by telegraph all the way down the coast to New York. After looking at the large globe in his study, he realized that continuing the connection across the Atlantic from Newfoundland to Ireland, and on from there to the British mainland would be an even better venture. This was to consume his life for the next twelve years.

Many accounts of the hazards, costs, and complications of laying the 1857/58 and 1865 Atlantic cables, ten times longer than any in existence at the time, are readily available, as is the story of the final success in 1866 with the completion of two cables, and there is no

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The 1868 cable station building at Valentia, Ireland

need to repeat them here. My website at <http://atlantic-cable.com> is a comprehensive on-line resource for further information on these projects.

The opening for business of the Atlantic cables in August and September 1866 was the beginning of almost a hundred years of transatlantic telegraphy, with Valentia and Newfoundland remaining two of the main traffic hubs for the entire lifespan of subsea telegraph cables. The commercial demand for rapid message delivery between America and Britain proved to be a profitable business for almost a hundred years, and the demise of the telegraph era of communications in the early 1960s was not at the hand of communications satellites, as is commonly believed, but ironically by significant technical improvements in cables themselves.

In the mid-1950s a new generation of cables provided for the first time the ability to transmit not just voice signals instead of Morse code, but many telephone calls simultaneously. A significant additional benefit of these circuits was that the entire traffic of all the existing telegraph cables could now be carried on a single channel of a telephone cable, and within just a few years telegraph cable stations worldwide were obsolete. In the early to mid 1960s most of them were stripped of their equipment, the cables were abandoned in place, and almost all the buildings were re-purposed or demolished.

These are the only sites of any significance which remain today: the Atlantic Telegraph Company station at Valentia, built in 1868 (there are also remains of earlier buildings from the 1858 and 1865/66 cables); the Eastern Telegraph Company's headquarters at Porthcurno in Cornwall (built 1871); the Heart's Content cable station in New-

foundland (built 1875-76 and enlarged in 1918); and the French Cable Station at Orleans, Cape Cod, Massachusetts (built 1891).

Of these four locations, Valentia and Heart's Content are considered the most important because of their essential contribution to what has been called one of the 19th century's greatest engineering achievements.

In Newfoundland, the 1858 cable landed at Bay Bulls Arm, across Trinity Bay from Heart's Content. The station buildings were sold and moved to other locations a few months after the failure of the cable in September 1858, the site was abandoned, and all that remains today are vestiges of the foundation. The present cable station buildings at Heart's Content date to 1875/76, with an addition in 1918. The station closed in 1965 and fortunately, much of the equipment remained with the building. In 1968 the provincial government designated it a historic site and purchased the property for conversion to a museum. In 1985 the IEEE recognized Heart's Content as an Electrical Engineering Milestone, and the site operates today as a well-regarded museum.

Heart's Content was established for the 1865/66 cables, while Valentia was the starting point not only of those cables but also of the first Atlantic cable in 1858. The 1858 cable was operated from a small building at the slate works to the rear of the Royal Valentia Hotel, and although this building is derelict at the moment, there are plans to restore it to its original condition. This structure used in 1858 is the earliest cable building still remaining. The large facility constructed in 1868 after the opening of the 1866 cables is today substantially in its original condition, particularly the exteriors. Unfortunately all the equipment was disposed of after the closure of the station, although

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some items were retained by former employees and are now in the local history centre.

The 1868 Valentia buildings are the earliest cable buildings anywhere in the world to survive in their original form, and a local heritage group is working on multi-purpose uses for the site, including a museum, a high-tech industry incubator, and community facilities. In 2000 the IEEE installed an Electrical Engineering Milestone plaque commemorating the County Kerry Atlantic cable stations, of which Valentia was the first, and there are additional historic markers at the landing sites of the 1858 and the 1865/66 cables.

Because of the historical significance of both the overall Atlantic cables enterprise and the site itself, which was operational for almost a hundred years, Valentia is also seeking **UNESCO World Heritage Site** designation.

Today's many fibre optic cables, which carry over 99% of all communications traffic worldwide (some of them even following the original routes across the Atlantic), serve to emphasize the groundbreaking nature of the contributions of Valentia and Heart's Content to



The Heart's Content Cable Station Museum in Newfoundland, Canada

the opening of near-instantaneous communication between North America and Europe over 150 years ago.

[Contact the author](#)

## RUSSIA

### NEW LIFE OF THE STANISLAVSKY FACTORY THEATRE

***Ekaterina Khaunina and Valentina Muzychuk, Institute of Economics of the Russian Academy of Sciences, The State Institute for Arts Research***

In 2017 the Agency of strategic development initiated the cross-disciplinary research project Moscow RE: Industrial devoted to the typological analysis of industrial territories and revealing of the best practices of their redevelopment. The authors of the research have counted about 20 sites in Moscow which have passed through total or partial reconstruction, or where such reconstruction would began just about.

The brightest and most significant among the completed projects were recognized as the Stanislavsky Factory and the Bolshevik redevelopment following the design of architects John McAslan and Partners. The Stanislavsky Factory, situated almost in the center of Moscow, is a unique architectural ensemble with refurbished historical buildings and comfy recreation area. It is a really multi award-winning project (European Property Awards 2013, International Property Award, Civic Trust Awards 2012, etc.) and, equally important, it became a new benchmark for innovative, adaptive re-use of historic buildings in Moscow.

The history of the factory began in 1816. Semen Alekseev, the merchant of the second guild, bought the house with land and founded the spun gold factory. The factory grew and developed. In 1862 the factory got the name "Vladimir Alekseev". Unique technology was used in the factory, with machine production first introduced there among other spun gold factories. A steam-hammer, spun machines



Time line: historical photos of the factory and the workers' theatre: 1 – the factory "Vladimir Alekseev", 1912; 2 – the theatre for workers in 1965; 3 – the theatre for worker, before the beginning of restoration; 4 – Theatre Art Studio at the present time

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The modern interiors of the Theatre Art Studio: 1 – auditorium and stage; 2, 3, 4 – foyer; 5, 6 – stairs

and press machines were powered by a steam engine. Such technology was used only in Lyon, France, at that time.

Konstantin Alekseev is better known by his stage name Stanislavsky, and famed as the originator of the Method acting system. In 1872 he started to work in the family factory at the age of 19. When he became the general director, Stanislavsky was determined to improve the cultural lives of the workers apart from technical reorganization. He organized a choir, a reading room and in 1895 a theatre that consisted of an amateur group of workers and employees. The separate theatre was built in 1904 and is celebrated for staging the first performance of Chekhov's 'Cherry Orchard'. In 1909 the factory changed its specialization in the direction of wire production. New areas were needed and the board of directors raised the question of closing the theatre. The factory was nationalized in 1920 and got the

name "Electroprovod" (the electrical cord). The production buildings and their areas were repeatedly rebuilt during the Soviet period.

New life of the old factory began in 2004 when Horus Capital company bought the factory buildings and their area. The "Electroprovod" factory was removed from Moscow. The project of renovation for the former factory area was completed by British architectural practice John McAslan and Partners. At the beginning of the project the developer wanted a quick return on the funds invested to the restoration and to lease the property. But some buildings were listed and this required a scientific approach to renovation. Then there was a desire to re-cultivate the area as a whole. Original buildings were carefully restored with the preservation of the historical appearance of red bricks. The project included the realization of some activities: a business-center, lofts, a design hotel, a restaurant and a theatre.

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Nowadays the Theatre Art Studio (known by the name of its founder and artistic director Sergey Zhenovach) is one of the popular and favorite cultural places in Moscow. It is situated in the old district of Moscow near Taganskaya square, in the original building of the former theatre for workers on the territory of Alekseev's factory.

During the reconstruction Alexander Borovsky, set designer-in-chief, aimed to preserve the spirit of the factory and create the domestic atmosphere inside the theatre building. The team of the chief architect tried to keep it as close to the original as possible. They managed to preserve the authentic bricks (in Soviet period they were plastered and painted white), Monier arches (arches under the ceiling in the buffet and auditorium), outward copper wire and original ventilating system. Now the auditorium consists of 230 seats — at the time of the factory's theatre it had 250 seats. The dimensions of the stage are also very close to the original dimensions. The disposition of the stage and seats remained the same as it was in the time of Stanislavsky. They also left old channels and a wooden beam between floors. The works undertaken allowed acoustics of the auditorium to be improved.

To create a domestic atmosphere Alexander Borovsky put a long dining room table in the foyer, where the audience can mingle before the performance, as well as a bookcase, where one can look through

books. Antique furniture was found at the world's flea markets. Interior design was done using natural materials. At the end of the 19th century cast iron as a floor covering was widely applied in factory spaces. In the reconstructed space in the box-office hall, similar authentic cast iron tiling was laid. In 2008 Alexander Borovsky was awarded the International Stanislavsky Prize for the creation of the interior of the Theatre Art Studio. The main feature of this project was his dynamical and living nature. The founder of the theatre and investor entirely trusted the team of the architect and the artistic director. Eventually it allowed to create a perfect theatrical space that now can be called a dynamic centre culture.

In 2017 Sergey Gordeev the owner of the theatre signed the agreement to donate the property complex (the theatre building about 5,000 m<sup>2</sup> and the garden) to the Russian Federation. For the owner and investor the total expenditures of the theater project during the past 10 years amounted to about \$40 million. Thus, the Theatre Art Studio located at the former Stanislavsky factory became the first private theatre in the history of modern Russia, which was donated to the state.

## COMPANY TOWNS, CONTINUED

meaning. In such cases, international recognition, including registration on the World Heritage List or simply on Tentative Lists, may prove to be a cornerstone (insofar as it is not perceived as an obstacle, when the industry returns), as has happened in the mining basin of Nord-Pas-de-Calais (France), Paranapiacaba (Brazil), and many other places, formerly the best known, most productive, and most important locations of any industry: the social project of the company town or village has thus become a heritage project to be shared.

It is only in this context that other issues arise, calling upon a modernization of our heritage practices. In this respect, our propensity for monuments and icons, particularly in relation to the landscapes which we are just beginning to take into consideration, constitutes a major inconvenience. The history of town planning, it must be said, is still young, and our collective intelligence is relative when it comes to sometimes extensive planned ensembles, inhabited in an ordinary manner and made of architectural patterns that are more repetitive than exceptional. In a world of information made up of representations, relics such as mine shaft towers, which, incidentally, we well know how to protect, consolidate and restore, are prioritized over a few tens of thousands of homes. In Bois-du-Luc (Belgium), a fine workers settlement integrated into the Major Mining Sites of Wallonia, a visitor will immediately be told “you know, you won't see any pit headframe here” to forestall any disappointment. From Fray Bentos (Uruguay) to Zollverein (Germany), including Rjukan (Norway),

the files for World Heritage listing of company towns and workers' villages furthermore show how much we are capitalizing on the factory and the history of production, to the detriment of knowledge regarding the town planning and worker housing that also distinguish these large complexes.

It must be said that these ensembles are not always easy to grasp. Landscapes with dwellings that have, to the very end, remained in company hands are evidently more intelligible: their homogeneity, which distinguishes such planned ensembles, particularly in countries where they are built of brick or stone, is often undermined when the company's control over the rental properties gives way to a sometimes-proactive appropriation by private owners in search of freedom from a paternalism that has left a mixed bag of memories. But there are also company towns, especially in the northern regions of the globe, which were designed from the outset to create a varied landscape, thanks to wood construction, and still others where dwellings were sold straight away to residents and workers, precisely to create a feeling of belonging. The challenge of heritage in such cases is twofold: it is necessary to understand how to manage and preserve diversity, to which normative urban planning regulations, which usually provide the framework for government interventions on that scale, are very rarely adapted; and the complex and its surrounding landscape must be made comprehensible, despite the difficulty of seeing them as a unified whole.

While dozens of museums and interpretation centres focusing on

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factories, mines, electricity, flour, or wool testify to the know-how we have acquired in industrial heritage development, we know a lot less about how to value and interpret the town planning which ultimately constitutes the company town. Its management is also divided between the public domain, owned or controlled by government, and its limits, more often under private ownership; this does not facilitate a treatment of company towns by way of the usual instruments of heritage restoration or enhancement. And how, when it comes to such a built landscape, can we make divisions, conceptions of space, or a layout visible, when a significant segment of the potential public rarely knows how to read a plan?

Although more questions than answers remain in this field, the characteristic features of company towns, starting with fact that they are inhabited environments, have nevertheless already begun to change our heritage habits. By escaping the logic of national territory, the driving force behind government action since the 19th century, these urban and industrial projects, which belong more naturally to multi-

national networks, already lend themselves to an interpretation that is more sensitive to the transnational mobility patterns of human beings of this century. The social project that is the foundation of a good number of company towns also constitutes a solid bedrock when it comes time for the community to take charge of its heritage, in a context where its commitment is thereafter much more valued than unilateral protection provided by the State. In United States and Great Britain, especially, some company towns and worker's villages now confirm the fact that heritage is not only an ornament, but also, as it has been written, a cultural glue. Life-story collection initiatives, museums created by volunteers, and home restoration projects funded by local hardware stores, have turned the residents of these former company towns into producers of heritage. And one sure bet is that we have not finished discovering them yet.

## ZOLLVEREIN, CONTINUED

ties in planning processes; it frames the overall management as well as the imperative associated with various activities and projects, and oversees monitoring and reporting procedures.

Two projects (briefly summarized here) show the ways in which good practice is implemented at Zollverein: Zollverein Park was created out of slag heaps, railway tracks, and the industrial 'nature' growing around the technical installations and buildings. The park conserves some historic remains. Its main curved pathway, embracing the industrial complex, provides orientation, view, and accessibility. The Park is open to all, and connects the built heritage with the surrounding settlements, the city of Essen, and the Ruhr region. It forms part of the Emscher Park bicycle network, usable for bike tourism and everyday mobility. The project makes use of the positive experiences during the IBA Emscher Park project (1989–1999). Some new functions, such as a small playground, urban gardening, school projects, a parkour installation (coming soon), sport events, and more, bring life into the industrial heritage site, providing the opportunity for appropriation by the local community, and balancing the lack of public green zones in the surrounding district and housing areas.

The Denkmalpfad project at Zollverein offers guided tours through

the historic industrial complex. Virtual sound and light installations, projected onto the historic machinery, bring these back to 'life' and allow a sensitive, emotional, and intellectual understanding of the heritage. Following its initial implementation at shaft 12 during the 1990s, the Denkmalpfad project is constantly re-evaluated and enhanced. Tours of the coking plant will include information boxes providing information on, for example, environmental issues, democratization processes within the history of protests against pollution, and the increasing awareness of finite fossil resources. Educational outreach activities include lessons for local school children. Additionally, Denkmalpfad guides undergo a clear system of advanced training, not only to ensure their high standard of knowledge and appropriate communication skills, but also to provide employment opportunities in the district. Both projects integrate objectives by different stakeholders and show how lessons were learned.

The systematization — eight criteria of good-practice — and both projects show how heritage conservation and urban development planning are jointly managed and implemented, by also incorporating the important UNESCO policies and guidelines.

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# INDUSTRIAL HERITAGE MUSEUMS

## DIVING INTO THE MACHINE: 3D TECHNIQUES FOR INTERPRETING INDUSTRIAL COLLECTIONS

*Tine Verroken, Texture Museum and project manager, and  
Tijl Vereenoghe, Center of Expertise for Technical, Sci-  
entific and Industrial Heritage (ETWIE)*

The project 'Diving into the Machine' explored the use of existing 3D technology for the preservation and dissemination of industrial heritage objects. Initiated by several heritage organisations in Flanders, Belgium, it was successfully completed in July 2017.

The project ran a series of case studies identifying best practices for the use of 3D models in collections management and presentation. Each pilot started from a specific question or goal and tried to find if and how 3D technology offered a solution, taking into account the limitations of financial resources and technical expertise available, by working out approaches involving volunteers, students and professionals to (help) carry out the digitization work.

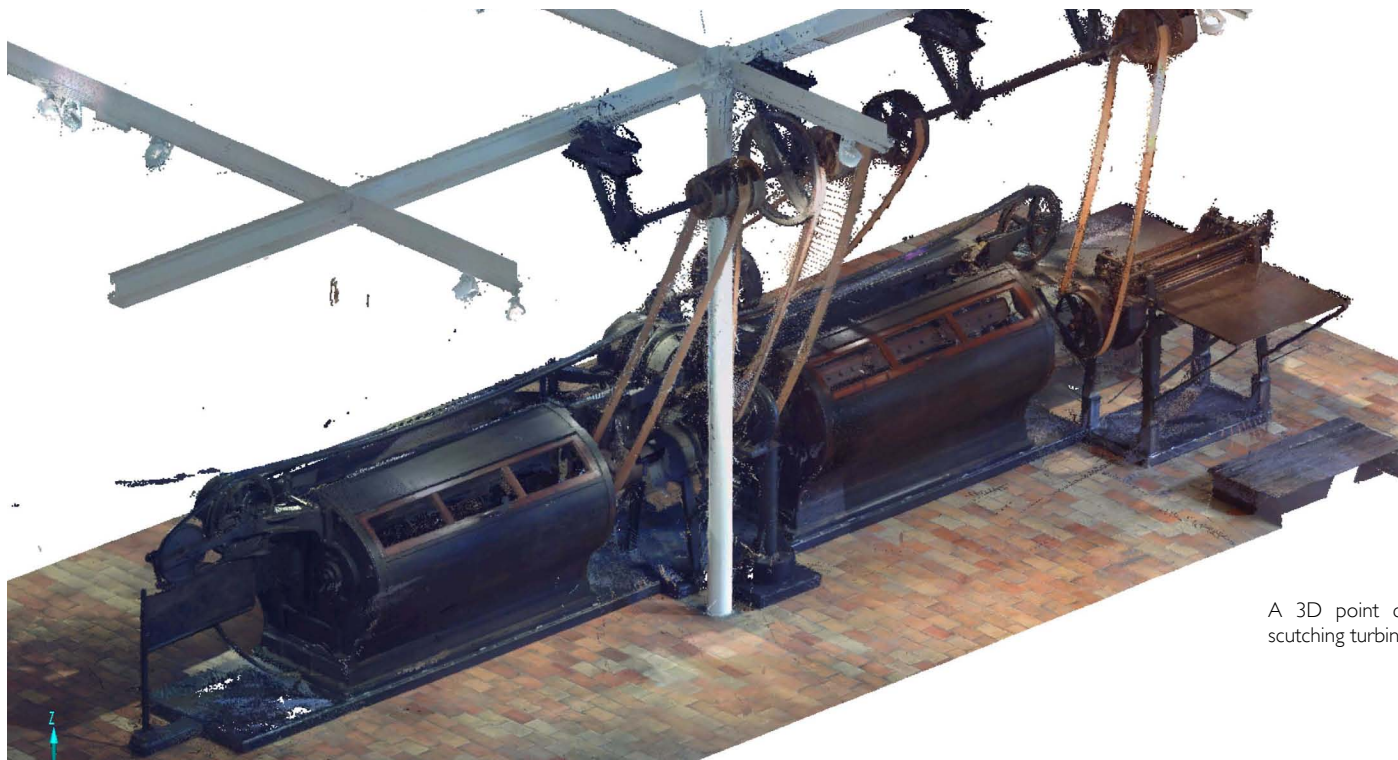
Does 3D offer a solution for our specific needs, and does it meet expectations for using 3D models for communicating the heritage? Which 3D techniques suit best or adequately for this specific ques-



Scanning the mule jenny.

tion? What input of 3D service providers is required? These and many more questions were put to the test, performing pilots involving different historic artefacts: a scutching turbine, a hop-picker, a spinning mule, a mechanical adding-machine, a distillation column, a plate pasteurizer, two types of weaving machines and a retting factory.

Though all the case studies had their own unique story, issue and resolution, so we'll briefly elaborate on two examples: the mule jenny at the MIAT in Ghent and the flax scutching turbine at the museum Texture in Kortrijk. Both machines are considered 'masterpieces' of the industrial heritage in Flanders, as they are included in the Flemish 'Topstukkenlijst', the list of the best tangible heritage.



A 3D point cloud of the scutching turbine.

# INDUSTRIAL HERITAGE MUSEUMS



Visitors using gestures to control the Kinect application.

**Mule Jenny (MIAT)** The unique mule jenny is one of the main visitor attractions in MIAT, a museum of industry, labour and textiles. In the early years, museum staff demonstrated the operation of the mule jenny, a spinning mule made according to the design of Samuel Crompton, and smuggled into Flanders by Lieven Bauwens in 1798. However, operating the machine is no longer possible due to the risk of fractures and wear. In addition, fewer and fewer people have the knowledge and skills to operate the machine. Subsequently, it has become a major challenge to present the mule jenny in an attractive way to the museum visitors. New multimedia technologies might offer opportunities to make the machine vibrant again.

The mule jenny was first laser scanned and 3D modelled by RealVisuals. Ultimately a prototype of a Kinect application was developed in collaboration with Howest University College, Digital Arts & Entertainment department, so the museum visitor is able to experience what it's like to operate the spinning mule. This application is based around a webcam-style add-on peripheral, which enables users to control and interact with the 3D model through a natural user interface using gestures.

**Scutching turbine (Texture)** During the inter-war period, the brothers Constant and Joseph Vansteenkiste formed the basis of the industrialization and mechanization of flax fibre production in Flanders. Their techniques were spread throughout the world. This flax turbine from 1937 completely removed the woody parts of the flax stalk for the first time. The turbine, the only remaining copy of this early type in Flanders, was donated by the Vansteenkiste family in 1981 to the Flax Museum (now Texture, Museum of Flax and river Lys) in Kortrijk.

Different digitization technologies were performed on the turbine in

the course of the project. First the mechanical breaker was reverse engineered as part of the machine using basic measuring equipment. Later the whole scutching turbine was CAD modelled, using 3D laser scan data as a reference. This model was then used to create a Google Cardboard virtual reality tour around the machine, using a head mount. The CAD models were further deployed to make dynamic miniature models of the machine and ultimately an educational product for visiting children (and adults). Collaborators to this project were RealVisuals, TEN - The Engineering Network, Howest University College Industrial Product Design and Digital Arts & Entertainment departments, Vives University College and a volunteer with a passion for 3D modelling.

The digitization strategies of five of the ten pilots were also documented in a preservation plan providing collection managers with all information required to understand the 3D models and their derivatives. This plan also includes a strategy and a list of actions to keep the digital files accessible in the near and distant future.

3D applications have a large potential for the industrial heritage sector. However, practical experience and technical knowledge is often lacking, creating a gap between the industrial heritage field and companies providing 3D solutions. This project provided a lot of good practices and guidelines, while also focusing on the sustainability of the data. More information about the project and its results are available at the [project website](#) (in Dutch) and on the Youtube and Sketchfab channels of 'Duiken in de Machine'.

**Contact the author**

# EDUCATION & TRAINING

## ONLINE INDUSTRIAL HERITAGE TRAINING AT ATHABASCA UNIVERSITY

**Dr Shabnam Inanloo Dailoo, Director/Associate Professor, Heritage Resources Management Program, Athabasca University**

*Online post-graduate and professional development courses offer industrial heritage management training which can be flexible and inexpensive. Canada's Athabasca University has developed a new course within its Heritage Resources Management Program.*

The Heritage Resources Management Program (HRM) at Athabasca University has developed a new on-line training opportunity in **Industrial Heritage** that will be offered from January 2018. The course is developed in partnership with the provincial government, Alberta Culture and Tourism-Heritage Division.

This training familiarizes participants with the principle characteristics of industrial heritage and the array of tools and techniques used for its study, care, and use. The practical application of techniques in the analysis and documentation of industrial sites is a fundamental aspect of industrial heritage education, and beside the online component of the course, participation in a one-week residential project will form a central part of the training. The course is now open for the registration, and the deadline is December 1, 2017. International students are welcome to register and participate in this exciting new program.

Using sites and experiences from many parts of the world, participants will learn to analyze historic industrial artifacts, sites, and landscapes and identify and demonstrate industrial heritage's most significant elements. They will exercise skills to develop management policies for heritage planning, significance-led conservation, sustainable repurposing and urban regeneration, research, museum collections and historic interpretation, and industrial heritage tourism.

The Industrial Heritage course is available to both Canadian and international students and early- or mid-career heritage professionals. This course is a 3-credit graduate level course, but could also be taken for professional development purposes. Anyone interested in conservation, management, and interpretation of industrial heritage is encouraged to participate. It is scheduled from January to April 2018, with 14 weeks online and one in-person study week.

Students will start the course learning about theoretical frameworks as they relate to conservation, interpretation, and management planning of industrial heritage. The training also examines the issues sur-



The course will examine industrial conservation questions such as the 1877 Gasometer Building in Ottawa. It was converted when it became obsolete in 1915. The most recent rehabilitation restored the original exterior but kept later inserted floors. An intervention guided by older conservation principles might have produced a different solution. Wikimedia Commons

rounding industrial heritage through first-hand experience within the context of an industrial heritage site. During the week of March 25-31, 2018, students will have the opportunity to work in teams on a project at an industrial heritage site in Alberta, Canada. **St. Albert's Grain Elevator Park** is selected as the inaugural industrial heritage site for the one-week in-residence component of the course. The two grain elevators in St. Albert are from the early 1900s and are Provincial Historical Resources, protected under the Alberta Historical Resources Act.

Athabasca University laid the foundation for the Heritage Resources Management Program and began its development decade ago. Since that time, the Undergraduate Certificate and Post-Baccalaureate Diploma in Heritage Resources Management have helped students acquire unique skills and valuable experience within the field of heritage conservation, and secure employment within public and private sectors as well as not-for-profit organizations.

The strength of Athabasca University's HRM program is that it stresses common features in the heritage field while also respecting the differences that arise from different types of practice. Courses accordingly employ a broad framework within which general principles and approaches, case studies, and situations representative of various types of heritage practice are explored.

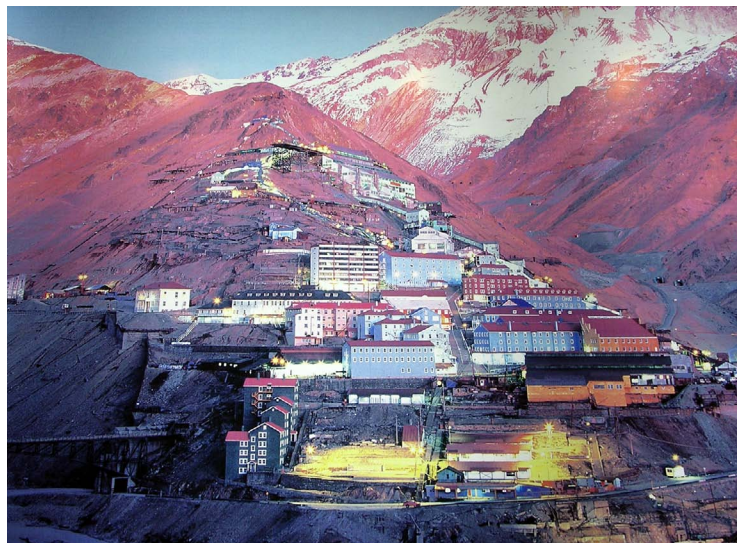
A wide range of topics and themes are covered in the Heritage Resources Management courses including Methods in Heritage Research; Planning Historic Places; Conservation; Collections, Professional Ethics; Policies; Interpretive Planning; Industrial Heritage; and Heritage and Risk Management. Documentation and Condition Assessment and Architectural Conservation are other courses that are currently being developed.

For further information about Athabasca University's Industrial Heritage course, and general information about the Heritage Resources Management Program, please contact Dr. Shabnam Inanloo Dailoo at [inanloo@athabascau.ca](mailto:inanloo@athabascau.ca); 1-780-458-1105 (international) or 1-855-337-8590 (Canada and USA).

# XVII TICCIIH CONGRESS



The Sewell mining camp in 1925. The Rebeldeo Bridge replaced the timber structure on the left.



Contemporary view of the abandoned settlement. The buildings include the company headquarters, employee and workers' housing, a theatre, social club, bowling club and church.

## CHILE

### XVII TICCIIH CONGRESS SANTIAGO DE CHILE, 2018

*On the 13-14 September, 2018, TICCIIH will celebrate its first congress in South America. The XVII TICCIIH Congress is titled *Understanding the past, making the future sustainable*, and will be held at the School of Architecture of the Central University of Chile in the capital, Santiago de Chile. The deadline for paper proposals is March 15, 2018. See the [congress website](#) for all the details.*

*Over the coming year Jaime Migone, President of TICCIIH Chile and the conference director, will introduce some of the historic sites which visitors can expect to enjoy when they come to Chile. The first is the **World Heritage site** of the abandoned Sewell mining town, built above El Teniente, the world's largest underground copper mine.*

The former copper mining camp of Sewell is high in the Andes mountain range in the center of Chile, 150 km south of the capital Santiago at 2,140 m above sea level, on the sharply angled slope of the so-called Cerro Negro. It is a place of great historical, architectural, urban and cultural interest, representative of the global copper mining industry, leadership of which has been in Chilean hands since the beginning of the 20th century. It was declared a World Heritage Site by the UNESCO World Heritage Committee in 2006, when it was considered an 'exceptional example of the global phenomenon of the company town' [see Lucie Morisset's Report].

The town was born around 1904 under the name of El Establecimiento, according to the project led by the Braden Copper Company, owner of the El Teniente underground mine, and led by the American

engineer William Braden. On April 29, 1905, the Chilean Ministry of Finance approved the mining project and today this is recognized as the historic date of the foundation of the camp. The town changed its name in March 1915 in honour of Barton Sewell, engineer and first president of the Braden Copper Company who worked to set up the project and died that same year in New York. In 1916 95% of the shares of the Braden Copper Company were purchased by the American Kennecott Copper Company and Braden became its subsidiary in Chile.

Ore from El Teniente was taken down the mountain to a narrow gauge railway at the bottom, which was laid between 1907 and 1911, and carried 45 km to Rancagua for processing. Too steep for cars, Sewell was built around a large central staircase rising from the railway station called the Escalera Central. Workers lived in shared housing called colectivos, and social and health facilities were gradually added.

Private ownership structure continued until the State of Chile and its Copper Nationalization program under President Allende acquired 51% of the shares, and by 1971 all the copper companies in Chile were totally expropriated. In 1976 this created the Corporación Nacional del Cobre de Chile, known worldwide as CODELCO, a leading company in the field.

In 1971 CODELCO implemented the so-called Operation Valle and began gradually transferring all the inhabitants of Sewell to Rancagua, because of the hard life and high cost of operations at more than 2000 m altitude. This culminated in 1978 with the total closure of the camp. That year saw the new Carretera del Cobre inaugurated, joining Sewell with Rancagua and ending the operation of the railroad after more than 67 years. The site was declared a Historical Monument

# XVII TICCIH CONGRESS

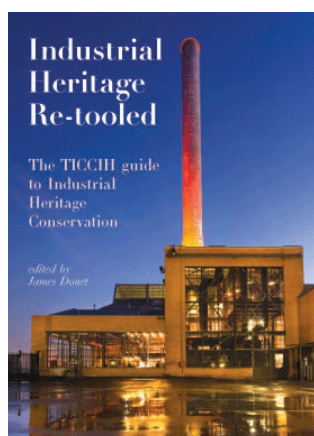


Characteristic painted wooden housing, now restored, with paths up through the camp.

by the Ministry of Education in the category of Zona Típica in 1998.

The operation of the copper mine continues in full operation, so the heritage site is located within the extractive and production zones of the copper concentrate, which undoubtedly complicates its heritage management. For this the Sewell Foundation, a private non-profit institution, was created in 2007, one year after the nomination as a World Heritage Site, which has been responsible for the management of the historic values as well as the tourist organization of the camp.

About 40% of the original camp still exists at Sewell; approximately fifty buildings are in an excellent state of conservation and can be visited by anyone. From the point of view of urban planning, the site has the great peculiarity of practically no streets, given its complex and steep mountainside location. An important management carried out by the Sewell Foundation is the creation of the Museum of Great Copper Mine, which was inaugurated in December 2010, as part of the celebration of 200 years of Chile's independence.



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# TICCIH CONFERENCES

## TICCIH THEMATIC CONFERENCE ON THE WATER HERITAGE

The heritage of the water industry is one of the most spectacular in its engineering, architectural and technological interest, and as the means of averting a sanitary crisis which threatened to make urban life intolerable, of great historical importance as well. The TICCIH thematic conference will be hosted by the Museu Agbar de les Aigües in Barcelona on 13-14 April, 2018. Professor Martin Melosi will give the keynote presentation, followed by seven invited experts who will put the historic infrastructure built to supply water and to remove and treat waste into its historic technological and social context, examine the origins of the technical solutions that were developed, and compare how they were applied in industrial cities around the world. Participants will discuss the **selection criteria**



Fives-Lille steam pumps in the 1905 pumping station which is now the Museu Agbar de les Aigües. © MAA

used by UNESCO and other agencies to choose the most important sites, with a guided tour of the water heritage of Barcelona on the second day.

**Inscription** opens on 15 November, 2017.

## CONFERENCE REPORTS

### U.S.A.

#### SIA Annual Conference: Oil and Shipping, May 18 - 21, Houston, Texas

**Marni Blake Walter, SIA Newsletter Editor, with contributions by Diana Bouchard, James Bouchard, Carrie Cecil, Bob Frame, Mary Habstritt, Patrick Harshbarger, Justin Kockritz, Bill McNiece, Steve Muller, and John Reap**

The Society for Industrial Archeology's 46th Annual Conference was held in Houston, Texas. Founded in 1836, Houston is the fourth largest city in America and one of its fastest growing and most diverse metropolitan areas. Petrochemicals and Houston's immense Ship Channel were the main local industries featured, along with others such as NASA's Johnson Space Center, concrete manufacturing, and Texas bridges. The conference included tours of many sites—both historic and modern—around Houston, Galveston, and Beaumont, and one day of paper and poster presentations.

The conference opened with Professor Martin Melosi, Director of the Center for Public History at the University of Houston. He delivered an insightful overview of Houston's industrial history and how the city was shaped, especially by the oil refining and petrochemical

industries.

Diverse topics were examined during one day of paper and poster presentations. A session on "Texas Tea" examined Goose Creek Oil Field, Texas's first offshore oil production site, and oilfield earthen pit storage, one of the earliest oil storage technologies used. In other sessions, presenters discussed the industrial heritage and historic urban landscape of San Antonio, Texas; the Deepwater Horizon disaster and the BP trial; and Houston's urban trash dumps as a window into municipal waste management and socioeconomic issues.

Other sessions were organized around IA methods, issues in IA heritage preservation, and historic bridges. Presentations were related to prominent industries in Houston, prestressed concrete in Minnesota and colonial agro-industry in Mexico, the Gold Cord Mine in Alaska; early 20th-century lumber worker migration in Michigan; a history of early particle accelerators; and a case study of the Pullman National Monument.

Conference-goers visited several places that showed both the early boomtown history of oil as well as the growth and development of energy industries in Texas. The Spindletop-Gladys City Boomtown Museum in Beaumont commemorates the 1901 discovery of oil at the Spindletop Hill salt dome, which sparked the Texas oil boom. Known as the Lucas gusher, it blew on January 10, 1901, and is now recreated here several times a day using water. The museum includes

# CONFERENCE REPORTS

15 replica historic buildings—a saloon, a post office, livery stable, etc.—filled with objects of the period.

The Texas Energy Museum, also in Beaumont, features interpretive exhibits (some animated) and artifact displays that convey the science as well as the history of oil and natural gas in Texas. The collection of original drilling equipment from the Spindletop Strike of 1901 was especially interesting.

Recent oil drilling is represented by the Ocean Star drilling rig in Galveston, now run by Offshore Energy Center as a museum. Built in 1969 in Beaumont, the Ocean Star operated in water up to 173-ft. deep (shallow by modern standards). A related tour of Baker Hughes, a leading supplier of oilfield services and technology, gave a behind-the-scenes view of the processes of research and product development for drill bits and drilling services.

Shipping and maritime history are closely related to the petrochemical industries in southern Texas. One of the largest drivers of Houston's economy is its port, which includes a vast petrochemical complex. SIA members boarded the Port Authority's M/V Sam Houston for a 90-minute guided tour of the Ship Channel, a National Historic Civil Engineering Landmark. This tour provided views of the concrete rice silos, massive oil and gas refineries, and bulk terminals along the way. This 6-mile portion of the channel gave a sense of the activity of the port, but it is hard to comprehend the full scale of the overall development, which stretches more than 50 miles—one of the largest ports in the world.

Before the Ship Channel, Buffalo Bayou, a waterway with origins west of Houston that flows through the city, provided the initial water access to Houston. The downstream portion of the bayou was eventually dredged and expanded to form the Houston Ship Channel in 1914, but only after the city built the Willow Street Pump Station to pump wastewater out of the bayou to a treatment plant, which the Federal government demanded before providing funding.

The region's earlier maritime history was represented during the conference with stops at two historic vessels. The USS Texas (BB-35) was commissioned in 1914 and is the only remaining dreadnought to fight in both world wars. The Texas's pair of four-cylinder, reciprocating steam engines are the largest survivors of this type. She became a permanent battleship memorial museum in 1948 (the oldest in the country), was designated a National Historic Landmark in 1976, and a National Mechanical Engineering Landmark by the American Society of Mechanical Engineers. The iron-hulled, three-masted sailing ship Elissa is preserved in Galveston harbor. Built in Aberdeen, Scotland in 1877, a ship restorer brought her to Galveston in 1979 and restored her to sailing condition using drawings of similar ships by the same builder, Alexander Hall (Elissa's having disappeared).

NASA's Johnson Space Center has provided mission control services for NASA space missions from Gemini 4 (1965) until the present day. Historic Mission Control (today a National Historic Landmark)



Schlumberger employee and tour guide Deon at the 1988 Genesis Test Drilling Facility explains the power tongs. The tour provided a view of present-day technology. It is a 142-ft.-tall, cantilever-type, skiddable, land-drilling rig used as a training tool and product testing platform for various tests including mud viscosity and flow, and downhole tool vibration and rotation. Photo: John Reap

controlled Gemini, Apollo, Skylab, and space shuttle missions until 1992. Other sights included an entire Saturn V rocket laid on its side inside a huge building, and the outdoor Rocket Park, where a number of vintage NASA space vehicles are on display.

Concrete manufacturing is another significant industry in this region. Flexicore of Texas represented the industry with a tour for SIA attendees. Flexicore's outdoor casting yard is organized into a series of lines where workers set up and break down forms for casting slabs, voided boxes, and other structural shapes.

Bridges are always an important segment of SIA tours, and Houston is home to a number of significant structures. These included the historic Port Arthur-Orange Bridge (1938), also known as Rainbow

# CONFERENCE REPORTS

Bridge. This is a truly impressive structure at 7,752-ft. overall and 63 spans symmetrical to the center of the Neches River. The main span is a three-span, cantilever, through truss with a 680-ft.-long center span providing a 177-ft.-vertical clearance over the Ship Channel. Other bridges included the Houston Belt & Terminal RR Bascule Bridge (1912), the McKee Street Bridge (1932), and the Waugh Drive Bridge over Memorial Drive (1955).

Our thoughts are with colleagues and everyone in southern Texas as they begin the next chapter in their history - that of rebuilding after Hurricane Harvey.

## SPAIN

### **XIX Incuna International Conference of Industrial Heritage: Heritage, Cityscapes, Industrial Creation and Contemporary Cultures, 27 - 30 September, 2017, Gijon, Asturias**

***Dora Chatzi Rodopoulou***

The 19th international conference organised by INCUNA (Industria, Cultura, Naturaleza) in Gijon, on the north-eastern coast of Spain, was structured around four main themes:

1. Regeneration of industrial heritage and cultural contents
2. Industrial heritage as protagonist and artistic object
3. Participation and social appropriation of heritage
4. Heritage protection and urban planning

The parallel activities organised during the course of the conference included a workshop, the projection of the influential documentary Battersea Power Station, and the exhibition TA I- Tuscan Art Industry. Moreover, the participants had the chance to visit the state-of-the-art Centre of Art and industrial Creation “laboral” in Gijon, some local examples of converted 20th century industrial buildings, the Aboño Thermal Power Station as well as the historic centre of Aviles and the Cultural Centre Oscar Niemeyer.

With more than 120 participants from 17 countries the conference allowed the exchange of experiences and expertise on contemporary safeguarding, management, reuse, artistic intervention and social appreciation of industrial heritage. The majority of the presentations analysed examples from Spain, Portugal and Iberian America. Despite the weight of the conference program, the multifaceted thematic sessions gave way to fruitful discussions over the current state, the new possibilities and the future challenges of the heritage of industrialisation. The conference also facilitated the formation of industrial heritage-related networks and international collaboration.



Aboño Thermal Power Station, decorated by the Asturian artist Joaquín Vaquero. The plant was built in 1974 and extended in 1985. It is an unusual generating plant, using fuel oil, diesel, coal from the coal mines of Asturias as well as imports, and the waste gases produced by the nearby Arcelor - Mittal Gijón steelmill.

# COMING SOON

## INTERNATIONAL CONFERENCES AND CONGRESSES

### 2017

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#### U.S.A.

Society for the History of Technology (SHOT) Annual Meeting  
26–29 October, Philadelphia, Pennsylvania  
[www.historyoftechnology.org](http://www.historyoftechnology.org)

#### INDIA

ICOMOS 19th Triennial General Assembly and annual Advisory Committee  
19-25 November, New Dehli  
[www.icomos.org](http://www.icomos.org)

#### MOROCCO

ICOM-CIMUSET Conference: Technical heritage and Cultural Identity  
5-8 December, Rabat  
[www.cnrst.ma](http://www.cnrst.ma)

### 2018

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#### EUROPE

European Year of Cultural Heritage 2018  
Call for proposals: [eacea.ec.europa.eu](http://eacea.ec.europa.eu)

#### SPAIN

The International Heritage of the Water Industry: Historic Values of Supply and Treatment Networks; TICCIH thematic conference  
13 and 14 April, Museu Agbar de les Aigües, Barcelona  
[www.museuagbar.com](http://www.museuagbar.com)

#### CHILE

XVII TICCIH Congress, the first in Latin America.  
Call for Papers Deadline: 15 March 2018  
First registration until 15 June 2018: TICCIH Members US \$250, General Public US \$300, Students US \$80  
13 and 14 September: Congress, Universidad Central de Chile, Santiago.  
15 September: Closure and Visit to Sewell World Heritage Site  
[patrimonioindustrial.cl](http://patrimonioindustrial.cl)