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New TICCIH president Miles Oglethorpe (right) congratulates his predecessor Patrick Martin. Congress reports and organisational updates from Santiago de Chile below.

OPINION

SINGAPORE

THEATRES OF MEMORY AND INTANGIBLE INDUSTRIAL HERITAGE IN SINGAPORE

By Dr Kah Seng Loh, The University of Western Australia

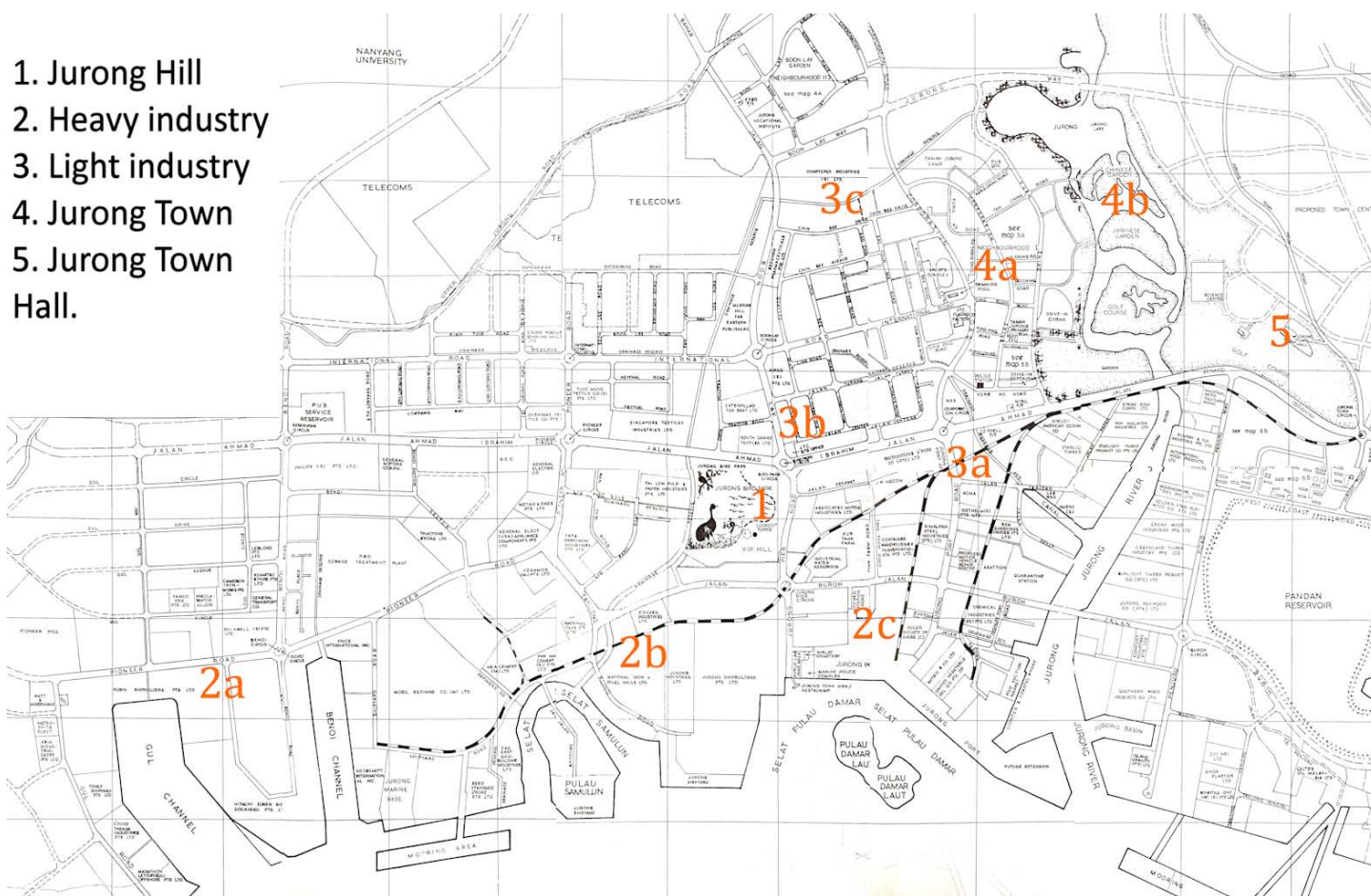
Theatres of History and Memory: Industrial Heritage of 20th Century Singapore is a research project which seeks to traverse new ground in the field of industrial heritage. Drawing from historian Raphael Samuel's useful concept, 'theatres of memory', the project makes the case for an intangible form of industrial heritage.

It is therefore the enduring memories of industrial sites, work and experiences that form the core of industrial heritage in a city-state like Singapore, where land is scarce and economic change unceasing. Focusing on memories not only makes industrial heritage viable, but also deeply meaningful to the people who played important roles in it.

The Theatres project investigated three research questions:

- Who were the various actors in the industrial history of Singapore?
- What are the rich memories of this monumental history?
- How can people shape and participate in industrial heritage programming?

1. Jurong Hill
2. Heavy industry
3. Light industry
4. Jurong Town
5. Jurong Town Hall.



Jurong Garden Industrial Town tour:

Singapore was one of the first Asian countries to make the transition to an export-led industrial economy in the 1960s and 1970s. The Theatres project's first major finding was that this was made possible by 'a thousand different hands', as Samuel put it. The government built the infrastructure and established a favourable environment for industry, while international organisations and advisers offered technical expertise. In addition, multinational corporations invested in manufacturing, creating jobs and training people for industrial work. Also important were local industries which provided support for the multinationals, and the numerous people – local and foreign – who performed, supervised and managed production work.

The project unearthed theatres of rich industrial memories. We conducted oral history interviews with former production line workers, technicians, supervisors, and managers involved in industry. Conversely, we shared the research on a **Facebook group** which became a forum for recalling past industries and industrial lives. These insightful responses brought us to the project's second conclusion: that people warmly remember industrial history and were likely to participate in industrial heritage programmes.

People notably expressed their pride in industrial work. One of our interviewees, Mdm Supammal Peramal, was a production worker who spent nearly a decade at Fairchild Singapore, a semiconductor firm, on the night shift. She told us that 'not one unit of her wiring has been rejected' and that she was the only person at Fairchild to have received two pay increments within a year.

Our participants told us much about Singapore's industrial heritage and what they found meaningful. They reminisced not only about their work and pay but also the intangible elements of history, such as their aspirations. Women, who formed a vital part of the workforce, spoke about working shifts around their families, while their children lauded their work ethic and endeavour for the family. Angie Dierl wrote on Facebook:

Thanks Kah Seng for taking me back in time. My 93 year old mum was a *longsai* worker [local corruption of 'alongside' or ship cleaners, who were women] who worked (in 1960s) to support her young brood of 5 children while we were living in Jalan Bukit Ho Swee's 1-room flat (with communal toilets on each floor; and staircase). Today she's well taken care of by her filial sons. God bless.

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Women production workers of Fairchild Singapore. Photograph courtesy of Ms Vasanthara Devi.

These memories highlight the third and final finding: that industrial heritage should encompass 'big narratives' which extend beyond factories and production to the intangible cultural relations which underpinned industrial life. Relations with one's family were key, as were the bonds between colleagues, who often became lasting friends (see photo 3). These bonds made routine industrial work tolerable, sometimes even enjoyable.

Two of the project's efforts were especially insightful. We organised a sharing session in April 2018 by a panel of former employees of Rollei, the well-known West German camera-maker which operated in Singapore in the 1970s. The ex-Rolleians spoke fondly of their eventful days of training in Germany, of hard work and play when back in Singapore, and of their ventures after Rollei closed down in 1981. What was just as significant was the interested audience of both the young and old, who remained behind to speak with the ex-Rolleians after the panel ended.

The project's documentary research, oral history and photo-

documentation also encouraged us to propose a Jurong Garden Industrial Town heritage programme. Jurong was the largest industrial estate in Singapore, built in the 1960s and 1970s without a catchment workforce living nearby. It's difficult early history and subsequent success and expansion into a garden town with social amenities and green areas is a metaphor for the remarkable industrial history of Singapore.

Our proposed itinerary for Jurong consists of a theatre of memory deeply remembered by people we interviewed or on Facebook (see map on page 2):

- Starting point: Jurong Hill with a lookout tower and the historic Garden of Fame, with trees planted by foreign dignitaries.
- Coast and original heart of Jurong: heavy industries, such as National Iron and Steel Mills, shipyards, Sugar Industries of Singapore, Jurong Port.
- Interior of Jurong: light industries, such as electrical products

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Industrial oral history: Mdm Noorsia recalling her work in a flatted factory in the 1980s, 2018. Photograph by Juria Toramae.

(Acma), automobiles (Associated Motors and Bridgestone), textiles (South Grand), Chartered Industries of Singapore (maker of coins and ammunition).

- Garden Industrial Town: the flats of Taman Jurong (the first neighbourhood of Jurong), drive-in cinema, sports complex, the sole flatted factory, Chinese and Japanese Gardens.
- End point: Jurong Town Hall, former headquarters of the Jurong Town Corporation, the statutory board which developed Jurong into a garden town in the 1970s.

This article draws from the research project, 'Theatres of History and Memory: Industrial Heritage of 20th Century Singapore,' which is supported by the Heritage Research Grant of the National Heritage Board, Singapore. The research team consisted of Dr Kah Seng Loh (Principal Investigator), Mr Alex Tiong Hee Tan (Co-Investigator), Dr Keng We Koh (Co-Investigator), Dr James Ang (Co-Investigator) and Ms Juria Toramae (Photographer).

MANUEL D'ARCHÉOLOGIE INDUSTRIELLE by Pierre Fluck

**Archéologie et Patrimoine, Hermann
Éditeurs, Paris (French),
2017, 522 pp. €39**

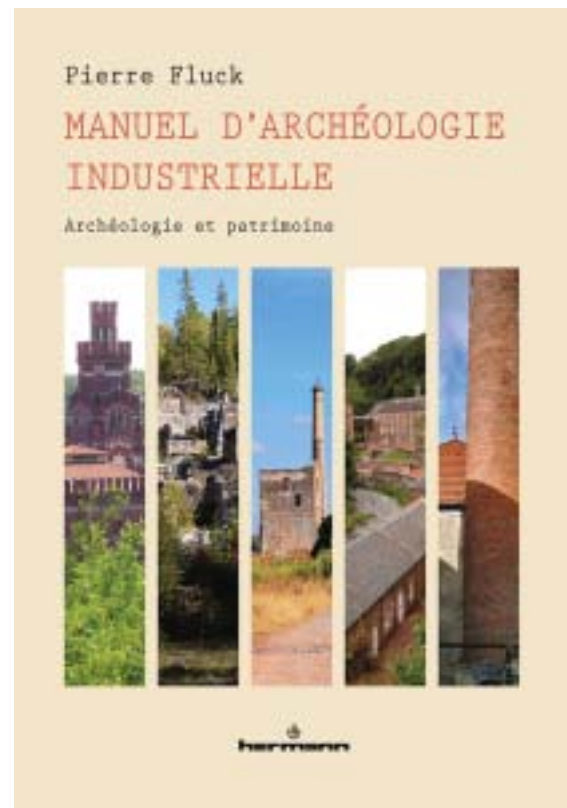
**Massimo Preite, Università di Firenze, Italy National
Representative**

The guide to industrial archaeology elaborated by Pierre Fluck is a work not only destined to last but which marks a real turning point, both from the theoretical and methodological point of view.

From a theoretical point of view, the author opens up a much broader field of investigation than the one that has traditionally been recognized for the discipline of the industrial archaeology. From his prolonged research activity, Pierre Fluck has drawn out numerous findings to support the fact that 'industrial archaeology cannot be equated with an archaeology of the industrial revolution' (p. 129); if in a first phase this was the time horizon, today industrial archaeology is also an archaeology of the 'contemporary', extending its investigations up to the testimonies of the most recent production systems. At the same time its field of research widens backwards, until the most remote forms of industrial production as, for example, the medieval revolutions in metallurgy and mining, preceding the beginning of modern industry, conventionally placed in the mid-18th century in England.

The redefinition of the disciplinary boundary concerns not only its temporal horizon of investigations, but also affects its objects of study. Industrial archaeology, conventionally coinciding with an excavation activity aimed at bringing out the historical phases through which a productive structure has passed, hesitates less and less to document its stratification but also the examination of above-ground structures. Industrial archaeology thus becomes an archaeology whose field of research investigates the heritage on the surface and also its intangible counterparts.

Insisting only on the disciplinary merits of this guide would risk neglecting the much greater merits to be ascribed to it. In fact, it constitutes, in our opinion, an instrument of rare effectiveness to respond to one of the greatest challenges of our time. It is taken for granted that the duty of each generation towards the inherited cultural heritage is to transmit it in the greatest possible integrity to future generations. The result is a duty of material transmission of those properties which have been widely acknowledged as



values of memory, art history and so on. In the case of industrial heritage, this duty is no longer sufficient. All of us are responsible for transmitting, even before of their material evidence, the framework of ideas and concepts through which those properties are recognized as heritage.

Fluck forces us to acknowledge that only a small fraction of civil society is spontaneously interested in safeguarding the testimonies of industry (p. 45) and that 'many of our Western cultures are not receptive to the legacy of work' (p. 308). Without the mediation of experts and amateurs, public opinion remains indifferent to the values of the industrial past, the social appropriation of that legacy and its transmission to future generations get stuck and the industrial heritage ends at the margins of collective memory. Thus, in the pages of Pierre Fluck, the commitment of industrial archaeologists opens up a space of unlimited initiative: it is up to them, in fact, the heavy responsibility to identify the values that justify the protection of a site or an industrial artifact, the task of communicating the results of their inquiries to the institutions for the protection of cultural assets, and finally the task of spreading those results to the wider public. The industrial archaeologist has the best skills to facilitate and bring to completion the social process of cultural appropriation that is very complex and not at all obvious.

The guide written by Fluck is expressly designed for the educa-

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tional training of such a decisive professional profile, providing it with the most refined tools for analysis and interpretation. In the second part of the work called 'descriptive industrial archaeology' the author proceeds to an accurate exposition of the methodologies developed during his many years of teaching experience at the University of Haute-Alsace. Thanks to their systematic approach and to the great illustrative apparatus that accompanies them (testimony to a direct knowledge of the European industrial heritage of extraordinary extension), the reader - an industrial archaeologist in training - takes possession of the most effective interpretation tools for compare the multiple techniques of the industrial revolution, the great typological variety of the factory architectures and the multiform organisations of the industrial territory. Reading of this last section needs to be recommended, in which an exhaustive illustration is developed through progressive leaps of scale from the most simple spatial organizations to the most complex ones: from the workers' villages to the industrial colonies, from the companies town to the factory towns, from the industrial districts to the industrial landscapes.

The third and last part of the guide concerns the 'applied industrial archaeology' which deals with the reuse of industrial heritage, the great theme that often divides the experts between supporters of an intransigent protection and supporters of a more pragmatic approach that looks for an integration between conservation and transformation. The work of Pierre Fluck identifies three basic criteria which must meet a conversion to be considered successful: to concern a significant 'industrial asset', to transmit the memory of the place, and to develop the participation of the local community (pp. 402-403). The incomparable review of cases of reconversions in Europe, classified according to very useful types of reuse of production spaces, couldn't be wider.

The three parts of the guide - regulatory industrial archaeology, descriptive industrial archaeology and applied industrial archaeology - outline a path of exemplary coherence that embraces the whole process of the industrial heritage valorisation. The guide positively dissolves many uncertainties about the meaning of some terms of current use. However, this praiseworthy effort of conceptual clarification risks, in some cases, incurring some excess of terminological distinctions. For instance, the distinction between 'industrial archaeology' and 'industrial heritage' is an age-old issue which, in our opinion, remains still open. Pierre Fluck argues that the two concepts are clearly distinguishable on the ground of the different temporal depth of look of each of them: the former looks at the industrial properties in their last condi-

tion ('l'étude du patrimoine industriel se borne au dernier état du site'), the latter, instead, commits itself to look at all the steps of their evolution ('retracer toutes les étapes de son histoire', p. 53). Some hesitation to share such a trenchant distinction seems justified. Industrial heritage experts in almost all cases scrupulously comply with the precept of the Venice Charter 'to safeguard all the traces that document the transformations suffered by cultural monuments in the past'.

No fewer perplexities are raised by the peremptory assertion that 'industrial heritage is not a discipline, industrial archaeology, yes, it is'. This claim leads us to wonder if we have all been victims of an illusion when we associated the concept of 'industrial heritage' with the idea of a new discipline, more able to provide the theoretical framework for dealing with the critical challenges of the industrial sites reuse. Personally, I continue to believe that 'industrial heritage' refers to a special approach aimed to overcome the discontinuity between investigation and proposal. Both of them require an interdisciplinary collaboration, but the disciplines involved from time to time are not necessarily the same. Here is the core of this discontinuity that anyone who has dealt with industrial heritage reuse has found between heritage analysis and heritage conservation-reuse design.

Fluck in his book seems to circumvent this discontinuity, as, in his view, 'industrial archaeology is positioned upstream of all the steps' (p. 457) and seems to guarantee a unity of method for all phases of the valorisation process, from the analytical survey to the project formulation. The purpose is more than shareable and through this book the conceptual arsenal put in place by the author makes the discipline take an immense step towards a unifying theoretical framework. If something is still left out, it is one more reason to commit ourselves to give greater consistency to our efforts for develop an integrated approach in defence of the industrial heritage.

CHINA

TECHNOLOGY TRANSFER AND CHINA'S MODERN INDUSTRIALIZATION

Professor Liu Boying, Tsinghua University, School of Architecture, Chairman of the Industrial Heritage Committee under Cultural Relic Academy

This succinct account of China's unique path to industrialization was originally part of the Chinese national report for the 2018 TICCIH Congress.

The Westernization Movement in the 1860s - 1890s In the late Qing Dynasty, the Westernization Movement set off a self-help movement that introduced western military equipment, machine production and science technology to safeguard the rule of the Qing Dynasty. The introduction of the western advanced science and technology brought the first batch of modern enterprises in China and promoted the emergence and development of Chinese national capitalism. The initiative, through the purchase of Western equipment, hiring western technicians, the dispatch of overseas students and the translation of books, promoted the level of national productivity and laid the foundation for China's modernized industry.

Semi-colonial and semi-feudal period From the Opium War to the end of World War II, China was descending to semi-feudalism and semi-colonialism, with a large number of colonialist constructions including railway, mining, iron and steel, as well as municipal infrastructure for colonial services. Important among them are the Russian Middle East Railway, Port Lvshun, etc.; Japanese Benxi Lake Ironworks, Anshan Iron and Steel Plant, Huainan Coal Mine, etc.; British Yangshupu Waterworks; France Yunnan-Vietnam Railway; German Qingdao-Jinan Railway, Tsingtao Brewery Factory and so on. To a certain extent, these industrial constructions contributed to China's economic development and technological progress, but the fundamental purpose was to serve the occupation and plundering China by colonial countries.

The '156 Projects' aided by the former Soviet Union The '156 Projects' are key industrial projects introduced from the former Soviet Union and the Eastern European countries during the first five-year plan period of China. They mainly focus on heavy industry, including coal, electric power, steel, non-ferrous metal, chemical industry, automobile, tractor, machinery, etc. The '156 Projects' preliminarily laid the economic foundation for China's industrialization. Taking these projects as the core and focusing on more than 900 large and medium-sized projects above the quota, the industrial economic system has been initially established.

Based on the international perspective, the study establishes the path of technology transfer and communication process from the United States to the former Soviet Union to China, with the American industrial architect Albert Kahn as a clue. Albert Kahn, the designer of the Ford Rouge River Plant and Highland Park Plant, jointly designed the first automotive assembly line in the world together with Ford Motor Company and made bold exploration in the improvement of industrial structure, lighting and ventilation. Kahn also designed factories for other American automakers, including Chevrolet, Cadillac and Chrysler etc., and assumed the design work for 70% of the automobile plants in the United States. In the 1930s, he undertook the architectural design work of 531 industrial enterprises in the Soviet Union, with the design fee of more than 2 billion dollars. He trained nearly 4,000 Soviet designers and helped the Soviet Union to establish industrial building design system, standards and procedures. In the 1950s this system was again spread to China by former Soviet experts including industrial product design, factory planning, industrial architecture design, design specifications, standards, procedures and even the urban planning, to train a large number of engineers and technicians for China.

Third-line construction The Chinese Third-Line Construction is unique in the world and was the product of the cold war in the 1960s and 1970s for the guidance of war readiness. It is a large-scale construction of national defence, science and technology, industry and transportation infrastructure, research institutes, colleges and universities, in thirteen provinces and autonomous regions in the central and western part of China. And it is also a large-scale industrial migration process in the history of Chinese economy, to establish a complete, independent industrial production system to the whole country.

In these construction projects, the most important were the conventional weapon industrial base centered in Chongqing and the steel industrial base centered in Panzhihua, and the Chengdu-Kunming Railway line was built to solve traffic problems in southwest China and to meet the necessary of industrial transportation. Hundreds of industrial enterprises in the eastern coastal and north-eastern industrial cities were partially or wholly moved to the west, or setup branches in the third-line area. Along with the construction of these large industrial enterprises, many industrial cities have gradually formed in western China, changing the serious imbalance in the development between the eastern and western of the country.

After the end of the cold war in 1980s, nearly 2,000 industrial enterprises were left deep in mountains far away from cities, cannot be inaccessible. These industrial enterprises have an uncertain future after completing their historic mission: a large number have relocated to nearby cities, and the factories stayed still in mountains are idle and abandoned. With these industrial enterprises and

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the declining industrial cities, many traditional industrial workers are unemployed, whose living conditions are harsh. While considering the value of industrial heritage, how to make those living in a dilemma enjoy the modern life today is a problem hidden behind the conservation of industrial heritage that we have to solve.

Reform and opening up The return of China to the United Nations in 1971 opened the West's blockade of China and created favorable conditions for China to expand its foreign investment. Beginning in 1973, large-scale import of 4.3 billion dollars of complete equipment from western countries, such as the US, Germany, France, Japan, the Netherlands, Switzerland and Italy, pro-

moted China's basic industry and became the prelude to China's reform and opening up in the 1980s. In 1978, China imported new technology and complete equipment with a total value of 7.8 billion dollars and realized the transfer of technology through such means as introduction, joint ventures and trade, effectively boosting China's overall industrial level. In the process of technology transfer, it has a great influence on China in such aspects of culture, society, architecture, and construction.

SOUTH and CENTRAL AMERICA

FIRST LATIN AMERICAN LIST OF IMPORTANT SITES OF TECHNICAL AND INDUSTRIAL HERITAGE: A TRANS-NATIONAL VISION

Eusebi Casanelles, TICCIIH Life President, and Mónica Ferrari, Argentina National Representative

In March 2016, it was decided at the end of the 8th Latin American Congress of Industrial Heritage in Cuba to make a list of the most important elements of the industrial heritage of the countries of South and Central America. The intention was to present a certain number of the more significant elements of this heritage at the TICCIIH Congress of September 2018 held in Santiago de Chile in order to publicize the rich industrial heritage that can be found in this part of the world. It was known that many people interested in this question, not only from other continents but also from within Latin America, had a segmented view of the sites that existed. The papers and articles presented in various congresses and journals, as well as the World Heritage declarations of the colonial and industrial era, had widened knowledge of the existence of various elements but there had not been a multi-national work that gave an overall vision. For this reason it was decided that it would be best to present a limited number of sites, representative of all the countries that make up South and Central America and the Caribbean, to offer at least a partial vision of the current situation.

It is important to state that the list is not intended to be 'the list of the most important elements of industrial heritage'. The technical



The Ipanema ironworks in Brazil. Photo: Wikipedia Commons

and industrial sites on this list have been selected by professionals who have coordinated their preparation, sometimes individually and sometimes in collaboration with other people. Selections made through personal heritage values or by a group are always subjective, taking into account the number of countries they represent. To carry through this work in a more scientific way would have been complicated. It could only be done through a much deeper joint study of all the preserved technical and industrial heritage, and this would need years of work. To this list some colonial heritage sites has also been added for their technical and historical importance. For example, the first sugar mills of Latin America in the Dominican Republic, or outstanding works in the field of public works as is the case of certain aqueducts.

The resulting list is currently composed of 136 sites but we hope to reach 150, and it gives a very interesting view of the type of industries that existed in the industrial period and the large infrastructure which were built. Compared with the existing sites in the countries of the northern hemisphere there are industries that are very singular, specific to the tropical climatic zones and

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Silver stamping machinery in the Casa Nacional de Modeda in Potosí, Bolivia. Photo: Martin St-Amant - Wikipedia - CC-BY-SA-3.0



The former Fábrica Imbabura, Ecuador, is now a Complejo Cultural with the country's first Museo Industrial Patrimonial. Photo: Wikipedia Commons

closely related to agriculture and food. First among all of these was the production of sugar cane, but also the cocoa industry, coffee, tobacco, tequila (although this is not tropical), and so on. Other groups of industries and exploitations had an impact on the daily life of the inhabitants of much of the world: the rubber industry was needed to produce tyres when the automobile industry was developing; saltpetre, located mainly in Chile, made possible the massive fertilization of the agricultural soils of all the continents; the meat industry (e.g. Fray Bentos refrigerator plant) that, through the extracts, preserves and later frozen products, arrived in the homes of half the world and fed the soldiers during the two world wars; or quebracho, a tannin used universally in tanning. The exploitation of the Chilean copper mines meant there was a global increase in production at a key moment in the development of the electrical industry. In the 1920s it accounted for 40% of world production, and even today it is 30% but this percentage is expected to increase.

This list also reflects the importance of European technology in the industrial development of most countries. The United Kingdom obtained the most contracts, especially in the railway sector; and had a strong participation in the industrial development of several countries, notably in Argentina. It was followed by Ger-

many, which had great influence in Colombia, and France, which exported mechanical constructions of all kinds but the list shows a notable number of prefabricated buildings. Holland and Belgium also participated to a lesser degree.

Another interesting indicator is the official heritage declarations of technical and industrial sites. There is a significant number at the national level, especially in Brazil. UNESCO has declared a dozen World Heritage sites, three of them in Chile if the elevators in Valparaíso are counted.

At the moment we are in the process of fine-tuning and unifying the files and we hope that we can present the complete list in the first quarter of 2019, and post the list to the TICCIIH web site.

This project will serve to make the technical and industrial heritage of Latin America better known and appreciated, while it is also an initiative towards global and transverse studies both of multiple countries and across industrial sectors.



The Cabezo Rajao mining landscape has been worked for two thousand years, but its cultural worth is under-appreciated.

SPAIN

THE MINING FOUNDATION OF THE HIGHLANDS OF CARTAGENA-LA UNIÓN

Juan-Miguel Margalef, President, *Fundación Sierra Minera*

The intense mining activity over two thousand years is the first identifying sign of the highlands of Cartagena-La Unión, with the area also being referred to as the Sierra Minera (Mining Range), on the Mediterranean coast of south-eastern Spain. Following the end of mining activity in 1991, the highlands of Cartagena-La Unión were converted into a valuable landscape framed in a place deeply changed by the hand of man. It's possible to find a wealth of industrial archaeological remains which are the result of the different types of mining activities and technologies employed. This mining heritage has an exceptional worth owing to the variety of items: derricks, machines-houses, chimneys, industrial furnaces, mining wash processes, tunnels, mining trains, locomotives, wagons and great open pits of the last mining phase.

Secondly, the area is known for the singularity and value of some of its elements, such as the wooden winch ('malacate' or 'torno') probably the only remaining exemplar that is preserved, in the world. The Sierra Minera also forms a stunning cultural landscape with natural areas of great environmental value. Finally, the Sierra Minera has an extraordinary potential to articulate a fresh approach to sustainable development for this region, in cultural tourism.

This was precisely one of the insights that resulted in the creation

of the Sierra Minera Foundation 20 years ago, and is one of its areas of work.

The importance of this heritage has meant that it has been declared 'Bien de Interés Cultural' (BIC - Site of Cultural Interest), an historic site category, in 2015, by the Regional government, the Autonomous Community of Murcia. The mining landscape of Cartagena-La Unión forms part of the National Plan of Industrial Heritage and is included in the National Industrial Heritage Plan of the Culture Ministry of the Spanish Government, and is also included in the tentative list of World Heritage of the UNESCO. This landscape is one of the four elements of the industrial heritage of Murcia included in the photographic exhibition of '100 elements of Spanish industrial heritage' [<http://www.100patrimonioindustrial.com/Fichas.aspx>] organized by TICCIH España.

Yet in spite of the above, the industrial heritage of Cartagena-La Unión is in a deplorable state of deterioration, reflecting the low level of awareness regarding its worth amongst the community, land-owners and public administration. Attacks on this heritage have endangered its preservation for future generations. The drop-down derricks and mining wash processors are damaged; the chimneys or industrial furnaces have collapsed; the uncontrolled dumping of debris paint a bleak panorama.

What are the reasons for this neglect?

I.- The first steps from public administration were relevant but insufficient, due to a range of different reasons. For instance the BIC designation has been delayed by more than 30 years and finally hasn't included many spaces and elements of interest. The municipal inventories of Cartagena and La-Unión are still not exhaustive. Most importantly, the BIC designation has failed to translate into corrective measures of protection and preservation. Signage for the items of heritage has not been installed. The sanctions provid-

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The Mina Las Matildes interpretation centre is the best preserved part of the highlands.

ed for in the law haven't been applied despite continued infringements and plundering of the site.

2.- The attitude of the significant land-owners of the highlands of Cartagena-La Unión has been belligerent against the protection of the mining heritage and in breach of their legal obligations of preservation and protection. They have not understood that the heritage is a value to the territory rather than a burden.

3.- Pioneering initiatives to recognise the value and restore the elements have been promoted by the Mining Foundation. Such initiatives include the creation of Centre of Interpretation of the Matildes Mine or the Mining Park of La Union, promoted by the City Council. Nonetheless, such initiatives are insufficient.

What can we do? A paradigm shift is necessary toward the understanding that the mining heritage is able to play a key role in the progress of this area. It is important to protect the mining heritage against its plundering and destruction, via preventive actions such as consolidation of the elements in danger, including descriptive signs, tourist pathways routes and viewing points, while ensuring compliance with the obligations of conservation and public visit.

It is also necessary to incorporate the mining highland as a central element of the planning of the region, embedded in the urban

economic, cultural, social and environmental plans and policies, through a special recognition of the area as a culturally significant landscape, ensuring both the preservation of heritage and environmental restoration of the serious pollution problems caused by mining activity.

Finally, it is necessary to consolidate continuing projects and promote new ones to recover the most emblematic elements of Sierra Minera, in order to increase their value and interest as museum attractions, allowing the articulation of a wide and attractive range of mining industrial tourism. This includes Cabezo Rajao, where urgent consolidation and action is required to recover the Portman industrial facilities, in parallel with the environmental regeneration of its bay.

WORLDWIDE



Entrance of the Chambly Canal in Saint-Jean-sur-Richelieu (2014).

CANADA

THE RICHELIEU CANALS: INDUSTRIAL HERITAGE IN MOTION

Dr Alain Gelly, Historian, Parks Canada and Matthieu Paradis, Cultural Resources Management Advisor, Parks Canada

In June 1972 Transport Canada handed over responsibility for eight historic canals, including the Saint-Ours and Chambly canals, to Parks Canada, provided that their management included not only the protection and interpretation of their heritage values but also the continuation of navigation operations. At that time, the

need to maintain operations while managing a National Historic Site was a first for Parks Canada. While protecting, restoring and presenting heritage buildings and infrastructures were already part of Parks Canada's practices, maintaining navigation operations year after year at a historic site was a new reality for the national conservation agency. In other words, the challenge was to operate a network of canals, with all the issues involved in using a canal and preserving its commemorative integrity. To clearly illustrate the magnitude of the challenge, the choice of Richelieu's canals was in order, especially since 2018 marks the 175th anniversary of the opening of the Chambly Canal.

An evolving waterway and structures The Richelieu River, backbone of commerce between the Saint Lawrence River and Lake Champlain, is punctuated with obstacles to navigation. Think only of the imposing and tumultuous rapids between Saint-Jean-sur-

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Locks Nos 1, 2, and 3. Entrance of the Chambly Canal in Chambly, Quebec Canals, 13 August 1943.

Richelieu and Chambly, or the shallows in Saint-Ours. As early as 1784, a Vermonter had dreamed of canalizing the waterway. Yet it wasn't until 1831 that Lower Canada, now Quebec, began construction of a canal to bypass the rapids between Saint-Jean and Chambly. Work was suspended for a few years starting in 1835. In the spring of 1843, boats began going through the nine locks, thus inaugurating over 175 years of continuous navigation on the Chambly canal. Finished in 1849, with the opening of the Saint-Ours canal, the Richelieu canals immediately became a key component of the wide network of north-eastern America's navigable waterways. On their waters, wood, hay and paper would be transported south, while coal would be transported north.

With reduced dimensions of 36.7 m in length, 7 to 7.4 m in width and almost 2 m in height from the sills, the Chambly canal's nine locks could only accommodate smaller vessels. As a result, schoo-

ners and barges were the main types of boats travelling on the canal during the 19th century. In the 20th century, these barges became so omnipresent that the Chambly canal was often referred to as a 'barge canal.' While the dimensions of the Chambly canal's locks remained the same, the entrance lock on the Saint-Ours canal was expanded in the 1930s.

That said, during its years of commercial operation (1843 to 1972), the Chambly canal was the site of several projects and activities to improve the navigable link between Canada and the United States via the Richelieu River. The canal's appearance changed with the introduction of new construction materials over the years. For example, from the 1880s to the beginning of the 20th century, when the canal authorities made many such changes, the locks took on a 'timber and masonry' style, in that one portion of the locks' walls was made of wood and the other, of masonry. The Chambly canal

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is the only example of that (very durable) type of construction in Canadian canals. Similarly, changes to the depth and width of certain sections (canal reaches) of the waterway altered the canal's configuration in specific areas. It was also during that period that gabion walls were included in the canal's structure. The gabion walls, which were recently replaced in kind, can still be seen in the section between the canal workshops and Lock No. 4 in Chambly.

Therefore, both the waterway and its structures have evolved over time. In spite of it all, in addition to its original course, the canal has also maintained a large portion of its towpath. As for their dimensions, the locks still show signs of the barge traffic that passed through them and that made the Chambly canal a true 'barge canal.' That being said, the fact remains that today the Chambly Canal has been able to preserve, despite some improvements, its original layout and many of its 19th-Century structures. As for the Saint-Ours canal, its lock was expanded between 1930 and 1933 so that it would be similar to the dimensions of the New York State Canal System. Therefore, the new lock was inaugurated in 1933, while the old one was partially backfilled. Towards the middle of the 20th century, facing heavy competition from road and railway traffic, and disadvantaged by the small dimensions of the Chambly canal, maritime traffic on the Richelieu canals gradually ebbed away until the end of commercial navigation in 1972.

Operating and preserving the canals As an integral part of Canada's national network of canals, the Chambly and Saint-Ours canals were respectively designated as National Historic Sites in 1929 and 1987. Since taking over both canals in 1972, Parks Canada has overseen many construction projects on them. This work of course allowed for the operation of the waterway, but also re-

spected the canals' historic character, as is evidenced by the combined locks no. 1, 2 and 3 of the Chambly canal. These engineering works (Lock No. 1 in particular) have maintained many elements from the time of the canal's initial construction, including the stone masonry floor (1840 to 1842). It is also important to note that, since the early 1990s, the lock No. 3 gates' hydraulic system and the mechanism for the vertical gates on locks no. 1, 2 and 3 have regained their manual operation, which in turn enhances the visitor experience. The presence of the Superintendent's Residence and of the lockhouses, built at the beginning of the 20th century in the Queen Anne Revival style, adds to the historic character of the areas surrounding the Chambly canal's combined locks.

The conservation of a National Historic Site such as the Chambly canal, which is nearly 20 km long and operates in urban, peri-urban and rural areas, presents stimulating challenges. Despite operating on a different scale, the situation is the same for the Saint-Ours canal, where the challenges consist of reconciling the preservation of the canal's historic character with navigation operations. In the last few years, major activities (updates and conservation works carried out on their infrastructure have ensured the continuity of operations on the Richelieu's navigable waterways, while protecting and presenting the heritage values of these historic canals for current and future generations.

Contact the author

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

TICCIIH

President: Dr. Miles Oglethorpe
Historic Environment Scotland
Longmore House, Edinburgh EH9 1SH, Scotland
e: miles.oglethorpe@hes.scot, t: +44 01316688611

Secretary: Stephen Hughes
e: secretary@ticiih.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@ticiih.org

Bulletin layout: Daniel Schneider, e: ticiih@mtu.edu
TICCIIH Membership: Daniel Schneider, e: ticiih@mtu.edu
TICCIIH Website: Daniel Schneider, e: ticiih@mtu.edu

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

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

The **TICCIIH 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 TICCIIH Bulletin is published online to members four times a year.

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CHILE

TICCIH XVII CONGRESS RECAP

Dr. Arq. Jaime Migone Rettig, President, TICCIH Chile

First of all, I would like to greet and to thank TICCIH for the trust and support placed in our group to carry out this important event, already part of the international tradition of our work with the Industrial Heritage. This global meeting takes place every three years and it was the turn of Santiago de Chile in September. This was the first time it has been held in Latin America.

The Congress received more than 260 summaries of proposals, of which the Scientific Committee selected some 200 papers from 39 countries from around the world. We welcomed the participation of Argentina, Austria, Australia, Germany, Brazil, Canada, China, Cuba, United States, Spain, Slovenia, Finland, Greece, Guatemala, Japan, Portugal, France, Belgium, Mexico, Holland, United Kingdom, Scotland, Sweden, India, Italy, Iran, Poland, Finland, Estonia, Romania, Russia, Czech Republic, Serbia, South Africa, Taiwan, Turkey, Ukraine, Uruguay and of course Chile.

We can say that the Congress represented the situation of the industrial heritage at this time in a broad and horizontal manner. The works were grouped into three areas. First was research and documentation of various topics and sites; in second place we received projects on the evaluation and interventions in the industrial heritage; and thirdly, papers on various types of management of industrial heritage sites, with examples of conservation and self-financed administration.

25% of these works came from Chilean authors and the remaining 75% were by authors of the other countries already mentioned. This fills us with satisfaction because the distance and difficulty of reaching Chile is not negligible. Nevertheless, we achieved a broad representation of the current situation of industrial heritage around the world.

TICCIH Chile made a great effort to publish, for the first time in a TICCIH congress, all the works prior to the meeting. This meant having to do all the work previous to the design and execution of the publication. All of this was a huge effort for our national committee.

All the works selected by the Scientific Committee for the meeting were incorporated as it seemed appropriate and pertinent that they should be in the book, since they had been accepted for the Congress.

The events and activities took place over September 13 and 14 in nine museums located in the Quinta Normal de Santiago. We thank all the institutions that made this possible. On the third day all the participants made a visit to the Sewell Mining Camp, above the El Teniente underground copper mine in the Andes mountains, a World Heritage site since 2006.

The theme of the Congress was sustainability, a substantial issue and one for the future. The challenge is thinking about new uses and putting value on pre-existing ones, but also the study of the damages and injuries that the industry has left in our territories. Learning from the past is also learning from the mistakes that as human beings we have made, and hopefully not repeating them.

The industrial heritage has this horizontal character; in many cases a new use is possible, and so it is not only a testimony of the past but a place of future. And therefore sustainable. We know that the conservation of industrial heritage is a limited challenge and therefore, always, new uses for the remains of the past will be a sustainable way of conserving not only memory.

But the step that follows, the project of evaluating, is also essential to advance in showing the future, of people's industrial past.

All this also requires adequate sustainable management over time. Which also means, with all the difficulties we already face, obtaining the necessary resources to maintain the heritage and to be able to spread it. And this must be done well.

All these themes and approaches were exposed during this meetings and discussions in the various sessions that took place during two days of working sessions. Critical knowledge of reality allows us to advance and improve our relationship with industrial heritage.

Finally we wish to congratulate Montreal, Canada, and offer the best of luck in holding the XVIII meeting that will take place in 2021.

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POLAND

BIG STUFF GOES TO POLAND!

Dr Alison Wain, Senior Lecturer in Conservation, University of Canberra

From 11-13 September, 2019, lovers of big industrial machinery will gather at Katowice in Poland for the sixth Big Stuff conference. With the theme 'Preserving large industrial objects in a changing environment', the conference will address the future of large scale industrial heritage in the face of a rapidly changing environment where social relations, architectural and urban design, landscape environments, mobility infrastructures, spatial functions are all being transformed, and where climate change adds another unknown to the preservation of historic buildings and machinery.

If you are interested in presenting at the 2019 conference, please send a 500 word abstract to Alison Wain (alison.wain58@gmail.com)

The conference will start with a tour of local industrial heritage, followed by a day of papers showcasing projects and raising new ideas for the preservation of heritage machinery. The final day will be spent working on plans for transitioning a local colliery from

a working commercial operation to a heritage site. This follows the tradition of holding practical workshop sessions at Big Stuff conferences and will provide the Colliery team with ideas from an international audience, and conference delegates with the opportunity to experience idea generation and project planning for a real site at a world class level. Big Stuff particularly welcomes students and emerging heritage practitioners, as well as people working with heritage machinery in a private or volunteer capacity who are looking for ideas to take back to their own sites and projects. For those who would like to explore more of the industrial heritage of the region before and after the conference, there is a Steam Gala on the 7-8 September. We also hope to offer an optional tour to Petřilka, the oldest colliery in the coal basin of the Jiu Valley in nearby Romania.

The conference presentations will be in English, and papers will be made available in both English and Polish. After the conference papers will be publicly available on the Big Stuff website at <http://bigstuff.omeka.net/>

For more information, or to register for attendance contact Piotr Gerber piotr.gerber@muzeatechniki.pl. Updates and conference information will also be available at <http://bigstuff.omeka.net/>

U.S.A.

THE SLATE INDUSTRY OF PENNSYLVANIA'S LEHIGH VALLEY

Dr Frank Matero, Professor of Architecture and Historic Preservation, School of Design/University of Pennsylvania

In order to bring a more critical approach to the preservation of a much neglected category of America's industrial heritage, the University of Pennsylvania's School of Design, through its Center for Architectural Conservation, has recently completed a three-year study of the slate industry of Pennsylvania's Lehigh Valley. The Lehigh Valley in Pennsylvania gave rise to several world class extractive industries including iron, steel and cement production, coal mining, including slate quarrying, all of which would dominate the American and international scene by the first decade of the 20th century.

The Lehigh Valley's slate industry created a complex landscape with dramatic quarries, mill buildings, and rail networks all within

a narrow geological belt between the Delaware and Lehigh Rivers. These quarriescapes, the intersection of geology, technology, and culture, were an important part of American life and their stories are still accessible through the visual testimony of the land, the structures and machinery, as well as the stories of those who last labored there. As proven elsewhere, this industrial legacy holds the key to revitalization of the region by 'regeneration through heritage,' not only in the preservation and possible re-use of these sites, but as catalysts for reviving and maintaining the social and cultural fabric of their surrounding communities and natural environment. Cultural and environmental conservation become powerful partners in the reclamation of this complex landscape through ecological as well as architectural concerns.

The current project has sought to promote the use of a web-based interface to provide the community of scholars, professionals, and associated communities with an expandable platform for research and communication. For more information, see <https://www.design.upenn.edu/historic-preservation/post/quarry-desktop> and to access the website: <https://sites.google.com/view/theslatebelt/introduction>

Contact the author

IRELAND

INDUSTRIAL HERITAGE ASSOCIATION OF IRELAND (IRISH NATIONAL REPORT 2018)

Mary McMahon, Industrial Heritage Association of Ireland

The Industrial Heritage Association of Ireland (IHAI) is the National Representative body for TICCIH in Ireland. Similar to other European countries, the lead in protecting, preserving and promoting Ireland's industrial heritage had been taken by volunteer organisations and enthusiasts, many with a particular expertise. However with the growth in development, particularly in urban areas, and the threat being posed to the survival of unprotected industrial heritage sites, the IHAI was established in 1996 to raise awareness of the significance of our industrial past. This article is a brief overview of some of the actions of the IHAI over the past few years. For information on their annual outings, events and other activities, I invite you to read through their Newsletters. They can be found on their webpage at www.ihai.ie.

Statutory Protection

In our last report for TICCIH in 2012 we outlined the two principal legislative measures that deal with the protection and conservation of sites of special heritage value - the National Monuments Act and the Local Government Planning Act. Although both pieces of legislation are excellent, the coverage of industrial sites was very low, resulting in limited protection.

Since then the IHAI have been actively engaging with Government Departments and the Local Authorities through their network of Heritage and Conservation Officers. Raising the profile of industrial heritage has met with some success, to the extent that more attention has been paid to industrial sites in our National Inventory of Architectural Heritage and many of our County Councils have carried out industrial heritage surveys. This has resulted in an increase in the numbers of industrial sites included in the Development Plan and in the Record of Protected Structures that each city and county council is required to maintain under the provisions of the Planning Act.

The IHAI works very closely with the Industrial Heritage National Scientific Committee (IHNSC) of ICOMOS Ireland, particularly in promoting the adoption of The Dublin Principles. The International Charters and Principles that ICOMOS has produced since its inception are recognised and accepted in Ireland as best-practice guidelines and are embedded into the decision-making of our planning authorities when considering development proposals.

Through the continued engagement of members of the IHAI with the local authorities, a significant milestone has been achieved with the inclusion of the following policy and objective in the 2016 Development Plan of Ireland's capital city - Dublin:

'To implement and promote The Dublin Principles as guiding principles to assist in the documentation, protection, conservation and appreciation of industrial heritage as part of the heritage of Dublin and Ireland.'

Training and Capacity Building

With the growth in awareness and actions, the IHAI posed the question of how prepared are the built heritage professionals to meet new planning requirements - do they have the necessary knowledge and skills associated with the safeguarding of the industrial heritage? The IHAI contributed to a review of the state of conservation education and training in Ireland being carried out by ICOMOS Ireland. This collaboration resulted in a number of recommendations, including the need to address education and training for the development of expertise in the conservation of industrial heritage.

Taking up the challenge the IHAI organised and delivered an Introductory Module on Industrial Heritage in September 2015, which focused particularly on the needs of professionals working in the built heritage environment. The course was run in partnership with ICOMOS and Dublin City Council, and was recognised as Continuing Professional Development (CPD) by the Royal Institute of the Architects of Ireland, Engineers Ireland, the Irish Planning Institute, and the Institute of Archaeologists of Ireland. The one day event was divided into four sessions dealing with the scope and relevance of Ireland's industrial heritage; recording, interpreting and evaluating industrial sites; national legislation, planning and development; and the conservation challenge posed by industrial sites. The event proved to be very successful, with over 60 delegates attending from the public and private sector.

In October 2016 a second CPD Module was organised by the IHAI titled Ireland's Industrial Heritage: The Conservation Challenge. The event focused on the challenges facing the heritage sector in the conservation of historic industrial sites, and the projects selected were of local, national and international significance. The individual presentations were followed by a structured discussion on the application of The Dublin Principles as a common standard for industrial heritage conservation. As with the first module there was a very large uptake, with professional and administrative representatives from the relevant Government Departments, the Local Authority Planning and Conservation Sections, other statutory institutions, as well as the private sector.

As part of the European Year of Cultural Tourism, in partnership with the Heritage Council, Dublin City Council and ICOMOS,

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the IHA are holding a one-day Conference in October 2018 on the operation, presentation and promotion of industrial sites, titled Networking Ireland's Industrial Heritage. Recognising that a heritage sites' sustainability depends on many factors such as its theme, size, management, running costs, presentation and marketing, a panel of experienced industrial heritage site operators from Ireland and Britain, including Wales and Scotland, are being brought together to share their knowledge of tackling the various issues which they've encountered.

Mary Mulvihill I previously referred to Mary and her classic publication *Ingenious Ireland*. Her untimely death in June 2015 was a great loss to the IHA and the industrial community in Ireland. She was a giant of Irish science journalism. She possessed the great

gift of presenting scientific and technical facts in a most compelling way. *Ingenious Ireland* is a masterpiece, the result of an immense amount of research, giving a county-by-county tour of Ireland's industrial and scientific heritage. And her genius was not just in her writing; she could be seen both within and without the university precincts of Dublin surrounded by groups of young students avidly listening to her every word. She is greatly missed. *Ar dheis Dé go raibh a ainm dílis.*

Contact the author

CANADA

On-line Industrial Heritage Training

Dr Shabnam Inanloo

The international online Industrial Heritage course offered by Canada's Athabasca University is again running next semester from January to April 2019M; the course registration deadline is December 7, 2018. Participants start by learning about theoretical frameworks as they relate to conservation, interpretation, and management planning of industrial heritage. The readings draw on wide international experience and use contemporary examples from many sites in North America, Europe and Australia. Students

join an on-site week during April 1-5, 2019, working in teams on a project at St. Albert's Grain Elevator Park, Alberta, Canada, documenting the structures and meeting directly with local stakeholders to discuss the options for preservation and re-purposing.

This training makes participants familiar with the principle characteristics of the industrial heritage and the modern 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. The course can be taken either as part of their university studies (3 credits) or for professional development (as a non-program student). **Full details of the course**

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TICCIIH: The International Committee for the
Conservation of Industrial Heritage

TICCIH NEWS

FAREWELL

Professor Patrick Martin, TICCIH Life President

I am pleased to welcome Dr Miles Oglethorpe as the new President of our organization as I have finished my term in office. As I reflect on this journey I am awed at the opportunities I have been offered. After election by The Society for Industrial Archeology as US National Representative in the early 2000s, I was co-opted to the Board and subsequently elected as a Board member. In 2006, I was elected President and have served three terms. Over those years, it has been my great pleasure to meet many interesting people, visit fascinating places, and participate in the business of conservation and interpretation of the world's industrial heritage.

During my presidency we have expanded the base of individual members and member states, especially in Latin America and Asia. We have shifted to digital publication of our quarterly Bulletin, expanding the scope, graphical quality, and timeliness of this important source of global information for our members. We have also mounted our past Congress Proceedings and many National Reports on a searchable online forum where the information is universally available. We have published Industrial Heritage Re-tooled, the TICCIH Guide to Industrial Heritage Conservation, a collection of state-of-art essays by an international group of expert authors, edited by our own James Douet. Douet also edited the latest thematic study in our series, **The Water Industry as World Heritage**, a comparative study for ICOMOS. These publications are critical contributions and products of our collaborative work to enhance the place of industrial heritage on the world stage.

TICCIH has also been very active during these years in the process of production and evaluation of industrial heritage sites and land-



**Prof. Patrick
Martin**

**TICCIH Past
President**

scapes for inclusion in the UNESCO World Heritage List. With our members acting as experts and advisors, we have seen the number of industrial heritage sites on the List grow rapidly, and while we certainly do not claim sole credit, it is fair to count our involvement as a significant contribution. And while the World Heritage inscriptions are important, we also contribute regularly to international calls of support for preservation and protection for sites and landscapes under threat, sometimes celebrating success and sometime commiserating when we fail.

In sum, I am proud of what we have accomplished and grateful for the rewarding experiences that you have afforded to me in these past years. I humbly thank you for the opportunities and look forward to future participation and interaction.

HELLO

Dr. Miles Oglethorpe, TICCIH President, Head of Industrial Heritage and Conservation, Historic Environment Scotland, Edinburgh

It gives me great pleasure to thank Professor Martin for his welcome, and much more important, for his nine years at the helm of TICCIH. He is a tough act to follow. He's been inspiring to work with, and I know board members past and present have greatly appreciated his leadership which has left TICCIH in a strong place after his three consecutive terms as President.

Pat has been articulate and robust in his promotion and defence of TICCIH as it has continued to evolve in times of rapid change. Embracing the digital revolution has been especially important, and



**Dr Miles
Oglethorpe**

TICCIH President

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the flowering of the Bulletin has been a marvel to behold. This alone has ensured that TICCIH reaches a far bigger audience than could ever have been imagined in the days of hard-copy dissemination. Also important has been our hugely valuable relationship with ICOMOS which itself is now undergoing significant change (see Stephen Hughes article on page xx). Indeed, one of the new Board's first priorities will be to help ensure that this partnership prospers and works in the best interests of both organisations.

The great news is that Pat is not going far – he has agreed to remain on the Board as a 'Life President', so we will not lose access to his valuable experience and expertise. Just as important is the fact that we will be joined by several new board members – Bode Morin (USA), Marion Steiner (Germany/Chile) and Jose Manuel Lopes Cordeiro (Portugal), together with Lucie Morisset (Canada), whose preparations for hosting the 2021 congress in Montreal are already well under way.

Lucie will benefit from the advice of Jaime Migone Rettig, whose years of hard work resulted in such a brilliant congress in Chile. Although much of the Board remains in situ, ensuring valuable continuity, we are sad to have to say goodbye to Patrick Viaene and Chris Meneguello, whose contributions have greatly enriched the work of the Board over many years.

As for my own situation, I find myself taking on the TICCIH presidency after a career spanning 35 years in industrial heritage, starting out at Glasgow and Strathclyde Universities, and ending up at

Historic Scotland, our national heritage government agency. In that time, I have seen and experienced many things, but TICCIH has always provided highlights. It's been an amazing journey, and I am both honoured and anxious to find myself to this position.

Looking forward, we have an exciting time ahead of us. The new Board had a positive meeting at Sewell on the last day of the Chile congress, and is already working on new initiatives, not least facilitating regional TICCIH groups, and continuing to nurture all-important thematic studies. We are also considering ways of making better use of the national reporting process in the hope that we can showcase the work of our members across the world more effectively.

In the meantime, one of our priorities will be to work out how the administrative support for TICCIH will work in the future. Thanks to Pat, we have benefitted greatly from the support of Michigan Technical University and the additional sponsorship that it has attracted for almost a decade. This will not change in the short term, but in the next year or so, we will need to consider how best to support the organisation in the future.

So, thank you to TICCIH members for bestowing the office of the presidency on me. I am honoured and not a little anxious. I promise to do my best for TICCIH and industrial heritage more generally across the world, and I very much look forward to working with you all.

CHILE

TICCIH GENERAL ASSEMBLY, BOARD AND PRESIDENTIAL ELECTIONS

Stephen Hughes, TICCIH General Secretary

The thrice yearly General Assembly of TICCIH was very ably organised by congress organiser Jaime Migone and his team from the Universidad de Chile and was attended by over 200 delegates. The first formal meeting of the TICCIH Board at the General Assembly was held on Wednesday 12 September mainly to discuss the organisation of the General Assembly and the elections. This meeting was attended by Professor Lucie Morisset who had been co-opted to the Board at the previous meeting in her role as organiser of the 2021 TICCIH General Assembly in Montreal, following previous practice in co-opting the organisers of future congresses.

The General Assembly was held after the morning welcome ses-



Congress organiser Jaime Migone. Photo: Miles Ogglethorpe

sions on Thursday 13 September in one of the several auditoriums of the museums surrounding the Parque Quinta Normal. The TIC-

TICCIH NEWS



The Sewell copper smelter viewed from the bus on the post-congress tour. Photo: Miles Oglethorpe.

CIH President, Professor Patrick Martin, welcomed all delegates and gave a presentation on the work and achievements of TICCIH over the previous three years including the digitisation of the proceedings of prior TICCIH congresses and the formulation of a two-yearly action plan in conjunction with ICOMOS. The international study of water-supply and subsequent Barcelona conference had been part of TICCIH's fulfilment of this agreement. TICCIH was active in over 50 countries and new National Agreements had been formulated with Venezuela, Iran and were ongoing with Greenland and Turkey.

The TICCIH General Secretary then explained the TICCIH elections procedures. There are 14 voting trustees on the Board of TICCIH and a third, by order of the statutes, stand down every three years. Usually it is those who have served the longest and this year that included Professor Hsiao-Wei Lin of Taiwan; Professor Massimo Preite of Italy; Dr Iain Stuart of Australia and Dr Patrick Viaene of Belgium. Patrick Viaene decided not to stand for re-election and Professor Cristina Meneguello also decided to step down and they were thanked by the secretary for their work with TICCIH. President Patrick Martin's three terms of office were also coming to an end, so that there were now six vacancies for the TICCIH Board and six nominations had been received by the deadline of 30 August, as determined by the statutes. Therefore it was announced that the elections to be held at the National Representatives Meeting on the following day would be uncontested. All delegates were encouraged to think about standing for the TICCIH Board before the next General Assembly in Montreal. Meetings of the Board are also attended by previous

TICCIH Presidents in their role as Honorary Vice-presidents and by appropriate co-opted board members and TICCIH officers.

Then the General Secretary announced that only one nomination had been received for the post of TICCIH President by the requisite date of 30 August and that was for Dr Miles Oglethorpe (Scotland, U.K.). All candidates for the Presidency have to be drawn from active members of the TICCIH Board.

The Secretary then thanked Patrick Martin for all the work he had done for TICCIH and for the support of Michigan University of Technology for the TICCIH database and for other facilities. Presentations were then made on behalf of the Board to thank the outgoing President by Stephen Hughes, Miles Oglethorpe and Florence Hachez-Leroy.

The TICCIH National Representatives meeting was held on the following morning of Friday 14 September and was open to all who wished to attend. Voting slips had previously been circulated to all National Representatives or their nominated proxies. As there were no contested elections the new President, Dr Miles Oglethorpe, and the new and re-elected Board Members were confirmed in their new roles by a simple show of hands. The new members of the Board are Dr Bode Morin (U.S.A), Professor Marion Steiner (Germany, now living in Chile) and Professor José Lopez Cordeiro (Portugal). Professor Hsiao-Wei Lin (Taiwan); Professor Massimo Preite (Italy) and Dr Iain Stuart (Australia) were re-elected.

Dr Dag Avango then assumed the chair and a presentation was made by Iain Stuart explaining how TICCIH and ICOMOS Austra-

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lia had come together to form a joint Industrial Heritage Committee in Australia. This was an especially important development as ICOMOS is developing its own Industrial Heritage International Scientific Committee and there is a strong case for suggesting that the National Sections of TICCIH and ICOMOS should work closely together. Gyorgyi Nemeth then related how the joint TICCIH-ICOMOS Hungarian National Committee had worked over a considerable period of time.

The other twenty National Representatives at the meeting gave short presentations on industrial archaeological activities within their countries over the past three years.

On the following day the new TICCIH Board met at the World Heritage Site of Sewell, high in the Andes, during the conference tour. The new TICCIH President, Miles Oglethorpe, felt that the

quality of the presentations at the National Representatives meeting was such that in future this should form part of the General Assembly Plenary Session. It was also felt there should be a future conference on the international quality of adaptive re-use to follow on from Massimo Preite's excellent lecture and exhibition on the subject held during the conference at the Italian Institute in Santiago (for a description see TICCIH Bulletin #81).

Lucie Morisset then introduced the proposal for the next TICCIH General Assembly in Montreal to the membership at large, which was greeted with enthusiasm. Finally Jaime Migone was warmly thanked for what all agreed had been a wonderful congress.

FRANCE

LOUIS BERGERON'S RESEARCH ARCHIVE

Sylvie Bergeron

I am writing to you because I wish to recall the memory of my father Louis Bergeron, the former President of TICCIH and a great historian in social sciences.

As an intellectual committed to ensure the legacy of the scientific memory, he had already filed a significant portion of his working archives with the Centre de recherches historiques (CRH) in Paris. This deposit concerns the first part of his career, mainly the research he conducted on grandees, bankers, merchants and manufacturers in the 18th century as well as on Paris.

Keeping with this filing, I handed over all the working documents that had remained with me to the Ecole des Hautes Etudes en Sciences Sociales (EHESS) in order to complement what already constitutes the Louis Bergeron's archival collection.

This collection will be located near Paris on the future site of Campus Condorcet which will open in 2020. This major hub of humanities and social sciences will host the most famous institutions: Ecole des Hautes Etudes en Sciences Sociales (EHESS), Ecole Pratique des Hautes Etudes (EPHE), Institut National d'Etudes Démographiques (INED), Centre National de la Recherche Scientifique (CNRS), Fondation de la Maison des Sciences de l'Homme (FMSH) etc. It will include a great Documentary Facility which will make available to researchers a center of social sciences archives,

under the watch of the National Archives. A reference at the European level, this center will gather the archives of the greatest researchers in the field since at least the end of WWII. Louis Bergeron's archives will be found there, as those of all the EHESS researchers.

As part of this project, the filing and classifying of my father's archives will be operated as soon as January 2019, thanks to a specific funding. Therefore we may consider the supplementation of the existing deposit in order to make available to the scientific community the most comprehensive collection of documents. It is on this basis that a gathering is launched of his files and working documents that may have been deposited or stored here and there, or disseminated according to his travels, his encounters, his functions.

Obviously, I wish to give my full and entire support to the furtherance of this work of memory and this is the reason why I am getting in touch with you. In view of the working relationship that you had with my father, your cooperation to this harvesting of work-related documents would be of great value.

The gathering of documents is operated by Mr Nicolas Veyssset and Mrs Patricia Bleton, of the Centre de recherches historiques at EHESS. We look forward to receiving the documents you may possess before November 2018 by post to the following address: Nicolas VEYSSET - Patricia BLETON, Centre de Recherches Historiques (CRH), 54 boulevard Raspail - 75006 PARIS – France, +33 (0)1.49.54.25.85 .

CONFERENCE NEWS



Above: Industrial archaeologists on the metre-gauge FCTransandio de Chile rail which connected Chile and Argentina between 1910 and 1981. Photo: Miles Ogglethorpe.

At Right: Snow-clearing locomotive for the Transandio line. Photo: Miles Ogglethorpe.

CHILE

TICCIH XVII CONGRESS: AN AUSTRALIAN PERSPECTIVE

Alison Wain

The updated version of the National Reports 2016-2018, which was prepared for the Chile conference, can be downloaded from the [TICCIH website](#).

I have to thank the organisers of the TICCIH 2018 Congress in Santiago for prompting me to make my first visit to gorgeous Chile – in fact not just to Chile but my first visit to anywhere in South America. I also have to thank them for including a tour to Sewell – not only did I see a unique industrial heritage site but I got to visit the Andes – unforgettable.



I really enjoyed the many thoughtful presentations I heard at the conference, and wished for a teleporter for instant travel between the venues so I could have heard more! For me however, the standout feature of the conference was the sense of being part of a community of passionate people working together to plan for the future of industrial heritage. The plenary sessions, the round-

CONFERENCE NEWS



Lunchtime in the courtyard on the first and main day of the congress (13 September), which was held at the Museo de la Educación Gabriela Mistral in Santiago. Photo: Charles Ogglethorpe.

ups from TICCIH country representatives, the discussions of TICCIH's role and relationship to other international bodies, and the intense lunchtime conversations were all evidence of the commitment and enthusiasm of this community. Industrial heritage is one of the newer heritage fields to receive this level of attention, and it is really exciting to be a part of this movement.

It is also exciting to see the levels of co-operation across national and other borders. Natural resources such as waterways, seams of coal and wine-friendly landscapes do not respect the political divisions made by humans, and TICCIH's ability to inspire shared

visions of industrial heritage that cross both cultural and political boundaries is creating a strong, interconnected sector that is able to leverage tourism, research funding, urban planning and other international opportunities. I left Chile thinking about the ways in which my own part of the southern hemisphere – Australia – can most effectively contribute to this industrial heritage collaboration.

CONFERENCE NEWS



Vista Alegre Porcelain Factory Museum. Photo: VAPFM.

PORTUGAL

IV International Congress on Industrial Heritage – Cities and Industrial Heritage, Aveiro, June 28-30, 2018

Professor José Manuel Lopes Cordeiro, Portugal national representative and TICCIIH Board Member

Organized by the Portuguese Society for Industrial Heritage (APPI/TICCIIH Portugal), with the support of the University of Aveiro, the Congress was coordinated by the author and Manuel Ferreira Rodrigues. In the opening conference, José M. Amado Mendes, professor at the University of Coimbra and Autonomous University of Lisbon, spoke on the industrial heritage and its potential: cultural tourism and education. During two days, researchers, academics, post-graduate students, and professionals of museums and governmental agencies from Portugal, Spain, Germany, Denmark, Brazil, Argentina, Mexico, Colombia and Panama, presented papers and posters that covered the study, preservation and promotion

of industrial heritage, cultural landscapes of industrial heritage, art and industrial heritage, conservation and industrial heritage reuse, industrial museums and conservation of technical and industrial collections, railway heritage, education and training in industrial heritage, business archives, inventories and registration of industrial heritage, theory and methodology of industrial heritage and its archaeology, industrial tourism, legal protection of industrial heritage, and geological and mining heritage.

On the final day participants attended a post-conference tour, visiting in the morning the Ílhavo Maritime Museum and the renovated Vista Alegre Porcelain Factory Museum, while in the afternoon had the opportunity to see the Saint André Ship-Museum and the Macinhata do Vouga Railway Museum.

It was definitely a great congress which disclosed industrial heritage in a broad audience. It was one of the best-attended events on industrial heritage organized in Portugal with an excellent scientific level and tours greatly appreciated by participants. The author promises to publish the proceedings in a near future.

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Participants visited the archetypal Catalan textile village, the Colònia Sedó. This view shows the aqueduct which brought water for the turbines on the left, the factory in the foreground with the church behind. The unique spiral chimney can also be glimpsed. Photo: Creative Commons.

SPAIN

WORKERS' SETTLEMENTS AND FACTORY TOWNS, TERRASSA, 4-6 OCTOBER 2018

Dr Gràcia Dorel-Ferré

More than 40 speakers participated in the congress at the Museu de la Ciència i de la Tècnica de Catalunya (Mnactec). The presentations focused on the plurality of experiences within the framework of workers' villages and factory towns, planned or unplanned, characterized by their economy, with contributions of architects, sociologists, geographers and historians.

The role of the 18th century and all its wealth of invention was highlighted in Western Europe but also in the Russia of Peter I. The 19th century had spectacular but few philanthropic achievements, so that the housing issue remained unresolved (world fair of Paris in 1867; writings from Engels in 1873); but towards the end of the century the necessary tools began to be developed - banks for real estate, the Garden City concept and the first accomplishments in this area.

After the first world war, under the pressure of a society which

had suffered from the war but also the threat of the spread of communism, states as well as great industrialists took over the social dimension of housing: the creation of the HBM in France, the Garden City became more widespread, dissemination of working-class cities in regions affected by the war, with the particular case of the railway cities in France with the policy from the North Railway Company, but also the movement of these same rail cities that accompanied the management and maintenance of the rail network anywhere in the world.

From the 1930s, the role of the state is present in both socialist and fascist countries: this is the case, for example, of the steel industries and the villages of agricultural settlements of fascist Italy. In Soviet Russia more than 400 new cities were created with common characteristics, where the plant was at the very center. Financial and industrial groups were responsible for similar achievements in market economy countries (US, Canada). In Chile, the saltpeter villages were built in the 1930s. These constructions benefited from a very complete social and cultural program. A survival of this policy of construction and social programs is found in Franco Spain of the years 1940-1950.

The second half of the 20th century gives other dimensions: a lot of working-class villages and towns factories were abandoned because of greater mobility, thanks to private cars; companies only housing ensured in extreme cases; the end of Fordism gave the

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coup de grace: villages and factory towns continued but without the plant, which no longer provided salaries; on the other hand we still build cities in extreme conditions, in the far north, Alaska or Siberia for the extraction of highly profitable products, and their duration is closely linked to that of the product.

At the end of our study, we should be able to highlight the evolution of the forms of working-class habitat, its spread with the conquest of the planet in the 19th century, its dilution into the overall fabric in the 20th century, except for the extreme situations such as oil rigs or cities of oil and gas in Siberia, etc. But in these cases it comes to housing specialists. With the tertiarised society, working-class habitat loses its distinctive physiognomy.

Our purpose was a best approach through a broad panel of experiences, some already inscribed on the list of World Heritage. As a result of our debates, Mnactec director Jaume Perarnau intends

to open a blog dedicated to this topic on the museum web page in order to constantly update this issue, to be presented again at the 2021 TICCIH congress in Montreal. Next to an already well-studied Europe, we must enrich the typology, identify the specificities and commonalities, highlight the accomplishments including universal values. Workers villages and factory cities are also, like other works, strong examples of what creative humanity can produce.

To end and illustrate this event, participants were invited to visit the Colonia Sedó of Esparreguera, the most important of Spain of its time. Part of the site, containing the famous 1400 CV Planas turbine, is already part of the network of the Mnactec. The rehabilitation projects have been mentioned, supported by a young local association, which works in synergy with the municipality.

HERITAGE MANAGEMENT

GERMANY

THE FOUNDATION FOR THE PRESERVATION OF INDUSTRIAL MONUMENTS AND HISTORICAL CULTURE, GERMANY

Dr. Marita Pfeiffer, *Stiftung Industriedenkmalpflege und Geschichtskultur*

The North Rhine-Westphalian Foundation for the Preservation of Industrial Monuments and Historical Culture has been in existence for 23 years. The Foundation secures, preserves and maintains buildings and technical facilities, opens them to visitors and ensures that new uses and their operations are appropriate to the monuments. The operations are mostly carried out in cooperation with local support associations. It is characterised by a model hitherto unique in Germany, which combines public and private economic interests in a non-profit foundation with the aim of preserving high-quality listed industrial plants from demolition by transferring them to the Foundation.

The institution was set up by the state of North Rhine-Westphalia and the RAG Aktiengesellschaft (which emerged from the former Ruhrkohle company). The founders contributed capital and real es-



The Hansa coking plant in Dortmund: the 'black side' with its coal towers and coke oven batteries. Photo: Werner Hannappel, 2015.

tate. From time to time, the historical monuments in the care of the Foundation are subject to change; not only can endangered buildings be included, but monuments can also be transferred to other owners provided they can be safely protected and suitably redeveloped. The Foundation has various historical industrial buildings in its inventory, including winding frames, engine and shaft halls and a complete coking plant. The most recent endowment is the Koeppenwerk, a pump storage power plant dating back to 1927-30.

Due to the continuously decreasing interest payments from the

HERITAGE MANAGEMENT



The Koepchenwerk pump storage power plant at Lake Hengstey in Herdecke. Photo: Werner Hannappel, 2017

Foundation's capital over the years, the Industrial Monument Foundation is dependent on subsidies from third parties. The state of North Rhine-Westphalia, the RAG Foundation, the RAG AG and the Regionalverband Ruhr are currently providing subsidies to cover operating and project costs.

When the Foundation was established it comprised nine memorial sites. It now has fourteen industrial monuments in North Rhine-Westphalia. The procedures for the inclusion of a monument are laid down in the Foundation's statutes. Here it is stated that the Foundation can only take possession of a monument if at the same time an 'appropriate' amount of money is donated, and if the Foundation can guarantee to bear the costs of this property on a permanent basis.

One of the listed sites is the Hansa coking plant in Dortmund, which has also been the headquarters of the Foundation along with its central administrative office and workshop since 1997. Built in 1927/28, the coking plant was listed in 1998 as a monument to the integrated economy between Dortmund collieries, ironworks and steelworks and as a landmark in urban development. The plant is

a large 'walk-about sculpture' combining technology and industrial nature. It has been an anchor point on the Industrial Heritage Trail since 1999, which enables visitors to tour industrial history sites in the Ruhr area on a circular route of 400 km. The coking plant's 11-hectare site is also part of the Emscher Landscape Park, a special kind of regional park that links man-made landscapes from pre-industrial, industrial and post-industrial times with the regional green corridors of the Ruhr that have existed since 1920.

Now most of the buildings and technical installations that form part of the Foundation's heritage have been renovated. As a rule, they have initially been repaired in a usage-neutral manner and then made accessible to the public - at least on guided tours. Telling the story of the monuments is an essential component of the Foundation's work. In addition, the Foundation is supported by support associations, to whom it generally transfers the responsibility for operations. The volunteers anchor the monuments in the local population with their events, live demonstrations of the machinery in operation, as well as project work, e.g. with school classes. Hence, they make a significant contribution to revitalising their local communities.

HERITAGE MANAGEMENT



Gneisenau colliery shaft 2 and shaft 4 in Dortmund with the Tomson Bock built in 1886 (left) and the Doppelbock frame built in 1933/34 (right). Photo: Werner Hannappel, 2015.



The Schlägel und Eisen colliery, shaft 3 dating from 1896 with the engine house, and shaft 4 with the winding tower from 1984/85 in Herten. Photo: Werner Hannappel, 2015.

In addition to the Hansa coking plant, the Gneisenau colliery is one of the Foundation's monument sites in Dortmund. Here, the oldest preserved steel pithead gear in the Ruhr area, the Tomson-Bock with a shaft hall dating back to 1886, and the towering Doppelbock gear from 1933 are the identification points in today's leisure and industry park in the district of Derne. A local support association assists the foundation in looking after the monuments.

The winding tower and engine houses at the Consolidation Shaft 9 colliery in Gelsenkirchen are also the centre of a park landscape that offers a variety of cultural and leisure activities (the Consol theatre, a music rehearsal centre, etc.) as well as commercial facilities. The monuments have been in the care of the Foundation since 1995. The restored engine houses have been rented to the city of Gelsenkirchen; a collection of works by the artist Werner Thiel (1927-2003) can be seen in the northern building, while the southern building is used by a support association which, among other things, presents live demonstrations of the twin steam engine dating back to 1938. The winding tower was renovated in 2001-2005, but the pit bank with its historic wagon circuit has yet to be repaired.

The Foundation also has listed winding towers with shaft halls, pit banks and engine houses at the following locations: Radbod colliery shaft 1/2 in Hamm, Sterkrade colliery shaft 1 in Oberhausen, Pattberg colliery in Moers, Schlägel und Eisen colliery shaft 3/4 in Herten, Fürst Leopold colliery in Dorsten, Sophia Jacoba colliery shaft 3 in Hückelhoven, Monopol colliery, and Grillo colliery in Kamen.

At Prosper II colliery in Bottrop, the Industrial Monument Foundation owns the Malakoff Tower, shaft 2, built in 1874/75 with a later integrated pit frame. The monuments at Zweckel colliery in Gladbeck were also saved by being transferred to the Foundation. Here the engine house and the two twin shaft winding frames,

built from 1908 onwards have been preserved. The engine house - a representative brick building with a historicist exterior and a geometric Art Nouveau interior - is firmly integrated into the cultural life of the town and is used for a variety of events such as concerts, music theatre and conferences.

It has been a long and sometimes very arduous process to reach today's status. The development of buildings that could not be marketed requires professional know-how and above all time. The fact that it is worth investing time is demonstrated by the locations of the Foundation for the Preservation of Industrial Monuments and Historical Culture. Once worthless and in danger of demolition, these historic buildings are now living sites of industrial heritage, urban landmarks and often catalysts for urban development.

In addition to its operational work, which is focused on its own holdings, the Foundation for the Preservation of Industrial Monuments and Historical Culture has taken on another major task in the form of the World Heritage project Industrial Cultural Landscape Ruhr Area. Together with its partners, the North Rhine Westphalian Ministry of Home Affairs, Local Government, Construction and Equal Opportunities, the Ruhr Regional Association, the Rhineland Regional Council, the Westphalia-Lippe Regional Council and the Emschergerossenschaft, it is developing the concept on the basis of a far-reaching cultural landscape approach under the guidance of Barry Gamble (UK). A blueprint for the presentation of the outstanding universal value of the industrial cultural landscape is now available (PDF in German, English, French and Spanish see: www.industriedenkmal-stiftung.de). Its inclusion in the German Tentative List of UNESCO World Heritage Sites is still pending. This is a project that also needs time.

OBITUARY

Dr Henry Cleere

2 December 1926 – 24 August 2018

Neil Cossons

Henry Cleere, who died in August at the age of 91, was a long-standing supporter of industrial heritage and the recording and conservation of industrial sites and landscapes, stemming in part from his early career in the [UK] Iron & Steel Institute and as a founder member of the Historical Metallurgy Society. In more recent years he was World Heritage Co-ordinator for ICOMOS.

Henry Cleere came to archaeology after having already achieved distinction in the iron and steel industry. Leaving school in 1942, he found work initially as a newspaper journalist and this took him in 1951 to a twenty-year career in the Iron & Steel Institute where he became Deputy Secretary and Managing Editor. Here his interest in the early history of iron making was to become all-absorbing. His work on the medieval iron industry of the Kent and Sussex Weald led to an important series of excavations and publications – several with the late David Crossley – and the setting up of the Wealden Iron Research Group that was to evolve into the Historical Metallurgy Society. When the society celebrated its fiftieth birthday in 2013 he and David cut the cake (in the shape of an early blast furnace) as they were by then the only two surviving founder members. They co-authored several publications, including *The Iron Industry of the Weald* (1985).

After two years with the United Nations Industrial Development Organisation in Vienna, in 1974 Henry was appointed Director (CEO) of the Council for British Archaeology – a post he held until 1991. His first degree, from the University of Glasgow, was in English but his 1980 PhD, on the Roman iron industry, from the University College London Institute of Archaeology, reinforced his academic standing and this, with the formidable administrative capacity he brought with him from the iron and steel industry, made him a force to be reckoned with in the field of archaeology. The 1970s were a critical period with the rise of ‘rescue archaeology’, itself a response to the increasing pressures on the landscape as a result of urban development and changes in farming practice, most notably deep ploughing. In response, Henry Cleere was a driving force for the modernisation of archaeology and the adoption of professional standards, not least through the development of international links. The Ancient Monuments and Archaeological Areas Act 1979 was testament to his dedication. Under his directorship the CBA was also heavily involved with portable antiquities legislation and metal detecting and his advocacy work in the decades leading up to the 1990s was notably influential in the passing of the Treasures Act 1996.

He joined the UK National Committee of ICOMOS in 1975 and was instrumental in founding its International Scientific Commit-



Henry Cleere

Photo: Université de Montréal

tee on Archaeological Heritage Management (ICAHM) in 1984. He was a founder member and Secretary General of the European Association of Archaeologists, edited *The European Archaeologist*, and received the EAA European Heritage Award in 2002, the same year that he was appointed an Officer of the Order of the British Empire (OBE). In 2010 he received the Conservation and Heritage Management Award from the Archaeological Institute of America. Henry was closely involved in the creation of what is now the Chartered Institute of Archaeologists and the European Association of Archaeologists. With the formation of English Heritage in 1983 there was a celebration at 10 Downing Street to mark the launch where Henry, never one to miss an opportunity, saw the Prime Minister's husband, Denis Thatcher, possibly a little the worse for wear, and began trying to sell him shares in his vineyard at Ticehurst in Sussex.

Henry's 'retirement job' as World Heritage Coordinator for ICOMOS, from 1992 to 2002, would have taxed the energies and capabilities of a person half his age but he took on the role with gusto, evaluating some 350 cultural sites in over 70 countries. From 2002 he was World Heritage Advisor to the State Administration for Cultural Heritage in the People's Republic of China and a Senior Advisor to the US-based Global Heritage Fund. In 2015 at the General Assembly in Florence he was awarded ICOMOS's highest award, the Gazzola Prize.

Colleagues, almost without exception, found Henry Cleere progressive, professional and encouraging, especially to young ar-

OBITUARY

chaeologists and in support of new and innovative ideas. But, woe betide any who Henry thought guilty of compromise or woolly thinking. His irascibility became legendary. His profound knowledge, interests and experience, across a wide range of fields, an extraordinary capacity for hard work, and with a truly world view, equipped him superbly, both as advocate and campaigner.

Henry was a strong supporter of the idea of an 'industrial cultural landscape', a concept notably included up-front in the Devon and Cornwall mining World Heritage Site nomination and he had a godfatherly role in bringing forward the TICCIH/ICOMOS agreement, signed by Louis Bergeron at the Millennial TICCIH Congress in London. His sound advice was also a critical factor in discouraging industrial World Heritage proposals that he felt did not meet the Outstanding Universal Value criteria.

An entertaining raconteur, often with trenchant views vividly expressed, his engaging social demeanour, and an extraordinary range of national and international political contacts, made him hugely influential on the international stage. He has left an enduring legacy for archaeology, and especially an endowment for which all with an interest in industrial archaeology and heritage remain profoundly grateful.

Henry Cleere's views of the World Heritage convention and industrial heritage can be heard in this **audio excerpt** from the Oral Archive of the World Heritage Convention at the Université de Montreal from an interview in January 2008.



COMING SOON

2018

POLAND

International Conference of Mining and Underground Museums, The Cracow Saltworks Museum
November 19-22, Wieliczka

FRANCE

The European Industrial Heritage of the First World War, CILAC and TICCIH
December 6-8, Paris

ARGENTINA

ICOMOS General Assembly
4-8 December, Buenos Aires

2019

UNITED STATES

Society for Industrial Archeology 48th Annual Conference
June 6-9, Chicago, IL.
www.sia-web.org

POLAND

Big Stuff 2019: Preserving Large Industrial Objects in a Changing Environment
September, 12-13, Katowice, Upper Silesia.
Contact **Piotr Gerber**