



Approaches to INDUSTRIAL HERITAGE WHAT WORKS?

Edited by JoAnn Cassar and Reuben Grima

Proceedings of a conference organised by The Farsons Foundation in collaboration with the Department of the Built Heritage, Faculty for the Built Environment, University of Malta on1st February 2013.







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Their vision and support for enhancing awareness about Malta's rich industrial heritage and more specifically about Farsons' old brewhouse launched the initiative which led to the conference organized on the 1st February 2013. This idea was enthusiastically and professionally supported by the Department of the Built Heritage, Faculty for the Built Environment, University of Malta. The collaboration and expert guidance of Professor JoAnn Cassar, Associate Professor and Head of the Department of the Built Heritage as well as Dr Reuben Grima, lecturer at the same department enabled the conference and this publication to receive the professional standing which Malta's industrial heritage deserves. May this initiative indeed contribute in some way to further discussion, debate and initiatives to support this critical area of Malta's history.

We acknowledge with gratitude the professional contribution of all the participants at the conference and the contributors who accepted to follow this up with their contribution to this publication. We are also indebted to all the professionals who contributed information and encouraged us in our endeavour, especially the team at Heritage Malta.

We are fortunate to have had the assistance and unstinting support of the company secretariat at the Farsons Group, namely Mr Kenneth C Pullicino, Assistant Company Secretary, Ms Graziella Camenzuli and Ms Jacqueline Farrugia Grungo. They ensured that both the conference and this publication actually materialized. I am indebted to them.

I am grateful to all my colleagues at work for their invaluable assistance in various ways as well as to the team at BPC International Limited for their advice and cooperation.

I am also grateful to MaltaPost p.l.c., and in particular to Ms Mary Grace Simpson, Head of Philately, for kindly providing images of the 1981 definitive stamp set depicting industries in Malta, and for their kind permission to reproduce those images here.

Antoinette Caruana – Company Secretary Simonds Farsons Cisk plc September 2013

List of contributors

Mr Timothy Ambrose is an international specialist in cultural destination development and cultural heritage management.

Mr Ambrose has a wide experience with cultural destinations of all sizes – from regions to cities and from museums to monuments. He advises clients both in the UK and overseas on concept development, policy and strategy development, governance and management structures and operational and staffing issues and has a particular interest in museum and gallery developments. Mr Timothy Ambrose has also published a wide range of articles and books on museums and cultural heritage matters.

He now works as a Principal Associate for Locum's successor company, Colliers International and is Principal of Timothy Ambrose Consulting. Mr Ambrose was also part of a Colliers team that advised the Government of Malta on its submission for the candidature of Valletta for the title of European Capital of Culture 2018.

Dr Ing. John C Betts graduated in Mechanical Engineering from the University of Malta in 1991 and obtained an M.Sc. in Astronomy from the Technical University of Swinburne, Victoria, Australia; he subsequently obtained a PhD on Laser Material Processing from the University of Malta. He is Head of the Department of Metallurgy and Materials Engineering, and Dean of the Faculty of Engineering of the University of Malta, which this year is celebrating the 50th anniversary of the Degree in Engineering. He has worked as a departmental manager at Malta Shipbuilding Co. Ltd. and production manager at Stainless Steel Products Ltd. and has also been employed as research engineer with the Euro Mediterranean Centre on Insular Coastal Dynamics of the University of Malta. As Faculty Dean he is keenly aware of the relevance of industrial heritage in the professional formation of engineering graduates, and in the engineering environment today.

Professor JoAnn Cassar is Associate Professor at the University of Malta and Head of the Department of the Built Heritage, which runs three Masters programmes on conservation and cultural heritage management. She has conducted research since 1981 on the composition, properties, deterioration and conservation of building materials, has over sixty scientific publications on conservation-related topics and has lectured widely abroad. She is a member of the Board of Directors of Heritage Malta, and a member of the International Advisory Board for the MA in Wall Paintings Conservation of the Courtauld Institute of Art, London, UK. She sits on the Editorial Board of the Quarterly Journal of Engineering Geology and Hydrogeology of the Geological Society of London, as Associate (Overseas) Editor. She is a Fellow of the International Institute for Conservation (FIIC), Fellow of the Geological Society (FGS), Chartered Chemist and Fellow of the Royal Society of Chemistry (CChem FRSC).

The Hon. Dr Mario de Marco is a Maltese politician and academic. He studied at St Aloysius' College and at Cambridge University, United Kingdom, where he graduated in international commercial law. While there he was nominated a Commonwealth Scholar for Academic Achievement. As well as specializing in Commercial Law he also specialized in Fundamental Human Rights. He is Commercial Law lecturer at the University of Malta.

In the 2003-2008 parliamentary term, he was nominated as Vice-Chairman of the Parliamentary House Committee in the House of Representatives. He is also a member of the Parliamentary Committee for

European and Foreign Affairs. Following the March 2008 general election, he was appointed as member of the Cabinet, as Parliamentary Secretary for Tourism, within Prime Minister Lawrence Gonzi's office. In January 2012, he was appointed Minister responsible for Environment, Tourism and Culture. He is currently serving as a Member of Parliament and is the current deputy leader for parliamentary affairs of the Nationalist Party.

Mr Louis A Farrugia qualified as Fellow Member of the Institute of Chartered Accountants in the UK. He is Chairman of the Farsons Group as well as the Multigas and Farrugia Investments Groups. Mr Farrugia was the founding President of the Foundation of Human Resources and past President of the Malta Chamber of Commerce. In January 2010 he was appointed Chairman of the Malta Tourism Authority and in May 2011 he resigned this post to be appointed non-Executive Chairman of Air Malta plc, a position he held until April 2013.

In 2004 he received an Order of Merit (MOM) in recognition of his contribution on a national level to industry and enterprise in Malta.

He was also awarded Ufficiale dell'Ordine Al Merito della Repubblica Italiana on 15th January 2013 for his voluntary involvement in initiatives outside his direct line of business.

Mr Michael Farrugia is Head of Business Support and director of Simonds Farsons Cisk plc and Farsons Beverage Imports Company Ltd. He joined Simonds Farsons Cisk plc in 2006 whereupon he was assigned to the newly formed export division before taking on wider responsibilities within the group as Business Development Manager and Head of Business Support, also playing an active role in the development of the Farsons Business Park and Visitor Centre under consideration. Educated in the UK, Mr Farrugia graduated from Edinburgh University completing his Masters degree in History and followed up his studies with a postgraduate diploma in Journalism from the London School of Journalism. Before returning to Malta, Mr Farrugia worked in the European Parliament in Brussels and completed an internship with European Voice, a sister publication of the Economist Group. He is currently enrolled with Warwick University where he is undertaking a long distance MBA.

Mr Bryan A Gera read Business Administration at the University of Malta 1969-1971 leading to D.B.A.. Managing Director and currently Chairman of Alfred Gera & Sons Ltd. Served as Honorary Secretary of the Malta Chamber of Commerce between 1972 and 1973. Initiated Business Education at Malta Chamber of Commerce and chaired the Committee from its inception in 1974 up to 2003. He was awarded a scholarship in 1974 by the American Embassy to visit management schools which included Tulane University in New Orleans, Berkley and Stanford in California, as well as several chambers of commerce. In 1976 was appointed Director of Mid-Med Bank representing the 40% shareholding held by Barclays Bank International. In 1974 he started the Luther College Scholarship in Iowa sending some 70 students over the years.

In 1980 he was invited to join the Board of Simonds Farsons Cisk and was appointed Chairman in 1995 serving in this capacity up to 2011. He was a member of the management board of The Farsons Foundation from date of setting up in 1995 and is currently its Chairman.

Professor Robert Ghirlando graduated in Mechanical Engineering from the University of Malta in 1968 and proceeded to obtain an MEng in Power Plants and a PhD in Internal Combustion Engines from the University of Liverpool, UK. He is a member of the Department of Mechanical Engineering, and Director of the Institute for Sustainable Energy of the University of Malta. For many years he managed Malta University Services Ltd and Malta University Publishers Ltd. He has also served as Chairman of Enemalta. He is a Fellow of the Institution of Mechanical Engineers (UK) and a founder member of the Chamber of Engineers of Malta. His pioneering interest in industrial heritage spans more than two decades. He has participated in a Grundtvig project on Virtual Museums, and has published and lectured widely on Malta's industrial heritage. In 2012, he organised a week's study tour of Malta's industrial heritage for the (American) Society of Industrial Archaeology.

Dr Reuben Grima is a lecturer in the Department of the Built Heritage at the University of Malta, where he lectures in cultural heritage management. After reading for his PhD at the Institute of Archaeology, UCL, he served with Heritage Malta as the Senior Curator responsible for prehistoric sites between 2003 and 2011. During this period, he was project leader of the Haġar Qim and Mnajdra Conservation and Presentation Project, completed in 2010, and contributed to the preparatory stages of key projects for Tarxien and Ġgantija. From 2006 to 2011, he was National Focal Point for Periodic Reporting on UNESCO World Heritage Sites, and from 2004 to 2013, served on the Maltese National Commission for UNESCO. He has served as member and as chairman of the Scientific Committee for the Conservation of the Megalithic Temples. He is a Fellow of the Society of Antiquaries of London.

The Hon. Dr José A Herrera is Parliamentary Secretary for Culture and Local Government. He has served as a Member of Parliament for 17 years. For 27 years, Dr Herrera practiced his profession as a lawyer, owning a legal office, and specialising in criminal law. He served as Labour's spokesperson for the Central Bank, Financial Services and Maritime Affairs. Between 1996 and 1998, he served as a member of the Maltese and EU Joint Committee as well as a member of the Parliamentary Committee on Foreign Affairs and European Affairs. He was a member of the Labour Party's Executive Group, where he represented the Parliamentary Group. During the 2008 – 2013 legislature, he served as a Shadow Minister for Justice and actively participated as a member of the Committee for the Ratification of Legislations. Hon. Herrera is currently responsible for all Local Government, together with Culture, Heritage and Restoration and for Valletta 2018 as the European Capital of Culture.

Mr James Licari graduated in Conservation and Restoration Studies in 2003 from the University of Malta, specializing in the conservation-restoration of metals, ceramics, glass, stone and composite materials. Following his graduation, he attended other courses locally and abroad. He now works full-time as a conservator-restorer/lecturer at the Institute for Conservation and Management of Cultural Heritage (ICMCH), within the conservation-restoration division of Heritage Malta. He was the founding president of the conservation and restoration co-operative society 'ReCoop' (operating since 2003), and initiated a conservation and restoration company named 'Heritage-ResCo'. He was a founding committee member of MAPCo-Re: The Malta Association of Professional Conservator-Restorers, and a committee member of ICOM-Malta and ICOMOS-Malta.

Mr Joseph Magro Conti graduated in archaeology from the University of Malta, and followed postgraduate studies in Mediterranean culture and heritage management at La Sapienza, Rome and at the University of York, UK. He is the manager of the Heritage Planning Unit within the Malta Environment and Planning Authority (MEPA) responsible for policy development and advice on immovable heritage and development, the Scheduling Register for cultural and natural heritage, urban conservation areas, monitoring development within heritage sensitive areas, and the administration of grant schemes for the restoration of heritage buildings. His interest in industrial heritage spans from ancient times to modern. He has helped pioneer the appreciation, protection, restoration and rehabilitation of industrial heritage buildings in Malta.

Mr Ray Polidano is the Director General of the Malta Aviation Museum Foundation, a position he has held since 1994, when he started rebuilding a Spitfire aircraft that had served in Malta during World War II. Since then, the Malta Aviation Museum has witnessed a succession of milestones, including the inauguration of the Air Battle of Malta Memorial Hangar. His interest in industrial heritage is focussed on aviation and its connection with Malta, as well as the associated infrastructure, including airfields, hangars and related structures, much of which is tied to the aerial activity that took place over Malta during the Second World War. Mr Polidano's, and the Malta Aviation Museum Foundation's, interest is to record and salvage some of the structures on these airfields for posterity, as well as to acquire aircraft and memorabilia related to this period, to be conserved and displayed inside the museum at Ta' Qali.

Professor Alex Torpiano is currently Dean of the Faculty for the Built Environment and Head of the Department of Civil & Structural Engineering at the University of Malta. He is a UK Chartered Engineer and Member of the UK Institution of Structural Engineers. In 1994, he set up the Institute for Masonry & Construction Research, which he directed up to 2009. Currently, he is Chairperson of the International Institute of Baroque Studies, and member of the Institute of Sustainable Energy, and of the Institute of Sustainable Development, within the University of Malta. He has had a long career in private practice. In 1988 he set up TBA Periti, and in 2000 he was one of the founding partners of aoM partnership. He has worked on many projects involving the restoration of heritage masonry structures. He has served as Chairman of the Centre for Restoration Studies, Chairman of the Valletta Rehabilitation Committee, and President of the Chamber of Architects & Civil Engineers.

Mr Godwin Vella graduated with a B.A. (Hons) in Archaeology from the University of Malta (1995), and an MBA with a focus on Heritage Interpretation (2002) also from the University of Malta. He has served on a number of government appointed boards and committees in the heritage sector, including the Board of Directors of Heritage Malta, the National Agency for museums, conservation practice and cultural heritage. He has authored several studies on Malta and Gozo's cultural patrimony. Mr Vella was secretary of the heritage organization Wirt Ghawdex between 1992 and 2004, managed Heritage Malta's Gozo Area Office between 2004 and 2008, and headed the Ethnography, Industrial Heritage and Fort St Angelo Curatorial Unit until 2013, when he was appointed Chief Curator within the same National Agency, Heritage Malta.

Contribute, preserve, maintain and make better known Malta's heritage

Bryan A Gera

Chairman, The Farsons Foundation

Industrial heritage is not exclusively a product of the 19th and 20th centuries. Industrial heritage existed in all phases of human development but the Industrial Revolution was an unprecedented catalyst for progress. The achievements and grandiose constructions which started off in that era set off a momentum which carries on unabated to this day, and which continues to pervade our lives.

This momentum was fuelled by human inventiveness. As a result of that same inventiveness, these very same industrial sites ended up literally victims of their own success when they had to make way for new facilities employing more advanced technology and innovations developed in those older industrial sites.

Farsons is considered to be one of the pioneers of industrialization in Malta. It is fitting that this conference was convened in what nowadays is referred to as Farsons' 'Old Boardroom', where part of the industrial heritage we enjoy today was decided upon in the late 1940s.

I feel it is apt and of interest to refer to a short quote from Dr Edward Sammut's book entitled the "Saga of Simonds Farsons Cisk". The contract to build this Brewery was based on the preliminary drawings of Mr Lewis V Farrugia, the father of the present Chairman, who was an architect as well as an industrialist. In reality, he was the man who built this company in more ways than one. Dr Sammut writes and I quote:

...the designs for the Board Room... are a throw-back to the Art Nouveau he had learned during his stay at the Milan Polytechnic in the early twenties. With its lofty glazed loggia, dog-toothed friezes and other decorations it might very well be the drawing-room of a country villa, rather than a room in an industrial establishment (Sammut, 1988, p.63).

The last few years have seen an increased interest in understanding our heritage but, to my mind, a greater awareness of the importance of industrial heritage is called for if we are to truly respect our past on a holistic basis.

It was with pleasure and without any hesitation that the Board of Administrators of The Farsons Foundation agreed to join forces with the Department of the Built Heritage within the Faculty for the Built Environment of the University of Malta in organizing this conference. One of the objectives of our Foundation is to "contribute,

preserve, maintain and make better known Malta's heritage". This conference falls squarely within the Foundation's objectives and must be regarded as one of the best initiatives to which the Foundation has lent its name.

One hopes that this conference, and in turn this publication, will serve to stimulate an engaging debate on Malta's industrial heritage and on the ways to focus on this aspect of our country's history.

The Farsons Foundation is proud to support this initiative and to raise further awareness about Malta's industrial heritage.

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Capturing the industrial tangible... and the technological intangible

The Hon. Dr José A Herrera

Parliamentary Secretary for Culture and Local Government

Though a small island, Malta has a history of industrial heritage which needs to be looked into. This conference has attracted a number of studies, which tackled the subject from different perspectives. The different viewpoints discussed encompass the various approaches and concepts which differ in content. Nevertheless, common ground has been identified and we need to look at this as a positive start.

What is industrial heritage? This question is key to the papers presented in this collection. Authors specialising in the particular fields have enquired into the definition of the term, as this turned out to be a main concern. The natural tendency when dealing with the subject is to associate the term with a particular period in time - modern industry connected to the Industrial Revolution. However, the term has a wider scope and deals with the physical remains of the history of technology and industry. This characterization broadens the research field. This concept therefore includes the Neolithic tools found in prehistoric temples or the olive presses found in Roman remains. The artefacts are now seen from different perspectives, and give different insights on their functionality, concept of design, sociological information, material used and many other models which all need to be interpreted.

This conference has also touched upon the new challenges and practices currently adopted when dealing with innovative concepts. When discussing conservation/ restoration issues, it is evident that a lot of research needs to be done in order to understand how to intervene on objects composed of a mixture of different materials. This sector needs to understand, design and legislate practices that are either unknown or unregulated in this field of practice. This goes hand-in-hand with the educational aspect, wherein focus should not only be given to the academics working in the field, but also the need to educate the public in general. Architectural appreciation needs to be broadened and studies need to be disseminated with the respective authorities to be able to influence decision-making processes. Unfortunately, lack of knowledge in the field, especially when we are dealing with modern history, is failing to preserve certain historic evidence. Although we might be safeguarding tangible artefacts, there is a lack of appreciation of the intangible heritage.

This is surely a field which opens up research not only on innovative areas, but also on artefacts and information already in hand at the respective authorities. Undoubtedly, here we have an important platform where players from different fields can get together to discuss, agree upon or agree to disagree on certain terms and conditions.

It is impossible for the Government to be the sole operator of the vast quantities of cultural heritage material that exists in the country. This conference has also been a good opportunity to hear from different players about their different approaches to the same problem. This is where the Government has to work alongside NGOs and the private sector. It is not solely a matter of funding wherein different approaches like Corporate Social Responsibility (CSR) programmes or EU funds can be tapped into. It is also an operational matter wherein different formats of interpretation can be adopted for particular subject matters. In this respect, I thank The Farsons Foundation for giving us all this opportunity and for being leaders in this field here in Malta.

The conference and publication are a step in the right direction to bring the subject to the forefront. Nevertheless, we must move on. The outcome of this conference is the initial spark to start the engines and move the cog wheels. Through its agencies and legislative powers, the Government has to be one of the main instigators to set the framework. However, Government needs the help of the private sector, working hand-in-hand to create best practices and to give direction.

We must also keep in mind an area which always seems to be forgotten: contemporary history. In a few seconds the 'now' becomes the past. Sometimes we do not appreciate the wealth that is currently around us, and how technology is silently but profoundly affecting the way we live: a simple tweet from a protestor can bring about a revolution. Let us become fully aware of this and find a way to capture the tangible and intangible of our present history.

Opening Address

The Hon. Dr Mario de Marco

I am pleased to have been invited to address this industrial heritage conference hosted by The Farsons Foundation. The theme is intrinsically related to Malta's economic development, our own built heritage, and also our national identity.

Conserving our heritage underpins our responsibility to pay homage and respect to generations passed, but also relates to our present and future social, cultural identity as we take into consideration Malta's economic, cultural, demographic, and political developments along with the appreciation of craftsmanship, tradition and customs that surround our heritage.

Malta has indeed had its fair share of industrial innovation, such as the 1907 Blackley's bakery in Pieta', once described as a model bakery (Macmillan, 1915, p. 333) and the 100-ton Armstrong cannon at Fort Rinella. The Grand Harbour area, which we are obviously familiar with, became the focus of the main developments of the Industrial Revolution in Malta, especially those which suited the needs of the British Empire. Indeed in the course of the 19th century, the multifaceted harbour communities evolved into one of the most extensive and avant-garde industrial communities throughout the Mediterranean.

Whilst promoting an appreciation of industrial heritage, we must recognise that preserving our industrial heritage has its own challenges. Storage space and routine maintenances are just two major challenges. Yet sustainability must be the way forward for the preservation and strengthening of this sector. Our heritage, together with our natural environment and our culture, is what indeed makes our tourism product distinct and unique.

The Malta Environment and Planning Authority also has a significant role to play in safeguarding and strengthening our industrial heritage. A number of iconic 20th century buildings, such as the former drydocks and over 50 other sites in Malta and Gozo, are presently the subject of research with a view to schedule them in the future, but first, strategic objectives need to be identified so as to ensure that the limited resources are maximised.

Heritage Malta has also long been active in this particular field. The preservation of the Malta Maritime Museum – housed in the former Royal Naval Bakery, which is Malta's first ever purposely-built Industrial Revolution era building - is possibly the best known endeavour so far. More recently Heritage Malta ensured the preservation of machinery and equipment from the Malta Shipbuilding plant and the Malta

Drydocks, apart from a fleet of over 90 buses. A considerable number of machines has been collected from other locations, such as printing presses.

Heritage Malta has appointed, for the first time ever, a curator specifically for industrial heritage - a clear sign of the importance that this sector is being given. Non-governmental organisations such as Din l-Art Helwa, Fondazzjoni Wirt Artna, and others continue to do a sterling job in restoring and keeping our heritage alive, sometimes even preceding Government's efforts.

The private sector also has a particularly important role to play. This conference is one such initiative by the private sector – for which I thank The Farsons Foundation. This positive event highlights the historical relationship between Simonds Farsons Cisk plc, with its brewing history dating back to the 1920s, and the development of industrial heritage in Malta, whilst encouraging discussion on the approaches that will further enhance Malta's industrial heritage.

This 1940s Brewery, which was built on a reinforced concrete frame, was an innovation in itself at that time, while exhibiting refined architectural detail as one can see in its proportions, rhythm, scale and stark whiteness, contrasting with the shades and shadows that emphasise the articulation of the architectural elements.

Even more innovative was the boldness of the designer, Architect Lewis V Farrugia, to make the industrial interior of this building visible from the exterior by literally putting on exhibition throughout the day, and even more spectacularly when lit at night, the functional huge upper brewing vats as if to demonstrate that the heritage of industry is indeed truly remarkable... and it is. In appreciation of all these architectural and historical qualities, this building was scheduled last year. Even today Simonds Farsons Cisk plc continues to be a pioneer in the industrial sector and in entrepreneurship, having just invested over 12.5 million euros in a brewhouse project that has given us another iconic building with state-of-the-art equipment.

I conclude by thanking Simonds Farsons Cisk plc for its ongoing investment and strengthening of the brewery sector in Malta, and for sponsoring the organisation of this conference. I augur that this will lead to a fruitful discussion, and to more initiatives that continue to enhance Malta's industrial heritage.

February 2013

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Foreword

John C Betts

Dean, Faculty of Engineering, University of Malta

The Industrial Revolution has been defined by Nobel prize-winning economist Robert E. Lucas Jr (2004) as the first time in history that the living standards of the masses of ordinary people began to undergo sustained growth. The industrial environment produced by this change encapsulates the lives of the people who create and run the infrastructure of industrial societies; and as a significant contributor to the human experience, the elements of this environment, and its fabric, deserve their due consideration as part of our heritage. This first Maltese conference on this theme, held on premises which are part of the history of industry in Malta, and of the lives of employees who have spent part or all of their working days here, is compiled in this collection of proceedings, which presents the challenge to stakeholders in the history of our country; conservation of the rich industrial environment of the Maltese Islands. With the challenge come the vast potential and opportunity created by a healthy and nurtured heritage. The readers of this compilation of presentations are invited to share the concerns and interest of the authors and participants at the conference for this element of our history, and to join the conservators, historians, archaeologists, curators, collectors, scientists, industrialists and engineers involved in this endeavour: the preservation of the history and environment of industry and its people.

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Speakers' table at the conference. Left to right: Ms A Caruana, Mr B A Gera, Mr L A Farrugia, The Hon. Dr M de Marco, Mr T Ambrose, Prof A Torpiano.



Participants at the conference.



Old Brewery tour organised for the participants.



Participants during the tour of the Old Brewery.

Welcome Address

Louis A Farrugia

Chairman, Simonds Farsons Cisk plc

This is a uniquely novel conference for us to organise, but quite necessary if we are to treasure our industrial heritage.

It is now almost five months since Farsons hosted a number of Maltese and foreign distinguished guests when, in September 2012, we inaugurated the fourth Brewhouse in our history, replacing the facility which was built on this Mrieħel site in 1948. This new Brewhouse is actually the third one built by the Farsons family in its 85-year history in this industry, the fourth if one also considers the Malta Export Brewery of 1928.

This Company has been actively present on the Maltese industrial scene for these long years, so I venture to state that it is one of the pioneers of Maltese industry.

With this rich legacy in mind, it gives me great pleasure to welcome all the participants in this Industrial Heritage Conference organised by The Farsons Foundation in collaboration with the Department of the Built Heritage within the Faculty for the Built Environment of the University of Malta.

The presence of so many participants is a healthy indication of the growing awareness of Malta's industrial heritage. Your own background from such a varied spectrum of organisations and NGOs shows that it is not only our rich archaeological, artistic and military heritage which merits our attention. Malta's industrial heritage is not restricted to the underground power station at Kordin or to the installation at the Drydocks.

There is more to remember and treasure, and perhaps this is an appropriate time to draw on the experiences of all stakeholders in discussing what works in our approaches. At Farsons, we would very much like to present our own heritage but more so, we would like to generate a debate on how best to repair, restore and reuse our industrial past.

We view this as being very much part of our Corporate Social Responsibility (CSR), complementing the assistance we regularly forward through The Farsons Foundation to various organisations concerned in some way or other with Malta's heritage.

Beyond the Government's own responsibility, the private sector should also undertake its own initiatives. It is Farsons' intention to take a more active role in this regard over the next few years, and to participate through an investment that is linked to our own industrial heritage. Our plans are in their early stages of development as

yet, but I can assure you that we wish to recognise our industrial past, by investing in and highlighting our own contribution to Malta's identity and to the development of the country's economic and social history.

I am sure, given the distinguished participants we have gathered at this splendid venue, that we shall have a successful conference.

Thank you.

Working places, working people

Timothy Ambrose

Introduction

May I first thank Farsons and the University of Malta for their kind invitation to speak to you today on the subject of industrial heritage. It is both a pleasure and a privilege to be here.

I am not going to speak about the industrial heritage of Malta per se – this is a subject best left to those who know about it in detail – and I can see many of them in the room today.

What I have been tasked to do is to provide some form of context or contexts within which discussion later on can be set. I am therefore going to look at five areas that I think will be helpful in any development of policy and strategy for the industrial heritage in Malta.

I am going to say a little about the development of interest in the industrial past, particularly from a European perspective. Then I am going to explore the value of industrial heritage and the arguments that need to be deployed in any case for support. I want to say a little about the definition of terms and what we have meant to date by the term 'industrial heritage' and what we might mean for the future. A further issue that I will touch on is the relationship between sites and buildings, objects and people – and finally, in the light of what has been achieved in different European countries, I will say something about the elements that I consider are needed to help build a coherent strategy for the care, promotion and use of the industrial heritage.

1. Industrial history and heritage - the development of interest

In the UK and elsewhere in Europe from the 1950s onwards, economic and technological change, deindustrialisation and international competition between countries led progressively to a decline in extractive, processing and manufacturing industries and their supply and distribution chains. As the pace of change quickened decade by decade, a vast legacy of redundant industrial sites and monuments, machines and archives resulted. But given the nature of much of this heritage, it quickly became apparent that the surviving evidence base of many aspects of UK and European industrial history was increasingly at risk and in many cases was being destroyed before its preservation or documentation.

In the UK and in other countries in Europe and beyond affected by these changes, specialist and increasingly public concern over the rapid loss of this important aspect of the cultural heritage progressively led to:

- the creation of new preservation and conservation policies and strategies at national, regional and local level.
- the development of new structures for international liaison and networking e.g. The International Committee for the Conservation of the Industrial Heritage (TICCIH), European Route of Industrial Heritage.
- new thinking about how industrial heritage and the historic industrial environment could be appropriately and sustainably developed for cultural/ commercial use.

As a result of these processes, the industrial heritage and the historic industrial environment have seen two main (often linked) approaches to preservation, conservation, development & use:

- Cultural tourism the development of former industrial sites and monuments as tourist attractions, industrial museums, ecomuseums, heritage centres, art galleries, performance venues etc. (the cultural heritage approach).
- Commercial development and reuse housing, retail, offices, catering, craft production, holiday accommodation etc. (the commercial approach).

In parallel, given increasing public interest in the industrial heritage, industrial tourism has also developed with visitors interested to see contemporary production processes and techniques.

So where have we now reached after five to six decades of work within the field of industrial heritage and industrial tourism?

Protecting significant industrial heritage assets

At international level, a good example is the progressive extension of World Heritage Site designation to include industrial heritage sites and monuments. Some 8% of inscribed cultural heritage sites on the World Heritage List are industrial by nature - the Zollverein industrial complex in Land Nordrhein-Westfalen is one good example from many. A similar percentage of tentative cultural heritage sites, that is those sites which are currently being considered for inscription by different countries, are industrial by nature. The majority of the inscribed industrial heritage sites are in Europe and the USA. Combining the inscribed sites and the tentative list shows however a much wider distribution of sites than previously, now including for example a number of sites in Africa and South America. This reflects a growing recognition of the value and significance of industrial heritage in all parts of the world.



Figure 1. The Zollverein industrial complex in Land Nordrhein-Westfalen, Germany.

Similarly at national level, most countries in Europe have now included significant industrial heritage assets on their registers of protected sites, through for example such processes as listing and scheduling. Taylor's Foundry in Loughborough is a good example from the UK – a foundry incidentally that over the years has looked after church bells from Malta.



Figure 2. Taylor's Foundry, Loughborough, UK.

Industrial heritage as cultural tourism

Over this period, we have also seen a very extensive range of industrial monuments and sites developed as heritage attractions. They vary widely in scale and type and date, reflecting many different aspects of the industrial heritage – quarries, mills, canals, railways, factories, boatyards etc. They also vary widely in approaches to interpretation, governance, management and funding. There are many models that have been developed to care for and interpret significant heritage assets.

In parallel with individual sites and monuments, whole industrial landscapes have been developed as cultural tourism attractions – Ironbridge Gorge is an excellent example of how a historic built environment has been preserved and presented to public audiences together with monuments such as the iconic Iron Bridge and a range of museums helping to interpret industrial heritage collections.



Figure 3. The Iron Bridge at Ironbridge, Shropshire, UK.

Museums have also played an important role in the preservation and interpretation of industrial heritage material where it has had to be relocated from its original location. A wide range of new museums has been developed in Europe

to house industrial collections. The new Riverside Museum in Glasgow, one of the great industrial cities of Europe, focuses on different aspects of transport and travel – but there are many industrial museums that have been established often in former industrial buildings that tell the story of individual industries or the industrial history of a town or city or region. In some cases, these serve as site museums interpreting former industrial monuments and historic industrial landscapes; in other cases, they are separate from their original location of production and/or use.



Figure 4. The new Riverside Museum under construction, Glasgow, UK.

The reuse of industrial heritage assets

One form of preservation of former industrial buildings and structures is their adaptation for contemporary purposes, for example, offices or residential developments. There are now countless and often very imaginative examples throughout Europe demonstrating the value of retention and reuse. This example in Amsterdam shows what can be achieved through skilful architectural and engineering intervention.



Figure 5. New office developments on a former crane base, Amsterdam, Holland.

In parallel with the retention and reuse of individual buildings, whole industrial landscapes with their buildings and structures have been preserved and redesigned for contemporary needs. Liverpool, one of the great international mercantile cities, provides one good example among many. Many of its former industrial buildings have been converted for residential and office accommodation, as well as for retail, restaurants and recreation purposes.



Figure 6. Former warehouses in Albert Dock, Liverpool, UK.

Industrial tourism

In parallel with developments in the industrial heritage sector, public interest in contemporary industrial processes has increased significantly in recent decades. A large number of important European and international businesses have established tour programmes for their factory and production centres and created brand showcases explaining their work. Volkswagen's brand showcase, Autostadt, is one of the best known and largest examples, but brand showcases come in all shapes and sizes and present and explain a very wide range of contemporary industrial practice. In many cases, brand showcases provide the visitor with an understanding of where the business has come from (heritage), where it is at present (contemporary) and where its future direction lies (future).

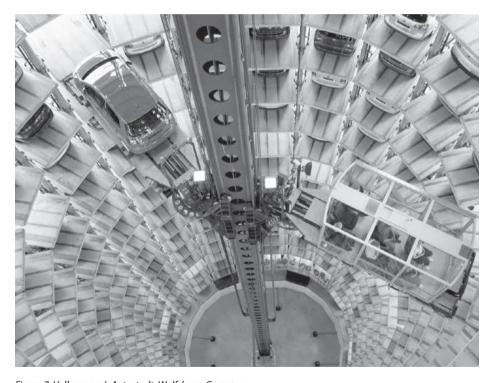


Figure 7. Volkswagen's Autostadt, Wolfsburg, Germany.

New information and communication technologies are transforming the ways in which the world of industry is being presented in physical and virtual dimensions. Digital technologies and new media are helping to explain often highly complex

industrial processes on-site and off-site and on-line. They are particularly valuable in the context of interpretation.

The Warner Brothers film of Charlie and the Chocolate Factory by Roald Dahl is a fascinating if unusual example of industrial tourism! It combines tremendous creativity and new technologies to raise many questions about the role of industry and the role of the consumer in contemporary life.

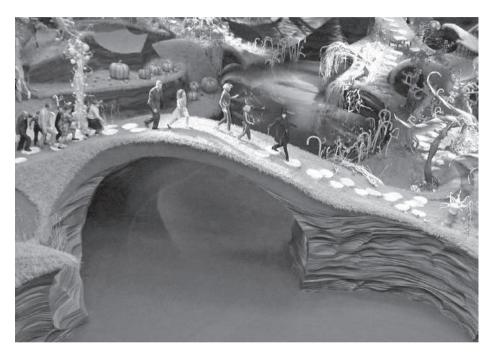


Figure 8. Charlie and the Chocolate Factory. Source - Warner Brothers.

2. Creating value from industrial heritage assets

Let me now turn to issues of creating value from industrial heritage assets.

Making the case-for-support and deciding on the best ways to conserve and/or use industrial heritage assets depend on a wide range of factors including:

- Existing policy contexts and heritage strategies
- The historical/archaeological significance of the assets determined by research
- Their conservation status and opportunities for or restrictions on redevelopment

- Physical and operational relationships with the wider location or destination
- · Capital costs of development
- · Operational costs and sustainability
- Public interest in and demand for industrial heritage
- · Value for money

One way to consider how to value industrial heritage assets, whether collections or buildings and landscapes, is to look at them from three different but linked perspectives:

Intrinsic Values – on this basis, industrial heritage assets are defined as assets that groups of people or communities value, regardless of ownership. This may be for example in terms of their perceived historical, aesthetic, spiritual, social or scientific /technological value.

Instrumental Values – here value is considered in terms of the benefits that can flow from investing in or protecting industrial heritage assets. These benefits may be, for example, economic, social or environmental.

Institutional Values – these are values displayed by organisations looking after industrial heritage assets e.g. trust, accountability, sustainability, and corporate social responsibility. For such organisations the intrinsic value and the instrumental value are likely to be equally important.

While it is relatively easy to consider the instrumental values of heritage assets, it is more difficult to quantify intrinsic values. It is however important to understand how people feel about the industrial heritage: public attitudes towards industrial heritage form an important part of the evidence base in building the case-for-support for their protection and use. A good example of this lies in recent qualitative market research by English Heritage which has been used to evidence its programmes supporting the industrial heritage.

85% of the public agree that it is important to identify significant industrial sites for protection. They think that it is as important to preserve our industrial heritage as other heritage assets e.g. castles and country houses (80%).

They value industrial heritage as a reminder of the nation's history (71%), for its educational value (75%) and because it can provide direct links to families' past (33%).

71% agree that industrial heritage sites should be reused for modern-day purposes while making sure their character is preserved.

44% are interested in helping to protect the industrial heritage in their local area.

(Source: English Heritage 2012)

3. Definitions

In discussing industrial heritage, it is important to define the terms being used. 'Industrial heritage' as a term means different things to different people.

A core focus has been traditionally on buildings, sites, structures and landscapes together with machinery, objects, records, and archives related to extraction, processing, manufacturing and distribution industries from the start of the Industrial Revolution in the eighteenth century to the mid-twentieth century when deindustrialisation picks up speed.

But we should remember that the industrial heritage/historic industrial environment will have different time-depths in different countries depending on the history and range of industrial development. Compare for example the timescale of the development of extractive and manufacturing industries in the UK and elsewhere in Europe to the timescale of the development of those industries in China today.

Whatever the definitions we use, it is necessary to realise from the outset that industrial history is an important part of cultural history – people value it for both its intrinsic and instrumental values. It follows that industrial heritage and the historic industrial environment ('what history has left behind') are an important part or subset of the wider cultural heritage and the wider historic cultural environment.

In this regard, it is interesting to examine the extent to which Malta's industrial heritage is currently represented in Malta's National Strategy for the Cultural Heritage, the Cultural Heritage Inventory and MEPA's scheduled sites and how it is reported on through the annual reporting processes.

So what do we mean by 'industry'?

A helpful approach is to look at Standard Industrial Classification (SIC) systems. These vary from country to country depending on the industrial base and its development. As an example, the UK's Standard Industrial Classification was first established in 1948 and has been progressively revised since, broadly decade by decade. It covers a much wider range of working practices than in those industries described above and associated with 'traditional' industrial heritage e.g. service industries. In many cases of course, we have seen the development of wholly new industries in the past half century.

But it is one useful context in which to consider 'traditional' industrial heritage. It enables us to think of historic and contemporary industry more holistically within the spectrum of economic history and heritage. It helps to bring the story of industrial endeavour up to date and to see how change and continuity have shaped

the picture of industry today. Essentially, this approach tells 'The story of Malta at work' through time. Presenting and interpreting 'The story of Malta at work' from this holistic perspective may provide a much stronger case-for-support and investment in the industrial heritage than simply thinking of the industrial heritage in traditional terms.

Major categories in the UK Standard Industrial Classification – those industries in bold are traditionally associated with industrial heritage.

Agriculture, forestry and fishing Mining and quarrying Manufacturing Electricity, gas, steam, air con. Water, sewerage, waste management and remediation Construction Wholesale and retail trade Transport and storage Accommodation, food services Information and communication Financial and insurance

Real estate

Professional, scientific, technical services

Admin. & support services

Public administration, defence and social security

Education

Human health and social work

Arts, entertainment, recreation

Other service activities

Households as employers

Extraterritorial bodies

4. Sites, objects and people

A key dimension to be considered alongside the sites, objects and records are people and their differing involvement through time with industrial processes and products.

By this I mean people as

- employers and workers in the industries, the supply chains and distribution systems
- · investors and shareholders in the industries
- industrial communities supporting the industries
- consumers and users of products produced by the industries at community, family, and individual level

Exploring industrial heritage through the stories of people is a powerful way of connecting with audiences in both the physical and virtual domains. This is where industrial history meets social history. One can for example usefully explore the significance of industrial heritage through connections to working life, community life, family life and personal life.

A major industrial complex like Farsons Brewery or a simple product like a can of Kinnie can thus be seen at many different levels through the different perspectives of people. Telling those stories through those perspectives helps industrial heritage as well as contemporary industrial history 'come alive' for audiences.

A good example is the recognition, by the designer of this definitive and very attractive series of stamps illustrating Maltese industries, of the role of people within those industries. Almost all of the stamps feature working people as a key component of their design.



Figure 9. Examples from the 1981 definitive stamp set depicting industry in Malta (Reproduced by kind permission of MaltaPost plc).

5. The future

In developing a strategic approach to the care, promotion and use of the industrial heritage, the following points need to be borne in mind. Many of these points reflect approaches already being taken to other heritage sectors - as such, it is relatively straightforward to include industrial heritage in Malta's existing systems for the care, promotion and use of the heritage.

They include:

- · developing a joined-up approach through partnerships;
- defining the meaning and coverage of the industrial heritage and the historic industrial environment;
- auditing/mapping and documenting what survives/exists for each industry in public and private ownership;
- documenting 'traditional' industrial processes, techniques, and skills and mitigating change/loss e.g. through training and craft apprenticeships;
- integrating research data into national heritage and historic environment databases;
- using that evidence base to develop a policy-led and planned/prioritised approach to caring for and interpreting the industrial heritage in line with other heritage sectors;
- reviewing existing policies/priorities for the care and conservation of the historic industrial environment and industrial heritage assets;
- improving public understanding of the value of industrial heritage and the historic industrial environment through presentation, interpretation and promotion;
- securing capital and operational funds for the appropriate and sustainable preservation, interpretation and use of the industrial heritage and historic industrial environment;
- evaluating progress against policy and plan objectives.

These points can be conveniently summarised in the following diagram.



Figure 10. A strategic approach to industrial heritage

The steps in the diagram can be applied equally to the care, promotion and use of the industrial heritage and represents the key steps in building a coherent strategy for this important sector of the wider cultural heritage.

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Panel discussion:

Our industrial past:

Repair Restore Reuse

Note by the Chair

JoAnn Cassar

Department of the Built Heritage, University of Malta

When it comes to the care of industrial heritage in Malta, discussion is seriously lacking. There are however many players in the field – who individually or in small groups, as private individuals or as public officers, are doing a tremendous amount of work not only to salvage what still remains, but also to make that which is left known and accessible to the general public. These pioneers include professionals, such as engineers, and conservators, as well as far-sighted enthusiasts. Organisations, ranging from NGOs such as the Malta Aviation Museum and Din I-Art Helwa, to Government authorities and agencies such as the Malta Environment and Planning Authority (MEPA) and Heritage Malta, are also deeply involved in this area. Private organisations, like The Farsons Foundation, Bank of Valletta plc and GO plc are also committed to preserve the elements of industrial heritage which pertain to their sectors.

This discussion amongst all of these players has now started. The catalyst has been the conference on industrial heritage organised by The Farsons Foundation, in collaboration with the Department of the Built Heritage of the University of Malta. Within the programme of this day-long conference held on 1st February 2013, a panel discussion was given pride of place. The distinguished guests on the panel included Mr Joseph Magro Conti (MEPA), Mr Godwin Vella (Heritage Malta), Mr Ray Polidano (Malta Aviation Museum), Prof. Robert Ghirlando (Department of Mechanical Engineering, University of Malta) and Mr James Licari (from the organisation of Conservator-Restorers MapCoRe). The discussion was chaired by Prof. JoAnn Cassar (Head, Department of the Built Heritage, University of Malta). Interesting and important contributions from the floor included those made by Simone Mizzi (Din I-Art Helwa), Vanessa MacDonald (Bank of Valletta), Michael Farrugia (Farsons), Dr John C Betts (Faculty of Engineering, University of Malta), Joseph Schirò (Heritage Malta) and Dr Nicholas Vella (Department of Classics and Archaeology, University of Malta).

The discussion started with each panel member being asked to give his view on two issues: how he felt industrial heritage in Malta is being catered for at present, and how the care of this heritage in Malta can be improved. It emerged from these interventions that Malta is lagging way behind several other European countries, not only in the care of this heritage sector, but also in awareness of the fact that

this heritage does merit being rescued from an ignoble death. One example of an important site which is all but lost was quoted by Prof. Ghirlando, being the wartime underground power station at Kordin which has six unique diesel engines – half of the 12 such engines still existing in the world. Other sites worth conserving (and in some cases some sporadic work has started) include the steam turbine at the Marsa Power Station, pumping station engines and underground flour mills, as well as the 1907 workshop at the Vincenzo Bugeja Conservatory. However, as pointed out by several panel members, particularly Mr Polidano and Mr Vella, both the private and the public sector are making serious headway in this respect, as public awareness continues to grow.

Interest in our industrial heritage is not, however, all recent in origin. The Government of Malta, following a number of initiatives by public-spirited individuals, set up the National War Museum in 1974, to preserve and present artefacts pertaining to the two World Wars (Vella, this volume). In 1994, the Malta Aviation Museum Foundation, an NGO, was set up, becoming the first privately driven foundation of its kind in Malta to care for at least one element of our industrial heritage (Polidano, this volume). Just one year earlier, in 1993, Prof. Robert Ghirlando had made a laudable effort to raise awareness of Malta's industrial heritage through his contribution on the subject in an edited volume on Birgu: a Maltese Maritime City (Ghirlando, this volume). Thus, during the last two or three decades of the 20th century, individuals and the Government were already making strides to keep this important part of our heritage alive. This work has been greatly helped by the scheduling of buildings pertaining to this period by MEPA, including the Rediffusion building which has not only been scheduled but also restored – a great challenge due to its being built of early concrete, the restoration of which is still relatively new in Malta. More recently, the NGO Din I-Art Helwa is currently putting in time and money to restore the Delimara Lighthouse with its mechanism. Also to be mentioned are the young professional conservator-restorers who have also joined in the effort to protect this heritage.

With representatives of both public and private organisations on the discussion panel, many of whom were themselves the very pioneers of the movement to care for local industrial heritage, it was to be expected that the discussion would be interesting, lively and long. And so it was. After a brief introduction of all of the members of the panel to the other participants, each outlined his thoughts and aspirations on the local situation. The situation, everyone agreed, was not ideal. Too much is being lost; awareness is far from sufficient and finances severely lacking. Other points were raised from the floor in addition to these points – these included

the great need to document, as well as preserve our industrial heritage. And this does not include only the tangible heritage, i.e. the machines, aeroplanes, buses and buildings, but also the intangible – memories and experiences of the many workers – females included it must be stated – who devoted their working lives to working in the early industrial ventures in the country. Examples which were mentioned, besides the iconic Farsons Brewery, included early equipment and buildings pertaining to the Drydocks and shipyards, as well as the telecommunications and transport sectors. Challenges mentioned by different participants included not only those financial, but also those related to space (where to keep the machinery and vehicles), personnel (to run the sites and also to document and carry out research) and conservation issues. Panel participants also underlined the importance of the challenge of prioritisation – what do we keep and what can we afford to lose?

It was however also pointed out that there is hope – hope in the sterling work being done by the Malta Aviation Museum, acquiring and displaying, salvaging and restoring, aircraft and memorabilia; in Heritage Malta, which runs the War Museum and the National Maritime Museum, which houses the salvaged engine of the grab dredger Anadrian and which has recently taken 93 old buses into its custody, and has now also appointed for the first time a Curator for Industrial Heritage. Hope in Engineers like Prof. Ghirlando, who does not miss an opportunity to share his lifelong enthusiasm and extensive knowledge regarding the importance of this heritage, and how fast and how much is being lost. Hope in MEPA, which is scheduling industrial buildings and administering grant schemes for the restoration of heritage buildings. And hope in the young conservator/restorers, many of whom are members of MapCoRe, who with their professional training and enthusiasm are out to extend a helping hand in the conservation of this heritage.

And hope in the figure of The Farsons Foundation, which is spearheading this discussion, and setting an example through the planned restoration, and exhibition of its Old Brewery, a true marvel of a building, purposely built as a brewery – a pioneer in its heyday and a well known and well-loved landmark in the Maltese Islands.

Several concrete proposals were made by both panellists and other participants in order to ensure that the future for industrial heritage would be a bright one. Particular emphasis was placed on the fact that it was especially necessary to make an effort to increase awareness (in all spheres and at all levels) of the importance of preserving our industrial heritage, and to promote the dissemination of information in this field. It was also considered important to encourage networking among the various individuals and entities working or volunteering in this field, not only for the exchange of information, but also to possibly create museums and/or trails which

could include various features of our industrial heritage, thus sharing the costs and responsibilities (specific museums such as, for example, one dedicated exclusively to telecommunications may turn out not to be viable). However, it was also emphasised that context and location of the machinery were extremely important, and should be retained wherever possible, as well as keeping the machinery in good working condition. Other challenges mentioned included the conservation of the materials of our industrial heritage – from early concrete, to steel, glass and even the issues around the elimination of asbestos.

The participants in this conference all expressed disappointment at the neglect, the abandon, and indeed the loss, of so much of our industrial heritage, the lack of coordination and the scarcity of finances. But much is being preserved for future generations by passionate individuals and organisations who have this heritage at heart. The fact that so many individuals, young as well as old, enthusiasts and professionals, from the private and public sectors, have set aside a whole day to meet, discuss and debate this theme, as well as the interest which the event has generated, indeed augurs well for the future.

Some challenges facing Industrial Heritage in Malta

Robert Ghirlando

Department of Mechanical Engineering, University of Malta

I would like to start my intervention with a quote from a UNESCO document (Falser 2001) on industrial heritage sites, which I think is a beautiful way of describing them:

"Guardians of the past, they testify to the ordeals and exploits of those who worked in them. Industrial sites are important milestones in the history of humanity, marking humankind's dual power of destruction and creation that engenders both nuisances and progress. They embody the hope of a better life, and the ever-greater power over matter".

I am very pleased to see that awareness of the richness of our industrial heritage is rapidly growing. Heritage Malta has done an excellent job in saving a number of items from the Dockyard and other places, and the news that it intends to appoint a curator for industrial heritage is most welcome news indeed.

My first effort in raising awareness of our industrial heritage was the chapter entitled "Birgu – birthplace of Malta's technological society" that I wrote for the two-volume work entitled "Birgu: a Maltese Maritime City" (Bugeja, Buhagiar and Fiorini, 1993). My participation in a Grundtvig project on virtual museums, in which I proposed to highlight our industrial heritage, led to an invitation to give a lecture on our industrial heritage to the Archaeological Society of Malta in 2007. I now include a lecture on industrial heritage in my study-unit on "Professional issues for Engineers" to our fourth-year undergraduates. In April 2012, I organized a week-long study tour of our industrial heritage for 30 members of the American Society for Industrial Archaeology.

Malta has a rich industrial heritage. The Dockyard Boiler Shop is full of artefacts of industrial heritage, from buses to machinery salvaged from the Dockyard. There are then the engines and steam plant at Kordin (Figure 2), engines in water pumping stations, the beautifully preserved 1907 machine-shop at the Conservatorio Vincenzo Bugeja, the underground mills, and lots more, besides private collections, some of which are quite interesting and extensive.

One problem is how to conserve all this material, and another problem is deciding what to keep. One positive aspect that has helped safeguard some industrial heritage items is that it sometimes costs more money to scrap them than to leave them where they are; I am thinking in particular of some of the diesel engines in the pumping stations, and of course Kordin Power Station (Figure 3). On the other hand, we have lost some buildings of industrial heritage value, such as the Mira Motors garage in

Gzira, the NAAFI bakery in Marsa which was a reinforced concrete barrel vault built by my father, and the old oil stores at Kalkara.

There is then the dilemma of whether to leave the machinery in its original site and hence in context (and possibly create a heritage trail of such sites), or to move them to some museum.

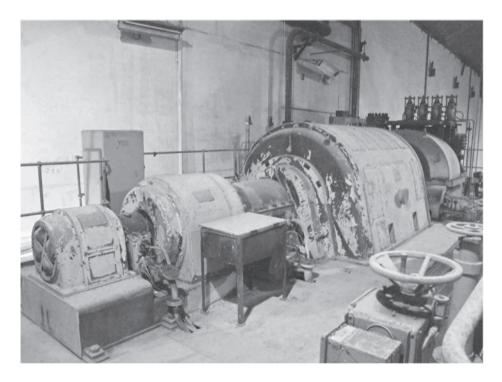


Figure 1. A steam turbine and generator in the underground 'A' station at Marsa Power Station.

It is worth pointing out that machinery only starts being perceived as valuable (from an industrial heritage point of view) some years after it becomes obsolete. This means that very often, the heritage value of a machine is not appreciated at the moment that it falls into disuse, and it is scrapped to make space, if nothing else.

A key question is whether to conserve or to restore. Central to the fascination of machinery is the fact that it moves, and we should therefore try to restore machinery, if not to full working order, at least to a stage where it will move, even if this is done in an artificial way. For example, the steam engine at the Malta Maritime Museum is not driven by steam power, but by an electric motor. *Eppur si muove!*

Of course, as with everything else, funding is a major problem. Another problem is space, particularly because industrial heritage items can be quite big. There is also a dire need for human resources to conduct historical research, besides trained people to restore, conserve and maintain all this material. We need guidelines of what to keep and what not to keep.

We need to involve the private sector and encourage private initiatives. An existing NGO, the Fondazzjoni għall-Ħarsien Wirt Industrijali, could serve as a good base on which to build an NGO network to promote industrial heritage.

Finally, I would like to thank Farsons and the Department of the Built Heritage of the University of Malta for organizing this seminar.



Figure 2. A steam turbine and generator in the underground Power Station at Kordin.

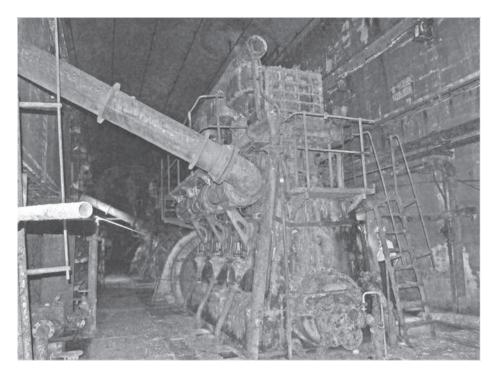


Figure 3. One of the six Fullagar Diesel Engines in the underground Power Station at Kordin.

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The conservator-restorer perspective

James Licari

President, Malta Association of Professional Conservator-Restorers (MAPCo-Re)

Members of the Malta Association of Professional Conservator-Restorers (MAPCo-Re) are mainly trained in the conservation-restoration of materials and objects of archaeological or art-historical interest; in addition some members have attended short courses specifically on industrial heritage, as part of their continuous professional development. Other members have experience of interventions on industrial heritage in its broader sense, defined as:

...sites, structures, complexes, areas and landscapes as well as the related machinery, objects or documents that provide evidence of past or on-going industrial processes ... whether ancient or modern – depend on natural sources of raw materials, energy and transportation networks to produce and distribute products to broader markets. It includes both material assets – immovable and movable –, and intangible dimensions such as technical know-how, the organisation of work and workers, and the complex social and cultural legacy that shaped the life of communities and brought major organisational changes to entire societies and the world in general (ICOMOS-TICCIH, 2011, pp. 1-2).

MAPCo-Re members are bound to follow the Code of Ethics and any Professional Guidelines which may be provided by the Maltese Warrant Board for Restorers and Conservators in terms of the Cultural Heritage Act (Chapter 445, Laws of Malta), as well as the Code of Ethics of the European Confederation of Conservator-Restorer Organisations (ECCO). Many of the clauses in this Code of Ethics are reflected in the joint ICOMOS-TICCIH Principles for the Conservation of Industrial Heritage Sites, Structures, Areas and Landscapes: The Dublin Principles.

Cultural Heritage may be tangible or intangible. Industrial Heritage also 'includes many intangible dimensions embodied in the skills, memories and social life of workers and their communities' (ICOMOS-TICCIH, 2011, Preamble). Conservator-restorers must strive to the best of their ability to study and document cultural assets while clearly identifying their values to better preserve them. 'By turning back to the past we can seek to understand how we have arrived to the present' (ERIH, n.d.).

The concept of intangible heritage is extremely important and must be carefully documented and projected to future generations, because it may become increasingly difficult to retrieve in the future. Such documentation, archived materials, building details and specimens of industrial products should be preserved by the best means possible (TICCIH, 2003).

One must also balance caution with intervention, as excessive caution may in practice result in neglect. Conservator-restorers are bound by their formal training to be cautious before intervening. Before any intervention is undertaken one should document and analyse as much as possible the site's materials, composition, production, function and deterioration. As the intervention will invariably leave its mark on these cultural resources, this must be undertaken responsibly and professionally.

Many people believe that rarity may be used to prioritise or protect heritage, but this should not condition conservator-restorers, as one must take actions to the highest standards and knowledge to better preserve all cultural materials for present and future generations (ECCO, 2003, Article 7).

In 1984 the ICOM Committee for Conservation stated that:

the activity of the conservator-restorer (conservation) consists of technical examination, preservation, and conservation-restoration of cultural property: Examination is the first step to determine and document the significance of an artefact, its original structure and materials, and the extent of its deterioration, alteration, and loss. Preservation is action taken to retard or prevent deterioration of or damage to cultural assets by control of their environment and/or treatment of their structure in order to maintain them in as nearly an unchanging state as possible. Restoration is action taken to make a deteriorated or damaged artefact understandable, with minimal sacrifice of aesthetic and historic integrity (ICOM, 1984, Article 2.1).

Following preliminary studies of a specific project by a multi-disciplinary team, 'only a well-trained experienced conservator-restorer can correctly interpret the results of such examinations and foresees the consequences of the decisions made' (ICOM, 1984, Article 3.5), within a proposed intervention. 'As in the case of the surgeon, manual skill must be linked to theoretical knowledge and the capacity simultaneously to assess a situation, to act upon it immediately and to evaluate its impact' (ICOM, 1984, Article 3.7). The conservator-restorer must proceed with an intervention only if s/he is competent within that specific field, and should collaborate with other professional colleagues in the best interest of cultural heritage (ECCO, 2003, Article 6), while following legal, administrative and financial obligations (ICOMOS-TICCIH, 2011, p.4).

The conservator-restorer is also bound to intervene minimally and should only use 'materials and procedures which, according to the current level of knowledge, will not harm the cultural heritage, the environment or people' (ECCO, 2003, Article 9). Interventions should not interfere with or inhibit any future examination, analysis or treatment (if possible). They should also be, as much as possible, compatible and completely reversible (ECCO, 2003, Article 9). Any changes, additions or

reconstructions must be clearly documented and visually identifiable when observed closely (ICOMOS, 1964, Articles 12, 13). This can be done by physically marking these changes, where possible, for example with a date and/or the initials of the organisation or person responsible for the intervention.

The Nizhny Tagil Charter for Industrial Heritage emphasises the importance of functional integrity and respect towards the authenticity and value of the whole site/cultural material. Values may be linked to the purpose of these resources, which may be studied while still being preserved in situ. Relocation or dismantling from the original context is only acceptable when the destruction of this context is inevitable due to overwhelming economic or social needs. The reuse of an industrial site is generally acceptable as long as the historical significance and fabric are respected. This can be done by respecting the original patterns of circulation and activity or through providing a space for the projection and interpretation of the original use. Such projects should be undertaken and contribute to sustainable development and possibly provide economic regeneration to the surrounding areas (TICCIH 2003, 5.v). This is relevant to many such facilities within historic industrial areas in Malta.

In the Maltese context, there is still a need for more public awareness of the cultural value of industry. This potential is in the hands of those who own, preserve, conserve and/or administer it. Their responsibility is substantial, but also rewarding, if they seek the collaboration of professionals willing to work in a multidisciplinary manner. MAPCo-Re looks forward to seeing this happen and to contributing to this process.

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Awareness and Statutory Protection of Industrial Heritage in Malta

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Modernising Heritage Appreciation

Up to a couple of decades ago, many people in Malta considered Maltese history to have ended in 1798 with the departure of the Order of St John. They believed that anything after this date was not significant enough to deserve to be protected as part of Maltese patrimony. In the late 1960s the NGO Din I-Art Helwa was the first to take an active interest in managing minor heritage sites. In the 1980s the newly formed NGO Moviment għall-Harsien ta' I-Ambjent Storiku (MHAS, later renamed as Fondazzjoni Wirt Artna), launched a campaign to raise awareness and protection of buildings pertaining to the British period in Malta and other marginalised heritage, including industrial heritage. This initiative drew criticism from some traditionalists who did not consider such buildings worth preserving owing to their utilitarian nature, or because they were too recent or represented colonialism. However, connoisseurs of engineering, professionals, academics and amateurs praised and supported such initiatives through publications, lobbying and more recently, the creation of the NGO Fondazzjoni għall-Harsien Wirt Industriali.

Having observed and participated in this increased awareness since the 1980s, the author is of the opinion that our collective appreciation and acceptance of heritage has improved significantly. We are more analytical, academic and critical, and less biased. Although this is positive, it also brings about added burdens and responsibilities. What are we going to do, and who pays for all this heritage?

Industrial Heritage

The notion of industrial heritage emerged in Britain in the 1950s (Raistrick 1973, Cossens 1993). Many associate this term exclusively with the developments of the 18th and 19th century known as the Industrial Revolution. Perhaps a more appropriate definition is found in Raistrick (1973) as that heritage which encompasses the production of goods and services from ancient times to the more recent epochs of human history. Already in 1942 Gordon Childe pointed out that the Industrial Revolution did not start in the 18th century but in the Neolithic revolution, as the logical starting point for industry in humankind was the discovery and exploitation

of raw materials, their preparation and manufacture into products for specific use. Industrial heritage should not be limited to buildings and technological achievements, but should also be valued for its contribution towards providing work for the masses, boosting the economy and improving the lives of people. In fact, UNESCO recognised the contribution of the Industrial Revolution by declaring around thirty industrial sites and landscapes as World Heritage Sites, mostly in Europe. Several countries have declared their own lists of protected industrial heritage sites. Malta is not lagging behind in this as MEPA's Scheduled Property Register contains hundreds of items having industrial heritage value (http://www.mepa.org.mt/schedschedulingsearch).

The protection of Industrial Heritage in Malta

The industrial heritage of the Maltese Islands includes a wide range of buildings, some still complete or still possessing parts of their original equipment, ranging in date from ancient to modern. The windmills of Malta were amongst the first buildings of an industrial nature that were protected by Maltese law, through their inclusion in the List of Ancient Monuments in 1932. MEPA was amongst the first to recognize the value of industrial heritage by raising awareness about the need to safeguard this heritage through the local media, protecting representative examples and issuing permits and grants for the restoration and rehabilitation of such buildings. The Scheduled Property Register compiled by MEPA since 1994 includes a number of sites and buildings which contributed to the industrialisation of Malta through the ages, such as:

- · Roman villas containing equipment for corn grinding, olive and wine pressing;
- wine-pressing rock-cut basins in Gozo;
- prehistoric to Early Modern quarries and cart-ruts;
- medieval mtieħen tal-miexi (beast-driven flour mills);
- Wignacourt's aqueduct;
- 50 windmills from the Knights' and British periods;
- underground power stations at Marsa and Crucifix Hill at Floriana;
- Blackley Bakery at Pieta';
- underground emergency flour mills from the Cold War era;
- as well as Muscat's automobile showroom at Gzira and Farsons Brewery at Mrieħel.

Other scheduled examples were the product of the Industrial Revolution which include:

- the railway station at Mdina and the tunnel at Valletta;
- the iron bridge at Victoria Gate and the Covered Market in Valletta;

- various British period cast-iron post boxes and telephone booths in Urban Conservation Areas;
- as well as the artillery pieces at Fort Rinella and Fort Delimara.

Scheduling and Permitting

In 1992 the Development Planning Act (amended in 2010 as the Environment and Development Planning Act - EDPA), was introduced to better control building development and land use in Malta. For the first time, the responsibility of protecting immovable heritage was integrated with development control through a number of national and local policies and guidelines in line with international conventions and charters on heritage and planning. In 1994 MEPA started an ongoing programme to schedule representative examples of immovable heritage to protect them from development impacts. Scheduling is carried out according to priority of historic relevance, representation of architecture, context, socio-economic values, overall significance, and risk. Consultations are held with the Cultural Heritage Advisory Committee (CHAC) and the Superintendence of Cultural Heritage (SCH). The recommendations are presented to the MEPA Board for a decision and published in the Government Gazette, while the owners, if known, are notified and given the right to request a reconsideration.

To date MEPA has scheduled over 2000 buildings and archaeological sites, apart from natural habitats, cultural landscapes, as well as some underwater archaeological sites, and sixty-one Urban Conservation Areas (UCAs). The Farsons Brewery, for example, was scheduled as a Grade 2 building in May 2012. Other industry-related sites are under research for scheduling in the future, such as certain iconic buildings of the former Drydocks, and examples of salt-pans.

Any interventions on scheduled buildings require a planning permit from MEPA. Buildings scheduled as Grade 1 are of national importance, such as the windmills, where restoration is a priority. Alterations are strictly controlled and only allowed to keep the building in active use through minor adaptation to accommodate modern needs, such as sanitary facilities and access for all. Most industrial heritage buildings are scheduled as Grade 2 whereby adaptive reuse is encouraged and modifications are allowed as long as the external and internal homogeneity of the building are retained (Structure Plan 1990). Before the issuing of such permits, a restoration method statement is required, and consultations are held with the CHAC and the SCH. When a permit is issued, it stipulates conditions, including a bank guarantee to ensure compliance with approved plans, a restoration method statement and monitoring of the works by professional conservation officers.

Restoration Issues in Industrial Buildings

A main conservation issue in industrial buildings dating from the late 19th and 20th century is the variety of materials they employed. Steel and concrete were extensively used, and their deterioration often poses severe challenges. In recent years, several scheduled industrial heritage items were restored or are in the process of restoration and rehabilitation, such as:

- · some windmills;
- Cold War underground flour mills;
- the Old Power Station in Floriana:
- · Ex-Naval Bakery at Vittoriosa;
- several British period cast-iron letter and telephone boxes;
- · Fort Rinella and its 100-ton gun;
- · Farsons Brewery, Mrieħel.

Need for further study

The study of industrial heritage calls for the combined effort of specialists and disciplines in various fields, as one specialist working alone may easily overlook certain aspects and details. In matters of industrial heritage, workers having hands-on experience and people who lived close to an industrial heritage site may contribute insights which would otherwise not be available through the archaeological or historical record. The ideal team should not be composed of academics alone, but should include people with direct experience.

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Thoughts on Historical Aircraft Preservation

Ray Polidano

Director, Malta Aviation Museum

Aviation Museums worldwide, apart from some that were started by far-sighted individuals such as Richard Shuttleworth in the UK, only became popular in the early 1970s. After all, aviation is only just over a century old, with the first ever powered and controlled flight taking place in December 1903.

In Malta, we still have to wait until 2015 to celebrate the centenary of the first recorded flight, which took place in 1915. On 13th February 1915, a Short Admiralty 135 floatplane from HMS Ark Royal, which was berthed in Grand Harbour, flew over the harbour for some minutes. The First World War was raging at the time, and German and Austrian U-Boats were sinking a large number of ships in the vicinity of Malta. It was then decided by the Admiralty that a number of flying boats were to be built at the Malta Dockyard to counter this threat .

During this period, all flying from Malta was conducted off the sea in Marsaxlokk Bay or Mistra. A seaplane base was built at Kalafrana equipped with hangars and slipways. A control tower was built at Delimara on the other side of the bay. In 1918, towards the end of the First World War, a German Zeppelin based in Hungary began targeting Allied European cities, and after Naples was bombed, six Sopwith Camels were sent to Malta to defend the island. With no airfield available at such short notice, Marsa sports ground was used as an airfield.

During the 1920s and 1930s, Malta was a staging post for many an adventurous pioneer on flights from Britain to Africa, Australia and the Far East. These included C. R. Samson, Sir Alan Cobham, Lady Bailey, Sir Sefton Branker, John Carberry and Bert Hinkler. One of these pioneers, Sir Alan Cobham, had his aircraft damaged when landing in rough seas. While he waited for his flying boat to be repaired, he was asked by the Maltese authorities to survey the Maltese Islands for sites that could in future be used as airfields. As a result, an airfield was constructed at Hal Far which was connected to the seaplane base at Kalafrana by a wide road. Hal Far was officially opened on 16th January 1923 by His Excellency Field Marshal Lord Plumer, the Governor and Commander–in-Chief, accompanied by the Premier of Malta and Ministers of the Legislative Assembly. Hal Far became very busy with both military and civilian flights during the 1930s, being the only airfield on Malta. In response to this growing activity, the authorities decided to build another airfield at Ta' Qali.

Ta' Qali airfield became operational in 1938 and was used mostly by the Italian



Figure 1. The Aviation Museum's Hawker Hurricane Z3055 soon after recovery from the seabed in September 1995.



Figure 2. The painstaking restoration and rebuilding of the Hawker Hurricane Z3055 in progress, a few years after its recovery.

Airline Ali Littoria and a few flights by Imperial Airways and Air France. The actual toponym of the airfield indicated on early twentieth century maps of Malta is actually Ta' Venezia. As the name suggests, the area tended to flood during the winter months making flying almost impossible for the heavy airliners. Hal Far suffered from the same problem, and so it was decided to build another airfield, this time at Luqa. This new airfield, completed in time before the start of World War II, had four paved runways. Runway lengths, including over-runs, were 14/32: 960 meters, 06/24: 900 meters, 09/27: 960 meters and 00/18: 732 meters. This made Luqa very modern by the standards of the day.

In the early days of the war, the Air Officer Commanding (AOC) in Malta, Air Commodore Maynard, realised that the airfields on the island, and thus the aircraft on them, would be highly vulnerable to attack. He therefore ordered the conversion of a road which connected Luqa and Hal Far airfields into a dispersal track on which aircraft could be parked.

During WWII the three airfields were used for different aircraft sizes. Hal Far was used for Gladiators, Hurricanes and Spitfires as well as the Royal Navy types such as the Swordfish and Albacore. Ta' Qali was used by Hurricanes and Spitfires and sometimes by light bombers while Luqa was used by the bombers. Towards the end of the siege in late 1942, when the German October Blitz was repulsed, preparations started for the invasion of Sicily. This meant the building of two new airfields, one at Qrendi and another at Xewkija Gozo, and the upgrading of Safi to a full airfield with two runways.

Since the end of WWII, Malta has hosted hundreds of different aircraft types, while witnessing the birth of Air Malta and the setting up of the Air Wing in the Armed Forces of Malta, the increase in aircraft repair facilities like Lufthansa Technik and SR Technik and the setting up of various flying schools that have continued to boost the local aviation scene.

The purpose of the Malta Aviation Museum is to record all these events and to acquire, display and interpret related aircraft and memorabilia. The museum has acquired aircraft from different sources. Some have been donated by foreign countries, some donated by individuals or companies, others purchased and one recovered from the seabed. These aircraft fall into three categories with regards to the condition to which they are restored and displayed, namely static, taxiing condition or flying condition. Most importantly, the museum's aircraft are then classified according to their relevance to local aviation history. The museum's Spitfire, Hurricane (Figure 1, Figure 2), Dakota IV, Bell 47, Cessna Bird Dog and de Havilland Sea Venom have all served on Malta, further adding to their value and significance.

Others which did not serve on Malta, like the Sea Hawk or the Vampire, are only painted to represent a period or episode related to Maltese aviation history. One interesting case is the museum's Fairey Swordfish which is one of only ten surviving in the world, making it a very rare exemplar, which however does not have a Malta connection.

One source from where the Museum can acquire aircraft is the seabed round the Maltese Islands, but this source must be treated with care. Our experience with the Hurricane, that was recovered from outside Wied iz-Zurrieq in 1995, taught us that restoring an aircraft found on the seabed requires an immense amount of research, time and funds. We have reached the conclusion that one must wait until the right aircraft is found, one that, like the Hurricane, would be an invaluable historical addition to the museum's collection, and then proceed with obtaining permission from the authorities for its recovery while raising funding and resources to conserve and restore the aircraft.

Twenty years after its inception, the Malta Aviation Museum has become a major tourist attraction, and as long as we all work together, many more attractions may continue to be developed, thus making Malta more attractive not only to the incidental visitor, but also to significant niche markets.

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Heritage Malta's Endeavours on Industrial Heritage

Godwin Vella

Chief Curator, Heritage Malta

2013 is a truly momentous year for Heritage Malta in many ways, including developments in the sphere of industrial heritage. The curatorial arm within the national agency for museums, conservation and cultural heritage grew stronger with the appointment of a curator for the sector. It must be acknowledged, nonetheless, that Heritage Malta and, before 2003, the Museums Department, have long been proactive in this field. Indeed, the creation of the new curatorial post is the crystallization of past endeavours spanning several decades.

Ironically, the initial, and for years on end the only, tangible steps towards an appreciation of sorts of industrial heritage was spearheaded by warfare. Some Austrian and German warheads and equipment captured during World War I were presented to Malta and put on display at the Palace Armoury. Again, a host of mechanical paraphernalia employed in the cruel conflict of World War II was salvaged for posterity, while the Gloster Gladiator Faith, by far the most iconic relic of Malta's epic siege, found its way into the Palace Armoury exhibition. These and other war artefacts were eventually relocated at the National War Museum in 1974. As may be expected however, notwithstanding the fact that most components of this collection represent prime engineering milestones, the War Museum's storyline put little emphasis, if anything at all, on their relevance vis-à-vis technological advancement and industrial activity in general.

A more significant development materialised during the late 1980s. The former Royal Naval Bakery along the Birgu waterfront, Malta's first purposely built Industrial Revolution era building, metamorphosed into Malta's National Maritime Museum. Besides, the restoration of its imposing construction and the preservation of all extant steam powered machinery surviving in situ within the respective subterranean tunnels and channels, the collection amassed in due course and the ensuing permanent display touch upon various elements of industrial heritage. This endeavour is best epitomized by the salvaging of key components of the Grab Hopper Dredger Anadrian, namely the wheel house, gigantic steam powered triple expansion main engine, condenser, boiler front, and diesel and steam powered generators and pumps, all of which have been seamlessly fitted in one of the museum's ground floor spaces. Furthermore, the same machinery can still be run with the help of an electric motor.

Shortly after its inception, Heritage Malta offered its support to the Munxar Local Council in the creation and operation of a visitor experience at the Emergency Underground Flourmill erected during the 1950s at Xlendi, which is perhaps the best preserved Industrial Heritage site on the sister island. More recently, Heritage Malta has been entrusted with the custody of the Victorian steam powered Smithery Workshop at the Malta Shipyards, an extensive collection of archival material from the same shipyards, and a fleet of over ninety buses. Other initiatives include the rescue of several printing presses and related mechanical equipment, as well as the restoration of the wind-powered grinding mechanism at Ta' Kola Windmill in Gozo. The latter entailed a comprehensive research programme and complex preparations, scheduled for completion in 2013.

The new curatorial post in industrial archaeology forms part of the Ethnography Unit. At first glance this may seem somewhat incongruous because industrial heritage often tends to be associated with the physical remains of the history of technology and industry. Heritage Malta, however embraces a more kaleidoscopic perspective. The human, ethnographic dimension is considered central to the way we cherish, present and narrate industrial heritage. For instance, a holistic appreciation of the aforementioned fleet of buses would entail aspects like demographics, education and communal identities besides the technical, aesthetic and organisational facets.

As the national agency for museums, conservation and cultural heritage, Heritage Malta is expected to take advantage of and duly valorise the outstanding industrial patrimony treasured on our shores by setting up a dedicated cultural attraction at the earliest opportunity. While subscribing to this thought, as things stand the Agency would be very hard pressed to set up and operate yet another fully-fledged museum in addition to the ones in existence or in the pipeline. As an interim measure, the site of the former Knights' Armoury at Birgu, which hosted the Harry Stanger International Materials Technology Training College for a few years during the 1970s, is being turned into an open museum storage facility with a focus on industrial heritage. This modest but meaningful project is simply a prelude to a more proactive and outreaching stance.

The Farsons Experience

Michael Farrugia

Director, Simonds Farsons Cisk plc

2012 was a significant year in the history of Farsons as it witnessed the inauguration of a 12.5-million euro, state-of-the-art brewhouse on its premises in Mrieħel. This was the third brewhouse to be commissioned by Farsons since it started brewing in 1928, when it launched the first local beer during the feast of St. George in Qormi.

The first local brew was an English style 'Farsons Pale Ale' which was specially crafted to meet both the tastes of the British garrison stationed in Malta as well as the increasing local demand for beer. The Pale Ale label was designed by none other than the artist Edward Caruana Dingli and featured the statue of Neptune, which is located today in the Grand Master's Palace in Valletta. It was not long before this symbolic association translated into local custom and usage, as Farsons beers became commonly known as 'il-birra tal-Ġgant'.

Steeped in history and heritage, the Farsons' story not only captures the local history of beer and brewing but also cuts across the social, economic and industrial developments of Malta during the course of the 20th century. It is telling that the Sette Giugno riots of 1919, which were a watershed in Malta's march to independence, were also the main instigator for the Farrugia family to venture into brewing after the family flourmills in Strada Pastificio, Hamrun, were burnt down during the riots.

On the back of the family interests in the production and distribution of gas and the buoyant market for beer, it was Lewis V Farrugia, the youngest of the five children, who convinced the family to move into brewing, purchasing second hand machinery from a disused plant in Ancona, Italy. An architect and engineer by profession, Lewis V Farrugia, designed and built Malta's first brewery on the site of the burnt down family flourmill, which still stands today, in what is now known as Farsons Street.

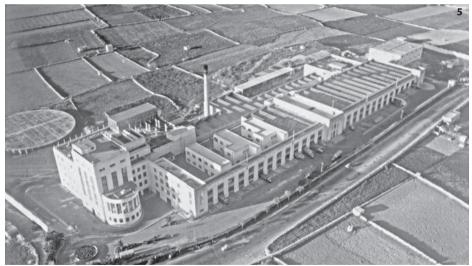
Not far up the road, another brewery was also in the process of making history as the Malta Export Brewery launched the first local lager, under the brand name 'Cisk Munchener.' This brewery had been acquired by the Marquis John Scicluna, one of Malta's foremost bankers of the time, who had introduced the 'cheque' into local circulation and from which the name 'Cisk' would emerge. The Malta Export Brewery had the licence to brew 'Lagers', while Farsons had the license to brew 'Ales.' Competition between the two local breweries was to remain intense over the next 20 years, as both breweries attempted to venture into each other's territories with such beers as 'Cisk Red Label' or 'Farsons Lager.'











- 1. The first Farsons brewery in Hamrun, built on the same site of the Farrugia family flour mills.
- 2. The Malta Export Brewery today the Umberto Calosso Technical Institute in Santa Venera.
- 3. The opening ceremony of the Mriehel brewery, June 1950.
- 4. Portrait of Mr Lewis V Farrugia.
- 5. Aerial shot of the newly built Mrieħel brewery.







Old adverts of Farsons' iconic brands.

It was within this new climate of local competition that discussions of cooperation between the renowned Simonds Brewery of Reading and Farsons took place. Having set up its own agency in Malta in the late 1800s, Simonds was concerned with the changing market scenario and following a market visit, its representative reported how pleasantly surprised he was by the warm welcome he had received from Lewis V Farrugia. In 1929, within less than a year, a merger was signed between Farsons and Simonds, whereupon Simonds Farsons Ltd was formed. In 1948, as construction on the new brewery in Mrieħel was underway, another milestone was reached when Simonds Farsons and the Malta Export Brewery aligned forces to become Simonds Farsons Cisk Ltd.

Almost 65 years later, Farsons is now in the process of planning and preparing for the transformation of its iconic 1950s brewhouse into a unique visitor experience that celebrates its heritage, while projecting a fresh and contemporary vision of the future. Over the last couple of years, local and international consultants and stakeholders have been engaged in a complex study of ways in which the brewhouse and the adjacent Art Deco façade, a Grade Two listed building, can be feasibly and sustainably redeveloped into a multi-purpose commercial centre that adds value to the Farsons brand and product Malta.

Inaugurated in 1950, the Mrieħel brewery was designed on an unparalleled scale by Lewis V Farrugia in collaboration with the British architect William Binnie, whose major works include the Arsenal Football Club's East Stand at Highbury, as well as the Hotel Phoenicia in Valletta. One of the first and finest examples of a

concrete reinforced building, the Mrieħel brewery's iconic Art Deco design remains as striking as ever and one can only imagine the impression it must have left on the local population, built at a time when only fields and rubble walls surrounded it. Its construction took almost four years to complete and with some 1,500 people involved in its development, the opening of the brewery was a grand event, which marked an important point in the industrialisation of the island economy in post-war Malta.

As the only remaining brewery on the island, Farsons is uniquely placed to offer an experience that captures the art of brewing and the industrial processes that continue to sustain the art. By opening up its doors to the public, Farsons will be able to interact with its consumer base in new and exciting, interactive ways while celebrating the people and iconic brands that have helped shape the business. Brewing is, after all, one of the oldest industries known to man that continues to play a major role in people's lives. Ultimately, the experience will serve to not only highlight the legacy of the Farsons story but also to create a deeper appreciation for one of the world's most enjoyed beverages.



The state-of-the-art new brewhouse, inaugurated in September 2012.

Roundup

Reuben Grima

Department of the Built Heritage, University of Malta

In rounding up the rich discussions we have had during this conference, I will focus on five key ideas which have come up repeatedly during different interventions throughout the day. These are, in turn, knowledge and documentation; the importance of a value-based approach; context; the centrality of people; and the necessity of more networking of efforts in this field.

The first point, at the risk of repeating the obvious, is that the foundation of a sound approach to industrial heritage is knowing what we've got. We've heard of various examples today of how we are experiencing a burgeoning of interest among an ever-widening audience, as more members of the public become more keenly aware of the immense wealth of industrial heritage we are surrounded by. We have also heard how there are many individuals among us, including the speakers and others in this room, who are literally walking archives of knowledge they have accumulated over a lifetime of working with industrial heritage. Much of this knowledge is not yet knowledge in a stable form, which is fully researched, documented and published to make it readily accessible to others. Data capture and documentation constitute an important foundation stone that will continue to merit our attention and resources. This is also true of oral history, where narratives and memories that are as yet unwritten, are constantly in the process of being lost unless documented.

The second key idea which has been raised repeatedly is that of value. I will dwell on this the longest, because it is the area where I have witnessed most misunderstandings between different actors in the field of industrial heritage. Why does industrial heritage matter to us, and why is it worth investing in its preservation? This is closely tied to the issue of priorities, which also came up repeatedly today. What should be preserved with the limited resources available? In this context, it is evidently not realistic or desirable to attempt to preserve Malta's entire industrial landscape, as this would only serve to bring the country to a standstill. Choices and judgements need to be made, and decisions taken about what to preserve, when to preserve in situ and when to do so in a museum, when to restore a machine to full working order and when to cherish it as a fragmented relic. All these decisions need to be based on a sound understanding of the values that these objects hold for us, on why they matter to us. Today's discussion has underlined the fact that there is no

single correct prescription which may be applied dogmatically across the board to the conservation of cultural heritage resources, particularly the conservation of industrial heritage resources. What we have are guiding principles which we may navigate by, of which the understanding and safeguarding of value is perhaps the foremost.

The concept of authenticity is of central relevance here. Since the 1994 Nara Document on Authenticity, there has been a broad consensus that "... judgements about values attributed to cultural properties... may differ from culture to culture, and even within the same culture. It is thus not possible to base judgements of values and authenticity within fixed criteria" (UNESCO, 1994, Article 11). This recognition of the culture-specific nature of values and authenticity has ramifications for the field of industrial heritage, which are still being explored (See for instance Passfield, 2005; Casanelles and Douet, 2012). The material culture of the industrialised world has a number of idiosyncrasies which set it apart, and which arguably require a different approach to authenticity to that we are accustomed to when discussing, for example, the value and authenticity, and consequently the treatment, of an archaeological ceramic or a work of painting or sculpture. One such characteristic which sets apart industrial material culture is the reality of mass-production, which means that typically, many artefacts are not unique testimonials in the sense that a hand-crafted object is, but on the contrary, are often perfectly identical, and consequently even interchangeable (Casanelles and Douet, 2012, pp. 196-8). The routine replacement of machinery components as a consequence of wear and tear or accidental damage is an intrinsic characteristic of a machine and its function. This fundamental attribute should recall some of the issues that led to the Nara Document in the first place. A key issue that it addressed concerned monuments where the frequent replacement of elements was a well-established tradition. The culture-specific nature of authenticity, as underlined by the Nara Document, put to rest the notion that such monuments were in any way less authentic than others where less replacement of elements was required, because of the materials and technologies employed in their construction. The relevance to industrial heritage should be clear. The logical corollary is that it is no longer tenable to argue that the replacement of a machine component to maintain or return the whole to working order somehow diminishes its authenticity.

A related argument concerns the repristination of painted finishes. Once again, this is generally an intrinsic characteristic of the maintenance regime of a machine, be it a car, plane or part of a structure or factory plant, and yet nonetheless, it has on occasion been too categorically frowned upon by some conservators more used to dealing with objects of archaeological or art-historical significance. The process of repainting and repristination may, when it is intrinsic to the nature of an object

and the practices and traditions that surround it, itself acquire value and become a necessary component of the object's authenticity. The relevance to our discussion on industrial heritage should be evident. Fresh application of painted finishes to a machine is often an intrinsic and necessary component of the authentic practices associated with that machine, in this sense comparable to the replacement of a mechanical part. Conversely, a significant exception is of course when damage to an artefact is itself considered to have value, such as damage caused by enemy action in wartime, or use-wear associated with an event or individual, which may acquire the value and significance of a memorial. Our discussions of the values and authenticity of industrial heritage needs to take such specific characteristics into careful consideration if we are to successfully safeguard those values.

A corollary to the discussion on values and authenticity is that decisions concerning the material treatment of an object need to be taken hand-in-hand with clear decisions on what we intend to do with it, that is how we want its values to be enjoyed by present and future generations.

The third key idea that I am picking out from the day's discussion is one that latches closely onto the second. The issue of context has come up repeatedly today. During the tour of the old Brewery this morning, we witnessed a prime example of the beauty of encountering an entire industrial process in the context it was created in over sixty years ago. This underlines the importance of moving away from thinking about individual artefacts, to thinking in terms of the entire industrial landscape, in terms of the flow of functions, activities, and processes through equipment, buildings and networks, and their accretion over time. At one point today, Joseph Magro Conti pointed out to us the early seventeenth-century aqueducts which run just past the Brewery, forming a part of the same historic environment. The aqueducts as well as the Brewery each represent a major milestone in the industrial development of the Maltese Islands, and each form part of the same grand narrative of human exploitation of Valletta's harbours, which have played such a central role in defining Maltese history and collective destiny. Perhaps it is in the inner harbour area that we face the most colossal challenges, and opportunities, to preserve and reinterpret a landscape dense with the evidence of past industrial activity that has built up over time, even as the role of the harbours is being reinvented for the future.

That leads me to the fourth key idea which has surfaced several times here, first during Timothy Ambrose's keynote speech, and again during the panel debate and the discussion from the floor. This is the crucial importance of people, and of human narratives, for a successful approach to industrial heritage. We have heard repeatedly how this approach may be enriched by putting people at the centre, in

two important ways. Firstly, in the narratives we collect and pass on, the stories of individuals, families and communities, which together make up the social memory of the encounter with industrialisation, to tell the story of how our lives have been reshaped by machinery. This is a story about much more than the machines themselves, and one which concerns us all. This leads me to the second facet of the centrality of people in our approach, which concerns the way this heritage is interpreted to our audiences today. If we succeed in narrating this story, we will continue to succeed in making industrial heritage relevant to ever wider audiences. Professionals working in the heritage sector sometimes forget that they are a very small proportion of the population. Continuing to engage the entire community, and communicating the relevance of what we do to the rest of society and to different generations, is vital for us to succeed.

The final key idea that I'd like to pick out from your interventions is the importance of networking. The point has been repeatedly made that we need a more integrated strategy, and cannot afford to continue working piecemeal. We have witnessed several noble initiatives which have delivered an immense amount of sterling work. It has too often been the case that different interest groups did not enjoy the right circumstances for a healthy and open exchange of ideas. I can recall episodes in the past when conservators with an academic formation frowned upon the painstaking efforts of amateurs and volunteers, without perhaps engaging enough in a constructive dialogue. Yet as we have been hearing today, the whole spectrum of actors, from national authorities to private individuals, have a vital role to play. The more occasions like today that we can have, when we may make new acquaintances, exchange cards, compare notes, share ideas, and learn from each other, the better. I was delighted to notice a lot of this sort of exchange during the coffee breaks today, which as we know is when a lot of work happens. This networking now needs to develop into more collaboration and pooling of knowledge, experience and other resources. I augur that we all continue to work together to this end.

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Concluding Remarks

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It is a mistake to read history of architecture as a history of stylistic movements. History of architecture is better read as a history of construction technology, as a history of how peoples could do things. The evolution of the simple stone arch, for example, is not a history of patterns, semi-circular as against pointed; it is actually a story of how stone could be extracted from the ground, of what tools were available to shape it, and especially of how the arch could be built economically (often meaning "without formwork"), to achieve a durable stability. The evolution of the forms of masonry domes similarly tells a story of how they could be built with least effort. Brunelleschi won his commission to build the dome of Santa Maria del Fiore not on the basis of enlightened stylistic proposals, but simply because he knew how to build the dome – and the form was part of that technology. Therefore, the history of architecture is, at least in part, a history of technology; it follows that architectural heritage is therefore also "technological" heritage, and, in this sense, "industrial" heritage.

And yet, when heritage authorities select monuments for "preservation", as part of the culture of a society, this selection is often solely based on stylistic and historical grounds, rather than on technological, constructional or material criteria. It is in reaction to this limited view of "preservable" heritage, that the discipline of "industrial heritage" or "industrial archaeology" has become so topical in recent years. It is also as a result of what can best be defined as "academic neglect", that the discipline has thrived mostly as a result of the passion of a few "amateur" individuals.

This conference, a first in Malta, is testimony to the growing awareness that it is necessary to widen old definitions of which "remains of history" should be preserved for generations to come. The Farsons Foundation is to be congratulated for taking a leading role in this regard.

The conventional definition of "industrial heritage", for example by English Heritage, and in the 2003 Nizhny Tagil Charter for Industrial Heritage (TICCIH, 2003), focuses primarily on a specific time period, beginning with the Industrial Revolution, say mid-18th century, to the present day (or, according to some more limited definitions, to the First World War). It is generally taken to encompass the physical remains of what is considered to be the golden age of industrialisation, including machines and buildings associated with railway systems (stations, engines, railway tracks), with early road transport (diesel engines, tunnels, bridges), and with

water transport (steamships, canals, harbours, lighthouses); with the production and distribution of potable water, and disposal and treatment of sewage, (galleries, pumps, reservoirs); with the generation and distribution of energy (power stations, turbines); with production, or factories, (quarries and other mineral extraction works, kilns, glassworks, pottery works, steel mills, breweries); with industrialized agriculture, (threshers, tractors, sheds and silos).

Nevertheless, a number of authors have pointed out that industrial heritage actually exists in all phases of human development, and not only in the 19th and 20th centuries. Michael Falser, in his Industrial Heritage Analysis, prepared for the UNESCO World Heritage Centre (Falser, 2001), argues that "the new discipline of industrial archaeology celebrates the artefacts of the workplace, that have as much meaning in any history, as the religious and domestic artefacts and architecture to which more attention has been paid throughout the years. Our industrial heritage", he continues, "includes not only the mill and the factory, but the social and the engineering triumphs spawned by new techniques, from the Neolithic flint mines to the Roman aqueducts, company towns, canals, railways, bridges and other forms of transportation and power engineering".

In a recent book, "History of the World in 100 Objects", Neil MacGregor (2010) uses objects, taken from the collections of the British Museum, and ranging from Neolithic chopping tools to Korean ceramic roofing tiles, from a medieval Astrolabe to a 19th century chronometer, from a Japanese bronze mirror to a contemporary solar-powered lamp and charger, to tell the story of the world; these are the objects that "speak of societies and of complex processes". In other words, this is the history of the world seen through the history of technology, a history of how peoples made objects, how they used tools to help them with their activities, how they used the sources of energy available.

In fact, it can be shown that, contrary to commonly-held perceptions, the Industrial Revolution did not herald the beginning of machines and technology, as much as the beginning of a period of civilization where energy (the source was coal), could be harnessed and controlled, switched on and off, as it were, without depending on the vagaries of wind and water, or of beasts and slaves. It was not even the beginning of mass production. The surviving evidence is perhaps limited; for example, limited to the surviving texts of Hero of Alexandria, *Mechanica*, *Pneumatica*, *Automata*, or of Vitruvius, *De Architettura*, and Pliny, *Naturalis Historiae*, or closer to our time, Georgius Agricola, *De Re Metallica*. And these texts offer us tantalizing possibilities: did the Alexandrians really have sliding doors which could be opened and closed automatically, using steam power? Did they really have slot

machines? And did the Sassanids really have electrical batteries? Probably not. But the Antikythera device does seem to be a 2,000-year-old mechanical computer capable of predicting the positions of the sun and the moon, and a number of planets, and of predicting eclipses. Our own Megalithic Temples have not yet fully yielded their secrets, not as far as concerns how they were built and the "advanced" engineering of their structures, nor as far as concerns the relationships with celestial bodies – but they certainly point to a much more technologically-friendly civilization than is commonly perceived. Closer to our time, but still preceding the Industrial Revolution, the Bouchon and later the Jacquard methods of using perforated cards to "programme" different weaving patterns, in the beginning of the 18th century, are considered to have deeply influenced Charles Babbage. Are these not part of an "industrial heritage"?

Once the understanding that past civilizations had this level of technology, and of industry, sinks in, should it not change our perception of the past completely? These ancient texts are doubly interesting – first of all, they showcase the technology of engraving and printing that allowed the creation of the books. Secondly, they also document the fact that the societies within which they were produced, considered these machines and technologies sufficiently remarkable to put them on record. This is mirrored by the use of the latest technology in the 19th century, that of silver plate photography, to document the beginning of civil engineering, such as, in Malta, the dramatic engineering transformation of the Grand Harbour.

So, what is "industrial heritage"? Perhaps the most generic definition one can find is that "industrial heritage" is "all about identity". It "encompasses machines, and the buildings in which they were housed, as well as the fabric of a changing society" (ERIH, n.d.). It includes "practices handed down from the past by tradition". It is "that which a past generation has preserved and handed to the present and which a significant group of the population wishes to hand to the future" (Hewison, 1989, p. 16). This is indeed a very wide definition – it could be "anything you want" as Lord Charteris put it (Quoted in Hewison, 1989, p. 15).

The latter part of the definition highlights the fact that the identification of "industrial heritage" inevitably involves a degree of cultural choice, a process by society, or a group within that society, by which judgement is passed on what is to be classified as heritage, and which is to be preserved for the following generations. It is a process of value judgement. This is a very important process, and, paraphrasing, perhaps too important to be left solely to the historians and the experts.

The building that this conference is being held in is an example. Many people would agree that the building is a handsome one. On the basis of these looks, it

has been scheduled by MEPA as a Grade 2 building. Even as the participants came in, many admired the Art Deco influences, but ignored the impressive reinforced concrete beams, and, more importantly, the vision of the makers, back in 1945, of industry as a glorious and honourable activity – in contrast to much "utilitarian" thinking on industry and industrial estates today. The Directors of Simonds Farsons Cisk plc have understood that this is more than a handsome building. It is a testament to a vision of a captain of industry, who was clearly fascinated by technology, in this case, the technology of brewing, as a marvellous process in itself, and but which also deserved to be housed in an appropriately marvellous enclosure - built with the latest technologies available at the time.

The Old Brewery was designed and built between the latter half of 1946, and 1950, that is, soon after the devastation of the Second World War. The Company still has a collection of the original drawings, a magnificent heritage in themselves, which carry the names of the Architects, Lewis V Farrugia, O.B.E., B.E.& A. Architect & Civil Engineer, and the Scottish architect William B Binnie, F.R.I.B.A., as well as of the Civil Engineering Contractors, J.L.Kier & Co. Ltd.. William B Binnie was at that time, a well-established architect, with about 36 years of experience, including the design of an extension to the London Temperance Hospital now part of University College Hospital, the East and West stands of Highbury Stadium and the Hotel Phoenicia in Floriana. J.L.Kier & Co. Ltd. was originally set up in 1928, by two Danish engineers, who like a number at the time, emigrated to Great Britain, and pioneered reinforced concrete design and construction. By the end of the Second World War, it had become a major civil engineering contractor in Great Britain as well as all over the world, renowned for some superbly detailed reinforced concrete buildings.

There is then the whole process of brewing, which informs the cross-section of the building, with the raw materials taken to the top of the building, and then coming down, by gravity, through the various stages of making beer - a whole "machine" for making beer.

As can be seen, the "industrial heritage", in this case, is not just the façade of the building, but the whole, including the construction process and the materials it was built with, the drawings specifying how it was to be constructed, as well the brewing processes contained within it. This is what, correctly, Farsons have identified as worthy of preserving and explaining (because without explanation, many of the relevant details would remain hidden), and what they wish to hand over to the future. There are many ways they could do it. They have chosen to make it part of their on-going industrial operation, because they clearly wish to continue brewing beer. That they have made this choice themselves is even more valuable than if such

choice were made by "experts". The success of the whole process of protection of our "industrial heritage" requires enlightened patronage.

In Malta, there are a number of examples of buildings "encompassing machines" which tell the story of our changing society – foremost amongst these, one finds the structures and processes involved in producing energy (eg. The Marsa Power Station and the whole industrial complex around it); structures involved in producing and storing water (19th century reservoirs, underground galleries), processes associated with food production and storage, and with telephony or telecommunications, or the structures supporting the operations in the Harbour, to mention a few. "Building Technology" is itself one of the sub-categories of industrial heritage, and, in this sense, the use of particular technologies in construction may not only merit preservation, but especially awareness: for example, cast- and wrought-iron in the 19th century Market in Valletta, mass concrete in Fort Tigne' or Fort Cambridge, the 20th century reinforced concrete water tower in the Civil Abattoir; perhaps even the first examples of post-tensioned concrete?

However, the protection of this industrial heritage will not be successful if it limits itself to simply "scheduling", or preserving in aspic. That is the legalistic solution, which is not good enough. The protection of these buildings and structures should not preclude modern interventions. The preservation of heritage needs to facilitate the telling of a story, so that the whole point of preservation is widely understood, and contemporary technologies may be needed to tell this story. Most of these sites lie within, or side-by-side with, on-going industrial activities, which need to continue to function. Functional requirements on the whole of the sites are often very demanding, and resources normally limited. Freezing the picture is often not an option. For the whole exercise not to be counter-productive, acts of preservation should not be the mere imposition of a schedule, or a list, by an external agency, as informed by "experts". It should be a much more meaningful operation, involving an open-minded interaction with various actors, but particularly the owners or operators of the facilities, so that all can participate in the choice of what is to be termed as "heritage", and in the decision of how it is to be preserved. The people who are associated with these sites are often very passionate about where they have worked. What experts should do is to respectfully assist them on the way.

One other point is the issue of museums and visitor centres. Surely, the solution of transforming these sites into museums is not good enough, nor is it viable in the long term. One other way is to draw people in, to live and work, side by side with the "heritage", as people in Mdina and Valletta lived and played on the fortifications around their cities. At University, we have initiated student projects which look at

large-scale industrial sites like Marsa, to consider how the main features can be preserved, whilst completely changing the use - what about a University inside the old Power Station, or an Opera House using some of the gigantic steel structures? There is much more work to be done to explore how these issues could be handled.

A final point is to look at the quality of contemporary industrial/technological design. Compare contemporary industrial buildings with those of the past; contemporary public technological furniture with that of the past, the lamp posts, telephone booths, the roof paraphernalia. This is not a bout of nostalgia, but a fear that perhaps the "passion" of "making" has been lost; this is the passion that this establishment really celebrates. Perhaps what one needs to create is a centre where the importance of doing things with a passion is fostered.

At this stage, The Farsons Foundation should be congratulated for the commendable way they are addressing the issue. This conference is part of the process they wish to engage in, in order to find the best way by which they can transmit the heritage they have inherited to future generations.

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Concluding Address

Louis A Farrugia

Chairman, Simonds Farsons Cisk plc

One hopes that this initiative to organise a conference on industrial heritage in Malta will generate not only a renewed interest in our Islands' industrial heritage but also a wider debate about the diverse opinions on how best to repair, restore and reuse our industrial past.

I am pleased with the debate we had and with the opportunity for Farsons to make a presentation about its contribution towards Malta's industrial heritage over the years, particularly the initiatives which we are planning for the future.

As a Company, we want to preserve and treasure our heritage and also go one stage further: we want to share this significant heritage with the community. This is a community with which we have built a strong business relationship for the last 85 years, as all along we have constantly endeavoured to deliver the highest quality products in the best way possible. Farsons is in many ways a recognised name with many families in Malta, recognised not only for our brands but also for the employment of hundreds of employees who have been part of our growth development over all these decades. In return, we have been honoured by this community's support and esteem. In this regard, we would like to share our story. However we want to do this with an aspiration to have a future that strategically builds on our remarkable past.

If there is a hallmark that has constantly inspired us, this is our outlook that has always been projected towards the future: we also have the determination to grow overseas. At the same time, one of the benefits that we have is that we are still an independent Maltese Company that is a hundred per cent Maltese-owned. There are not too many breweries in the world that remain independent today.

We understand these advantages and want to benefit from them. I am very much encouraged by the response of all stakeholders at this conference because, in actual fact, this is a project that we need to share. This is not the case of a new product that needs to be kept a secret until its launch.

Here, we have a project that we need to share with the community in Malta and we look forward to the response as plans are unfolded.

This conference has served, I think, as a very encouraging stimulus. I want to thank you all for your active participation and, in particular, I would like to thank Prof. JoAnn Cassar on behalf of the University of Malta, Mr Bryan A Gera on behalf of The Farsons Foundation, and obviously all speakers, Mr Timothy Ambrose, Prof. Alex

Torpiano and everyone who has contributed to a successful debate that has served as a curtain-raiser to reveal the extensive richness of what so far may have not been highlighted enough.

On our part, we appreciate what we have learnt, and will retain and put these insights and knowledge to good use in what are trying to achieve. We leave with renewed determination to safeguard and invest in the wealth offered by our industrial heritage and to promote it further.

Thank you.







