

A Rusty Issue; or, the Strange Case of a Victorian Crane in Venice

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Abstract Industrial heritage is a type of built heritage that is often considered to be controversial as regards its preservation, because it challenges the traditional perception of heritage values. According to a specific country, culture or even to differing conservation professionals, industrial assets may be differently perceived. This paper discusses the reason why specific examples of material practice become heritage and what the role of society is in its perception. The heritage asset chosen to discuss the complexity of preservation in the case of industrial heritage is the Armstrong and Mitchell crane, standing in the middle of the Arsenale in Venice, which presents a curious case: a rare survival of an English asset in an Italian context that is likely to put its preservation at risk.

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Keywords Armstrong and Mitchell Crane. Arsenale. Venice. Industrial heritage. Identity formation.

1 Cultural Heritage and its Perception

What is defined as cultural heritage in any given country changes according to many variables; among them are the geographical and historical contexts as well as the cultural context of the community where the asset is located. The concept adapts fluidly throughout the decades, often tending to expansion, and has been in the past the subject of fierce intellectual speculation aided by philosophy, mathematics and politics. The way heritage is viewed is in fact intimately related to the implementation of conservation policies and not the exclusive subject of studies of psychology or social sciences.

‘Heritage’ is, according to the Oxford Dictionary of English, a “Property that is or may be inherited: an inheritance” (Oxford University Press 2015), therefore an undefined entity that connects us to the past. The secondary definition of this word is even more specific and more relevant to the current discussion: “Valued objects and qualities such as historic buildings and cultural traditions that have passed down from previous generations” (2015). No emphasis is given to the material nature of what can be considered as a heritage asset, no mention of artistic or aesthetic qualities, no suggestion of specific requirements. In broader terms, heritage is whatever we wish to pass onto the next generation and this definition is applicable to a wide pool of eligible assets. According to Sergio

Pinna (1995) a heritage asset is the work of human intellect, ranging from works of art to the evidence of human history, in our duty of care as a form of respect of the past and future generations. Moreover, it is not just a by-product of culture but a generator of culture in itself and a contributor to a nation’s knowledge. Although heritage is a definition given to a wide spectrum of expressions and social concepts with material configuration – classified as landscapes, objects or customary practices (Pearce 1998) – heritage recognition can be subjective. What is perceived as heritage by conservation professionals sometimes differs from public perception.

So why do specific examples of material practice become heritage and what is their role? Does the cultural and historic background of the heritage professionals influence their evaluations? François Le Blanc explored the topic stating that the perception of heritage starts from the individual initiative and can then ripple all the way to the world like a travelling wave (Le Blanc 1993). The concept can be valid for one person or be extended to a whole community but more importantly it allows a single action to have an influence or an impact on the different considerations taken into account when selecting assets to be preserved for future generations.



Figure 1. View of the Arsenale towards South West with the Armstrong & Mitchell Crane in the centre.
Photo by Claudio Menichelli

2 Industrial Assets and their Uneasy Preservation

A large part of what is considered as cultural heritage is represented by built heritage, which includes items that have been constructed and have a specific value. Built heritage is not a category limited to buildings but includes engineering and industrial items among others. Industrial heritage is a type of built heritage often controversial as it challenges the traditional perceptions of heritage values. The qualities of these types of asset often remain largely unrecognized despite them being important witnesses to human activities and past technological developments.¹ These structures can often be associated with engineering, architecture, town-planning and lastly the embodiment of skills, memories and social life of workers and their community.

Despite these intrinsic qualities, industrial assets seem to only stand a chance of preservation in smaller communities, where the productive history is still relevant and woven into the present economy. In larger centres, they are often underestimated and poorly understood (cf. Berger and Brenner 2008).

The industrial revolution in Europe, with the technological progress and the radical lifestyle changes it caused, has complex implications for our present. Our comfortable lifestyle is largely the by-product of a couple of centuries of innovations, hard work and technological pioneers. Strangely, the material evidence of this crucial turning point in history is mostly seen as ageing stock requiring demolition within our increasingly sanitized landscapes, not as a resource and despite its great potential, industrial machinery suffer the greatest degree of neglect (Menichel-

¹ Jacopo Ibello, President of Save Industrial Heritage. Private correspondence with the Author (email dated 29 June 2016).



Figure 2. Picture of the Armstrong & Mitchell Crane towards San Pietro di Castello (dome on the right) and the Gaggiandre (to the left). Photo by Claudio Menichelli

li 2010). Relics of this period include architectural remains and machinery, both equally important for the understanding of production processes and technological progress. Issues linked to the preservation of industrial assets are mostly due to the large scale of the buildings and structures or simply the difficulties in challenging the traditional concepts of preservation. Moreover, the existence of industrial heritage is not limited to the mere physicality of those structures, but it is intrinsically linked with the human capital of a place, formed by countless lives and families. Workers shaped the history and economic development just as much as those initiating it and managing at the top levels.

3 An English Crane in the Venetian Arsenal

The heritage asset chosen to discuss the complexity of preservation in the case of industrial heritage is quite unique and unusual in its location. The Armstrong and Mitchell crane, standing in the middle of the Arsenal in Venice, is far removed from the better known artistic side of the town, which still today draws masses of tourists to the city. The crane stands as a functional example of Victorian English manufacturing at its best in a world of beautiful palaces and works of art.

3.1 A few Historical Facts on the Arsenal

The Arsenal is a walled basin in the easternmost part of the town, with a long history dating to the twelfth century. The shipyard is still partly in use at present and its unique architecture tells a remarkable story of this once secret world within

the city (Venice in Peril 2014, Bettiol et al. [s.d.]). At its peak, as many as 16,000 workers worked in the Arsenale, building the warships and galleys that contributed to the formation of Venice's wide sphere of influence across the Mediterranean, as the navy represented the biggest asset and source of power for the Republic.² The shipyard was built initially as a series of boat-houses accommodating the construction of two wooden galleys (*galee*) each and functioned as an industrial complex. In the sixteenth century, the Arsenale was hit by the first wave of alterations aiming at allowing a larger-scale production of vessels (*galeazze*).

During the second half of the nineteenth century, and following the inclusion of Venice within the newly formed *Regno d'Italia*, the Arsenale was greatly altered again during a restructuring phase aimed at the updating of its layout and workshops. Following the unification in 1866, the walled basin became, alongside Taranto in the south of Italy, a pivotal stronghold and maritime garrison of the highest importance, due to its location in the lagoon and its already considerable size. The new role and subsequent phase of expansion of the wet and dry docks, slipways and the basin, coincided with technological advances in the construction of boats (Menichelli 2010). Wooden hulls were abandoned in favor of metal linings of up to 0.50 m in thickness. Furthermore, engines replaced wind propulsion requiring radical change in the boats' design. With regards to the military role of the Arsenale, the progress in the production of artillery - implemented by Armstrong himself, allowing the increase in the size of guns - had the greatest impact on the equipment required in the shipyard. As a consequence of those changes and the increased weight of metal hulls and guns, powerful lifting devices were necessary.

Following the peak of production during the Victorian period, the complex fell into a phase of decline and after World War I the area was allocated to private shipbuilding. After World War II the abandonment of the area became widespread and lasted until the end of the seventies when a new flourishing of initiatives begun to draw the attention back to this fascinating place. In 1983 the first restorations of the buildings on the south side (*Corderie*) were undertaken, trigger-

ing a process of piecemeal refurbishment that changed the face of the basin, although many buildings and structures still require attention (Menichelli 2010).

3.2 The Armstrong Crane 'in Peril'

The Armstrong and Mitchell crane was built in 1885; in its heyday, it was an incredible piece of technology and a considerable improvement from the previous examples of such pieces of equipment. The crane was made to order by Armstrong & Mitchell in 1883, when the decision was made to build the battleship *Francesco Morosini*, which required four Armstrong breech-loading cannons. The innovative hydraulic technology, devised by Armstrong, allowed the crane to be extremely precise in the positioning of heavy loads (such as cannons) and therefore made it an indispensable asset for the naval industry.

The crane was designed and made on Tyneside, then transferred to Venice where it was assembled and installed on top of a masonry base in the Arsenale. Revolving on its fixed plate, fed by the boiler (located in a separate building) and operated by the hydraulic pumping machinery (located inside the base), the crane remained in use until the fifties, despite damage during World War I. The structure is a poignant reminder of a time when human power was the primary energy that fuelled the industrialization of our towns and brought us the commodities and quality of life we know (Venice in Peril 2014, Bettiol et al [s.d.]). The asset is the last surviving example of its type in the world, due to its considerable size and its advanced technology, but is at risk of being dismantled.

The retention of industrial assets of such standing in Venice is a consequence of the peculiar slowness of the city's recent development, which does not allow easy growth or change in the urban pattern. The Venetian skyline is thus enriched by the rare occurrence of these structures now more than ever at high risk of being destroyed due to the loss of their functional meaning.³ Other 'at risk' industrial assets in Venice are the gasholders at San Francesco della Vigna; well known to the local population and the institutions, they stand like ghostly figures against the backdrop of the lagoon, contributing to the atmospheric quality of the area

2 For a first overlook on the historical developments of the Venetian Republic and its Arsenale see Lorenzetti (2002).

3 Berger, Barbara. *Private correspondence with the author* (email dated 29 June 2016).

and fascinating those who venture to this rather remote part of town (Berger 2016).

If the crane and gasholders shall be lost in the next few years, Venice would waste the evidence of an underestimated and important part of its history pertaining to its recent industrial development. These assets should rather be preserved as monuments to technical progress and the ability of humankind to improve living conditions in a short space of time, especially in a tourist-centered town, which Venice has now become. The architect Lord Foster described the crane as 'a priceless part' of Venice's industrial past (BBC 2010), like him a big community of intellectuals and locals supports the restoration of the crane but still, no solution has been found to date and the debate is open.

4 Historic Cranes in the UK: a Different Approach

A web search through the list of statutorily listed cranes in the UK is a quick and efficient way to realize how - in the country - these industrial relics have earned heritage status. Many dock cranes, canal cranes and mobile ones appear in fact to have been included in the list as soon as the seventies and have benefitted from a high degree of protection ever since. Among others, perhaps the most spectacular example of all is the Titan cantilevered crane at Clydebank, in the vicinity of Glasgow (listed by Historic Environment Scotland). The crane was built in 1907 to serve the shipbuilding industry and was in use until the eighties; it was then restored in 2005 and turned into a popular tourist attraction offering tours to school groups and tourists alike, and unexpected activities such as swinging, abseiling and bungee jumping from the crane's arm.

In Bristol, the listed Fairbairn Steam Crane (its listing dates to 1972) has been restored to be fully operational and is open to visits; on the adjacent bank, four Stothert & Pitt electric cargo cranes from the fifties, locally listed and located within the conservation area, have been restored and are used for 'crane rides' by the visitors of the M Shed's exhibitions. Peculiarly, in the same town, a stone drum, formerly the base of a steam crane, was listed in 1977 thus protecting the character of the area.

The designation of heritage assets in the UK is based on the application of generic principles when deciding whether a building or structure possesses special architectural or historic inter-

est as an individual asset and within the wider industrial context (cf. Historic England 2011). If UK standards were applicable, according to the key over-arching issues to be evaluated ahead of designation, the following would be met by the Armstrong Crane:

- Regional character of the industry: the selection of industrial assets should be weighed against the immediate regional context and should aim at achieving a representative sample for each sector of an industry. The development of the shipbuilding industry in the Arsenale represents a unique economic landscape within the Veneto region and should therefore be preserved.
- Technological innovation: when an asset represents a technological improvement within its specific sector, it should be considered for designation. The Armstrong crane is a strong candidate as it was the first of its type and the development of its hydraulic technology is linked to the technological progress in the production of armaments.
- Intactness: the degree of preservation of an asset is very relevant to its evaluation as it enables us to fully understand how it operated and therefore allows the more accurate preservation of knowledge. The alterations that affected the Armstrong crane were only limited to its survival, such as the partial emptying of the counterweight, and no reconstruction was ever performed on the asset to interfere with its original design.
- Historic interest: the survival of important elements of industrial history is a pivotal justification for designation. The crane is poignant surviving evidence of the nineteenth century economic and military growth of the Arsenale and it is among the most visually obvious in the area.
- Wider context: industrial assets are valued within the broader context in fact the existence of a number of assets formerly working as a group raises the profile of each single asset. Due to the decline and abandonment of many areas and buildings within the Arsenale during the twentieth century, which contributed to the preservation of the industrial machinery, the crane is now part of a large number of preserved assets. The other assets include a Fairbairn crane, a Larini Nathan crane, several lifting devices called *carri-ponte* and other industrial machinery now hidden from view.

5 On Heritage, Identity and Humble Assets

All theories and policies which revolve around the protection of heritage can only be applied when one element – above everything else – is clear: why should we protect heritage? What is the benefit counterbalancing the effort? A sociological introduction beckons.

Heritage assets and sites are an essential part of the social life of a community as they are tightly bonded with the social background as the “living elements of the foundation of the multilayered identity of individuals and cultural communities” (Council of Europe 2009, 25). All heritage resources play a vital role in shaping collective memories of the past and strengthening social and individual bonding. In David Lowenthal’s own words:

Heritage resources mediate the past, present and future and can be used to shape collective memory into official versions of the past. (1985, 67)

As Michael Di Giovine suggests, the efficacy of World Heritage sites – for example – lies within their ability to manipulate memories thus provoking feelings of ‘resonance and wonder’. Their role is to strike a chord in the viewer by linking the view to pre-existing experiences and enhancing the experience (Di Giovine 2009). The utopia of being for a moment transported back in time is also another element moving the viewers of heritage and making them appreciate the assets through emotional involvement. There is much an asset can teach contemporary users about life and the world, linking physical places to mental places (Ashworth, Larkham 1994).

For the vast majority of human history, forming adult identity was simply to follow in one’s parents or grandparents footsteps and to blend in with the existing social background. Social freedom was restricted as well as choice, therefore the formation of identity was simpler and not characterized by the continuous confrontation with negotiations, typical of modern times (Côté, Levine 2002). Now that societies have developed into more fluid entities, heritage assets are more important than ever, contributing to the satisfaction of individual psychological requirements “so that the comfort of the past may anchor excitement of the future” (Lynch 1972, 71). As a consequence of modernization, individuals and communities are compelled to re-articulate

their sense of identity by re-establishing a sense of the past often using mundane and vernacular assets recognized as continuous reminders of a national identity (Smith 2006, Billig 1995).

Among the main functions of heritage, in fact, is its relevance in the formation of individual and social identities or the strengthening of pre-existing ones. Individuals and communities relate and identify with or through heritage in various ways and assets become a means to create inwards and outwards social stability. The identification with a group, like the local community for example, is heavily influenced by group behavior, the sense of belonging to a specific place and the sense of continuity. The concept of the formation of identity has been studied with particular attention in the last few years, due to social changes being intensified by the advancement of technological progress and its consequences. It is believed that cultural changes in modern societies have made forming or maintaining a sense of identity more complex (Côté, Levine 2002). Where this has happened, lack of cultural resources also exacerbated the problem. As regards the European Union, the issue of cultural identity and heritage has been at the centre of the debate for at least two decades, focusing on the ample notion of ‘citizenship of Europe’, which was dealt with in two recent Conventions: the European Landscape Convention (Florence) and the Convention on the value of cultural heritage for society (Faro). Indeed, Zagato (2015) assess how the terms ‘common heritage of Europe’ and ‘heritage community’ have opened to the idea of an evolving European identity.

The European situation is particularly challenging when considering the variety of identities and historical backgrounds in its several nations. In fact, individuals have a need for positive social identity, which heritage can contribute to form, though that need comes in all forms due to the varieties of identities in a society (Billig 1995). Most people will try and find something of themselves in an asset, they will perform a sort of ‘identity work’ at a heritage site to help them feel connected. For this reason we should better include all available types of heritage to benefit a wide society that is increasingly diverse (Smith 2006, Council of Europe 2009). Widening the scope of preserved assets would further help to overcome the risk of narrowing identity formation to possibly misleading interpretations of the past. Indeed, the value of heritage in giving and constructing identity has been well recognized in the past also in terms

of national identity. Attention has been paid to the ways ideologies of nationalism have been articulated and legitimized. It is always the monumental, heroic and aesthetically impressive assets that are used for such aims. Identity can be therefore shaped by cultural institutions, which can easily affirm or validate certain cultural expressions and interpretations instead of others (Lowenthal 1985).

Historically significant collections and sites, originally in the ownership of the elite, become in the past available to the public as a national legacy, thus forging self-consciousness in a forceful way. Often museums and cultural institutions promoted the impressiveness of kingdoms and empires rather than paying attention to the more minor expressions of a society (Kaplan 1996). To counter this possible drift, it would be important to highlight the role of more humble objects and individual stories when portraying humanity through heritage. Big state museums are often far less interesting than the stories of simple human beings can be. The portrayal of heroic characters and legendary events appears easy and likely draws in larger crowds, although it does not always capture the audience's imagination – or not as well as simple stories of human beings could do – and perhaps it does not allow the same level of 'identity work' and the same connection (Pamuk 2012, 2013). Furthermore, putting objects and assets into museums often leads to their neutralization, since they are separated from their original social context and, thus, from their constitutional meaning. As stated by Pamuk:

Monumental buildings that dominate neighborhoods and entire cities do not bring out our humanity; on the contrary, they quash it. Instead, we need modest museums that honor the neighborhoods and streets and the homes and shops nearby, and turn them into elements of their exhibitions. (Pamuk 2013)

6 A Few Conclusions: Captive Heritage in a Foreign Context

The Armstrong Crane in Venice presents a curious case: a rare survival of an English asset in an Italian context that likely puts its preservation at risk. The significance of the asset in UK terms is high in the scale of industrial heritage due to many considerations: the item is a unique asset in its original location, well preserved, with

a historic interest that spans across a century and retains group value as part of the Arsenale shipyard. Despite this, the asset has been underestimated for the best part of 30 years and now is in serious physical danger. Will the local authority decide to preserve it or will it be dismantled thus robbing Venice of an important part of its own industrial past? The choice is practical as well as philosophical.

By making the wrong choices and discarding too many industrial assets left in our care, we are depriving the next generation of a more hands-on understanding of the legacy, roots and the development of our territory and community. The risk is to create a centuries long gap in the variety of assets preserved, therefore we should better commit to the 'future preservation' and the formation of a well-balanced legacy (Lynch 1972). Failing that, we risk jeopardizing the role of heritage assets in identity formation and therefore could impoverish our future cultural background. As the preservation of more recent assets helps us explain our family roots and strengthen our own sense of identity (Lynch 1972), the tangible representations of the humble history of a recent past – such as the crane and similar assets – should be respected and preserved for future generations. Looking at our common European ground, this task is further complicated by differences in cultural identity across the continent, since a gap needs to be bridged between communities and a common European citizenship (Zagato 2015).

In this historic moment of quick change, we have a pressing duty to form heritage communities, assign value to specific assets and sustain them for the future (Council of Europe 2009) whilst applying an open-minded attitude to our daily decisions with regards to the preservation of heritage. The case of the Victorian crane in the heart of Venice – making different identities and sensibilities towards preservation collide – is one of those examples, which could advance our understanding of industrial heritage as part of our cultural identity – be it local, national or even European.

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