



THE INTERNATIONAL
COMMITTEE FOR THE
CONSERVATION
OF THE INDUSTRIAL
HERITAGE

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A 'docent' tour of the Indian National Rail Museum. The speaker is a docent-volunteer, Swati Krishnan, giving an interpretive talk to a group of visitors on the fireless engine in June, 2010. See *Report*

Photo: Rama Lakshmi

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Inside:

A fast and effective interpretation program at India's National Railway Museum

■ The experts' meeting at the Getty Research Institute, Los Angeles in May raised a number of issues for TICCIH in relationship to its role in advising ICOMOS on expanding industrial archaeology World Heritage Sites and Landscapes. TICCIH published several World Heritage Studies up to 2003 which established the criteria, international context, and applied examples, for a number of industrial archaeological categories (see Documentation Centre www.ticcih.org, or www.international.icomos.org/Thematic-studies.html). Now the international community is asking if TICCIH is interested in completing the study for understanding the heritage of the twentieth century and to facilitate comparisons across regions and internationally.

This was a successor to the 2001 Experts' Meeting on Twentieth Century Heritage in response to the UNESCO 'Global Strategy', which identified the twentieth century as one of the under-represented areas on the World Heritage List. The research for the 2004 *Filling the Gaps* paper confirmed this view. The initial 2001 meeting had at least raised awareness of certain key buildings and encouraged their addition to states' tentative lists and then nomination. However, when the Modernist masterpiece of the Paimio Sanatorium (Finland, 1929-33) was deferred from inscription because of the lack of an adequate international study of twentieth-century hospitals it re-ignited the need for a comparative study to establish criteria for identifying the most important twentieth-century buildings and monuments.

I attended the meeting at the Getty Institute on behalf of TICCIH. The objective was to ensure a wide consensus between the main organisations with an interest in, and capable of a contributing to, the period, and DOCOMOMO and the International Council of Architects were also represented. An introductory session was held in which I was able to point out that TICCIH had prepared the first of the seventeen World Heritage Studies on the TICCIH website and had been actively involved in the preparation of the early four of the seven studies dealing with areas of industrial archaeology prior to 2003. The multiplicity of special interest groups in TICCIH now offered the opportunity to do more work in assisting this process.

Two days of workshops were held to try and reach agreement on the identification of the main 'drivers' that were particularly distinctive to the twentieth century. The second day was spent trying to substantiate this by confirming a shorter list of the key themes of the twentieth century, then adding a list of key sites.

It was found possible to identify 5 or 6 drivers that could be applied to all the main developments of the twentieth century. It was agreed that one of these was most certainly *technology*, which lay behind the greatly increased speed of innovation. In the summary document produced for *A Framework for Understanding the Significance of Twentieth Century Heritage* under the driver of 'Technological & Scientific Development', seven examples of world significance were given.

Under the sub-theme of *health* the example was the 1960s Salk Biological Research Institute (La Jolla, California, USA, by Louis Kahn, not yet a World Heritage Site). Under *telecommunications*, the Varberg Radio Station (Sweden, inscribed as a WHS using criteria ii & iv). Under *defence*, the examples of the Hiroshima Peace Site (Japan, criteria vi) and the Bikini Atoll Nuclear Test Site (Marshall Islands, criteria iv & vi). Under *industry, mining and manufacturing*, the example chosen was the Zollverein XII coal-mining complex (Germany, WHS criteria ii & iii) [*But see Anders Houltz' article on car factories in Worldwide. Ed.*]. Under *energy production* the example of Chernobyl (Ukraine, not a WHS) is given. And finally under the sub-theme for *space*, the Kennedy Space Centre (Florida, USA, as yet not inscribed).

Dr. Ron Van Oers, the Programme Specialist for Culture at the UNESCO World Heritage Centre, noted how valuable he had found the World Heritage Studies already completed by TICCIH. He proposed that TICCIH be given a role in further work on this subject and it was one of the conclusions of this meeting that TICCIH may be interested in doing further components of such a study. The question now is how should TICCIH do this?

The overall aim of this study is to present a framework of conceptual thinking on the significance of Modern Heritage, its preservation and some of the pivotal issues concerning identification and valuation. Eventually, the combined results will be presented to the World Heritage Committee and the States Parties for recommendation, and disseminated to the general public for information and awareness building, to aim for a World Heritage List that reflects mankind's heritage in all its diversity.

Opinion

Dr Stephen Hughes
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Vice-President ICOMOS-UK

What should be TICCIH's role in conserving 20th century heritage?

■ TICCIH Bulletin in new digital format

This is probably the last issue of the *Bulletin* to be produced in the old way – articles carefully laid out, printed on paper and passed between the postal services of the world till it falls through your letterbox. A combination of high and rising expenses – four issues a year costs us over €2,000 (the editor is also paid €500 for each one plus maintaining the membership and web) – and the growing benefits from digital publication make the change inevitable.

The first 50 issues were produced with the generous support of Eusebi Casanelles' Museu de la Ciència i de la Tècnica de Catalunya, at no cost to TICCIH. Since that institutional support ended, the cost has had to be carried on our membership income, a position that is not sustainable.

Publication of the *Bulletin* in its current shape began thirteen years ago, and the format has hardly changed since. We have tried to cover the techniques and methodologies that are being used in modern industrial heritage conservation, to keep members abreast of new ideas and approaches, generally avoiding case

studies unless they illustrate an approach that is of wider interest. It would be interesting to have a breakdown of the themes covered over the years, as well as the geographical range of the articles. That said, it would throw light not so much on editorial policy as the willingness of different authors to sit down and send in their stories; there is rarely much selection involved.

Now a digital publication offers all sorts of options, beyond the immediate economic advantage. The current proposal is to commission a template using the InDesign program which we can use to assemble each issue, and to publish it over the ISSUU network. Members will as usual get preferential access, the electronic bulletin will have a printing capability so each one can be easily printed to be read in the hand, and we will continue to explore how the *Bulletin* can be part of a wider development of TICCIH's communication strategy, as discussed below.

■ TICCIH's first book publication

The American J M Kaplan Fund has offered TICCIH a significant grant to publish a new

book on modern techniques in industrial heritage conservation. Provisionally entitled "*Understanding and Conserving Industrial Heritage: A Guide to International Best Practices*", it will be structured around the text of our Nizhny Tagil Charter with some thirty essays elaborating and explaining the main clauses, illustrated by outstanding contemporary examples. The central aim is to make the charter more widely available and in a style and format that puts it within the reach of a wide readership, raising awareness and providing solutions for the preservation of industrial heritage. People working with industrial heritage worldwide will benefit from the essays which will combine authoritative advice with clear, practical examples of best practice from experienced specialists.

Working closely with TICCIH president Patrick Martin, Kaplan has offered us a generous amount towards the cost of publishing the book and of creating an on-line version so that it may have the widest diffusion. The plan is to start work as soon as possible assembling the texts so as to have the book ready for launching at next year's Congress in Taiwan.

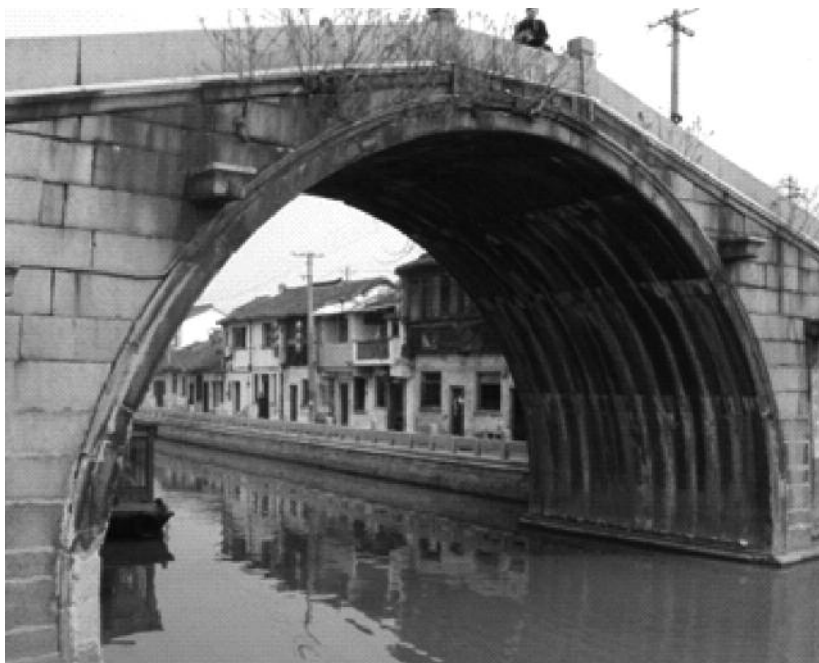
■ Draft communications policy

The TICCIH Board is discussing a formal policy for how we organise our communications, both internally within the board, sections and the membership, and externally with the rest of the world. As the means of communicating and exchanging information continue to mutate at a disconcerting rhythm, Dr Iain Stuart has submitted a paper examining how we can get the most from the various media that are available, both traditional and new.

The document proposes various policies to decide who should be able to speak on TICCIH's behalf in different situations and the timing of regular reports from countries and thematic groups, as well as eleven recommendations covering everything from Twitter to Wikipedia, intellectual property to a digital archive.

The *Bulletin*, and no doubt several new media, too, will carry more about this as it develops.

■ Thanks to all the contributors. Photographs are by the authors unless stated otherwise.



The 16th century Qingming Bridge on the Grand Canal at Wuxi. See *Conference Report*

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TICCIH is the world organisation for industrial archaeology, promoting conservation, research, recording and education in all aspects of industrial heritage. It holds a triennial conference and organises interim conferences on particular themes. Individual membership is £20, corporate membership £40, and student membership £10. Payment to TICCIH, Lloyds TSB Bank plc, 27 Fore Street, Redruth, Cornwall TR15 2BJ, UK; Account No: 1351659, Bank Sort Code: 30 97 00.

There is an on-line membership form on the web page.

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 four times a year and is sent to all members. If you have not received an issue, please contact the editor for a replacement. Back issues can be downloaded as a pdf file from the TICCIH web site.

Opinions expressed in the *Bulletin* are the authors', and do not necessarily reflect those of TICCIH.

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If a museum receives over 400,000 visitors every year, traditional wisdom would tell us that it is a success. And if children and families form a significant share of that impressive total, then there is really nothing to worry about anymore. In the museum world, these are usually the markers of good news.

Well, not always.

The 34-year old National Rail Museum in New Delhi, one of the largest in Asia with about 11 acres of land, has an impressive collection of artefacts from India's glorious railroad history – including old steam, diesel and electric locomotives, six gauges, fireless engine, monorail, turn tables, hill rail coach, coat of arms, time-tables, tickets, photographs and documents.

But in spite of the inspiring number of visitors, a 2009 survey revealed that the visitors did not absorb or retain anything significant about rail history from their visit. However, the one thing that visitors said they remembered the most was the 8-minute long toy-train ride – the star attraction. This led many of us to conclude that the visitors were probably treating the museum as an amusement center and not a place of informal learning. Somehow the museum's message was not getting through to the visitors.

The rail museum was considering a grand re-ordering of display, gallery paths and narrative trail with a couple of UNESCO consultants. This was an elaborate 3-year plan to re-imagine the museum.

As a member of the museum's revamp team, I suggested a quick-and-easy intervention that would cost almost nothing and would produce measurable outcomes in a very short period of time – while waiting for the UNESCO plan to fructify. I wanted to put in place a system that humanizes the museum's locomotive collection. I set up a docent program (the word docent, Latin for "to teach" was introduced by the Boston Museum of Fine Arts in 1903) of guided walks with story-telling interactive experiences.

A human facilitator between the visitor and the object can bring about a transformative experience in a museum. A docent can be a gallery interpreter, a gallery actor, a historian, curator or even someone who has experienced the theme of the display in a personal manner. At the Robben Island Museum, in Cape Town, (where Nelson Mandela was held prisoner for 18 years), some of the ex-prisoners themselves act as museum docents. Visitors look at them as well as listen to their powerful narratives. The former inmate is a guide, an exhibit and the text – all rolled into one. The docent can bring the site of the former prison alive through personal narratives and physical tour. Each docent-visitor interaction is unique and quite often goes beyond the script.

The 'docent' interpretation program at the National Rail Museum of India

Rama Lakshmi

Independent museum consultant

The rail museum's problem of missed message is not unique to the world of Indian history museums. We have grand assemblage of objects in each of our museums, but the best of our collections do not speak. The rail museum is usually headed by a senior railway officer or engineer and not by a curator or museologist, and the turgidly-written display text labels and panels tend to reflect that. The text labels for locomotives will have exhaustive factoids about the engine horsepower, wheel dimensions and factory details, but very little about the era, the social history, or the people who built and experienced the locos. A row of locomotives with such impenetrable information can leave anyone, with the exception of the most fervent rail enthusiast, cold and intimidated by the indifferent expression of expertise.

What the rail museum required was human stories behind these beautiful locomotives, steeped in history and lovingly preserved by experts. Objects may be at the center of a museum but it is human stories that lie embedded in the objects that draw us to them. The museum as it stood failed to facilitate the journey of the visitor from the tangible objects to the intangible ideas.

For the first pilot program of docent volunteers, I hand-picked 17 students from the colleges in the neighborhood. I wrote a docent training manual and conducted a 3-week long training workshop. The students were undergraduates from varied backgrounds like history, literature, commerce and tourism.

The workshop included the following training modules for the student-volunteers:

- the basic elements of a museum mandate
- the reasons for a museum visit
- the importance of objects in historical research
- the informal learning styles witnessed among museum visitors
- the art of interactive story-telling
- the general outline of Indian railway history
- the object-related histories
- talks by railway experts and historians

It was important to tell the volunteers that the rich 156-year old history of Indian railways can be explored from various vantage points – politics, military, economics, communities,

migration, labour and industry. India's railroad history is a great way to study the country, because each of its chapters throws light on the complex and dynamic process of nation-building. Its history encompasses colonialism, freedom movement, the rise of multi-cultural towns, national security, industrialization and democratic politics.

The docents were trained to convey the multifaceted history through explanatory stories, historical anecdotes and dramatic enactment. The tour included at least 12 exhibits in their guided tour of the outdoor and indoor galleries —

1. stories of how the first line came about; how the day was declared a public holiday; who came, who boycotted the inauguration; how many passengers rode the first train; superstitious fears that accompanied the first line, newspaper articles, letters to the editor and so on.
2. the battle of the gauges; how the standard gauge is about 4 feet, 8 1/2 inches because that was the wheel spacing of the old wheel ruts of Roman chariots; why for over a century India had four different gauges.
3. the engineer's story of how he designed the z-pattern for hill rail lines in India.
4. the story behind railway time-tables; how the concept of accurate time and time zones came about because of the railways; how did the first train whistle come about; the evolution of train tickets.
5. the increased security threat to the British troops in India and the coming of the fortress-like armoured train.
6. the royal rail salons that the Indian kings and the visiting British royalty used.
7. the oldest steam engine loco called Fairy Queen.
8. the railways' complicated relationship with the independence movement.
9. the monorail built by the Maharaja of Patiala. It was pulled by mules and transported grains. This is the only working steam monorail in the world now.
10. the fireless engine and the factories it was used in.

The students gave two hours of their time every week for the guided walks for a period of six months. At the end, they received certificates, and some of the docents stayed back and are now training the next batch of student-volunteers into an expanded tour.

In museums that exhibit industrial heritage, it is critical to introduce a human interface that never fails to enhance the meaning-making process by the visitors. The program is now a self-sustaining one and docents also turn into trainers. Meanwhile, two years after the first meeting, the grand UNESCO makeover is still pending government approval.

Motown Europe? Large-scale automobile enterprises in local and national identity building – Gothenburg and Turin

Dr Anders Houltz

■ A century after the introduction of the assembly line at Ford's Highland Park Plant in Detroit (1912-13), automobile production remains a key symbol of modernity.

The early decades of the 20th century quickly established the iconic status of Ford, his production methods and manufacturing plants. With Highland Park and the even bigger River Rouge plant of 1927, Ford Motor industries epitomized what the historian of technology David Nye terms the American Technological Sublime. The love affair soon crossed the Atlantic, creating the desire in European countries to copy and even become a part of the American wonder. Comparable to Manchester during the previous century, Detroit became more than merely a city – it turned into an idea. Coventry was dubbed the Detroit of England, Stuttgart (and later Wolfsburg) the Detroit of Germany. To have a domestic car manufacturing industry was to be a modern nation; reversely, the absence of a car industry was a disturbing indication of the opposite. But was there ever a more or less common vision of creating European versions of America's Detroit? If so, what happened to that vision?

Fiat in Turin, Italy, and Volvo in Gothenburg, Sweden, are two examples of the European efforts to pick up and profit from the Ford legacy. Both companies have dominated the car industry in particular and mechanical industry in general in their countries for the better part of a century. Their products have become strong national symbols, paving the way for mass-motorism and representing modern dreams of consumption, mobility and individual freedom. Along the years, the identities and physical appearances of the mother-cities of Turin and Gothenburg have both been remodelled to fit the new role as modern European industrial centres. Today these roles are once more contested, while the production plants – whether in production or the subject of reuse and adaptation schemes – still carry the proof of a century of domination.

When Ford in 1923 was at the height of his success and popularity, Swedish debaters lamented the fact that all attempts to meet the growing foreign import of vehicles with domestic production had so far proved unsuccessful. In Turin, Italy, however, Giovanni Agnelli and his associates in FIAT (Fabbrica Italiana di Automobili – Torino, founded in 1899) officially opened the largest car factory in Europe, the Lingotto.

Inspired by Agnelli's and the architect/engineer Giacomo Matté-Trucco's visits to the

United States, Lingotto showed clear resemblances to Highland Park, but could be described as an artistic interpretation of the rational factory rather than the real thing. A European vision of the Technological Sublime indeed, but the interior and the production itself did not live up to expectations. With no conveyer belts and limited automation, the production had more in common with traditional machine shops than with the fordist mode of mass-production.

When Volvo presented its first models in 1927 (the year Ford opened River Rouge), Swedish papers somewhat prematurely hailed Gothenburg as "Sweden's Detroit". A glance at the main factory of the company, the Lundby Works in Gothenburg, revealed nothing sublime – a simple, five-storied building, reused after a ball-bearing company's recent bankruptcy. Modest in sales progress for decades, Volvo was more successful in branding its produce with national connotations, establishing the slogan "the Swedish Car".

The interwar promise of mass-production was not properly fulfilled until well after the Second World War. The post-war Volvo model PV 444 opened Sweden's door to mass-motorism, much in the same way as Fiat 500 did with Italy in the same period. Both models were essentially pre-war technology (the Fiat 500 was even released a few years before the war). Both companies had been heavily engaged in military equipment during the war, and now efforts were redirected towards peace-time production, meeting a new and eager market. At the same time the blend between company image and national image gradually became cemented – Volvo became an undisputed symbol for Sweden, and Fiat consolidated a similar position in an Italian context.

A new generation of production plants embodied the transition of scale and position. In Turin the enormous Mirafiori Plant, opened in 1939 but not in full operation until after the war, finally fully utilized the fordist production concepts (ironically enough partly fuelled by Marshall Aid). In Gothenburg, the dream of a large-scale plant designed in accordance with production did not come true until 1964, when the Volvo Torslanda Plant was opened as Scandinavia's largest industrial complex. The seemingly immaculate organization and the sheer size of production and premises left reporting journalists in awe. Plants like Torslanda and Mirafiori could finally with some credibility claim to have achieved the technological sublime. By that time, however, the Ford Corporation's position was no longer singular and the system it had made famous had been challenged by competitors for decades.

In both Turin and Gothenburg, the relationship between city and company was characterized by symbiosis: the municipality provided the necessary infrastructure and workforce, the company provided stability and wealth. It also added the image of a modern city. The relationship was, however, built on expansion. When expansion was no longer possible, the relationship started to crack. Decades of crisis in the automotive industry forced the two cities to reconsider their identities as urban centres. In Turin, where the character of one-company town had been most successfully accomplished, the difficulties were harder to deal with. The expression *dopo Fiat* (after Fiat) was the headline of an ongoing debate, while in Gothenburg similar processes meant painful changes for the many people depending on the city's most important industry, leading to a search for new identities and sources of work and living.



Sublime control: Mass-producing Volvos in Torslanda, 1964

Photo: Volvo Archives

Today Turin and Gothenburg are still car cities, but the image is blurred. Gothenburg is “the city of events”, and Volvo Car production ownership has moved from the United States (Ford!) to China in 2010. Turin, stressing a post-fordist identity, claims to be a “city on the move”, symbolized by the spectacular 1991–2001 transformation of the Lingotto Factory to new uses.

Perhaps fortunately, the Detroit of Europe never entirely managed to copy the American original. One can only hope that they do not erase the legacy of this formative period in their present strife to find new identities and new outcomes.

The author is a researcher at the Department for History of Science and Technology, Royal Institute of Technology in Stockholm.

France

Gaupillat gone: a testament to urban eradication

Antoine Monnet

Président, Association La Fabrique

■ It's true; we imagined a different fate for the Gaupillat factory in Bas Meudon (see TICCIH Bulletin #51), the last remnant of the Industrial Age in the Seine valley. For six years, we invested our time and energy in its future, conceiving a factory transformed as a cultural and social center that would benefit the neighborhood, the town, and its inhabitants. We believed the fortuity of its transformation held out sufficient promise to resist the crass appetite of real estate promoters and political caretakers boxed in cubicles of virtual reality.

The demolition of the Renault factory on the Ile de Seguin announced the unflagging destruction of our immediate environment and architectural heritage. We discovered that only one edifice of that past remained: the Gaupillat factory. Its awesome brick chimney, Eiffel-inspired scaffolding, sheds, pointed roofs and other peculiarities were suddenly unique in the Val de Seine. Its preservation, renovation and transformation, we believed, could create both a jewel of that legacy and serendipity of its future.

The Association La Fabrique was born. In a few short months, it brought together formidable energy from multiple horizons: historians, architects, artists, students, specialists in social integration, teachers, neighbors and others. History will retain little of the hours spent refining and enriching the project, seeking advice, studying similar experiences elsewhere, assembling and documenting its argumentation, and defending it locally and regionally. Acknowledgment of that shared effort is ours alone.

We demonstrated, despite the opposition, that thinking and acting differently was, in fact, possible – utopian, perhaps, but possible and nearly achieved.

We aren't so crazy. And we aren't the only ones. Probing examples of intelligent reconversion of industrial properties do exist. But now, they exist elsewhere, not in the Val de Seine.

Know that the last industrial building in the Val de Seine might still be standing...

...If the architect from Bâtiments de France had had the courage to resist political pressure, he might given his professionalism voice, and expressed opposition its destruction.

...If the Ministry of Culture had ignored local political gamesmanship as they considered preservation work on the western borders of Paris, it might have listed the factory as a historical monument and protected its solitary importance.

...If the property owners had considered their own history for more than a fleeting moment, they might have chosen an offer other than the most remunerative. They might have avoided the obliteration of any trace of their ancestor's entrepreneurial legacy and local civic character...

What we now accept of urbanization erased the past of a neighborhood, a town and a locality.

Granted: sometimes we don't understand the stakes involved in decision-making. But all too often, we recognize that decisions are made backstage, where political complicity is construed of private ambitions locking horns and business interests seeking insipid common ground – before the curtain rises on a spectacle in which the public interest is too rarely present. Often, as here, it is simply cut out.

Australia

Archaeology report goes on line

Dr Iain Stuart

■ NSW Archaeology On-Line is a new free on-line digital archive of over 600 previously inaccessible ‘grey-literature’ reports on New South Wales historical archaeology, including industrial heritage and history: <http://nswaol.library.usyd.edu.au>

This archive is an important first step in making “grey” literature available to the public in an easily accessible format. As historical and industrial archaeology and heritage are inseparable in Australian practice, there is much of interest for industrial heritage practitioners.

The archive is stored and managed through University of Sydney eScholarship Repository to be independent of future changes to proprietary software. As technology develops, the content can be moved to new systems, making it sustainable into the future, and content is registered with the Australian National Data Service.

The project was directed by Drs Martin Gibbs and Sarah Colley (Department of Archaeology, School of Philosophical and Historical Inquiry, University of Sydney) in collaboration with the Archaeology of Sydney Research Group, the University of Sydney Library and archaeology and heritage consultancy companies that donated reports. Funding was provided by a Heritage Grant from the NSW Department of Planning and Heritage Council.



The death sentence was carried out on the old Gaupillat factory.

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Contemporary, painful pasts as heritage – looking ahead in Bhopal

Amritha Ballal, Jan af Geijerstam, Moulshri Joshi
Bhopal2011 Organising Committee

On 25 March 2011, the central government's decision was announced to reconsider the demolition of the old Union Carbide pesticide factory in Bhopal, India. This is the site where, on the fatal night of 2 December, 1984, a deadly cloud of gas leaked out, claiming thousands of lives and exposing many more to chronic life-threatening illness. In more than 25 years since what came to be known as the Bhopal Gas Tragedy, the pesticide plant has remained abandoned, contaminated and threatened with demolition. The dramatic turnaround on the future of the site of the world's worst industrial disasters was an important milestone in the fight for the recognition of the site and the urgent need for its preservation.

Over the last two years, TICCIIH India has actively supported the local stakeholders in highlighting the moral and industrial heritage significance of the site, not just for the victims, but for Bhopal as well as the international community. Bhopal2011: International Students' Workshop & Symposium in Bhopal between January 23 and February 4 was a strategic initiative in this ongoing process. Conceptualised by Space Matters, the

architects for the memorial complex to be designed at the site, the event was jointly organised by mAAN (modern Asian Architecture Network) and TICCIIH India. It was supported by UNESCO India and the Research Council of Norway. School of Planning and Architecture, Bhopal, School of Planning and Architecture, Delhi, University of Gothenburg, Norwegian University of Science and Technology, Trondheim, University of Tokyo and the International Coalition of Sites of Conscience were the key institutional partners. Minja Yang, President of Raymond Lemaire International Centre for Conservation and ex-Director General of the UNESCO India, delivered the keynote address. The two week long event drew more than eighty architects, industrial heritage experts, scientists and artists that conducted an intense workshop study as well as engaged in an interactive three-day symposium.

The political and social divides around the issues relating to the tragedy – and a resistance to view sites with contemporary, painful pasts as heritage – need to be addressed as part of the process of transforming it into a publicly accessible place of remembrance and empowerment for the local community. Bhopal2011 provided a platform for discussion, debate and dialogue towards this end by expanding the discourse and contextualising the tragedy within the shared heritage of Bhopal. The participants could engage directly with the evolving

dynamics of the site by speaking with key local stakeholders including the survivors, civil society and the government.

The event was covered extensively in the local media and helped raise awareness, while identifying and strengthening local-global linkages between institutions. In an important development, Space Matters was granted till the first week of July to present a preliminary case for the decontamination, preservation and management of the factory plant to the central government – in order to commission a more detailed study and structure to undertake this exercise.

Bhopal as a case study will play an important role in three upcoming events. Many participating institutions will converge again in Seoul, Korea in August 2011 for the next mAAN conference with the theme Our Living Heritage: Industrial Buildings & Sites of Asia. In October 2011, a follow up workshop on Bhopal will be conducted in NTNU, Norway as part of the Urban India conference. School of Planning and Architecture, Bhopal has volunteered to host the 11th International mAAN conference in 2012.

The issues and challenges of sustainable development, environmental responsibility and safeguarding the rights of the vulnerable remain as important today as 25 years ago; underscoring our belief that understanding and protecting the past is an important investment for our future.



The workshop was held in an abandoned Mughal era palace highlighting how neglect of the factory is linked to neglect of the precinct and its rich heritage. The palace with filigree cast iron columns and stained glass windows was renovated and converted into a studio space for the workshop.

Photo: Shiva Rajvanshi

Wuxi Forum on the Conservation of China's Cultural Heritage: Conservation of the Heritage Canal, April 9-11, 2011

Dr Stephen Hughes

Moves for the nomination of the Grand Canal of China as a World Heritage Canal have gathered momentum with an international meeting held in April of this year on World Heritage Canals and issues surrounding the qualifying principles of Outstanding Universal Value (OUV) and Authenticity and Integrity.

This had some claim to be the highest level interchange on inscribing world heritage canals since the Chaffey's Lock Conference in 1994 and I represented TICCIH at both events as a consequence of co-ordinating the TICCIH/ICOMOS International Canals List in 1996 (see www.ticcih.org: Documentation Centre).

Professor Christina Cameron of the University of Montreal, who presided over the 1994 conference which changed the World Heritage Operational Guidelines to facilitate canals and other functional industrial archaeology to inscribe on the List, gave a keynote address. She has been a President of the World Heritage Committee and in her paper on the 'Challenges of listing and managing World Heritage Canals' gave credit to the TICCIH document in recognising the importance of the Grand Canal. Another keynote speech was given by Dr. Shan Jixiang, Director-General of the Chinese State Administration of Cultural Heritage (SACH) whose organisation is leading the World Heritage Bid for the canal, with perhaps 132 main sites, sections of the canal and landscapes of importance.

A leading role in organising the bid and conference was and is also being taken by an international Vice-President of ICOMOS, Guo Zhan, who is also Vice-president and Secretary General of ICOMOS China and who gave the first of the presentations on the Authenticity and Integrity of Canal Heritage in relation to the Grand Canal. Followed by Stephen Hughes and Professor Michel Cotte (ICOMOS advisor) who spoke on the issues of Outstanding Universal Value (OUV) and Authenticity/Integrity in relation to candidate and inscribed World Heritage Canals they had worked-on.

John Hurd, Chairman of the Advisory Committees of ICOMOS gave an important presentation commenting on the need to recognise internationally significant canals as cultural landscapes, routes and corridors in addition to being globally important lines of intensive civil-engineering. This included tangible and intangible ideas including art, poetry, ideas, science, architecture and diet.

The line of the Grand Canal has been partially changed, and substantially upgraded since its original construction in the 7th century so that its north-south 1,800km route length (1,100km

still in use) represents active and relict channels of over 3,200km in length. In a significant paper, Professor An Jiayao of the Institute of Archaeology at the Chinese Academy of Social Sciences elucidated the excavated remains (now under museum cover) of huge multiple rice storage pits, warehouses and docks (with barges) that once stood alongside the vast disused early arms of the canal (Yongji Qu and Tongji Qu) leading westwards to the former imperial capital of Luo Yang.

Tan Xuming, Director of the Institute of Water Resource History at the China Academy of Water Resources and Hydropower Research, clearly itemised the four engineering systems that made up the Grand Canal system: the hub engineering systems of the rivers; the water-storage reservoirs and dams; the sluices and the canal line itself.

Yukio Nishimura, President of ICOMOS Japan, reminded delegates of what the somewhat obscure term 'Integrity' in World Heritage actually means. In simple terms, that a prospective World Heritage Site should 'include all elements necessary to express its OUV (Outstanding Universal Value)' and 'is of adequate size to be completely representative of the values expressed by its OUV.'

For historical engineering works 'integrity' can be defined as having three main parts: 'integrity of elements' or 'completeness'; 'integrity of size' or 'wholeness' and 'integrity of value' or 'intactness.' If the nomination were enlarged to consider social and cultural issues then there would be a need to discuss different types of integrity.

Between the working sessions the international experts were taken to see the former industrial remains alongside the Grand Canal in Wuxi which consisted of conserved former tile and brick kilns and silk works, accompanying traditional housing and some very fine museums.

TICCIH members who can contribute to this dialogue are invited to email me at s.hughes10@btopenworld.com.

Italy

Twentieth century architecture: the Bird Houses of the Rome Bioparco.

Antonio David Fiore

In the early 1930s, the Administrative Commission of the Zoological Gardens of Rome took the decision to renew and expand the complex. The Zoo, inaugurated in 1911, was designed and implemented by Carl Hagenbeck between Villa Borghese and Villa Giulia. The project was put in charge of Raffaele De Vico (1881 - 1969), an unusual figure of architect-gardener, designer of most of the new parks and green areas built by the Fascist regime in Rome.

The problem of connecting the old part with the new one was resolved through the excavation of a subway (on the two sides of which an Aquarium was created) which did not interrupt the existing road. Between 1933 and 1935 a Reptile House, an Aviary, a couple of twin Bird Houses and a new entrance for visitors were erected.

The Bird Houses are two semi-circular buildings situated on the artificial embankment built by De Vico to allow the excavation of the subway. Facing the visitors' access to the new area, the buildings were designed as an evocative backdrop, like harmless bastions protecting the entrance to an enchanted world. Once through the underground passage, visitors find themselves in front of an imposing staircase which leads to an arched passage. Behind them, in line with the central arch, the metal polyhedron of the Aviary rises. It's a masterpiece of technique and lightness that still today preserves its brilliant design and modern functionality.

The collection of birds formed the most conspicuous part of the zoological heritage exhibited in the new section of the Garden. The semicircular shape obeyed the function allowing the visitor to observe the cages, arranged radially, one at a time, and helping them to concentrate on the details which distinguish one species from another. Heated greenhouses, full of tropical plants, were arranged within the internal extremities, to house hummingbirds and nectariniidae.

The complex of buildings designed by De Vico is of considerable importance, both from an architectural and technical point of view. The need to deal with an already extremely denoted environment (the Baroque villa on one side, and the Zoo old section, with its vibrant eclectic style, on the other) lead De Vico to design the new structures in a language that combines the linear forms of the modern architecture with playful solutions inspired by the roman Late Baroque masterpieces.

Moreover, each building is designed to accommodate the most modern facilities for wildlife conservation, and to be itself a mutant structure able to adapt to the needs of the hosted living beings.

The Bird Houses, in particular, are an interesting case-study for Industrial Archaeology. Even though they were built to meet functional and practical purposes by adopting a number of avant-garde technologies, they do not have a purely technical-functional value, but an aesthetic one too.

This means that the restoration process should not be considered as a mere regeneration of architectural structures, but a process which must preserve the deep meaning of the structures themselves, underlining the strong link between the lost exhibiting function and the persistent fascinating form which is its expression.

publications and conferences

Les plus beaux lieux du patrimoine industriel

Guides Michelin, 336 pages.
Language: French, €17, ISBN: 9782067157262.

Following *Turismo industriale in Italia* (TICCIH Bulletin #49), another mainstream publisher has recognised the wide appeal of industrial heritage tourism. Michelin's *The finest sites of Industrial Heritage* is part of their Patrimoine de France series, following previous guides to castles and churches. Their trademark star system is applied to a sometimes confusing selection of 200 sites, some still in operation like the Airbus factory in Toulouse, some reused – the converted docks of Marseilles Joliette – alongside preserved sites such as the Corderie Royale (royal rope

factory – two stars) in Rochefort, the city of Sèvres ceramics, or the tyre-maker's own in-house museum in Clermont-Ferrand. Perhaps best read in conjunction with Emmanuel de Roux's 2007 *Patrimoine industriel*, published by Editions Scala.



Patrimoine de l'industrie agroalimentaire, paysages, usage, images (*Heritage of the food industry, landscapes, structures and images*)

Editor: Gràcia Dorel-Ferré.,
CRDP de Champagne-Ardenne, 204 pages. Language: French. €23.
www.crdp-reims.fr

The welcome publication of twenty-one papers presented at the TICCIH thematic conference on the food industry in Champagne-Ardenne covers the production, storage, transport, sale and marketing of different food materials including salt, beer, wine and coffee. With an introduction by the editor and organiser of the conference, Gràcia Dorel, and a paper by



Michael Mende on market architecture, are articles from France, Russia, South Africa, Mexico and Scotland.

TICCIH Conferences

Details of the conferences are on www.ticcih.org/TICCIH/news.htm

France

Grain elevators: a heritage to be created,

Nogent-sur-Seine, 20-22 October 2011. Call for papers.

■ 3rd International Meeting of the TICCIH Agriculture and Food Section. Technology, construction, aesthetics, conservation. Info: picot.francoise@yahoo.com

Taiwan

XV TICCIH International congress: post-colonialism & industrialisation – the industrial heritage of others

Taipei, 4-11 November 2012

■ The next full TICCIH congress will examine the close connections between historical, political, racial, environmental, economical, technical, and social questions of industrial heritage. Info and draft timetable: www.ticcih.org Contact: Dr. Hsiao-Wei Lin: linhw23@cycu.edu.tw

World Conferences

South Korea

mAAN 8th international conference

Seoul, South Korea. 25-27 August, 2011.

■ Industrial heritage and the distinct contexts and conditions of Asian countries' industrial sites. Info: <http://maankorea.org/index.html>

Mexico

11th International symposium. Cultural heritage in geosciences, mining and metallurgy-libraries, archives, museums

Mexico City, Pachuca and Real del Monte, Hidalgo, 29 August-2 September, 2011.

■ Info: <http://www.11erbesymposium.org/>

France

Industrial Heritage: New urban policies and the significance of re-use.

Université de technologie de Belfort-Montbéliard, Belfort, 21-24 September, 2011.

■ International seminar organised by the Université with CILAC and the Direction générale des patrimoines. Info: marina.gasnier@utbm.fr

Spain

XIII Jornades internacionales de patrimonio industrial

INCUNA, Laboral Ciudad de la Cultura, Antiguo Instituto Jovellanos, Gijón, 28 September-1 October, 2011.

■ Intangible heritage: objects, artefacts, knowledge and memory. Info: incuna@telecable.es

Germany

9th International conference of the international association for the history of transport traffic and mobility (t2m). Call for Papers.

Deutsches Technikmuseum Berlin (German Technology Museum), 6-9 October, 2011.

■ The history and future of transport museums, exhibitions and collections and transport halls in larger technology museums. Info: submissions@t2m.org

Czech Republic

6th International Biennial 'Vestiges of Industry'

National Technical Museum, Prague, 14-16 October, 2011.

■ Industrial heritage on the edge. The architecture of conversions – the purpose, potential, and limits of new interventions. Info: <http://www.industrialnistopy.cz/2011/>

Australia

Watermarks, the heritage of water

Melbourne, 27-30 October, 2011. Call for papers.

■ Annual conference of Australia ICOMOS and National Trusts of Australia. Industrial aspects of water supply. Info: www.aicomos.com/2011-watermarks/

France

Railways and speed – two centuries of speed on the railways, thirty years of high-speed trains. Call for papers.

The International Union of Railways headquarters, Paris, 14-16 December, 2011.

■ The conference is supported by SNCF, the International Union of Railways and AFFI. Info: www.ahicf.com