

## ORIGINAL ARTICLE

## Development of new economies by merging heritage and entrepreneurship

### The issue of preserving, using or developing – or all?

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**Abstract** - ‘Heritage’ could be the driving force in developing new economies in geographic areas with unstable growth. The establishment of industrial remains as heritage during the 1980s and 90s describes a development of heritage practices that improved possibilities to address such issues, as compared with traditional sub-divided heritage work. Heritage afloat exemplifies how industrial and maritime heritage could be instrumental in rethinking heritage practices. Two examples are presented. The first concerns a recent reconstruction of an early 19<sup>th</sup> century paddle steamer, where tacit knowledge within both traditional as well as industrially based craft skills became the main issue. The other example builds on a century old steamboat that has been preserved as designated heritage with original appearance, in original route, and with original function. ‘Working order’ and the difference between ‘heritage’ as the material result, and ‘heritage’ as a process resulting in both intangible and material qualities are discussed as a necessary base in strategies to develop new economies by merging heritage and entrepreneurship, specifically in non-urban landscape perspectives.

**Keywords** - heritage, historical properties, local economies, regional development, maritime heritage, tacit knowledge

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#### Introduction

Industrial remains came in focus for community development throughout the western world during the 1980s to 90s. Simultaneously the traditional view of cultural heritage as material historical testimony has successively been substituted by an understanding of heritage as a living dynamic phenomenon. The notion of ‘preservation’ in heritage practice implies change, redevelopment, redesign, or reconstruction of the material structure based on the historical interpretation but also on practical implications when turning a historical building into a museum for instance. Preservation practice therefore could be seen as a *de facto* design process. The possibilities for local economic development by re-using former industrial sites are increasingly recognized outside the heritage practice. ‘Heritage’ as a re-use argument is thereby often leading to a more obvious relation between heritage designation and societal needs where heritage practices tends to be more clearly a design process. Industrial heritage remains and memories are therefore today ranging broadly from archaeologically/scholarly based storytelling to redesigned “disneyficated” history into perceived contemporary sentiments and commercial opportunities (Kennedy & Kingcome 1998). There are several possible perspectives on derelict, reused or deserted industrial sites which could be subjects for far-reaching research within a number of different disciplines. This paper is based within the confines of professional heritage practice and through two examples on the maritime heritage as part of the industrialized

society, the intention is to discuss the possibilities to balance different perspectives in preservation and economic regeneration.

#### Developing industrial heritage in Sweden

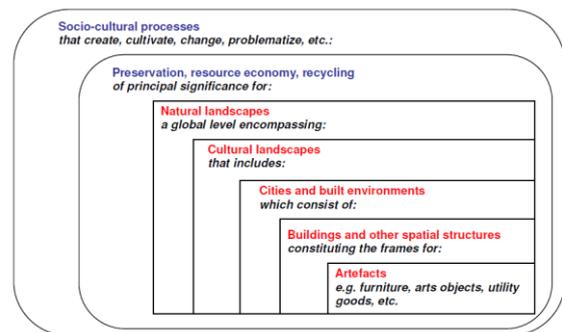
The third industrial revolution during the post-war period with higher degrees of automation and transferring of production sites from the west to low-wage countries resulted in abundant industries and increased unemployment (Isacson & Morell, 2002). In 1968 a meeting was organized in Stockholm due to the global consequences of industrialization. The increasing number of derelict industries, and the large number of unemployed people forced to move to the major urban areas, created a vision of diminishing local communities in the countryside. This motivated inventories and documentations that equalled the apprehension of a disappearing agricultural society during the 19<sup>th</sup> century which urged earlier generations of preservationists to substantial documentation tasks. The large structural changes within the industry in the 1960s and 70s provided the same sense of urgency in capturing the industrial historical narrative before it was too late (Industriminnen 1979). Three key ingredients evolved in 1980s out of this context suggested here to have been the driving forces in Sweden for establishing industries as general accepted heritage. The so called “digging movement” is *the first ingredient* and started in the mid-1970s as study circles among formerly employed industrial workers, and produced amounts of knowledge on workers history, industrial history, local history, and

so on. Often the study circles were developed into working life museums maintaining technological know-how associated to a certain site or process. In Sweden today there are just over 1400 working life museums co-operating within a network that started in 1998 (The Working Life Museums). The importance of understanding preserved machinery and how it should be worked has slowly spread to conservators, restorers and other professions of the formal heritage area as a growing recognition of its significance for the society's ability to regenerate certain industrial sites, communities, crafts or traditions. **The second ingredient** is the evolving focus of studies on industrial history, industrial remains and labour history, in both established academic subjects and new areas such as industrial history and the history of technology. Academic Chairs was installed in History of technology and in Industrial history in the 1980s and 90s at the Royal Institute of Technology in Stockholm. The Chair in Industrial history resulted in several doctorates and also a Nordic PhD-course given on three occasions, where the participants today are renowned researchers or practitioners in industrial heritage (Industriminnen i Norden, 1996). The instrumental qualities of derelict industrial sites represent **the third ingredient**. The working life museums have in several cases played an important role for redeveloping local economy in the previous industrial communities. However, in most cases the machinery and technical equipment had been dismantled and scrapped or transferred to a low-wage country. The empty halls on the other hand, presented unlimited possibilities for reuse as office areas, schools, shopping centres, etc. Eventually industrial remains were recognized as heritage and a broad perspective was presented by a public inquiry of 1999 (SOU 1999:18), where one result was the establishment of *The Delegation for the cultural heritage of the industrialized society*. The guiding principles were to act as an operative authority under the Secretary of Culture and to perform, follow up and evaluate governmental initiatives within the industrial heritage (SOU2002:67). The important effects of the activities of The Delegation were the realisation that heritage practices also concern the present society where heritage is a potential force for inclusive societal processes.

### Rethinking heritage practices

Industrial heritage could be associated with the same problems as the heritage field faces from a general perspective. Principally, natural and cultural heritage practices are performed through different regulations, organization forms, and occupational groups and so on which in many situations independently take decisions and measures within their own field. These practices have been developed depending on what sort of object is in focus for the activities, and in a general sense the field could be divided according to 'typical' heritage objects that can be understood in terms of different systems, or boxes as in *Figure 1*.

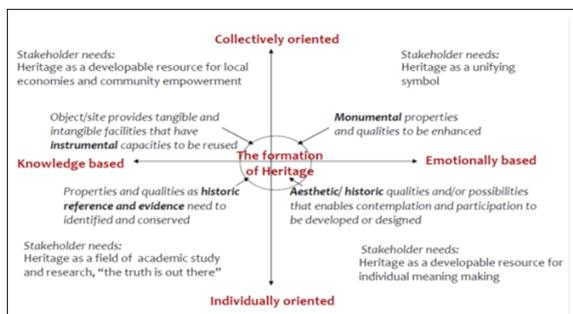
The activities within one box might have positive or negative effects in the other boxes. The success of these activities in a broader societal context is dependent on more general attitudes to concepts such as preservation, recycling or resource-economizing, and these attitudes are in turn the consequences of on-going socio-cultural processes that discusses and redefines the context for heritage work. These boxes need to be identified as interlinked sub-systems that depend on attitudes in society toward memory, history and preservation. In this way, the sub-systems form one system – the heritage practices –is continually integrated in a wider perspective with co-operating and competitive systems, where the production results of the heritage field become resources or obstacles to the practices of these neighbouring systems.



**Figure 1.** Heritage practice as traditionally object-oriented sub-systems (Source: van Gijch et al., 1996)

The starting point for the production of industrial heritage coincided with the third industrial revolution resulting in sites available for heritage reuse, in the western world. A major component of this re-use has been a kind of reindustrialization within the fastest growing contemporary industrial area – the tourism industry. An industry that provides the base for economizing the maintaining of competences and tacit knowledge required for demonstrating historical techniques, crafts and production processes which, in turn, might form the base for innovative entrepreneurship and new industries. This process put increased requirements on the heritage profession to be able to balance a number of diverse perspectives on the heritage in question. When approaching a site and defining the needs or requirements it should address as heritage, it is necessary to understand the different stakeholders' motives for engaging in a heritage formation process (see *Figure 2*). The heritage, and the process of its definition, could be interpreted as the locus of the intersection of two differing types of tensions – one representing the dynamics between knowledge based and emotionally experienced heritage, the other illustrating the relation of heritage to individually or collectively oriented needs. Different processes, possibilities and conflicts could be discussed by placing stakeholders in and between the four activity areas of this structure. The heritage production within the domains of industrial and technical history is a dynamic

process that could benefit from a better integration between knowledge based respectively emotionally experienced activities. This integration concerns also the possibilities to improve the cooperative links between contemporary production industry and industrial heritage sites regarding tacit knowledge, innovative entrepreneurship stemming from industrial and crafts traditions, and possibilities for regenerating local economies.



**Figure 2.** Different stakeholders provides decision base for heritage practices (Source: Authors' construction).

Two examples follow here that describes two objects as examples of maritime heritage and as subsets of industrial heritage. In their present function they represent diverse perspectives on authenticity, reusability, and economic impact.

### Example 1: The reconstruction of a paddle steamer

The project to reconstruct the paddle steamer *Eric Nordevall* started in the middle of the 1990s when the



**Figure 3.** The launching of *Eric Nordevall II* on June 6, 2009 (Photo: Bosse Lagerqvist).

keel was laid in the workshop at the Forsvik Works – a newly established industrial heritage site. The original *Eric Nordevall* went down in the lake Vättern in 1856 (Cederlund, 2002). The aim to develop Forsvik Works into an industrial heritage attraction needed a project

with an industrial historical touch that could enhance the visitor experience of an industrial workplace with historic qualities. The economic association Forsvik Shipyard was therefore founded in 1995 for the purpose to construct the replica *Eric Nordevall II*, a project that was divided into three main areas: hull, boiler and steam engine.

The construction of **the hull** with the singular violin form was completed through economic contributions from a large number of sponsors, but also from labour market measures directed to counteract long term unemployment. A large number of persons, around 300 (Bornmalm & Lagerqvist, 2011), have thus been trained in a craft in situations often in front of interested and impressed visitors, due to the attraction of following reconstructions like the Eric Nordevall II-project. The situation as such for an individual whose experience stemmed from long-term unemployment to become the focal point for amazed visitors, contributed in most cases to a significantly improved self-confidence of the individual. The reconstruction period has spanned a substantial amount of years, but the original was built in less than a year in 1836-37. One possible explanation for this difference is of course the competence and general training of the work force that in the 1830s was focused on producing the future of cutting-edge technology. Today, the construction carried out as a long-term historical science project including reconstruction of craftsmanship as well as uncertain funding.

At the Maritime Museum in Stockholm a poster material with drawings showing the exterior appearance of the **steam engines** were found (The Maritime Museum). Based on this document, construction drawings for the machine could be produced (Bornmalm & Lagerqvist, 2011). The casting of engine parts required the production of models and four students from

a furniture craft training program manufactured all models within their training program, and the casting was made by a number of small foundries in the region. Eventually everything was assembled to two working steam engines - one for each paddle wheel, at the *Motala*

*Verkstad* [Motala Workshop]. The Motala Verkstad thereby represents a unique industrial continuity: in 1836-37 they made the steam engines for the original Eric Nordwall, and some 170 years later the same company produces similar engines to the reconstructed *Eric Nordevall II*. The difference in these 170 years could also be expressed as the present accuracy in industrial production is measured in a thousandth of a millimetre, while the original engines at best had a level of accuracy of a tenth of a millimetre. This potential for higher accuracy in manufacturing the new steam engines became a problem and during the maiden journey measures had to be made to decrease the accuracy in the mechanical functionality to give room for flexibility due to the movements of the wooden hull. With the objective to build a **boiler** to *Eric Nordevall II*, senior long-term unemployed former shipyard workers in Karlskrona was trained in hot riveting of pressure chambers. The project was funded by the European Social Fund and initiated in 2005. The requirements were to have it manufactured in steel and as identical as possible with the original, following the manufacturing process that was in used in the 1830s. Although the boiler is a low pressure type, it is associated with risks as it is placed in a passenger ship. Certification of hot riveting skills is therefore a basic requirement and to secure the boiler as a functioning pressure chamber also the subsequent caulking of all joints is of vital importance – all achieved by maintaining endangered industrial craft skills. The boiler has a rectangular shape with more or less rounded sides and is referred to as a trunk type, and is normally compared to the principles of how a stove works. The

of approximately 6 cubic meters.

### Reflections

The intent of the reconstruction project has been to stay as close as possible to the original and make as few compromises as possible on behalf of contemporary comfort as well as present understanding of steam technology. The project has been of great importance for the heritage site Forsvik Works and the ability to attract visitors. Due to the reconstruction there has been something exciting to see on the site and through the reconstruction some spin-off effects have empowered the local economy. Furthermore the reconstruction was based on providing long-term unemployed with a basic training in a craft, which in many cases strengthened their self-esteem and ability to enter the job market.

### Example 2: The steamer *Bohuslän*

Regular steamboat traffic began in the 1870s in the county of Bohuslän in the northern part of the Swedish west coast. Two shipping companies operated passenger traffic from Göteborg in the south to Oslo in the north. One of them, *Marstrandsbolaget*, run their boats in the outer parts of the archipelago, while the other, *Ångbåts AB Bohuslänska Kusten*, maintained routes in the fjords and inner parts of the coast. Until the First World War, steamboat traffic represented almost the only means of public transportation along this coast. In the early 1900's (1903/1907) the railway between Göteborg and Strömstad was inaugurated, and became a severe rival to the steamboat lines. The steamboats kept, however, their



Figure 4. *Bohuslän* in west Swedish waters in July 2007 (Photo: Bo Starmark).

largest volume of the boiler consists of two fireplaces with aisles for transport of hot air. These interconnect the rear end of the fireplace with the front of the boiler, where it returns to rear end and from there continue up to the dome and chimney. There are narrower portions for the water between the air aisles, providing a total volume

competitiveness in communicating with communities along the coast situated some distance from the mainland and the proximity to the railway (Svensson, 1982). The steamer *Bohuslän* was therefore built on order from *Marstrandsbolaget* and was launched on December 15 1913. For more than 40 years she went on the route

Göteborg – Lysekil – Smögen – Gravarne on the Swedish west coast north of Göteborg. During the interwar period the road network in Bohuslän was increasingly improved, and in that context passenger traffic by bus started with routes linking archipelago communities with railway stations. Gradually, the bus service expanded and after World War II the steamboat traffic suffered significantly by the competition from trains and buses (Almén, 1985). The number of cars increased as well and larger islands became connected to the mainland by car ferries and later also with bridges. *Marstrandsbolaget* could however continue with passenger traffic through the 1950s and the company modernized their fleet at that time by replacing steam engines with diesels. The steamer *Bohuslän* kept her engine but switched boiler heating in 1951 from coal to oil burners. The company also tried to find other more profitable traffic areas. It was mainly trades between the Nordic countries which became interesting since they provided possibilities for sale of alcohol and tobacco on board without tax charges. The steamer *Bohuslän* became redesigned for this mission with a tax-free shop on the steerage and a café on the rear deck. Due to changing regulations to prevent this kind of traffic it soon became unprofitable and in the beginning of the 1960s *Bohuslän* was taken out of traffic and in 1965 she was sold to be scrapped. (Starmark) On 2 April 1965 the *Sällskapet Ångbåten* [The Steamer Society] was formed with the purpose to preserve *Bohuslän* as an example of the traditional steamers that once operated the routes along the west coast. The intention of the preservation was to get a seaworthy vessel as a living and serviceable museum of a bygone era. By selling shares in the boat the group succeeded to raise the necessary 60 000 SEK and were able to buy her in 1966 (Starmark). After a few years of fundraising the restoration works began in the early 1970s with a number of objectives: The steamer *Bohuslän* should be restored to a condition similar to the 1914 appearance, however this turned out not to be possible in full. Further, the steamer should sail under its own power and not become tied to a quay as a dead object. ‘Preserving in working order’ became the guiding principle still fully practiced. The preservation process and re-use project needed to be met by the Society’s ability to use the steamer in such manner that it provided an economic gain, and the pricing on tickets, food and charter has generated an acceptable net gain over the years. All activities on board and in the Society have been completely non-profit and voluntary. At the same time it has been important to meet applicable laws and regulations concerning required skills, competences and certificates for work on board a vessel intended for commercial passenger traffic. The competences needed concerned qualified officer on the bridge and in the engine room, further sailors, cooks, steam engineers and stokers. From the beginning the traffic was divided into two parts: *Open tours* and *Charters*. The former could be shorter round trips in the archipelago or longer journeys between communities along the coast, and is aimed at the general public. (Starmark)

## Reflections

The re-use of *Bohuslän* has been based on an ambition to reach an appearance as close as possible to the original design. This provides the fundamentals for a passenger experience of historical authenticity and qualities that also guarantee the long term need to secure funding for continuous maintenance and restoration activities. The commercialization has thus played an important role in the ability to preserve *Bohuslän*, although a balance has been achieved regarding historical significance in both whole and detail. The ship is therefore a representation of the possibilities to integrate such contradictory ambitions as historical reliability on one hand and commercial use on the other.

## Discussion

For both examples the goal has not been set to develop them into museums, the objective could instead be defined as *back to working order*. One perspective of the concept concerns the problems in maintaining technical competences on long-term basis (Bergström 2003). The problem is valid for all working life museums or other organization that operate technical historical objects. The problems organizations working with industrial, maritime and technical heritage are facing regarding the transfer of such tacit knowledge, are in several cases shared with contemporary industrial production. There are numerous examples of the importance of tacit knowledge as an asset in the technological profile of a production oriented firm (Howells, 1996; Lawson and Lorenz, 1999). The ability to maintain the tacit knowledge could therefore be instrumental for the preservation of industrial, maritime and technical heritage but also for the possibilities for innovative and competitive development of new production sites built on local and regional traditions. The other perspective on working order concerns how these two examples ought to not be seen as isolated objects but rather as components in a broader context. This context concerns how Forsvik Works as an industrial heritage site gets added value through the construction of *Eric Nordevall II*, with the development of local economies in craft specialities as well as within the tourism industry. Also the steamer *Bohuslän* provides through its operation basis for economic development outside its own reach, such as maintenance and restoration works needed to be implemented as well as tourism and local hospitality activities along the coast.

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