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The emblematic 'pagoda' building of Laboratorios JORBA in Madrid was built in 1967 but demolished in 1999. The slow strengthening of planning control to protect industrial architecture against real estate pressures in the Spanish capital is examined on [page 7](#).

TICCIH PRESIDENT'S COLUMN

Just when we were about to emerge from the frustration and misery of Co-Vid 19 into a world of hope and recovery, we have been struck by aggression and trauma. This time, it is not a disease of uncertain origin but a war brought about by an unprovoked invasion of an independent country.

The enormous tragedy unfolding in Ukraine is deeply upsetting, particularly for those of us with an involvement in international industrial heritage. On behalf of the TICCIH Board, I would therefore like to take this opportunity to extend our sympathy to all our Ukrainian friends who have been affected by the war in recent weeks, and to offer our support to you in the future.

Any readers who are engaging with social media channels will have picked up the extent to which Ukrainian industrial heritage has already been severely damaged in the war. My own organisation, Historic Environment Scotland, has historically been involved in the Blue Shield programme, which is supported by the Hague Convention and is designed to protect the built heritage in times of conflict.

Unfortunately, and perhaps inevitably, industrial heritage often has strategic value that renders it especially vulnerable in times of war. So it is unsurprising that some especially important and visible Ukrainian industrial heritage has already fallen victim to Russian missile and artillery attacks, such as in Mariupol.

As President of TICCIH, I have no hesitation in offering heartfelt support to our friends in Ukraine and hope that, alongside our partners in Europe (notably ERIH and Europa Nostra) we will be able to help the post-war healing process.

OBITUARY

- RENE BORETTO

BOOK REVIEWS

- LANDSCAPES OF EXTRACTION: THE ART OF MINING IN THE AMERICAN WEST, BETSY FAHLMAN: *Reviewed by Nicholas Pevzner*
- FABBRICHE RITROVATE - REDISCOVERED FACTORIES, MASSIMO PREITE AND GABRIELLA MACIOCCO, and INDUSTRIÁLNÍ SITUACE - INDUSTRIAL CONTEXTS, BENJAMIN FRAGNER: *Reviewed by James Douet*

In this respect, I think it is vital to remember that the recent evolution of TICCIH has also depended upon our friends in Russia, many of whom have been left isolated, vulnerable and deeply embarrassed by the actions of their government. I am not sure if it helps with their personal discomfort, but I confess to being profoundly upset and embarrassed by my own country's complicity in the illegal invasion of Iraq in 2003, and the terrible consequences with which we are still living today, such as the 'War on Terror'. I take great heart from news that Scottish universities are working to support not only Ukrainian students who have been trapped by the consequences of the current conflict, but also Russian students who are helpless in these difficult circumstances. With this in mind, I hope that readers of the Bulletin, and members of TICCIH more generally, will engage with and support both our Ukrainian and Russian friends and all work towards the evolution of a better world for everyone.

Industrial Heritage Reloaded

Le patrimoine industriel rechargé

TICCIH 2022
MONTREAL



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TICCIH is the world organization on Industrial Heritage, promoting its research, recording, conservation and dissemination and education on industrial heritage. It holds a triennial conference and organises interim conferences on particular themes. Individual membership levels range from \$10 to \$40 (USD), corporate membership is \$65, and student membership levels range from \$5 to \$10.

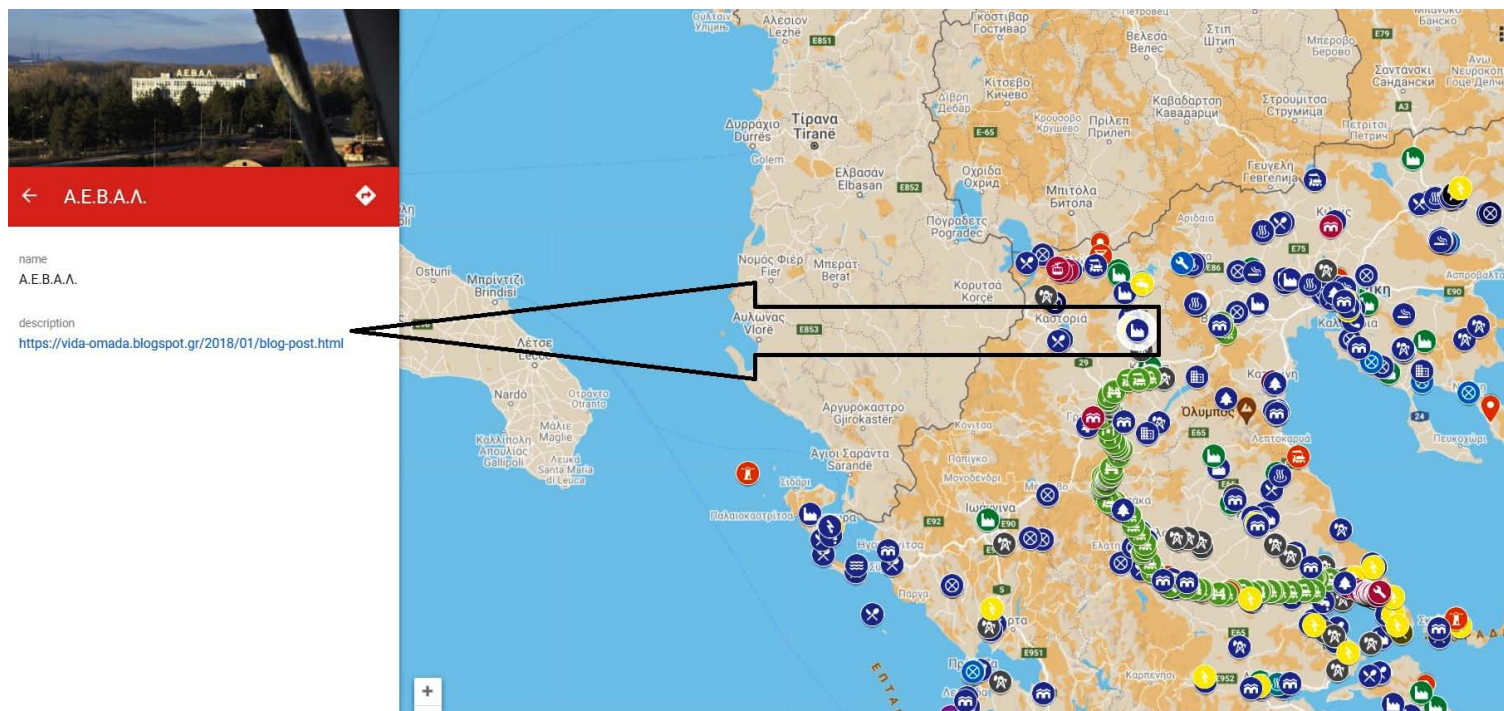
There is an online membership form on www.ticcih.org

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

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

& ON SOCIAL MEDIA:





Industrial monuments were initially organized in ten basic categories. The pins of one specific category and the information exist in one pin. © VIDA

GREECE

VIDA, RECLAIMING INDUSTRIAL HERITAGE IN GREECE

Dr Maria Mavroidi, historian, industrial archaeologist, Vice-President of V.I.D.A. and president TICCIH Greece

A great variety of buildings and complexes, sites, structures and machinery all over Greece bear witness to the phenomenon of industrialization, which lasted from the second half of the 19th century to the end of the 20th century [see <https://ticcih.org/greece/>]. The first steps towards the appreciation and protection of industrial heritage were taken in the early 1980s, when the research of a few pioneering scholars (historians, archaeologists and architects) gradually shed light on the history of industrial production in the country and established the remains of this process as significant cultural assets. As a result, the first listings of industrial monuments took place. It is indisputable that a lot of progress has been achieved in the research and promotion of industrial heritage in Greece, though we can count gains and losses. Amongst the most significant gains is the fact that the concepts of 'industrial archaeology' and 'industrial heritage' nowadays attract more attention and arouse the interest of a wider number of people. However, there is still a lot to be done in a continuously changing world which requires new methods, techniques and practices to safeguard industrial heritage in all its tangible and intangible dimensions.

Social media launch

In 2015, during a series of postgraduate seminars on Industrial Archaeology, a number of trainees were inspired by the notion of industrial heritage and decided to create a Facebook group to promote the communication of people interested in or involved with the field in Greece. The group nowadays has 14,000 members, a number which keeps increasing.

The Facebook group was the common ground for the founders of VIDA. Beyond our common interests, we were further connected by the realization that there is an accelerating loss of significant remnants of industrial activity in Greece. At the same time, even though several regional or sectoral/industry-specific records have been implemented, there is no comprehensive official and freely accessible registry for the Greek industrial monuments - listed or not- that would allow its study, on the one hand, and on the other hand, its assessment, protection and conservation. We recognize that, in addition to the material/tangible remnants of industrial activity (buildings, machinery, tools, archives), the intangible traces embodied in the skills, memories and social life of workers are an integral and vulnerable part of this culture.

VIDA is founded

In 2017 four people with different academic and professional backgrounds but common research interests joined forces to form the Vault of Industrial Digital Archives or VIDA in order to launch an

enormous recording project: Maria Daniil (architect), Christos Lampropoulos (teacher), Marilena Vakalopoulou (cultural scientist), and Iraklis Fassourakis (chemical engineer). The acronym VIDA is symbolic as 'vida' in Greek means 'screw/bolt' and, therefore, it directly refers to a miniscule, yet iconic, component of any mechanical structure and, consequently, of industrial heritage.

Our team's work was presented initially in a [blog](#). The blog comprises a free database which gathers information submitted by volunteers from all over Greece, its special feature being an interactive map on which industrial monuments are recorded and pinned by region.

Response to this first attempt was astounding, exceeding our expectations. Many people, either experts or non-experts, contributed with information from their trips or research. This was one of the strongest motivations for us to further VIDA develop. Although the past two years of the pandemic were very difficult for all of us, they were surprisingly very productive. Lots of hours in front of our PCs provided us with new material and records on industrial monuments.

At this point, special mention needs to be made of our friends and members. Apart from our personal eagerness to discover and record industrial monuments in our trips or city walks, social media remains our greatest tool. The dynamics of connecting with people from all around Greece, sharing a common purpose aiming at recording, or even reviving Greek industrial heritage was significant. This extensive community, valuable to us and our efforts, can be found in www.facebook.com/groups/industry.archaeology. In this Facebook group we have met people who have been passionately researching their local industrial heritage for years, students who used our platform as a valuable source for their research, while professionals and academics in the fields of architecture, history and archaeology or even finance have contributed to our project with their expertise and advice. We are deeply indebted to all these people, many of whom have become close friends and members of VIDA, who constantly help us to record or identify industrial remains and structures, to gather sources, bibliography, reports and references from rare books or old newspapers. All these friends and members are literally the 'spine' of this huge and challenging nationwide project and we are grateful to them for all their support.

In 2020, as a recognition of the value and dynamics of the ongoing project, financial support was ensured for VIDA and a year later a new [website](#) was launched. The new platform allowed us to increase the number of industrial categories, resulting in a more [analytical map](#). The process of collecting information and creating industrial records has become easy for everyone, using multiple platforms (mobile, tablet, PC/laptop) and even on the go. This means that practically anyone can send photos and data for a monument which they locate during an excursion. Furthermore, creating records and uploading photos, data and sources is now much easier for our site administrators who retain the main editing task.

For the time being, we are still editing the old blog records in order to transfer them to the new platform and to adapt them to our new record form. Nowadays, the total number of records possessed by VIDA

The screenshot displays the VIDA website's record form. At the top, there's a header with the VIDA logo and navigation links. The main content area is divided into two columns. The left column contains a form with fields for 'ΑΝΩΝΥΜΗ ΘΕΣΣΑΛΙΚΗ ΟΙΝΟΠΝΕΥΜΑΤΙΚΗ ΕΤΑΙΡΕΙΑ', 'ΗΜΕΡΑΣ ΣΕΛΕΝΤΟΥ 2021.01.08', and 'ΗΜΕΡΑ ΚΑΤΑΡΤΙΣΗΣ 10/01/2021'. The right column features a large image of a factory with a tall chimney, a map of Greece, and a list of 'ΠΡΟΣΤΑΣΙΑ' (Protection) categories. Below the map, there's a section for 'ΠΡΟΣΤΑΣΙΑ' with a list of items. At the bottom, there's a section for 'ΕΠΙΣΤΗΜΟΝΙΚΗ' (Scientific) with a list of items.

The new platform with our improved [record form](#). ©VIDA

is 2,100, either published or not. More than 1,000 stored record forms are waiting to be processed, edited and made accessible on VIDA's site.

The creation of the new site for recording Greek Industrial Heritage was not our sole achievement in 2021. Our non-formal team of like-minded volunteers evolved into a Civil Non-Profit Organisation, as it was deemed necessary by its members in order to promote its goals more effectively, through a variety of activities, projects and collaborations with academic or professional groups, conferences and publications. Moreover, a new member, Maria Mavroeidi (historian, industrial archaeologist and president of TICCIH Greece) joined VIDA. The new official form of our team now comprises five partners.

Meanwhile, VIDA has expanded its activities by organizing guided tours to industrial areas or separate monuments and has presented its work in several conferences and meetings. All the founders of VIDA are also active members of the Greek Section of TICCIH. The facts that the Greek Ministry of Culture and Sports recently registered VIDA as a recognized cultural institution and that the Greek Media have started taking notice and publicising our work, give us a strong sense of achievement and appreciation.

Apart from promoting Greek industrial heritage abroad, one of our objectives is to encourage international collaborations in order to exchange expertise, knowledge and experiences recording and protecting industrial heritage. Therefore, VIDA's site has started to be translated into and we will soon be able to present the first records in English, as well.

Our vision is the constant development of VIDA as a collective interdisciplinary effort which strives to attempts to record, survey,

document, rescue (in physical or digital form), disseminate and promote, raise public and state awareness, foster scientific dialogue and eventually contribute to the preservation of the Greek industrial heritage. It has already acquired remarkable dynamics. Therefore, we are proud to present VIDA as the only open interactive database -hopefully, it will soon become the most comprehensive and thorough, as well- of industrial heritage in Greece! We certainly have a long way ahead of us and hope for a fruitful collaboration.

WORLDWIDE



Shougang Big Air arena. © Shougang News Center

CHINA

SHOUGANG STEELWORKS REGENERATION AND THE BEIJING WINTER OLYMPICS

Hongtao Bo and Boying Liu

The Beijing 2022 Winter Olympic Organizing Committee announced that it would be located in the old Shougang steel mill under the concept of Green, Simple and Sustainable Olympic Games in December 2015. As a result, Shougang embarked on a mega event-oriented regeneration process. Shougang has been the physi-

cal carrier of production, life and memory for over a century. As the epitome of China's modern national industry, Shougang provided tremendous momentum for the city's development during the industrialization period, and in the post-industrialization era, it strives to be a leader in regional regeneration and even urban renewal.



The No.3 Blast Furnace. © Dong WANG

Regeneration Strategy

Under the impetus of the Winter Olympic Intellectual Product (IP), Shougang north district has been undergoing a progressive regeneration since the end of 2015 through the activation of four anchor point projects from the north to the south with the 'urban acupuncture' strategy.

The Winter Olympics Plaza in the northwest corner of Shougang, as the office park of the 2022 Winter Olympic Organizing Committee, is the starting point of the regeneration. The design fully respected the existing industrial heritage, preserving and renovating four groups of transfer stations, two groups of storehouses, two groups of silos, one group of pumping stations, one group of air compressor rooms and one return silos, and one group of pressure differential power generation control rooms at the architecture level, creating a comprehensive office park integrating office, conference, exhibition and supporting leisure. A large amount of preserved vegetation and structures such as railway tracks, locomotives, sedimentation

tanks and overhead cranes had been preserved and combined at the landscape level, transforming them into open spaces and landscape corridors to create a pleasant office environment.

The No. 3 Blast Furnace on the south side of the Winter Olympics Plaza is the most visually iconic industrial megastructure of the entire park. As the second anchor point project, the No.3 Blast Furnace preserves the existing main ironmaking process system, transforming the cooling pool into an 'open water park + underwater parking garage + underwater exhibition hall'. The blast furnace body transformed into an 'experiential museum + global premiere center'. Since its completion, the project has hosted a large number of social, cultural, artistic and launch events, becoming a cultural venue with strong communication power. The No. 3 Blast Furnace has impressed people with its visually striking industrial appearance and attracted widespread social attention and interest in the ongoing public launches, thus driving continuous exposure of the area. This group of buildings carries the mission of being Shougang's spiritual home and a place of collective memory, while actively transform-

ing its function and using the industrial heritage to create a vibrant space that actively interacts with the city.

The General Administration of Sports of China Winter Training Center (and Supporting Facilities), which was operational in 2017, has been transformed through the renovation and construction of industrial heritage such as the fine-coal workshop, four industrial style training venues for speed skating, figure skating, curling and hockey will be completed, together with a hotel, tennis court and flats, etc. From ensuring the athletes' training before the competition, to the competition venue during the competition, to the civilianization of the arena's function after the Winter Olympic Games, the Winter Training Centre responds and adapts to the new demands of urban life on its space, translating the industrial scale into a human scale to achieve a change of functional role.

Completed in late 2019, the Shougang Big Air arena is the only site for snow-based competition events in the six districts of Beijing for the 2022 Winter Olympics. As the first big air to be permanently preserved and used in the world, the Shougang Big Air combines the traditional Chinese image of the 'Flying Apsaras' in Dunhuang Grottoes with the flying motions of ski jumpers ideally. The Shougang Big Air, which was baptized by the Winter Olympics, will fully excavate and develop the potential of the site in the future and will continue to host world-class events and extreme sports, and other fitness activities for the general public.

The regeneration of the Shougang Park adopts an urban acupuncture strategy, 'texture darning' around anchor point projects, effectively preserving the industrial heritage and historical craft layout features, realizing the new use-value in its second life cycle with spatial regeneration, fulfilling the demand for a better life and highlighting social values with industrial revitalization. 'Point to plane' approach has helped to empower the overall regeneration of the area and has ensured the turn of the park from industrial to urban property.

The huge communication effect of the Olympic IP enabled Shougang to achieve positive results in the transformation phase propelled by the city's mega event. In the post-Olympic period, the park will return to the city and become a carrier for people to live well. Marie Sallois, Director Corporate and Sustainable Development at the IOC, described Shougang as 'an impressive Olympic site that shows how we can transform industrial heritage into more liveable, green and citizen-friendly spaces through creativity and motivation'. The regeneration of the Shougang Park has changed the urban customary geography perception of its area in terms of exposure, reputation, interactivity and experience. The diversity of functions darning together also provides a solid landing basis for many social businesses. The systematic regeneration planning framework and technical implementation path make Shougang a growing and self-improving organism, which enables Shougang to generate continuous renewal momentum to meet the city's development needs so that it can breathe and grow with the city and ultimately achieve the vision of a fully renaissance city.

SPAIN

PRESERVATION OF MADRID'S INDUSTRIAL HERITAGE

Rafael Garcia Garcia, Escuela Técnica Superior de Arquitectura, Universidad Politécnica de Madrid and Director, Aula de Gestión e Intervención en el Patrimonio de la Arquitectura y la Industria

The demolition in 1965 of the historicist Gal soap factory, in the central district of Moncloa, followed by the old gas factory in 1967 in the southern industrial zone, marked the beginning of a whole series of losses of outstanding industrial structures in the city of Madrid that seems still not to have ended. The demolition in July 2021, after a long process of social protest, of the Cuatro Caminos metro depot of 1919 [see [TICCIH Bulletin #77, 2017](#)], the work of the architect Antonio Palacios, is its most recent instance. The reasons for the notable destruction of Madrid's industrial heritage, and the apparent institutional disinterest in its protection, have surely many points in common with what has happened in other cities, although in the case of Madrid the study of its urban planning in the second half of the 20th century is illuminating.

Analysis of the successive Planes Generales de Ordenación Urbana (General Urban Planning Plans) of Madrid shows a clear and early trend towards the deindustrialization of the historic center, followed by a persistent transformation towards residential and

tertiary sectors of the large industrial areas already consolidated in the middle of the century. The General Plan of 1945 focused mainly on the management of uses and an appreciable segregation of representative city and productive areas, succeeded by that of 1963 with a clear *desarrollista* (industrial development) vocation. The great plans toward change and de-industrialisation were already present, encouraging the transfer of industry to peripheral areas and sites. However, the real outcome of the above was greatly delayed by the fact that its development was entrusted to the Planes Parciales de Ordenación (Partial Planning Laws) of each of the extensive 'areas for remodelling', concluded between 1972 and 1973. This slowdown significantly blurred the definitive urban changes which were envisaged and meant, for example, that a large number of modern industrial buildings, including many emblematic ones, were still built in the central areas. Two examples are the Clesa factory of Alejandro de la Sota, completed in 1963, and the Profiden laboratories of Corrales and Molezún of 1965, both in the Chamartín Norte area.



The Gal soap and perfume factory designed by Amós Salvador. (Architecture and construction 1917: yearbook for 1918).

The above-mentioned Partial Plans clearly described the areas from which, although over a long time, ultimately almost all traces of Madrid's industrial past have been erased. These were the Arganzuela Park, the Avenida de La Paz Park, the Interior Reform of the Old Eixample, the Interior Reform of the Old Town, the Riberas del Manzanares and the Chamartín Norte. Within the second and last of those are the most recent large-scale renewals, still unfinished: of the Méndez Alvaro area and the so-called Chamartín operation, linked to the railway station of the same name. With these and the transformation of the industrial areas on the radial axes of roads out of the capital, those vestiges of an industrial past with much more prominence in the life of the city than the majority of its population now remembers will disappear almost completely.

The General Plan of 1985, in a time of economic crisis and political changes six years after the return of democracy, supposed a turning point by trying to partially stop the abandonment of industry. To this end, and with the goal of preserving employment, it promoted its urban reintegration with, among other initiatives, the figure of mini-industrial estates. The subsequent improvement of the economy eventually led to the 1997 Plan in which many fundamental aspects of the 1963 Plan were taken up. Perhaps its most important novelty was to introduce as a figure of protection a General Catalogue of Protected Buildings. The inclusion of industrial elements showed for the first time a real intention to defend a heritage that until then had been ignored.

In addition to municipal regulations, the Autonomous Community of Madrid (CAM, regional government) passed its first Law of His-



Protests in 1999 over the demolition of Jorba laboratories' The Pagoda.

torical Heritage in 1998, succeeded by that of 2013 in which 'Assets of Ethnographic and Industrial Interest' were specifically introduced. In 2021 the new Law of Cultural Heritage finally includes the concept of the 'industrial site', defined as a 'place that contains assets linked to the means of extraction, production, marketing, transport or equipment related to industrial, technical or scientific culture'. In support of these regulations, the Autonomous Community has also conducted work on the cataloguing of heritage assets. The first was the Inventory of the Industrial Heritage (IPICAM), primarily extra-urban, and which subsequently made available a joint list of Assets of Cultural Interest (BIC) and Assets of Heritage Interest (BIP).

As a consequence of the urban developments discussed above, most of the industrial fabric in traditional areas disappeared almost entirely, although some nuclei and singular elements of remarkable value remain. It must be recognized that although there have been popular and academic initiatives aiming at safeguarding the heritage of Madrid for many years, only more recently have these focused on the industrial sector. The critical point is that the effective protection resulting from listings and catalogues can be considered limited due to the small number of elements that were included. For the city of Madrid, only eight industrial sites are included in the list of the CAM, and the latest version of the General Catalog of Protected Buildings of Madrid includes twenty-four, and not all benefiting from the highest levels of protection. Its meagre count left out, for example, Miguel Fisac's Jorba laboratories, demolished in 1999 to the perplexity of the architects' association and much of local society, marking the loss of probably the most important icon on the axis towards Barajas airport, and the most representative sign of Madrid's industrial modernity of the 1960s and 70s. With society's greater enjoyment of this heritage, a significant increase in the number of catalogued sites is to be hoped for, along with a growing appreciation of its importance as part of the memory of the city.

FRANCE

ÉPPEVILLE SUGAR REFINERY

Florence Hachez-Leroy, University of Artois, President of CILAC

In March 2021, the president of the association Respecth et sauvegarde du patrimoine et de l'environnement des communes du territoire hamois (RESPECTH), Michel Souchon, contacted the French industrial heritage association CILAC to alert it to the fate of the sugar factory of Éppeville, built in 1922 by the architect Georges Lisch. The imminence of the threats and the mobilization of local associations, CILAC-TICCIH France and TICCIH led the Minister, on May 5, 2021, to place the former Éppeville sugar refinery under

the classification of historical monuments. This first victory brought to light a little-known and yet very important site in the economic and social history of France.

The Éppeville sugar refinery was created in 1857 by Bostenn et Cie. Like most of the Santerre sugar factories, it was dynamited by the German army during the First World War. In order to rebuild as quickly as possible, the architect Georges Lisch designed an enormous industrial and urban complex of 190,000 m² composed of production and administrative buildings, a workers' city and houses of engineers and foremen in the regionalist style, as well as the chateau of the director located in the heart of a vast English-style park. Construction began in 1919 and was completed in 1922. The industrial site was characterized by a very neat architecture, largely inspired



Main brick and glass façade of the sugar factory designed by Georges Lisch, 1920. © Bertrand Fournier - Hauts-de-France Region.

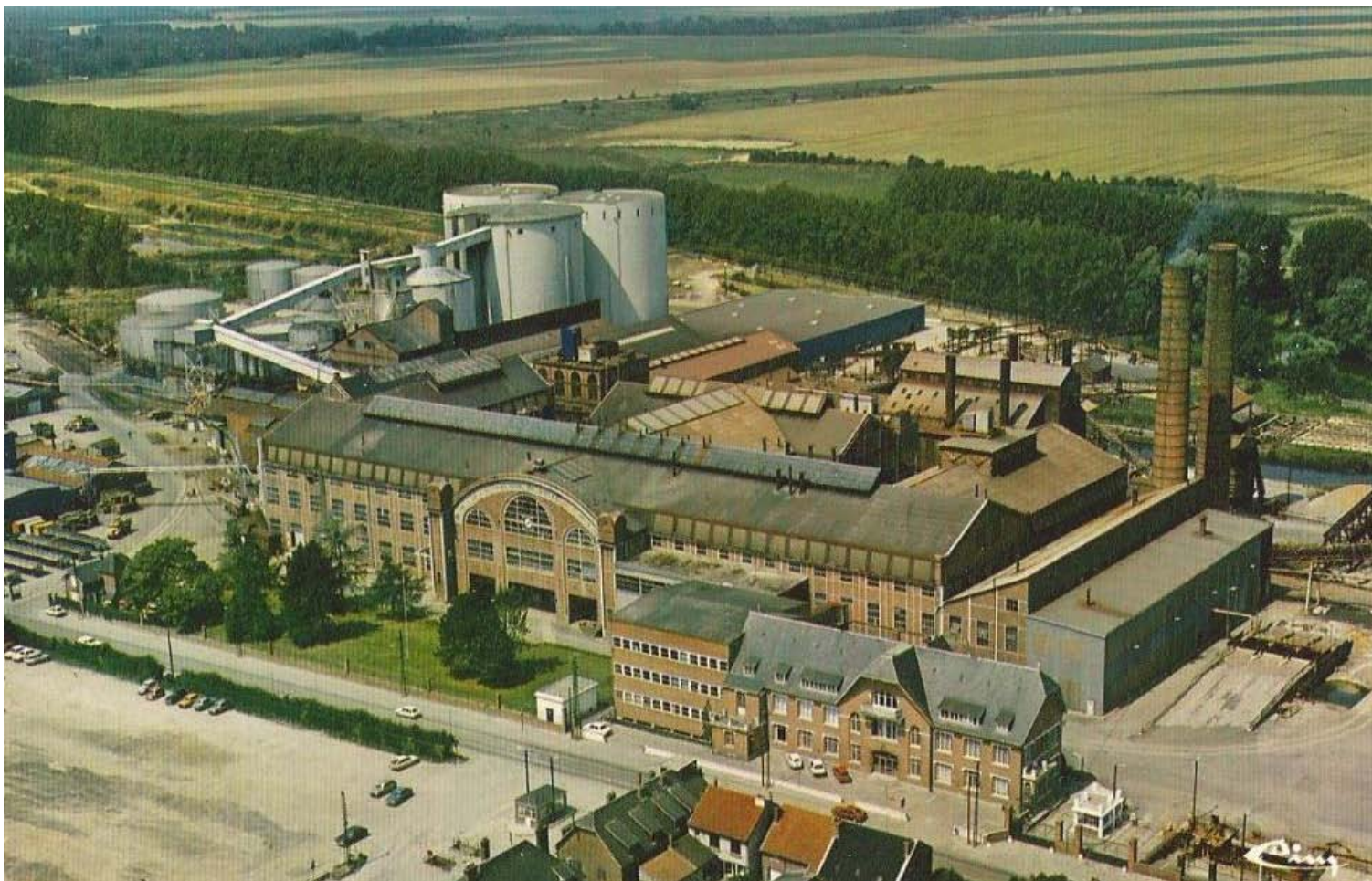
by the Art Deco style, and by very modern production equipment. This was supplied by the company Cail Fives of Lille. The Éppeville sugar refinery was the largest and most modern in France and one of the biggest in Europe. The site includes an office building, a building for management, a canteen and a kitchen. The inscription *Fabrique de Sucre*, made of ceramic tiles, adorns the pediment under an assembly of bricks in the shape of fish scales of the most beautiful effect.

The project was impressive: 160 companies were involved, including the Czech Skoda (a subsidiary of Schneider in France), which sent 600 men to mount the framework of the factory buildings, and Renault, then with a wider field of intervention than automobiles and which assembled the metal frames and overhead cranes. In all these aspects, the Éppeville sugar refinery symbolizes the resilience of French industry at the end of the Great War. About 500 workers worked there permanently, supported by several hundred seasonal workers during the beet grubbing-up campaigns.

Post-war recovery to the crisis of the 1990s

The Éppeville factory finally fell into the hands of the German Südzucker group in 2001. From the 1990s onwards, this undertook a policy of acquisition in Europe, particularly in the countries of the former Soviet Union, its strategy based in particular on the acquisition of sugar factories that it closed and razed in order to eliminate future competition. The acquisition of Saint-Louis Sucre, for 1.6 billion euros, allowed it to become the world leader in sugar. In 2019, Südzucker announced the closure of the Éppeville sugar refinery, whose production stopped on 8 February 2020.

In 2021, the Südzucker group tried to sell the bare land, with the destruction of the buildings, and refused to sell it to the Association of Beet Growers, explaining that the goal was to 'withdraw production capacity from the European market'. However, the historical and heritage value of the site was perfectly known and documented by the services of the State and local authorities.



Aerial view of the sugar factory, postcard, circa 1970 (coll.part.). © Bertrand Fournier- Hauts-de-France Region - General inventory.

On 9 April, CILAC sent a letter to the Minister of Culture Roselyne Bachelot-Narquin, supported by a letter from Miles Oglethorpe, President of TICCIH. Supported by the services of the DRAC of Hauts-de-France, this led to the protection of the site for a year; preventing any possibility of destruction. At the end of 2021, the Regional Commission for Heritage and Architecture voted for the inscription of the site in its entirety: the report confirmed the historical, architectural and heritage value of the Épeville sugar refinery. We are waiting for the signature of the registration order by the Prefect of the Region.

In parallel, it is necessary to highlight the action of the association RESPECTH, whose petition collected more than 1300 signatures (in a village of 1800 inhabitants). Its president has undertaken to bring together partners to give it a second life. The task is arduous: while many companies are interested in the site and its possibilities, none wants to indicate its interest until the site is permanently protected by an inscription under the Historic Monuments, all the more so since the municipality of Épeville had pronounced itself against the conservation of this site. The threat to the site and the news of the classification body have provoked reactions far beyond the circles of industrial heritage enthusiasts, and beyond France.

This site offers exceptional potential by its size, history and location. The cities and houses designed by Georges Lisch also have heritage and historical value. The protection of the Épeville sugar refinery site was obtained as a matter of urgency, thanks to good cooperation between the State services and heritage preservation associations. The commitment and vigilance of these are essential to make the voice of citizens heard and to take their rightful place in the construction of national and local heritage. But the action does not stop there: the reconversion of the site, whatever it is, will need to be attentive to the proposals that will be made. Many rehabilitations completed or in progress, such as that of the Cosserat site in Amiens, leave a bitter taste: even with an inscription on the list of Historic Monuments, places are disfigured, irreversibly amputated, without any real concern for their heritage value. The scope and nature of the protection are decisive: the classification as Historic Monuments should be proposed and a fine work of analysis of the places carried out to preserve the movable elements and technical devices still existing.

Let us hope here that, under the watchful eye of the actors of the industrial heritage, visitors will soon be able to discover the work of Georges Lisch in its entirety, walking from the sugar factory to the workers' cities.



Doyu-no-warito Opencut Site (aerial photo). The crack on the summit is some 30m wide and 74m deep. It held a mother lode about 10m across called the Doyu Vein.

JAPAN

SADO ISLAND GOLD MINES UNESCO INSCRIPTION

Morihiro Masato, Senior Researcher, Niigata Prefectural Board of Education

In February of this year, the Japanese government submitted the nomination dossier of Sado Island Gold Mines to UNESCO for inscription on the World Cultural Heritage List. The Tokugawa Shogunate, the ruling government from the 17th century to the middle

of the 19th century, established the socio-technical system which was adapted to the characteristics of the Sado Island Gold Mines. Sado improved the traditional unmechanized technology and a series of its production processes to produce extremely high-purity gold even under the restriction of the exchange of technology and information through the government's seclusion policy. Ultimately, Sado became one of the world's largest gold producers in the 17th century, with a unique mining culture that was nurtured by the people who migrated to Sado from all over Japan. What kind of value does this gold mining related industrial heritage have as the mining heritage?

Aiming for the inscription of Sado Island Gold Mines on the World Heritage List, Niigata Prefecture and Sado City, where the mines are located, conducted a comparative analysis with the mining sites in and outside the country. The result revealed that the property clearly shows the traces of the production and the settlement of

the traditional unmechanized gold mining in the pre-modern period. This fills the blank page in the history of world's gold mining.

How did the gap occur between the remains of mining sites and settlement of ancient roman gold mining sites such as Las Medulas, Spain (placer gold mine) and Roşia Montană, Romania (hard rock mine) and the remains of mechanized mining in the modern times? Why was Sado able to fill the blank page?

Japan took a seclusion policy from 1641 for 200 years in order for the Tokugawa Shogunate to sustain the peace in their rule over Japan, especially by the restriction of the introduction of foreign religions. They feared that the order of their rule would be disturbed by the penetration of Western religious views, which might lead to rebellion. Some other reasons were that the Tokugawa wanted to monopolize trade and restrict the outflow of gold and silver. As a result, information and knowledge of technology in the world were only restrictedly introduced.

Sado Island Gold Mines comprises two different types of mine: the Nishimikawa placer gold mine and the Aikawa-Tsurushi hard-rock gold-silver lode mines. Remains of the entire gold production system (including the social and technical systems) still exist showing various aspects, from mining technologies for two different gold deposits, production processes and administration to town planning.

The property of Sado Island Gold Mines was the largest and most important national gold mining operation in Japan that contributed to the stability of the Tokugawa Shogunate. Due to its importance, the Shogunate controlled the island and the mines directly, establishing a large-scale unified gold production system. Those who gathered on Sado Island from all parts of Japan under the Shogunate's policy brought with them various cultures and traditions and eventually cultivated them into a unique mixed mining culture.

Due to the government's seclusion policy, in Sado Island Gold Mines, large-scale production of high-purity gold was sustained through the continuous improvement of traditional unmechanised mining technology of a series of processes from mining to dressing, smelting, refining and minting, without introducing modern mechanised devices common in European mines at the time. The heritage illustrates the final development stage of the unmechanised mining of gold that has been carried on since ancient times. The high level of socio-technical system in place led to the smooth mechanization of the mining industry that took place after the opening of the country.

In the course of comparative analysis, we found few remains from the period just before modern times which can illustrate the traces of traditional unmechanized gold mining. Though a considerable number of examples with both mining zones and settlement zones can be confirmed mainly in Europe and the Americas, most of them were mechanized mines with only two of them traditional unmechanized mines dating back to ancient times.

In European countries, mechanization has led to large-scale development. Therefore, the many traces of precious metal mining with traditional unmechanized technology have been demolished by successive development with mechanized devices during and after



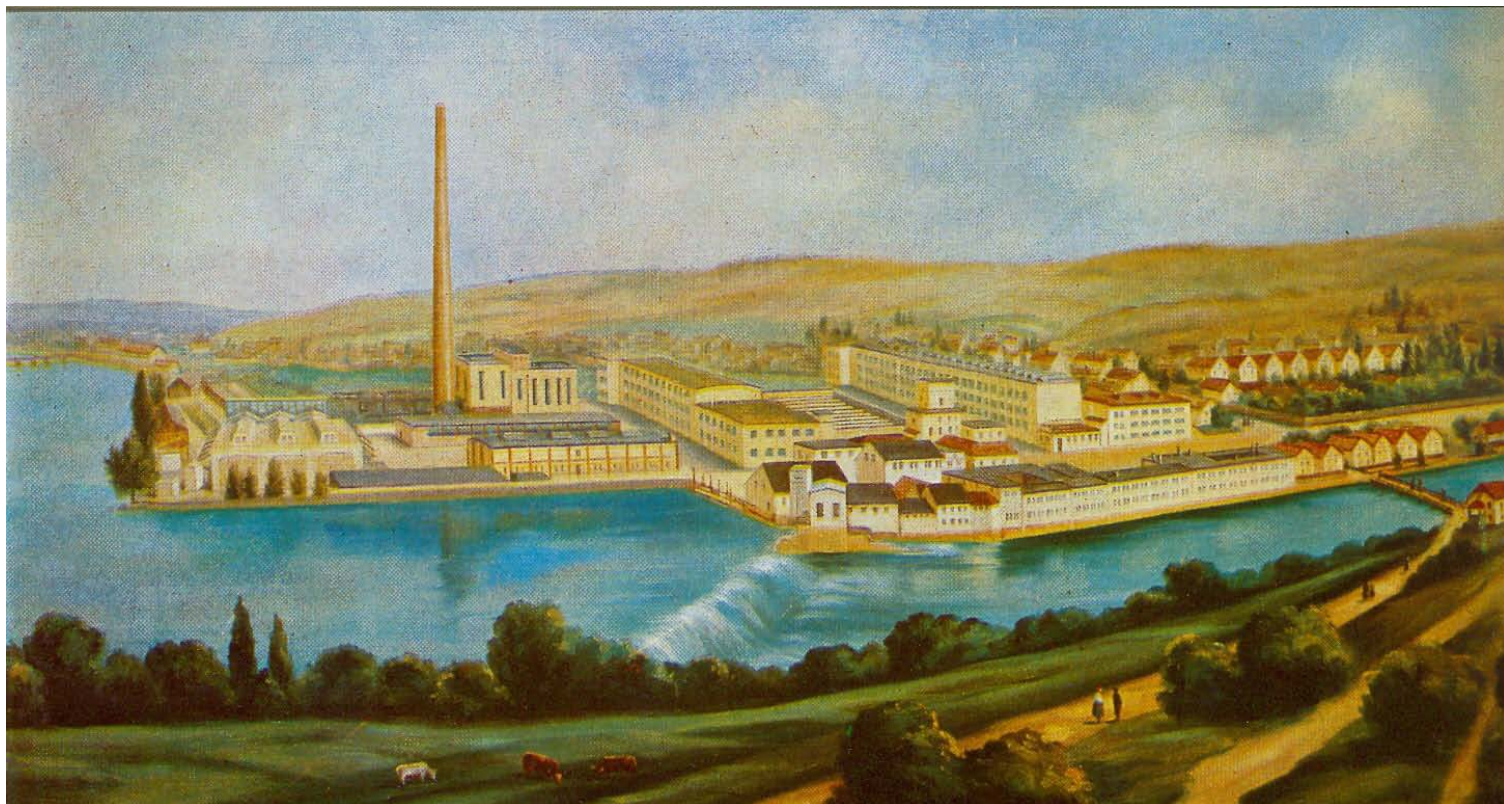
Minamizawa Drainage Tunnel took six years to cut with only a slight difference of at most 1 m along for the 922m length.

modern times. In contrast, the remains on Sado have been left untouched from unmechanized mining, even after mechanization from the Meiji Period, because the development was progressed changing the mining sites. On Sado, there are still traces of the most developed stage of traditional unmechanized mining technology, which produced equivalent quality and quantity of gold as the gold from the mechanized production, filling the lost pieces in the gold mining history.

The remains and mining landscape within the Sado Island Gold Mines property represent four principal features: (1) strategic administration by the Tokugawa Shogunate and the social system integrated on a large scale, (2) mining culture nurtured in the mining community, (3) traditional unmechanized mining technologies improved to apply to the characteristics of deposits, and (4) a series of production processes enabling high-purity gold production. These features are corroborated with authentic historical materials such as drawings and mining picture scrolls. The sites of mining and settlements within the property are, as a whole, well preserved and managed appropriately by the owners or the custodial bodies. Niigata prefecture and Sado City will continue to survey archaeological sites and historical materials to accumulate information that will contribute to their preservation and utilization. The mines have been closed due to the depletion of resources, therefore, none are under threat of large-scale development.

The Sado Island Gold Mines property retains the original state as archaeological remains from the period of unmechanised mining without being substantially destroyed by subsequent mining activity or by development in modern times. High authenticity has been proven by the relics and remains revealed by archaeological investigations such as excavation surveys and distribution surveys. In ad-

dition, all are verified by historical materials including drawings and mining picture scrolls which interpret the whole image of socio-technical system of gold production. The property of Sado Island Gold Mines is an important piece to complete the whole jigsaw puzzle of the history of the world mining industry. It is an industrial heritage which should be preserved for future generations.



Duga Resa with cotton mill in 1930 (Dumbović Bilušić and Petrović, 2000, p. 88)

CROATIA

DUGA RESA, RISE AND THE DECAY OF AN INDUSTRIAL TOWN

Zrinka Barišić Marenić and Tina Bilić

Duga Resa is an industrial town some 70 km from Zagreb, the capital of Croatia. Its location along the Josephine Road, which was constructed from 1775 to 1779 and connected inland Croatia with the Adriatic coast, contributed to its development from a village to a market town. The first cotton factory was constructed in 1884, close to the older mills on the Mrežnica. Five years after its construction, a fire demolished it all. In the second phase of the construction, which lasted from 1890 to 1912, a new spinning mill building, a weaving mill and additional buildings were built, as well as

a villa for the manager of the factory and its workers which formed a Garden city.

After World War II and the conversion to socialism, the factory became public property. The production increased and the industrial complex initiated a significant social, cultural, and economic change, i.e., integral development of the town. The town got a hospital, a public school, a clerk's hall, a restaurant, a post office, a casino, a cinema and even a department store, all built from 1896 to 1966.



The dam over the Mrežnica river and the abandoned industrial complex in 2015 (Zrinka Barišić Marenić)

The success of the industrial complex and of Duga Resa was abruptly interrupted with the beginning of the 1990s Homeland War. The loss of the former Yugoslav market, the transition from socialism to capitalism, privatisation, and the vicinity of the front line prompted the decay and devastation of the industrial complex.

Since then, the phasing out of production and the change in factory ownership resulted in the decay and gradual closure of the cotton factory complex. Although declared listed buildings, the industrial site was devastated by fires, the weather and neglect. Beside Borovo, Uble, Raša and Podlabin, Duga Resa was one of most significant industrial towns in Croatia. It witnessed the late industrialization of Croatia at the end of the 19th century and, unfortunately, the deindustrialization of Croatia in the 1990s.

The buildings were constructed following the project of Tehničkiured Junkoffice from Vienna. The use of the skeletal cast iron system and the shed roof characterize the interior of the production buildings, and their extension reinforced the concrete skeletal construction.

The cotton factory in Duga Resa had one of the first automatised weaving mills in central Europe. In 1906, an 86m reinforced concrete dam over the Mrežnica was constructed. The flow of the river Mrežnica on the bend was transformed into two streams around the island Inselto efficiently use the hydropower potential of the river. A hydropower plant with water turbines, a power plant and a power transformer station were constructed by the 1930s. They enabled the production of electrical energy for the entire industrial complex and Duga Resa, which until 1912 represented a unique case of a self-sufficient plant in terms of energy production in Croatia. Two workers' housing estates were constructed whose architecture differed from that of the factory buildings. While the production plant is an example of utilitarian architecture and sees the use of cast iron (a new building material) and a reinforced skeletal system as well as large fenestration, and the concrete power transformer building is an example of cubist architecture, while housing estates Insel and Kasar are characterised by a traditional architectural expression and the influence of historicism.

Reuse and regeneration

The cotton industry in Duga Resa has a huge potential for reuse and regeneration. It is located on a busy road and near the railway lines which connect the capital with the Adriatic coast. A visit to this picturesque riverside and industrial town could be added to the existing tourist routes. The town is located half an hour's drive from the Zagreb airport, important now that digital nomads have started choosing Croatia as a country where they could live and work, which has been particularly noticeable during the current pandemic. The skeletal construction and the solid building features of the cotton factory complex enable a number of activities within the complex, including those of the IT sector and the creative industries. Even a bottom-up intervention within the remaining solid structures could easily transform this industrial complex into a place for mixed-use purposes, work and leisure, surrounded by astonishing nature. The master thesis project of Tina Bilić, a former student at the Faculty of Architecture of the University of Zagreb, focused on this issue and brought new solutions to this abandoned industrial complex.

Many textile factories in Croatia are experiencing a similar destiny. Zagreb textile complexes - Tekstilnikombinat Zagreb and Kamen-sko - were demolished and their position taken by residential complexes, or projects which have still not been realised. On the other hand, a positive example is the former textile warehouse building of C.D. Gaon, reconstructed and annexed by architect Nenad Kondža, which is now a residential and office complex.

Many examples in western countries are a source of inspiration. The 'musealisation' of the Derby Silk Factory in the UK, the repurposing of the Lille and Roubaix conurbation textile mills in the north of France and the regeneration of the Lowell in Massachusetts in the USA are all inspiring examples of textile industry regeneration.

The protection of the industrial heritage of the textile industry is now in a race with time and there is a number of examples of devastated heritage complexes all around the world. On the other hand, shining examples of world-class industrial heritage regeneration and repurposing (e.g. 'musealisation') are inspiring examples of reuse and a brighter future of complexes which once created prosperity for their regions.

UK

PRESTON BUS STATION PRIZE

Robert Carr

On 14 December 2021, at a ceremony in New York, the biennial World Monuments Fund/Knoll Modernism Prize 'honouring contemporary architects and preservationists whose work ensures sustainable futures for at-risk modern heritage' was presented to John Puttick Associates for their thoughtful and detailed conservation of **Preston Bus Station** in Lancashire, England.

Completed in 1969, Preston Bus Station was threatened with demolition just 20 years ago. The City Council wanted to replace it as part of a large-scale redevelopment, and only after two unsuccessful attempts was it finally designated by the English conservation agency and protected as Grade II in September 2013. Since then it has undergone a major modification and refurbishment, and in 2018 was officially re-opened.

Although popular with the public who used it, as well as most of the staff who worked there, this example of British Modernist architecture suffered from not being designed by a prestigious big-name architect and being situated in North West England, far from London. Even the 20th Century Society, which campaigns for the conservation of such buildings, was reluctant to try to rescue it.

When it was built, the population of Preston was expected to double but the planned New Town was abandoned. Preston bus station was

designed to accommodate 80 buses at a time and its multi-storey car park could accommodate up to 1,100 cars. It was conceived on a heroic scale, and was the biggest bus station in Europe - even now it is the second largest with over 10,000 departures each week. A major problem was that it was in fact far too big. Like much magnificent architecture, it speaks of a future that never quite arrived.

Occupying a large footprint with external spiral ramps for cars to access the relatively low-rise multi-storey car park above the bus station, it became suitable for redevelopment as it was later surrounded by quite high-rise buildings.

The principal architect of Preston bus station was Keith Ingham (1932-1995) who worked for the Preston firm Building Design Partnership (BDP). Together with Charles Wilson of BDP and the structural engineers Ove Arup & Partners, he set out to create a bus station with the style and glamour of an international airport. A masterpiece was created, one of the most dramatic British public buildings of the 1960s. Ingham & Wilson took considerable trouble over details, with superb Swiss-style clocks reminiscent of Max Bill and really readable signage. For a proper appraisal of their work it is necessary to visit the bus station and explore it on foot.

Ove Arup & Partners were responsible for the profile of the car-parking decks. The curved balustrades are practical and prevent careless motorists from running into the concrete. The five tiers could easily have had boring blunt square edges but Arup's curves are a prominent distinguishing feature of the bus station. The sculptured edges have been described as '20th-century baroque', they give the bus station its dramatic effect and perhaps remind one of Gaudí in Barcelona.



Preston Bus Station, Lancashire, UK. (Creative Commons)

When it came under threat of demolition, an application to list the bus station was rejected in 2010 and a review of the decision was also rejected in 2011. The following year it featured on the World Monuments Fund's list of sites at risk.

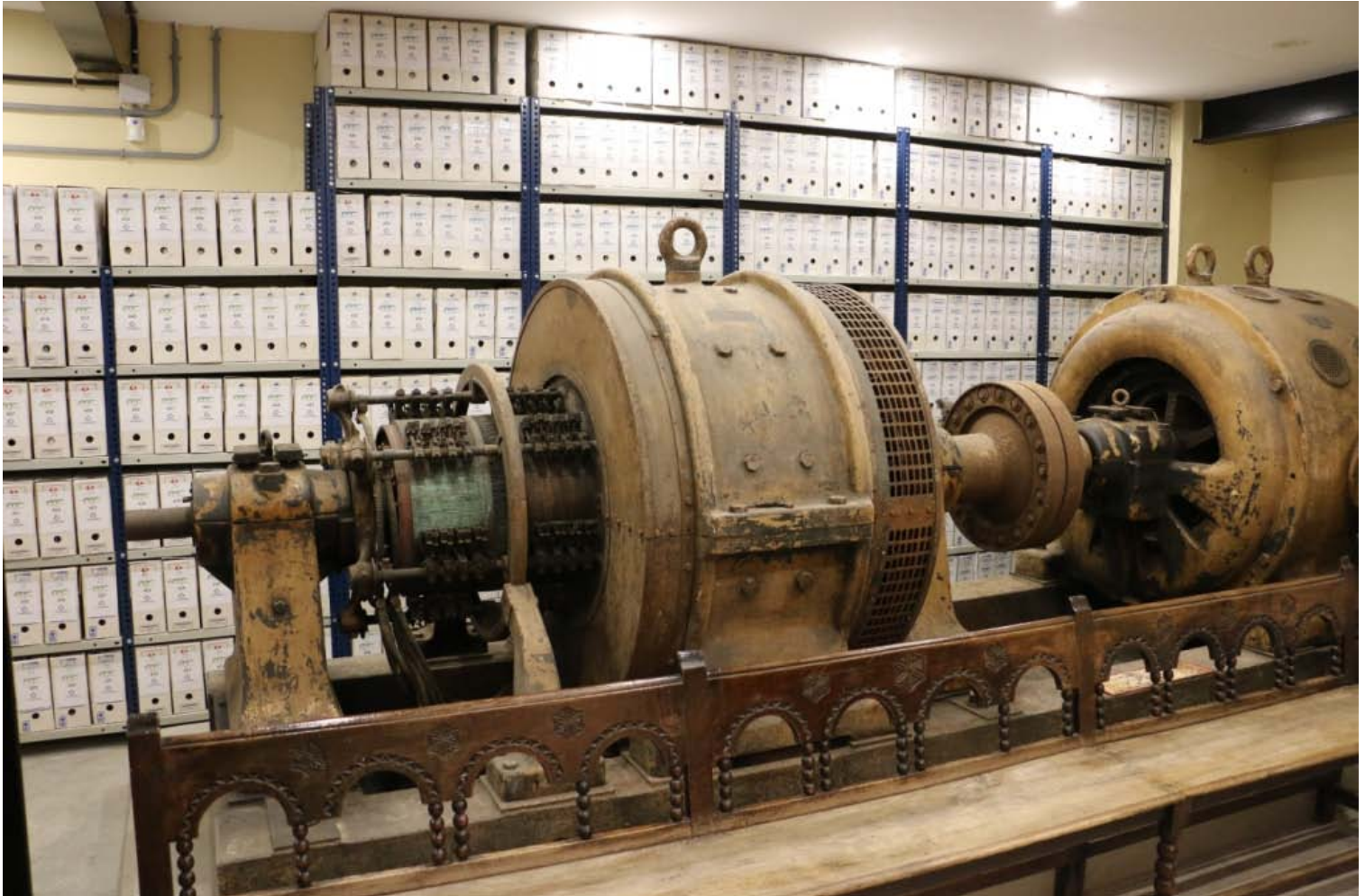
In 2013 listing was again applied for by the 20th Century Society and thankfully this time it was finally achieved. The following year Lancashire County Council announced there would be a £23 million renovation of the bus station, to include a new public square on the west side to improve public access.

An international competition for the redesign of the bus station was organised by the Royal Institute of British Architects, with more than 90 entries received, shortlisted to five. The competition included a public vote. Over 4,200 members of the public voted and in August 2015 the New York architects John Puttick Associates

were chosen as the winners. This American firm has a London office and they were assisted by the local Preston architects Cassidy and Ashton who were runners-up.

Compared with photographs which show the situation in 2006, the overall appearance of Preston bus station has not greatly changed. It is only really on the ground floor where significant alterations have been made, with access for pedestrians now at ground level from the west. The unpopular underground tunnels to the town centre have been closed. Further up the building spalling concrete trays have been repaired but the interior appearance of the multi-storey car park is essentially unaltered. Upstairs parking for motor vehicles continues as before implying that the initial design was excellent.

The award ceremony was introduced by Bénédicte de Montlaur, President and Chief Executive Officer of **World Monuments Fund**.



Summer activities at the Plant.

SPAIN

NEW PERSPECTIVES ON BUSINESS ARCHIVES

Francesco Antoniol, TICCIIH Italy and Miguel Ángel Álvarez Areces, TICCIIH Spain

There are two reasons that highlight the need for the reopening of the debate on the state of corporate archives. The first is about the publication, a few months ago, of the third edition of the report by the International Council of Archives - Section on Business Archives (edited by Alison Turton, 2021, downloadable from the ICA website); the second, a few weeks ago, is the impulse of Miguel Ángel Álvarez Areces, of INCUNA, who invited the author together with Roberto Marini of Virginia Studio Associato to Asturias in Spain for a short but intense visit to company archives and companies with archives. The idea is the creation of a future network between sub-

jects such as those indicated and, more generally, between company archivists.

Returning to the first reason, it is impossible not to highlight how, despite the great merit and effort of the publication, for at least for the two countries involved in this first moment of analysis, Italy and Spain, the data published in the report are quite distant from the reality. Italy especially is much more in favor of continuing with the enthusiastic and interventionist phase of the first days of the discipline, the business archives which, in the Bel Paese, took its first steps in the late 70s and the first half of the 80s, consolidating itself also with the birth of a series of institutions in the sector for the whole of the following decade. This phase, positive and proactive, then dissolved, in the opinion of the writer, and merged with the more consolidated disciplines of classical archival science and economic history, losing, in this way, the character of its own; a character which is the result of a multiplicity of sensitivities, starting from archivistics and history and arriving to economics, geography, engineering, architecture and sociology.



Arvida company town in 1945, Picture Lalime, Particular Collection (NHS, 2012)

The first point of contact on these topics with INCUNA dates back to 2015, when the Jornadas proposed *El Legado de la Industria: Archivos, Bibliotecas, Fototecas de empresas* as their theme. *Fábricas y memoria*. On this particular occasion, there was a strong call to the multidisciplinary that originally must pervade the heterodox archivist, the business archivist. Only in relation to Italy and Spain, we can find works (The management, conservation and enhancement of business archives; the case of Trentino in the Italian horizon, by the author, and *Los Archivos de empresa en Asturias y España* by Edoardo Núñez Fernández, that starting from the same original considerations, discussed in the aforementioned SBA ICA report, are being updated, so as to understand whether or not there has been progress in the discipline.

The issues that can be summarized and extended to other communities are the following ones:

1. Is there an updated survey on the state of company archives, on the

practices of description, management and enhancement of the same and on the attitude of companies towards this type of heritage? The data, for example those reported in the aforementioned report, seem dated and based more on an aspiration than on the actual state of affairs. Knowledge of the state of the art is essential for a timely intervention that cannot ignore the particular situation of each country.

2. Together with the precise knowledge of the cultural context, it is advisable to analyze two further aspects: the first is the juridical one (the rules that regulate, or not, this particular type of heritage) and the second, closely linked to the first, is that of the functioning of the archival administration. We have observed how the functioning of the latter is, for example, different between Spain and Italy, while understanding it is fundamental for the implementation of any archival project, even in the private sphere.

3. Going into the specifics of the archive and the figures who work in it (and who operate in a cultural and legal context that must be known),

it is necessary to understand how the archivists are formed, who they are and what are the characteristics of their background and, among them, who are the corporate archivists and how they differ from the classical archivists. Furthermore, a great help could be the investigation of the context in which those figures were formed and the possible form in which they are organized, both regarding their own activity and also regarding any forms of category organization.

4. Again, what is the reference of the archival tradition? How are the archiving phases and archive interventions understood? Are international descriptive standards applied? In which way phases, interventions and standards are applied to documentary realities of industrial origin? Is there the possibility of a basic, common and shared vocabulary and of an agreement on the descriptive tools to be adopted up to a common software application, that allows the greatest interaction between originally different subjects (for example Atom of the ICA)?

5. How to integrate the activities of enhancement of the archival heritage with those more related to archive interventions (such as digitization) up to the more lateral ones (such as industrial tourism) with a scientifically correct archival practice and without the latter bowing to instances oriented to marketing only?

6. Is it possible to imagine, without prejudice to the particularity of the different national and local cultural and archival environments, a typical archival intervention from a methodological point of view? In other words, a standard that allows a scientifically correct practice,

which is substantially understandable and shared between archivists and scholars of different traditions and countries?

Having said this, is it possible to set up a permanent working group that promotes the conservation, description, enhancement and management of company archives and that functions as a critical mass both towards the companies producing archives and also to the institutions that should regulate their existence?

Furthermore, is it possible that the same group promotes training actions for archivists that enhance the right sensitivity and multidisciplinary approach typical of those who deal with industrial heritage and which, very often, is not in the DNA of the classic archivist?

INCUNA is taking its first steps in this direction by bringing to common reflection those who deal with a series of business archives located in Asturias (Hunosa Historical Archive, Duro-Felguera SA Company Archive, Historical Archive of AsturianaDe Zinc SA) and with the directly coordinated digitization intervention of a small archival collection relating to the Fábrica de Mieres; a part of the broader and more important documentary heritage of Hunosa, among other things recently opened to the public. It is a pilot project that can become the testing ground for a more general discussion which, we hope, will begin from today within TICCIH.

Contact the author



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Jacques Pleau, 2000. Aerial photo of Les Forges and the St. Maurice River, ©Parks Canada.

CANADA

INDUSTRIAL HERITAGE IN CANADA II

Alain Gelly, Historien, Direction de l'archéologie et de l'histoire, Agence Parcs Canada

As a continental country with an area almost equivalent to that of Europe, Canada has a rich and diversified industrial heritage.¹ In anticipation of the next TICCIIH congress in Montreal, we present two examples.

Rideau Canal: World Heritage Site since 2007

Of the 20 Canadian sites on the UNESCO World Heritage List, only one appears as an industrial heritage site, the Rideau Canal (the site covers 21,454.81 hectares), while the other two are on **Canada's Tentative List for World Heritage Sites**.

Unlike most canals, the Rideau Canal was not built to bypass an obstacle to navigation, but rather to meet military requirements. During the Anglo-American War of 1812, transportation on the St. Lawrence River, the natural border between the United States and the future Canada, proved to be extremely vulnerable to American attacks. Drawing lessons from this conflict, the Duke of Wellington formulated a defence plan, including the construction of fortifications and a canal system to better protect Upper and Lower Canada. It is in this context that the British Empire intended to build a bypass to link Montreal to the Great Lakes.

To achieve this objective, the requisite route was as follows: from

1. For more information, see the following issues of the **TICCIIH Bulletin**: canals (No. 6, 79 and 82); railway stations (No. 44); industrial plants (No. 25, 38 and 52); power plants (No. 91); company towns (No. 76 and 78); industrial heritage (No. 61 and 95); de-industrialization (No. 89); and reports on conferences held in Canada (No. 23, 42 and 47).



Bird's-eye view of the St Maurice Forges, after the photograph by Henderson (circa 1870), the plan of the ruins and various pictorial sources. Reconstructed by illustrator Bernard Duchesne. ©Parks Canada.

Montreal, up the Ottawa River to the mouth of its tributary, the Rideau River, and from there, south on the Rideau to a series of small lakes leading to the Cataraqui River, which empties into Lake Ontario at Kingston, then the most populous city in Upper Canada. Lt. Col. John By, British Army Corps of Royal Engineers, advocated the construction of navigable waterways via successive bodies of water, a technique practically unknown in England² and never before realized on this scale in the United States. Between 1826 and 1832, canal workers, as many as 5,000 to 6,000 strong, dug trenches and built 74 dams, mostly earthen dams, and 47 (now 45) masonry locks. To complete the work, they had to cross forests, swamps, lakes, and mountains along its 202 km route.

Among the structures that make this route navigable, several are feats of engineering. To name just two: the Ottawa locks (see Figure 1) with its eight stair step locks that connect the waters of the canal with those of the Ottawa River 24 metres below, and the stone arch dam at Jones Falls, which, according to historian Robert Passfield, was the first of its kind in North America in 1830 and the tallest dam on this continent for decades (107 metres across and 19 metres high, twice as high as its nearest rival). Opened in 1832, the Rideau Canal was one of the first canals in the world to be able to accommodate steamers.

The partially fortified Rideau Canal was an important commercial

artery until the 1850s, when it was superseded by the St. Lawrence Canal system. Although the canal was decommissioned and never modernized, it remained an important link in the regional transportation network until the First World War. Avoiding dismantling due to its high cost, the canal was designated a national historic site in 1925. One of the reasons for this designation is that it is the best preserved of all the canals built during the great canal-building period in North America.

Administered by Parks Canada since 1972, this slackwater canal initiative, like other historic canal projects managed by the government agency, includes not only the protection and interpretation of the site's heritage values, but also the continuation of navigation operations (mainly recreational boating) (see Bulletin #79 and Bulletin #82). In 2007, it was listed as a World Heritage Site, as its **outstanding universal value** was justified under both criteria i (relating to industrial heritage) and iv (relating to the military aspect). In recent years, more than \$57 million in infrastructure work, the largest investment of its kind for the Rideau Canal, has restored engineering works on the waterway.

2. Robert Passfield, *Construction du canal Rideau. Histoire illustrée*, Ottawa, Parcs Canada, 1982, p. 74. Robert Passfield, *Building the Rideau Canal. A Pictorial History*, Ottawa: Parks Canada, 1982. All quotations are taken from the French version and translated into English herein.

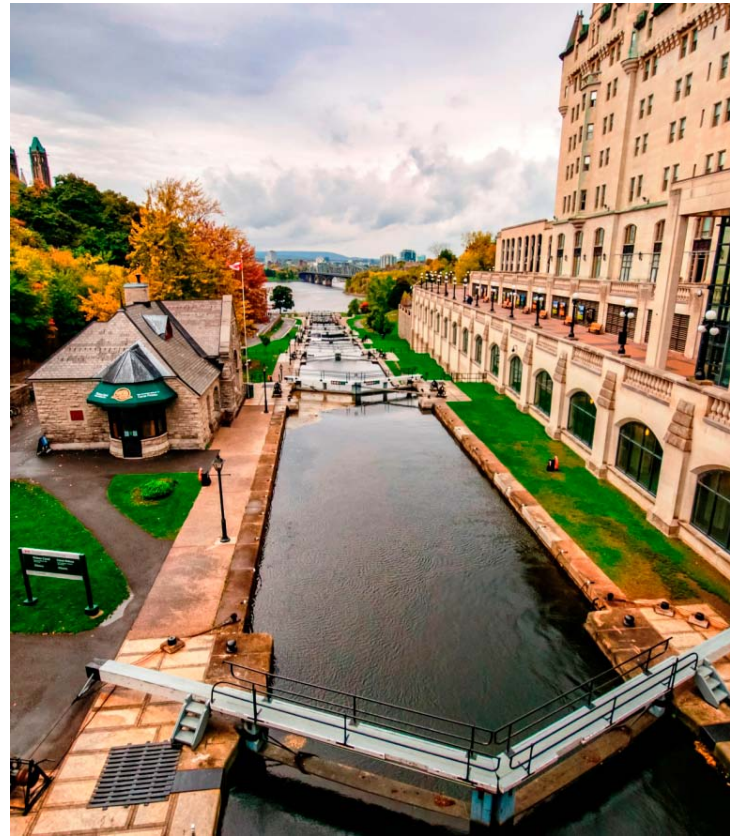
Les Forges du Saint-Maurice

Les Forges du Saint-Maurice (FSM), the cradle of the Canadian iron and steel industry, maintained an industrial vocation from its founding in 1730 until its closure in 1883 (Figure 2). During 150 years of operation, this iron and steel company, located 15 kilometres north of Trois-Rivières, forged or melted, at one time or another, iron and cast-iron pieces for civilian needs, such as stoves, and for military needs, such as cannonballs.

Abandoned in 1883, FSM was not only subject to the vagaries of weather and time, but also to human action. For example, several buildings that had formed the industrial village for as many as 400 people, adjacent to the company, were moved by dismantling or in blocks, while materials from abandoned buildings, including those from the blast furnace, were used to rebuild the city of Trois-Rivières, which was ravaged by a violent fire in 1908. By 1919, FSM was essentially made up of remains, such as those of the lower and upper forges, the blast furnace, and the Grande Maison. Also discernible in the erstwhile industrial landscape are elements related to the use of water power and the carbonization of wood into charcoal.

Despite its ruined state, since the national commemorative program, initiated in 1919, only aimed at commemorating a site with a plaque, FSM would be designated as a site of national historic significance the same year. FSM was the main industry under the French Regime; its founding marked the beginning of the Canadian steel industry; and it spawned the first industrial community in the country. After 1923 government action gave way to citizen action (historical pilgrimages, publications, calls for government intervention) until 1963. That year, the Québec Ministère des Affaires culturelles purchased the site. Ten years later, following an agreement with Quebec, the FSM site and its remains came under Canadian jurisdiction, specifically by Parks Canada, which has been responsible since 1973.

The FSM site was the object of intense archaeological excavations by both the Government of Quebec and the Government of Canada, which made it the largest archaeological site in the country from 1973 to 1976. After a process of public consultation, characterized by a conflict between the concepts of restoration stemming from



David Snashall, 2014, View from the upper reach of Ottawa Locks. Rideau Canal National Historic Site, ON-RC-2014-023, ©Parks Canada.

the Venice Charter (1964) and the desire of the population to see FSM regain its former glory, resulted in a simple exhibition of certain remains, reconstitution of exterior historical sections of the Grande Maison (inaugurated in 1990), and creation of an expressive structure for the blast furnace complex (inaugurated in 1985). In this case, the idea was 'to build, on top of the stabilized remains, a resolutely contemporary structure, expressive of the character and functions' of the plant. Since then, Parks Canada has continued to maintain and restore the premises while enhancing many of the interpretive tools for this national historic site.

Industrial Heritage Reloaded

Le patrimoine industriel rechargé



NATIONAL REPORTS: WHO IS WRITING YOURS?

James Douet, Editor

The call for the national reports that are published with each of the TICCIIH Congresses was sent out in February this year, asking for texts to be sent to the Bulletin editor by May 1. These short summaries of the developments in industrial heritage since the previous Congress (Chile in 2018, in this case) are usually written by the national coordinator or TICCIIH representative in every country where TICCIIH has members. They provide a really useful way of sharing achievements, news, successes and losses, with all our colleagues, as well as a unique historical chart of the evolution of our subject since the 1970s.

The reports follow a standard format of about 1,500 words so as to make comparisons easier, and a simple template is available to guide writers so they can easily assemble the material and help the editor prepare all the texts and images in good time.

If anyone is uncertain whether a report for Montreal 2022 is underway in their country, please contact me and I will identify the person we have asked to prepare it.

CONSERVATION AND INTERPRETATION

USA

THE RIVERS OF STEEL HERITAGE AREA

Z.P. Liollo

Once synonymous with industrial might, Carnegie Steel's legacy is still seen in the American landscape. Among its operations were the Carrie Blast Furnaces near Pittsburgh, Pennsylvania—across from the Homestead plant. In over a century of operation, the Homestead District Works survived trials from labor disputes, two world wars, and the Great Depression. A pristine turn-of-century forge, foundry, and machine shop stands suspended in time, juxtaposed with the mighty furnaces and cavernous structures downriver, V.A. Young & Sons. These two sites, critical to the [Rivers of Steel Heritage Area](#), illustrate a chapter in the story of American ingenuity.

An Insatiable Iron Appetite

The Number Six and Number Seven blast furnaces rise from the landscape like megalithic spires. These are the last two saved from scrapping. Visitors trickle into a rectilinear brick and steel powerhouse that once held alternating current turbines. Under a massive riveted overhead crane is the check-in table for tour reservations. Hardhats, maps, and literature are gathered here for the coming guided walk which will snake through the complex; winding around the cast houses, furnaces, and hot stoves while examining the equipment. This bank of the Monongahela River is truly a touchstone of industrialization. Blocks away is another historic facility still operated by U.S. Steel, the J. Edgar Thomson Works. Beyond the bustling rail yard, the George Westinghouse Bridge offers a full view of the legendary Westinghouse Electric & Manufacturing Company along Turtle Creek.

Andrew Carnegie constructed the original Carrie Furnaces in 1881 to feed booming demand. The two standing furnaces were built in 1907, six years after Carnegie's empire was sold to U.S. Steel. They would see 70 years of service, going cold in 1978. Between those dates, industry churned around the clock and required an immense transportation infrastructure. Below the furnaces were hot metal 'bottle' cars waiting to receive their molten contents. Today, a six-axle car is still parked below Furnace No. 6. When the plant closed, the bottle's interior had just recently received a new refractory brick lining making it a well-preserved artifact. For waste, a slag pot transfer car is displayed on rails next to the powerhouse. Shaped like a coffee cup, the pot would tip over on a set of trunnions to dump its contents. This display has received a more recent coat of black paint to stave off rust. The Carrie Furnace Hot Metal Bridge, a riveted steel truss bridge spanning the Monongahela, stands like a ghost structure devoid of rails. This connected the iron casters with the rest of the Homestead Works and the steel mills there. U.S. Steel operated its own railroad which it [divested](#) in 2021. Indeed, almost every foot of exterior space at the site was once occupied by rails for inbound and outbound traffic.

Skip cars, which were pulled upward by cables and charged the furnaces from above, kept the coke, limestone, and taconite coming. Blast heat was supplied by the coke stoves, where exacting precision was needed to control the white hot product's quality. A laboratory, today a dark unlit space, still holds tall computer cabinets and the composition of the last heat scrawled on a chalkboard. Tapping the furnace involved breaking a stout clay seal near the bottom. Molten iron and slag then flowed into long troughs where gates had to be manually opened to direct the flow. It was work where small missteps could be unforgiving.



Carrie Blast Furnaces as viewed from the west. The grassy area in the foreground once held a railyard.

Despite the danger and long hours, proud furnace workers built a century of steel. Samuel Macklin, a Journeyman with Local 274 Piledrivers and Heavy Highway Carpenters of Pittsburgh, shared insight into how labor has shaped generations of Pittsburgh residents. Much of it started in the mills and on the railroads. He explained that, 'The influx of immigrants that bolstered the area's labor force drove the industry to incredible heights. And the area is rich with the history of their struggles. The Pittsburgh Railroad Strike of 1877 and the Battle of Homestead in 1892 were key moments in labor rights. The Harwick Mine explosion in 1904 led directly to the creation of the Carnegie Hero Fund...I'm old enough to have had a memorable relationship with my relatives who were part of the Greatest Generation. They all had a similar attitude of wanting a better life for their children and grandchildren, so none of us would have to go into those mines and mills.' Organized steelworkers suffered after the 1892 struggle—this event having direct implications for decades to come.

Where the furnaces represent heavy industry, W.A. Young & Sons is typical of light manufacturing of a century ago. The site commands a view of the river from a steep bluff. Many of the early patrons were steamboats and tugs needing maintenance. Barges loaded with West Virginia coal were also a familiar sight on their way to Pittsburgh. Overhead line shafts weave between pulleys and bearings mounted to the ceiling. Visitors coming through the door are greeted by the machine shop and the faintly sweet smell of cutting oil—familiar to anyone who's been around the trade.

Volunteer machinists work in between questions and discussions on local history. During our visit, a radial arm drill was being put through its paces as the clatter of a nearby shaper cut a groove into a set of vise jaws. The blacksmith was also at work in the adjoining shop, near the center of the square structure. A small mechanical power hammer stood near the forge. Switching between hand hammering on a large anvil for smaller work and utilizing the



The machine shop of W.A. Young & Sons. Rare tools vintage to before World War II, such as a chain driven post vice, could be found on the workbench.

power hammer for larger pieces saves valuable time. White hot steel bars, inches thick in profile, respond like clay when struck under the spring-cushioned mechanism. Forgings, measured against double calipers, will allow complex steel parts to be subsequently machined with inherent toughness.

There was less activity elsewhere in the building but still more to see. Upstairs was an impressive pattern shop complete with wood-working tools and an office. The foundry, which is to the left if you're facing the front elevation, has a half story in the rear which is used for charging the large cupola. It's here that echoes of the Carrie furnaces can be seen but on a much smaller scale; foundrymen poured into intricate molds rather than rows of iron pigs. Several patterns attest to the work that was performed until 1969, including street signs. A pedestrian trail abuts the rear of the property on a former rail line. Like the water traffic, The Pennsylvania, Monongahela & Southern Railroad was a source of income for repairs. River of steel is embodied by this waterfront engineering hub.

Industrial Heritage and Revitalization

Rivers of Steel captures the changing American landscape. Besides Carrie and W.A. Young & Sons, its attractions include the visitor's center in the historic Bost Building, an 1892 Pump House at the Homestead Works, and even river tours aboard the boat Explorer. Preservation is enriched with arts and education through artistic workshops. Student programs also delve into the arts or look at the histories of specific sites, such as the Bost Building and its relationship to the Homestead Strike. Investiture in the landscape as a whole also takes the form of **Mini-Grants** that provide financial assistance for contextually important sites bordering the Heritage Area, thus ensuring its continued interpretation.

Rivers of Steel fosters public-private partnership to mix creativity and engineering. They check many of the boxes for sustainable redevelopment and community growth. I asked Sam Macklin for his thoughts, as a local resident, on how the city has changed. 'Pitts-

burgh's industrial history is really something to behold. Not just for the scope of the sites, but for what it means for the working class. All the major aspects of steel production were here. Mining, railroads, furnaces, fabricators and river transportation... The once enormous Homestead Steel Works is now a shopping complex. A few smoke stacks and a large gantry crane remain. When I go there, I appreciate their significance. Yet, I worry that some day its importance will be lost... Robotics, medicine, computer science, and banking are putting my beloved city on the map once more. But every blue collar person should know and appreciate what happened

here. Industrial history may not mean much to anyone who doesn't work with steel, but what the workers in that industry did for their families, communities, and this country is something that should be preserved.' Industrial redevelopment for education and tourism represents a monumental effort across disciplines. From historic preservation and artistic enrichment to the green reuse of existing structures, citizens are able to fill the voids left by industries lost. Federal, state, and private input in former steel towns are keystone to success. Steel thus represents the triumph of western Pennsylvania—past, present, and future.

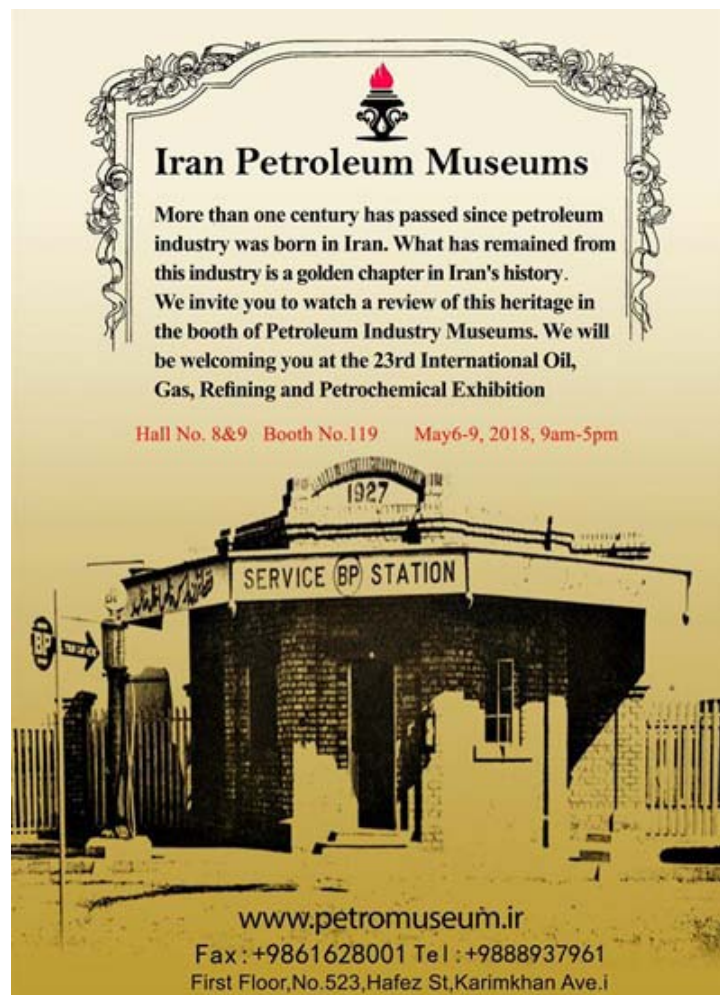
IRAN

PETROLEUM INDUSTRY MUSEUMS IN IRAN

Dr. Asma Mehan, Senior Researcher, CITTA Research Institute, University of Porto, Portugal

In 2020, TICCIH published its **thematic study on oil heritage**, the first global assessment of the heritage of petroleum production and the oil industry, and of the places, structures, sites, and landscapes that might be conserved for their historical, technical, social, or architectural attributes. In many cases, the petroleum production sites and historical infrastructures, situated in corrosive and fragile landscapes, are costly to conserve, challenging to re-use, and pre-function considering their contribution to climate change. TICCIH also included the proposals for criteria to evaluate this heritage and priorities for conserving the most important sites, ensembles, and landscapes, from regional inventories up to World Heritage sites. In this report, the heritage of the petroleum industry is defined as 'the most significant fixed, tangible evidence for the discovery, exploitation, production, and consumption of petroleum products and their impact on human and natural landscapes'. While the importance of the historical evidence for the oil industry as a tangible cultural heritage is self-evident, it is also challenging to define an integrated and holistic strategy from a conversation point of view. For achieving holistic and methodological re-use strategies, it is required to reconsider various factors such as national policies and economic systems.

Today, many museums, memorials, and other historical establishments commemorate the oil industry's contributions to the world's cultural and societal landscapes. In many cases, studying documentation and company archives is the best way to conserve the industry's history. Bringing together the refinery technology and culture, there are nearly 200 museums that exhibit oil and gas machinery and relics. In Iran, starting from January 2014, arrangements began to establish the national Petroleum Museums and document center of the oil industry set up by the direct order of the Iranian Minister of Petroleum-Bijan Namdar Zangane and under the supervision of Akbar Nematollahi to collect, safeguard and display the old oil industry equipment.



The 23 Tehran International Oil, Gas, Refining and Petrochemical Exhibition, 6-9 May, 2018. Iran Petroleum Museum & Documents Archive.

Iran's Petroleum Museums and Document Center offer insight into the nation's energy heritage, which began in 1901 when British speculator William D'Arcy received a concession from Iran to explore and develop southern Iran's oil resources which led to the formation of the London-based Anglo-Persian Oil Company (APOC). It tries to collect and display the old oil industry equipment and archival documents and protect and pass the tangible and intangible oil heritages to the next generations.



Tombi Power Generation Plant, Masjed Soleyman, 1971. Iran Petroleum Museum & Documents Archive.

The launch of Iran's petroleum industry museums started in Abadan, including an old refinery and gas station. The oldest filling station in Iran has been turned into a museum in Abadan and the oldest national technical training school dedicated to Iranian oil workers in Abadan. In Tehran, the 1934 Davazeh Dowlat filling station was opened. Cranes are being preserved in some parts of Abadan's old ports with heavy machinery, such as Evan (literally meaning monster) and Gog-erd (literally meaning sulfur). There is also an exhibition about the reconstruction process of the refineries after the Iran-Iraq war (1980-1988). The plan includes the inauguration of the oil museum in other major OPCs, such as Masjed Suleiman (located in the southwestern province of Khuzestan as the oil industry's birthplace in Iran) with the oldest oil recovery site in the country. The first thermal power generation plant in Iran, known as **Tombi Power Plant** (launched in September 1908 and still operational in electricity distribution) is defined as one of the pilot museum sites in the Masjed Suleiman Petroleum Museum scheme. Based on the editorial report published by the Iran Petroleum Museums and Documents center, 'The history of Masjed Suleiman electricity and Tombi Power Plant is directly related to oil eruption from the first well. In 1911, the first oil barrel was pumped from Well No. 1 of Masjed Suleiman. The flow started to the Abadan oil refinery through a pump house in Tombi. Given its oil and gas riches, Masjed Suleiman has always been a focal point that rapidly grew after the oil discovery and oil urbanization. The first station for pumping the crude oil from Masjed Suleiman to Abadan was built in 1909, and similar stations started operating in Malasani, Kut Abdullah,

and Darkhovin, respectively. Darkhovin station is being operated with a power generator to meet its internal needs.'

The plans for two other oil museums in Kermanshah (the west part of Iran) and Tehran aim to offer insight into the nation's long oil heritage. In Kermanshah, the last tin factory is planned to be transformed into the Petroleum Museum. The structure is to be erected at the Tin Factory of Kermanshah Refinery. Given the factory's long history of over a century and its role in distributing petroleum products throughout the country, the museum is designed to exhibit a rich and diverse collection of items belonging to various periods of the factory's operation. Most of the showcased items will be placed in the museum focusing on the industry in Iran's western regions. Tehran-based Museum of Oil Industry Technology introduces the nature and importance of oil, gas, and petrochemicals in various areas of human life and the technologies used. Unlike other oil museums in other parts of the country, this museum does not have buildings, facilities, and content, so a particular building will be designed for the Tehran Oil Museum. It is expected to take four to five years to set up. The Treasury of relics and the Archives section of **Iran's Oil Industry Museum** aims to identify, gather, categorize, organize, retrieve, repair, preserve, and keep oil industry documents to provide a comprehensive resource for the oil industry's researchers and the general public.

Contact the author

SHAPE TICCIH'S FUTURE: BOARD ELECTIONS AT THE 2022 GENERAL ASSEMBLY IN MONTRÉAL

Marion Steiner, TICCIH Secretary General, Pontificia Universidad Católica de Valparaíso

As the TICCIH 2022 World Congress in Montréal approaches, so does our all-important General Assembly. Long standing TICCIH members will know that this means we will be embarking upon the routine cycle of elections. As well as the congress, these have been delayed by a year because of the pandemic, so some of the Board members have been in office for longer than they had expected.

Given the digital revolution that has accompanied the pandemic, TICCIH has been evolving rapidly in the face of these changes and networking over the past years. Among the highlights have been our first ever TICCIH Global Members' Meeting held on 3rd of September 2021, and a range of really interesting and encouraging meetings with TICCIH members and new groups in Africa, Asia and Latin America. Exciting new opportunities have emerged, so it is now more important than ever that our members step forward and propose themselves to join the Board. To do so, they will need to fill out a nomination form and obtain the support of another TICCIH member to nominate them.

TICCIH has made important progress in recent years with filling geographical and demographic gaps in its membership, not least because of our continuing **membership campaign** and a new, **differentiated membership fee system** which made our organisation much more accessible. However, we still have a long way to go to strengthen our links with regional networks, exploit the opportunities presented by new communication technologies and social

media networks, and bring more younger, more female, and more post-colonial voices into TICCIH. We are, as always, also looking for people to fill key posts within the organisation.

TICCIH is not the organisation it was when it was founded almost half a century ago, and over the current Board's election period, we started to actively review our statutes to tighten up some of our processes and structures. We will air our ideas at the General Assembly in Montreal, with a view to vote on the necessary changes at the next congress in 2025, which also will be the occasion to celebrate TICCIH's 50th birthday. One of the key issues we are discussing is our voting procedures and we are actively considering moving to a one-member one-vote principle instead of the current National Representative system.

So, if you are interested in getting more involved in TICCIH and perhaps joining the Board, please get in touch with me, Secretary General Marion Steiner, in Valparaíso, Chile, at secretary@ticcih.org or with Daniel Schneider from the TICCIH Head Office in Houghton, United States, at ticcih@mtu.edu. We will send you the nomination form, or you can **download the form from the TICCIH website**. The completed form must be returned to the TICCIH Secretary General to arrive **not before Friday 5th of August 2022 and not later than Friday 19th of August 2022**.

We look forward to hearing from you.

AGREEMENT BETWEEN TICCIH AND FIVA

Miles Oglethorpe

As we witness the battle against climate change radically impact on most forms of transport, there has never been a more appropriate time to focus on the historic motor vehicles, an important part of our industrial heritage. After a frustrating delay caused by the pandemic, I was delighted to be able to sign a Memorandum of Understanding between TICCIH and the Fédération Internationale des Véhicules Anciens (FIVA) in Paris on 15th March.

Much of the groundwork was prepared by FIVA's Chair of Culture and Youth, Nataša Grom Jerina, and in the process we identified several areas where collaboration has the potential to be rewarding in the future. It will now be easier for us to exchange information and research, publish in each others' journals, embark on joint activities



Miles Oglethorpe with Nataša Grom Jerina and Tidde Bresters in Paris.

and enhance our efforts to raise wider international awareness of the importance and value to society of the living preservation of the world's industrial and transport heritage. We are also especially keen to encourage more young people to take an active interest in the work of both organisations, so a renewed effort will now be made to find effective ways to make this happen.

It was wonderful, after much video-conferencing, to be able to meet FIVA President, Tiddo Bresters, in Paris, together with most of his Board during what turned out to be an inspiring evening. This oc-

curred against the extraordinary backdrop of the revived Retromobile car show, which we attended the following day.

I am very much looking forward to working closely with our FIVA colleagues in the future. I confess to having been not very automotively inclined in the past, so I am very grateful to my brother Charles for accompanying me on my trip to Paris and helping introduce me to the finer texture of our vehicular heritage. I can now report that I have been thoroughly inducted and indoctrinated and cannot wait for more bouts of FIVA in the future.

TOWARDS A TICCIH EUROPE

Massimo Preite and Miles Oglethorpe

Bulletin readers will be aware that for some time now we have been considering the possibility of establishing a TICCIH regional group that can work towards better cooperation and coordination with other associations committed to industrial heritage protection within Europe. This process was well under way until the CoVid19 pandemic struck in 2019, and was further impacted by the negative impact of Brexit, which prevents such a group from being in the UK where TICCIH is legally located.

As we emerge from the chaos, frustration and sadness of the pandemic, we are reviving this initiative. The TICCIH Board is grateful to its friends and colleagues in Italy for assisting this process, offering a full half-day session during the annual **ALPAI conference** in

Rome on 11th June to discuss the creation of **TICCIH Europe**. This initiative is being fuelled by recent European policies dedicated to promoting the recovery of the built heritage in the framework of green transition and environmental and urban sustainability.

TICCIH, because of its experience in industrial recovery and the expertise of its associates, can make a key contribution to the implementation of these policies. It is necessary, however, that the European members of TICCIH promote the creation of a devolved legal entity which has the necessary qualifications to fully participate in European funding projects in close cooperation with continental partners like ERIH, Europa Nostra and others.

With this in mind, we are delighted to invite any of you who are interested, especially those who have a leading industrial heritage role in a European country, to engage with this event, and perhaps come to Rome and contribute to our discussion directly.

Contact Massimo Preite

OBITUARY

RENE BORETTO. IN MEMORIAM

Miguel Ángel Álvarez Areces

It was with great sadness that we received the news of the death on 3 April 2022 of René Boretto Ovalle, in Fray Bentos, at the age of 75. Boretto was since 1990 the TICCIH correspondent in Uruguay and was intensively involved in activities in defence and valorisation of the industrial heritage. It is a great human loss for all of us.

We remember his contribution at the XVII International TICCIH Congress in Santiago de Chile in 2018, and his work at the 8th Latin American Colloquium on Industrial Heritage held in Havana, Cuba in 2016.

René Boretto was a notable historian and researcher, author of nu-

merous books and articles. He was a civil servant in the Uruguayan municipality of Rio Negro and he started the Museum of Natural History in 1972. This experience helped him to found and develop the Museum of the Industrial Revolution in Fray Bentos, which today is an internationally recognised landmark of industrial heritage.

Boretto, organiser, disseminator and manager, was a member of the Management Commission that prepared the dossier for UNESCO of **Fray Bentos**, an industrial complex dating from 1865, with buildings and facilities of what was once the LEMco-Liebig Extract of Meat Company, with the aim of being accepted and declared World Heritage, which happened in 2015. He contributed, along with other enthusiastic defenders of this heritage, to the visibility, popularisation and awareness for this historic industrial heritage, which today is an exceptional landscape and a World Heritage site.

From this site on the Uruguay River, canned and concentrated meat was produced. The industrial emporium illustrates a meat food chain with all its supply stages. The World Heritage nomination of

the industrial landscape of Fray Bentos as a system, and as a cultural and industrial landscape, is an important contribution to the categories and vision of UNESCO, a systemic and integral vision of the territory in the consideration of the industrial heritage. The large 28,000 m² cold store that presides over ANGLO is still present, conserving a large part of its machinery and processes of meat preparation and quartering.

Boretto studied and disseminated in all areas the history of Liebig, the invention of the famous meat extract and of 'corned beef', the immaterial and technical heritage of the factory, the company town of Anglo, its paths and pavements that established the thousands of women and men from 55 different countries who marked the history of the work and the place. The industrial and cultural landscape cannot be understood without the inclusion of the town of Liebig in Argentine territory, on the other side of the river, and this common history of Liebig and Fray Bentos is part of the reason why this place was called the 'kitchen of the world'.

René Boretto collaborated in the setting up of the Uruguayan Association of Industrial Heritage, and was always ready to guide and manage heritage circuits of industrial and cultural tourism, and especially to visit Fray Bentos and neighbouring areas, such as San Javier, Nuevo Berlín and Paysandú.

He promoted a website on Latin American industrial heritage, where studies, photographs and documents on industrial history and Latin American cultural landscapes could be consulted. He was a correspondent or representative in the Department of Río Negro of the Instituto Histórico y Geográfico de Soriano, Asociación Uruguaya de Ciencias Antropológicas and the Centro de Estudios



RENÉ BORETTO

Arqueológicos de Montevideo, and represented his in events in Germany, England, France, Canada, Argentina, Brazil and Greece. For his academic work he received numerous awards and recognitions.

The municipality and authorities of Río Negro bid farewell to Boretto with solemn words and a moving ceremony. Our heartfelt remembrance from all his colleagues of TICCIH to his wife, family and friends at this sad time. From 28 August to 3 September we will celebrate in Montreal the TICCIH Congress 2022, with its theme of 'Industrial Heritage Reloaded', and we will have a space of memory to our great colleague René Boretto Ovalle.

[Contact the author](#)

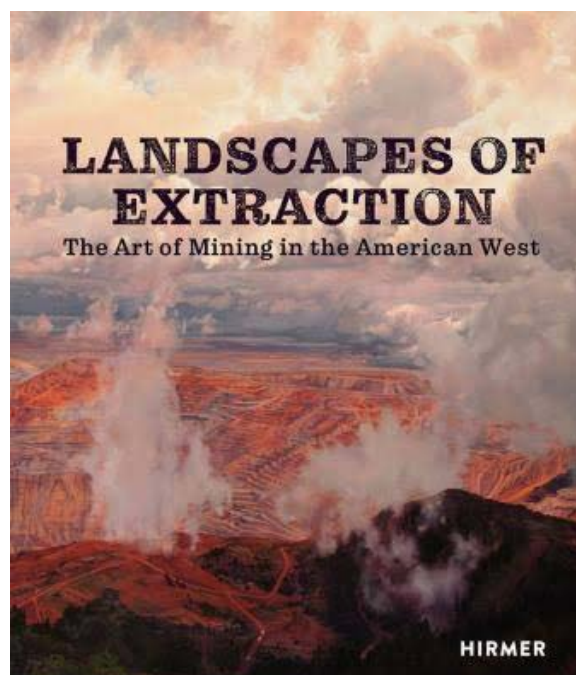
BOOK REVIEWS

LANDSCAPES OF EXTRACTION: THE ART OF MINING IN THE AMERICAN WEST

Betsy Fahlman, Hirmer, 176 pages

Reviewed by Nicholas Pevzner, Assistant Professor, Department of Landscape Architecture, University of Pennsylvania

Landscapes of Extraction: The Art of Mining in the American West is one part catalogue to a fascinating exhibition at the Phoenix Art Museum, and one part meditation on the featured artists and their work to capture these gritty mining landscapes. In her framing essay, the adjunct curator of American Art at the Phoenix Art Museum, Betsy Fahlman, describes aspects of life in the mines and mining towns across a vast swath of the American West, working through the various typologies of mining and extraction—copper, silver, iron,



coal, gold, and oil—and illustrating the story with paintings from the exhibition. Much of the paintings' visual drama is rooted in the contrast of the mining towns and vast mining earthworks against the rugged natural landscape. The dirt, smoke, and dust of the mining operations are a major subject, but so are the heroic and impressive feats of labor and engineering. Some of the art showcases 'the industrial sublime dynamically coexisting with the natural one,' as Fahlman puts it—or even taking its place. In one example, Erika Osborne's *The Chasm of Bingham*, the yawning open pit of the Bingham copper mine outside of Salt Lake City takes the implicit place of the sublime natural chasms that might have been the focus of earlier American Romantic landscapes.

Paintings range from those by artists that were hired by mining executives to those commissioned by the Works Progress Administration (WPA) during the Great Depression. The WPA hired a number of artists to create public murals for post office buildings throughout the West, and since these public projects usually drew on local subjects, mining and its equipment often figured prominently. Other New Deal agencies also supported photographers whose work was aimed at capturing portraits of the West's mines and mining towns. James R. Swensen's essay on the photographic work of the Resettlement Administration (RA) and the Farm Security Administration (FSA) recounts the documentation efforts of photographers such as Dorotea Lange, Arthur Rothstein, and Russell Lee, sent on assignment to capture the human condition of rural populations and places throughout the West. With the onset of World War II, many of these photographers turned to documenting the home front for the Office of War Information (OWI), and their photos of the mines producing copper, lead, zinc, tungsten, and magnesium shifted to showcasing the scale and monumentality of wartime production.

Barbara L. Jones' essay on coal extraction in Pennsylvania contrasts the book's main emphasis on the West with the work of artists in Pennsylvania, the heart of coal mining on the East coast. Jones details the dynamics of company towns across coal country, and highlights some of the common artifacts of these East-coast extraction landscapes: the monumental coalbreakers and coal-tipple superstructures, which in the paintings are often seen looming above the rows of tiny miners' houses and the occasional church or public building.

The exhibition contrasts paintings from the 1920s, 30s, and 40s with contemporary paintings and photographs, some of which document the same places a half-century or more later. A closing essay by William L. Fox highlights the work of a number of contemporary artists working on the topic of industrial extraction landscapes, from uranium mining with its radioactive disposal sites, as documented in aerial drone photos by Navajo artist Will Wilson, to the oil derricks in Edward Burtynsky's iconic large-scale photographs, to the haunting photographic composites of Cara Romero, a member of the Chemehuevi Indian Tribe, which explore the uneasy mixing of oil and water, a topic on ongoing contestation in the pipeline battles between Indigenous water protectors and ongoing petrochemical extraction. Fox focuses on the physical dislocations of mining, with its piles of overburden and its toxic sacrifice zones, and centers the historic and ongoing harms of both extraction and colonialism, from the acute legacies of environmental pollution on Native land to the forced displacement of Native peoples. He notes that prior to the 1960s environmental movement, 'most western American mining art remained ... either a celebration of the act of mining or a nostalgic remembrance.' The contemporary artists featured in the book are critically reappraising those attitudes, expanding the range of expression while acknowledging the complex and contested histories of these American landscapes of extraction.

FABBRICHE RITROVATE · REDISCOVERED FACTORIES

Massimo Preite and Gabriella Maciocco, (2022), EFFIGI, Italian and English, 335 pages

INDUSTRIÁLNÍ SITUACE / MÍSTO_TVĚR_PROGAM - INDUSTRIAL CONTEXTS / PLACE_FORM_ PROGRAMME

Benjamin Fragner, (2021), Czech and English, 240 pages

Reviewed by James Douet, editor, TICCIIH Bulletin

Two beautifully made books, one from Italy and the other the Czech Republic, examine the ways in which designers have approached the conversion of industrial structures during the last thirty years. Both are the work of respected scholars who have contributed notably

to TICCIIH and to international efforts to understand and maximise the continued possibilities of places designed and built for industrial production and services, but which have lost their primary use.

Each of the books was born out of an exhibition, which may explain the high quality of their production. *Fabbriche ritrovate* was originally part of the XVII TICCIIH Congress in Chile in 2018 [see TICCIIH Bulletin #81]. Here, Professor Preite contends that after some forty years of 'adaptive re-use', it is a good moment to take stock and consider how successfully the dilemmas facing post-industrial re-purposing have been resolved. He frames this in terms of the 'margins of transformation', meaning what can be sacrificed in an intervention and what must remain so as not to compromise the features that make the building worth keeping in the first place. Forty projects are selected from all over Italy. They are first presented as they were, brick kilns, factories, or mining sites, and then as they have been 'rediscovered', as cultural spaces, stores, housing, offices or new industrial 'hubs'. Finally, Preite's interest in urbanism widens the consideration to see how the recovery of disused industrial premises have also been a lever for local regeneration.

Beyond the attractive and informative pages of the book, what is especially valuable is the theoretical consideration of the process of

re-use. This is fed by a rich range of sources, from the doctrinal conservation texts to Proust, reflecting the author's long reflection on one of the central processes around industrial heritage conservation.

Industriální situace draws on the most recent of a series of exhibitions organised by the author since the 1990s called Vestiges of Industry, and presents 35 projects from the past five years. An outstanding attribute of the selection is their great diversity, both of the original buildings and structures, from ironworks to transformer stations, and of the transformations which have been effected, 'from the frankly pragmatic to fashionable entre'actes, lifestyle statements, conservation-oriented gestures of respect for history, and outright cultural happenings.' As well as images of the condition, often ruinous, of the sites before intervention began and then of the results of

re-use, an idea of the processes undergone of transformation is also provided by the architects themselves describing their experiences.

Adaptive re-use has certainly been the most effective methodological tool that we have had to justify protection and then to prolong the use of the industrial heritage, and on a larger scale to contribute to the renewal of urban territories damaged by de-industrialization – 'a real systemic force capable of promoting the rebirth of significant parts' of cities like Turin, Venice, Milan and Rome (Preite, 309). Nevertheless, these two publications prompt consideration of what possibilities adaptation has in the future, not because of a shortage of technical skills or of imagination in conceiving of new uses, but in the stock of previous industrial sites still suitable for such interventions, at least in Europe where adaptive re-use has had the longest run.

EVENTS

LINKS TO ONLINE EVENTS CALENDARS:

- [TICCIH Conference Calender](#)
- [ICOMOS Conference Calender](#)
- [UNESCO Events](#)

To add events to the TICCIH Calender please send details and a link to ticcih@mtu.edu





TICCIH

THE INTERNATIONAL COMMITTEE FOR THE
CONSERVATION OF THE INDUSTRIAL HERITAGE



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