

## Values as a base for the viable adaptive reuse of fortified heritage in urban contexts

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*Muzeologia a kultúrne dedičstvo*, 2023, 11:2:41-72  
doi: 10.46284/mkd.2023.11.2.3

### *Values as a base for the viable adaptive reuse of fortified heritage in urban contexts*

The last decades have brought a growing interest in fortified heritage research, protection and reuse in Europe as a result of the demilitarisation of numerous historic defence structures occupied by armies in many countries and used as service facilities during the Cold War. There are various approaches to the conservation of fortified heritage and adaptive reuse is one of them. The values associated with a site should constitute the departure and arrival point for any type of intervention. An essential part of the process therefore should be the appropriate identification of these values to base on them contemporary actions. Fortified heritage has values similar to other forms of urban heritage but it also possesses values that are unique to this form of architecture and landscape. This paper sets out the values that should be taken into consideration when carrying out an adaptive reuse project on fortified heritage. Based

on research and on international charters, as well as the writers' own experience, the paper identifies seven values and makes a distinction between two groups of values, namely: intrinsic (history, memory and identity; scientific and technical; territorial and architectural) and extrinsic (landscape and aesthetic; environmental sustainability; social and cultural; economic). While intrinsic values of fortified heritage are usually well described, less explored are the issues of extrinsic values. The paper presents two case studies, Zamość Fortress and Fort St Elmo, and considers how these values were taken into account in the respective projects.

Keywords: fortifications, fortified heritage, adaptive reuse, historical value, cultural value, landscape value

## Introduction

In history and across Europe, people living in towns have felt the need to protect themselves from attack by their enemies. They have built walls and other structures around their towns to this end. Fortifications and fortified towns came about because of a long history of tensions and conflict between neighbouring peoples. As the art and science of warfare developed over the centuries, fortification systems became more complex and intricate in accordance with the attacking strategies and the firepower of the tools of war. While medieval castles and walled towns are widely recognised as having high heritage values, newer fortifications are not so widely appreciated. This is partly reflected by their representation on the UNESCO World Heritage (WH) List. On a global scale, out of more than 830 objects listed, only 33 are objects belonging to defensive architecture (from various eras – from antiquity to the turn of the nineteenth and twentieth centuries), and only 10 of them are objects of the modern era, i.e., of the past 500 years or so. Fortified sixteenth- and seventeenth-century bastion towns make up the majority of those recognised places. Younger fortifications have been appreciated as part of the Fortress Suomenlinna inscription and Stelling van Amsterdam defence line, which were put on the list in 1991<sup>1</sup> and 1996<sup>2</sup> respectively. In 1997 the fortified city of Carcassonne was inscribed on the WH List,<sup>3</sup> despite being an example of the fascination with medieval city fortification materialised by the creative conservation carried out by Eugene Viollet-le-Duc. The road to the UNESCO World Heritage List of Vauban bastion fortifications was also long. It was only in 2008 when 12 groups of his masterpieces (such as fortified cities, coastal defence fortifications and mountain fortifications dating back to the turn of the seventeenth and eighteenth centuries) were entered on the List.<sup>4</sup> It was in 2017 that the fortified Renaissance ideal city of Palmanova was added to the WH List as part of the cross-border entry of Venetian fortifications of the fifteenth–seventeenth centuries.<sup>5</sup>

The last decades have brought however a growing interest in fortified heritage research, protection and reuse in Europe as a result of the demilitarisation of numerous historic defence structures, often those occupied by armies in many countries and used as service facilities during the Cold War. To deal with such issues the ICOMOS brought to life in 2005 a special International Scientific Committee on Fortifications and Military Heritage (ICOFORT).<sup>6</sup> Nowadays it can be stated that fortified heritage has values similar to other forms of urban

<sup>1</sup> See entry at the UNESCO World Heritage site: <https://whc.unesco.org/en/list/583/> (accessed February 24, 2023).

<sup>2</sup> Entry on Dutch Water Defence Lines: <https://whc.unesco.org/en/list/759> (accessed February 24, 2023).

<sup>3</sup> See entry at the UNESCO World Heritage site: <https://whc.unesco.org/en/list/345/> (accessed February 24, 2023).

<sup>4</sup> Entry of Fortifications of Vauban: <https://whc.unesco.org/en/list/1283> (accessed February 24, 2023).

<sup>5</sup> The Venetian Works of Defence between the 16th and 17th centuries: *Stato da Terra – western Stato da Mar*: <https://whc.unesco.org/en/list/1533> (accessed February 24, 2023).

<sup>6</sup> ICOFORT, <https://www.icofort.org> (accessed February 24, 2023).

heritage but it also possesses values that are unique to this form of architecture.<sup>7</sup> There is a very broad diversity of different fortified landscapes and heritage. In spite of this and whatever the nature of the site, the values associated with the fortified heritage should be given the highest priority in projects of rehabilitation and reuse. An essential part of the process therefore should be the appropriate identification of these values.

That is why this paper develops a conceptual framework of values relevant to fortified heritage. It makes a distinction between what are termed as intrinsic and extrinsic values. While intrinsic values of fortified heritage are usually well described, less explored are the issues of extrinsic values. Three intrinsic values are identified – (1) history, memory and identity; (2) scientific and technical; (3) territorial and architectural – these being relevant to the fortified heritage irrespective of the uses and interventions being proposed. Extrinsic values – (4) landscape and aesthetic; (5) environmental sustainability; (6) social and cultural; (7) economic – come into play if and when major conservation and reuse are being considered for a fortified landscape. They refer to the relevance of the fortified heritage to society.

There are various approaches to the conservation of built heritage and adaptive reuse is one of them.<sup>8</sup> Adaptive reuse involves any activity that conserves the physical fabric and the historic value of a heritage building while concurrently providing the building with a new use that guarantees its continued upkeep and maintenance over the long term. Since conservation is not just about values, the paper also discusses conservation issues that stem from the specific physical characteristics of the heritage in terms of the size, shape and layout of internal spaces as well as the extent and layout of the external spaces.

The concepts referring to values discussed in this paper are based on a desk study and a review of academic papers and relevant international charters. Reference is also made to the authors' own experience of fortified heritage projects, especially in the presentation of the two case studies. Fortress Zamość in Poland and Fort St Elmo in Malta were chosen because, despite the differences they have, there exhibit some vital features in common that influenced their reuse. The first is their location in a context of and in a strong relation to the historic city. The second is a still-visible structure of bastions, regardless of further modifications and improvements. Also, the choice of contemporary function is similar, although in Zamość a museum is only one of various institutions using the historic fortification. And last but not least, both of these case studies, in spite of different legal regulations and economic circumstances, were guided by the same principles based on values that led to successful and viable reuse projects.

We believe that a clear presentation of the conceptual framework of values will contribute to a better understanding of the complexity of fortification rehabilitation projects and will result in the preparation of better reuse strategies and concepts to the benefit of fortified heritage landscapes and the communities that manage them.

<sup>7</sup> ICOMOS Guidelines on Fortifications and Military Heritage, Final Draft. 2021, Available at [https://www.icomos.org/images/DOCUMENTS/Charters/AGA\\_202111\\_6-1\\_ICOMOS\\_Guidelines\\_Fortifications\\_MilitaryHeritage\\_2021\\_EN.pdf](https://www.icomos.org/images/DOCUMENTS/Charters/AGA_202111_6-1_ICOMOS_Guidelines_Fortifications_MilitaryHeritage_2021_EN.pdf) (accessed January 31, 2022).

<sup>8</sup> MISIRLISOY, Damla, GÜNÇE, Kağan. Assessment of the adaptive reuse of castles as museums: Case of Cyprus. In: *International Journal of Sustainable Development and Planning*, Vol. 11, No. 2, 2016, pp. 147–159. Online ISSN: 1743-761X.

## Fortifications and fortified landscapes in cities

Fortifications are not typical buildings. Fortifications can range from single structures to complex multi-structure defensive systems developed over long time scales.<sup>9</sup> In this paper fortifications are understood to be a visible outcome of engineering activities – namely buildings, complexes of buildings, structures and other works – shaped for the purpose of active combat as well as for the protection of life and resources, to enable a community to defend itself and survive in war conditions.

Regardless of the era and geographic location, the three main key elements of fortifications have been obstacles, shelters and positions. Their shape and form have changed as warfare has evolved and local conditions have differed. An obstacle is a deliberately selected and/or shaped fragment of the terrain, often equipped with technical devices, which is passively to hinder the access of the opponent. A shelter means a building or an appropriately shaped piece of land, passively protecting defenders and resident civilians from enemy fire. A position is a structure, or part of a structure or a suitably shaped fragment of land ensuring the best, technical possibilities for actively influencing an attacking enemy. The cover provided by fortifications enhance the survivability of defenders and at the same time facilitate actions by the defenders to repel attacker. Different elements of fortifications are linked to enable communication and safe and effective access between the components of the fortifications – the site and the shelter, fortress works and backyard facilities.

The fortification systems that can be observed in historic fortified towns and regions are not equivalent to historic architectural styles or epochs in the history of architecture, although some solutions were more or less common in particular times. They result above all from the combination of the method of defence and the method of defence implementation. Defence also involves influencing the actions of the attacking enemy, and this is achieved by shaping forward structures and obstacles, and those behind them – shelters and communication. It is an elementary system of spatial interconnections between defenders and attackers, obstacles and positions in the act of observation and combat. Methods of defence have been implemented using various architectural and technical solutions. These elements have been so different and characteristic that they have determined individual fortification systems' characteristics and often their technical names. These are, in chronological order: wall, bay, tower, roundel, bastion, tenaille, caponier, fort, fortress spur (combat bunker) and passive bunker with long-range fire and long-range observation posts. Fortification systems take into account functions and are defined by the method of defence used, as well as the form and structure of characteristic defensive elements – components of fortifications. Both have varied depending on the level of technical and military knowledge, economic opportunities and political conditions.<sup>10</sup>

Fortifications around and within cities have been constructed according to various fortification systems. In its most basic form, they have consisted of a single building or small group of buildings or a settlement occupying a relatively small area and surrounded by high defensive walls and often a water ditch. This is often referred to as a castle or a walled town and represents the wall fortification system adjusted to frontal defence.

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<sup>9</sup> ICOMOS Guidelines on Fortifications and Military Heritage..., op.cit.

<sup>10</sup> WIELGUS, Krzysztof, ŚRODULSKA-WIELGUS, Jadwiga, STANIEWSKA, Anna (). An outline of restoration of fortifications in Poland: A review with regard to eras and fortification systems. In: N. Urošević, & K. Afrić Rakitovac (eds.). *Models of valorisation of cultural heritage in sustainable tourism*, Juraj Dobrića University of Pula, Pula 2017, pp. 283–328, ISBN: 978-953-7320-49-2.

As the art of warfare developed, areas and regions were defended by more complex fortification systems. Fortification walls were supplemented by towers (enabling flanking defence), curtain walls with roundels (early bastions also called boulevards) and curtain walls with bastions. The areas within and surrounding fortifications were part of their defensive capacities and hence are considered part of the fortification system. Ideal fortified cities – such as Palmanova,<sup>11</sup> Valletta<sup>12</sup> and Zamość – were the supreme expressions of the interplay of urban planning and bastion fortification. They are notable for their urban layouts and the complexity of land transformation with their bastions, moats, engineering works, tunnels, earth structures and representative and auxiliary buildings. In some cases, they also include the deliberate lack of any structure or vegetation (apart from grass and couch grass stabilising the ramparts) on the outside of defensive walls such that defending soldiers have full visibility of the surrounding area. In some situations, planting greenery was part of the camouflage to hide the location of artillery or infantry units and important fortified positions. Fortress greenery was then an intrinsic part of the fortification structure, potentially as important as the massive defensive embankments, the reinforced concrete slab roofs or the armoured artillery battlements.<sup>13</sup> There are various types of human interventions used for defence from enemy attack, such as building architectural structures, constructing earthworks, planting greenery, providing obstacles or introducing manmade changes to a body of water. Regardless whether a permanent fortification or field work, they transform an area of land into what can be termed a “fortified landscape”.<sup>14</sup>

There is a very broad range of types of fortified landscapes connected with cities. The scale and complexity vary significantly. At one end of the scale are structures consisting of simple walls, walls with recesses, or walls with towers, such as castles or medieval city fortifications. At the other end of the scale are bastion fortresses and tenaille fortress cities and complex polygonal or dispersed ring fortresses. The growing complexity of the obstacle and stand elements was accompanied by the development of shelter and background elements such as barracks for the garrison, warfare magazines and numerous auxiliary buildings which provided food and other supplies or services (such as garrison hospitals and churches).

In some contexts, “castle” could also refer to a sizeable area defended by walls and bastions and occupied by a significant number of buildings. With various additions and interventions, such places evolved into what can be described as citadels. Examples include Edinburgh Castle and Wawel Castle in Krakow. In these two cases, simple fortified structures from the

<sup>11</sup> DE LA CROIX, Horst. Palmanova: A study in sixteenth century urbanism. In: *Saggi e Memorie Di Storia Dell'arte*, Vol. 5, 1966, pp. 23–179. <http://www.jstor.org/stable/43139898>. ISSN: 0392-713X; POLLAK, Martha D. *Cities at war in early modern Europe*, Cambridge University Press, Cambridge 2010. ISBN: 978-0521113441.

<sup>12</sup> CHAPMAN, David W. *Applying macro urban morphology to urban design and development planning: Valletta and Floriana*. In: *Urban Morphology*, Vol. 10, No.1, 2006, pp. 23–40, DOI:10.51347/jum.v10i1.3925. ISSN 1027-4278.

<sup>13</sup> ŚRODULSKA-WIELGUŚ, Jadwiga. The Greenery of the Krakow Fortress as the Focus of a Project on Protected Landscape Zones of Historic Fortifications. *Architektura Krajobrazu (Landscape architecture)*, Vol. 2, 2014, pp. 4–17. ISSN 1641-5159. Online: <http://architekturakrajobrazu.up.wroc.pl/images/%C5%9Arodulska-Wielgus.pdf> (accessed May 15, 2022).

<sup>14</sup> BOGDANOWSKI, Janusz. *Krajobraz warowny XIX/XX w.: Dziej i rewaloryzacja*, Kraków1993. Wydawnictwo Politechniki Krakowskiej, BOGDANOWSKI, Janusz. *Architektura obronna w krajobrazie Polski: Od Biskupina do Westerplatte*. Warszawa – Kraków 1996. PWN. ISBN 978-8-30112-223-2; GRUSZECKI, Andrzej. Specyfika zasobów architektury obronnej w Polsce, ich ochrony i zagospodarowania. In: *Ochrona zabytków architektury obronnej*. Giżycko 1994. Wydawnictwo Towarzystwa Przyjaciół Fortyfikacji. [In Polish]; STANIEWSKA, Anna. Translating fortified landscape heritage to the public: Dilemmas on rehabilitation, popularization and conservation methods. In: R. Kusek & J. Purchla (Eds), *Heritage and Society*. Krakow2019, International Cultural Centre. pp. 189–204, ISBN: 9788363463861.

early Middle Ages were modified many times to adjust to changing methods of attack and defence, while the buildings and spaces were expanded and rebuilt and adapted over time not only for military purposes but also for administrative, religious and finally tourism uses. Their adaptation, rather than abandonment, was inevitable due to their close location to the city centre, their function as a seat of power, their military significance and their social and cultural relevance to the city and the whole country.

Cities with historic fabric have to constantly deal with the pressure of contemporary development. In free-market economies there is a constant tension between general public interest such as for heritage protection and the desire to build without restriction on private property.<sup>15</sup> Such tensions are also evident when a heritage structure is adapted to contemporary needs.<sup>16</sup> In many towns and cities, fortified landscapes have been partially or completely lost either through neglect or, more frequently, because they were removed to make way for the much-needed development of houses and roads.<sup>17</sup>

### The values of fortified heritage

The values associated with a site should constitute the departure and arrival points for any type of intervention. Fortified heritage should be no exception. It is associated however with some unique values that are particular to this form of architecture.<sup>18</sup> An essential part of the process therefore should be the appropriate identification of these values – a process that necessitates the engagement of the right expertise.<sup>19</sup> It is essential for designers, architects, engineers and historians to understand and appreciate the values of the heritage when drawing up proposals for the conservation and adaptive reuse of a fortified heritage site. The recognition of the fortified heritage's values determines the extent to which these aspects condition their conservation and adaptive reuse, as is clearly stated in the ICOMOS Guidelines on Fortifications and Military Heritage issued in 2021.<sup>20</sup>

The following is a discussion of the values that are relevant to fortified heritage. It is based in part on guidelines for fortified heritage recently issued by Polish state conservation authorities.<sup>21</sup> The analysis offers a coherent approach that could be applied in any adaptive reuse project in Europe or elsewhere. In the discussion a distinction is made between intrinsic and extrinsic

<sup>15</sup> STANIEWSKA, Anna. Recovering memory of landscape: The role of NGOs in the rehabilitation of fortified landscapes. In: *Fort: The international journal of fortification and military architecture*. Vol. 45, 2017, pp. 70–85. ISSN: 0261-586X.

<sup>16</sup> BUCHER, Barbara, KOLBITSCH, Andreas. Coming to Terms with Value: Heritage Policy in Vienna. In: *Heritage & Society*, 12(1), 2019, pp. 41–56, DOI: 10.1080/2159032X.2021.1878990.

<sup>17</sup> EBEJER, John. *Tourism in European Cities: The visitor experience of architecture, urban spaces and city attractions*. Rowman and Littlefield. 2021, ISBN: 9781538160541.

<sup>18</sup> ICOMOS Guidelines...

<sup>19</sup> JAIN, Sikha, HOOJA, Rima (Eds). *Conserving Fortified Heritage: The Proceedings of the 1st International Conference on Fortifications and World Heritage*, New Delhi, 2015. Cambridge Scholars Publishing. ISBN: 1-4438-9453-2.

<sup>20</sup> [https://www.icomos.org/images/DOCUMENTS/Charters/AGA\\_202111\\_6-1\\_ICOMOS\\_Guidelines\\_Fortifications\\_MilitaryHeritage\\_2021\\_EN.pdf](https://www.icomos.org/images/DOCUMENTS/Charters/AGA_202111_6-1_ICOMOS_Guidelines_Fortifications_MilitaryHeritage_2021_EN.pdf) (accessed January 31, 2022).

<sup>21</sup> MOLSKI Piotr, GLUSZEK Cezary, KLUPSZ Lidia, NAREBSKI Lech, PAŁUBSKA Katarzyna, ŚRODULSKA-WIELGUS, Jadwiga, WIELGUS, Krzysztof. *Wytyczne generalnego konserwatora zabytków dotyczące ochrony zabytkowych dzieł budownictwa obronnego - fortyfikacji wzniesionych od poł. XVIII w. do końca I wojny światowej (Guidelines of the general conservator of monuments concerning the protection of historic works and defensive construction: Fortifications built from the mid-eighteenth century to the end of World War I)*, 2021, online: <https://nid.pl/wp-content/uploads/2021/12/Dziela-budownictwa-obronnego-wytyczne.pdf> (accessed January 15, 2023).

values. The first three sets of values listed below (history, memory and identity; scientific and technical; territorial and architectural) are relevant to fortified heritage irrespective of whether any reuse of the heritage is being proposed. Hence they are referred to as intrinsic values. Fortified heritage requires maintenance and upkeep to prevent deterioration. Upkeep is also required of the external spaces within and around a fortified landscape. Over many years a lack of maintenance will eventually lead to buildings and structures falling into ruin. State authorities have the responsibility to allocate funds and resources at the very least to prevent the deterioration of heritage structures. Such responsibility stems from the need to safeguard the intrinsic values of the fortified heritage.

A second set of values (landscape and aesthetic; environmental sustainability; social and cultural; economic) comes into play if and when major conservation and reuse are being considered for a fortified landscape. These values, referred to in this paper as extrinsic, are about the relevance of the fortified heritage to society once the new uses come into being following conservation. Apart from to society at large, extrinsic values are also relevant to the city and region where the fortified heritage is located. Although we categorise values under different headings, in practice there is often a strong interrelationship between different values, as well as overlaps.

#### The values of history, memory and identity

A fortified landscape tells a story: this is a town or area that was attacked or that was liable to be attacked. It is indicative of geopolitical transformations of past and present states and the various alliances, conflicts and border changes that have taken place historically. It is a reflection of the science of warfare which prevailed at the time it was built,<sup>22</sup> and shows the evolution of the art of fortification and defence structures as an element of civilisational change, the development of science and technology and inventiveness.

Fortifications are symbolic and impressive images of power in historical and geographical contexts of aggression or defence.<sup>23</sup> They are a historical reflection of the will of people to be politically, economically, socially and culturally independent. They are also documents of the impact on landscapes of historical figures: rulers, strategists and military engineers related to the design, construction and modernisation of defence works. In many countries, castles and fortifications have played a role in nation-building, such as in the case of the fortifications designed and built by Vauban.<sup>24</sup>

Fortifications can play a role in the memory of a community as they are reminders of events, often involving conflict that may be part of the shared history of that community. They belong to the collective memory and therefore have educational value as they provide a stimulating and nurturing environment related to the cultural experience of military heritage (ICOMOS, 2021). In some instances the historical and meaning significance of fortified heritage is so strong that it becomes intrinsic to the identity of a city or region. Can one imagine Helsinki without

<sup>22</sup> EBEJER, John, DIMELLI, D. Conservation issues of two fortified historic towns and World Heritage Sites: Rhodes and Valletta. In: Wąsowska-Pawlik, A. & Purchla, J. (Eds), *Heritage and Environment*, Krakow 2021, International Cultural Centre, pp. 205–236, ISBN: 978 -83 -66419-28-5.

<sup>23</sup> JAIN, Sikha, HOOJA, Rima (Eds.) *Conserving Fortified Heritage: The Proceedings of the 1st International Conference on Fortifications and World Heritage...*

<sup>24</sup> SAHLINS, Peter. Natural Frontiers Revisited: France's Boundaries since the Seventeenth Century. In: *The American Historical Review*, Vol. 95, No. 5, 1990, pp. 1423–1451 (Oxford University Press on behalf of the American Historical Association), <http://www.jstor.org/stable/216269>.

Soumenlinna? Or Malta without Fort St Elmo and Fort St Angelo? Namur without a Citadel? Or Krakow without Wawel Castle? Or Budapest without the Gellert Hill Citadel?

An essential value of a historic site is its authenticity. This should constitute an unbreachable boundary for any kind of intervention. The sustainability of a monument cannot be seen only from an economic point of view. It also has to be viewed for its cultural standpoint value, thus requiring the preserving and enhancing of these values that are themselves the core of the attractiveness of cultural tourism.<sup>25</sup>

### Scientific and technical values

Fortifications represent a group of values connected with their scientific meaning reaching beyond historical defence strategies and European fortification defence systems. Such strategies and systems were developed in parallel with developments in means of attack, such as the types, range and accuracy of weapons and artillery, communications, military transport and observation. Fortifications testify to the ingenuity and technical skills of builders and engineers and provide interesting insights into the construction techniques of their times, as well as into the building solutions and construction technologies to ensure the structures' resilience to attack. An interesting case is the Renaissance fortifications of Stato da Mar, in Venice's overseas territories in Zadar and Šibenik, where Michele Sanmicheli introduced several innovations and adapted defensive models to the local context as described by Šverko.<sup>26</sup> Defence structures also show the impact on the dynamics or limitations of socio-economic development in the surrounding areas, understood as the spatial structure of settlement, networks of communication, crafts, building materials and food production.

### Territorial and architectural values

While some fortified structures may be stand-alone isolated elements constructed according to the rules of defence and particular architectural styles, others may form part of a larger system of buildings, structures, walls and ground remodelling. The value of the whole is greater than the specific value of each of its parts, all of which require protection irrespective of how modest they may seem. Shaping the fortified landscape for direct combat purposes as well as for representative occasions was also the result to some extent of using artistic means known from garden art, landscape architecture, painting and scenography.<sup>27</sup> Today they are examples of historical, large-scale composed complexes. Territorial value also refers to the location of the fortification system in relation to the urban settlement and to geographic features such as rivers, hills and surrounding terrain.

Some fortified landscapes contain pockets of land with little or no human intervention. Such land sometimes develops into habitats for protected species of plants and animals. The ecology is also a value that merits safeguarding.

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<sup>25</sup> JAIN, Sikha, HOOJA, Rima (Eds). *Conserving Fortified Heritage: The Proceedings of the 1st International Conference on Fortifications and World Heritage...*

<sup>26</sup> ŠVERKO, Ana. Chapter 2 Peripheral or Central? The Fortification Architecture of the Sanmichelis in Dalmatia. In: *The Land between Two Seas*, Leiden 2022, The Netherlands, Brill, doi: [https://doi.org/10.1163/9789004515468\\_004](https://doi.org/10.1163/9789004515468_004) (accessed January 4, 2023 )

<sup>27</sup> CRAWLEY, Greer. Strategic scenography staging the landscape of war, PhD dissertation, Universität Wien, Philologisch-Kulturwissenschaftliche Fakultät, Wien 2010, DOI:10.25365/thesis.13644, URN: urn:nbn:at:at-ubw:1-29268.59783.221554-7, online: [u:theses | Detailansicht \(12261\)](https://theses.univie.ac.at) (univie.ac.at).



## Landscape and aesthetic value

More than many other types of architecture, fortifications have an integral relationship with their surrounding landscapes (ICOMOS, 2021). It is not uncommon for a fortified landscape to have stretches of wall that offer panoramic outward views over the countryside or over adjoining urban areas. One example is the scenic view of the historic centre of Tallinn from the fortified hill of Toompea. It is also often the case that the fortifications can be seen from surrounding areas, and in some cases this offers spectacular views of the fortified heritage. Such is the case with Festung Königstein in Saxony and Mdina in Malta. For people engaging in leisure and tourism, such views enhance the visitor experience. The aesthetic value should be carefully protected if and when any intervention on the fortified heritage is being considered or where new development is being proposed in the vicinity.

## Environmental sustainability

Discussions on the adaptive reuse of fortified heritage should also take into account issues relating to climate change and sustainability. The appropriate reuse of fortified heritage provides facilities that would otherwise require new buildings, energy-intensive construction and the take-up of precious land resources. Many former military defence systems occupied significant land areas. The end of military use leaves behind many derelict buildings and spaces over a relatively large area. From a sustainability point of view, the extent of the abandoned fortified heritage makes it all the more urgent for action to be taken to bring the land and the buildings into use. Projects for fortified heritage are normally justified by other values, such as history and identity, but climate change and sustainability arguments provide additional justification for action and investment in abandoned fortified heritage.

The same argument is often made for built heritage in general. For example, the European Cultural Heritage Green Paper published by Europa Nostra<sup>28</sup> argues that the sensitive adaptive reuse of historic buildings avoids new construction and land use, reduces waste and preserves the energy that is embodied in the building while generating additional positive economic, environmental, social and cultural benefits.

In considering what uses to make of a fortified landscape, environmental sustainability is a vital consideration. Whereas some level of commercial activity may be considered (at the very least to generate some revenue for upkeep), excessive commercialisation should be avoided at all cost as this is likely to compromise the heritage value of the place. For the open spaces of fortified landscapes, encouraging biodiversity and ecology to flourish is a use worth considering, not least because of its environmental sustainability. The same can be said about tree planting provided that other heritage values are not compromised. While nature and excessive vegetation is often identified as a threat to built heritage, in the face of current challenges linked with climate change, more and more opportunities to incorporate green elements into cultural heritage conservation and management practice in cities have to be identified. Unlocking the potential of adopting nature-based solutions in heritage contexts

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<sup>28</sup> POTTS, Andrew (Lead Author). *European Cultural Heritage Green Paper: Putting Europe's shared heritage at the heart of the European Green Deal*. The Hague & Brussels: Europa Nostra, 2021. Available online: [https://openarchive.icomos.org/id/eprint/2552/1/2021\\_European%20Heritage%20Green%20Paper\\_full%20paper.pdf](https://openarchive.icomos.org/id/eprint/2552/1/2021_European%20Heritage%20Green%20Paper_full%20paper.pdf) (accessed May 15, 2022).

seems to be a key to a successful and more sustainable management of heritage sites.<sup>29</sup> Recent research also suggests that accepting vegetation around and in fortifications is among one of the social benefits linked to the contemporary use of these sites. A positive public response to vegetation in fortification systems is dependent on proper maintenance and the extent to which the vegetation preserves the legibility of the structures.<sup>30</sup>

### Social and cultural values

The adaptive reuse of fortified heritage can and should seek to reinforce the identity of a community, as this can be a significant benefit to the community in a world of increasing globalisation and loss of social identity. The historicity of the heritage plays a central role in reinforcing identity. For heritage sites, ICOMOS, Australia<sup>31</sup> refers to social value which it describes as “the associations that a place has for a particular community or cultural group and the social or cultural meanings that it holds for them”.

Social values are also reflected in the use of the fortified heritage. Uses such as for recreational activities and as community centres and venues for cultural events bring social and cultural benefits to the local community and should therefore be actively considered in developing project concepts for fortified heritage.

### Economic values

Financial sustainability is a vital consideration in the adaptive reuse of fortified heritage. In the long term, the physical condition of the heritage is best maintained if sufficient revenue is generated to sustain its regular upkeep and maintenance, without having to rely on external sources of funds.<sup>32</sup> This is also necessary to permanently safeguard the various intrinsic values of the fortified heritage.

For any fortified heritage this is not easy to achieve for two main reasons. Maintaining historic buildings and structures in a pristine condition is expensive. Moreover, there are limits to how much revenue can be generated from adaptive reuse of the fortified heritage.

### Adaptive reuse as an approach to the conservation of built heritage and its relation to values

The intention to preserve valuable remnants of the past for posterity was a foundation of the modern understanding of monument protection which gradually evolved into heritage science. The early twentieth century brought issues of values attached to particular buildings as a motivation to protect and keep them even though they were losing their primary function. A debate on values has been the core foundation of modern thinking about monuments.

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<sup>29</sup> COOMBES, Martin A., VILES, Heather A. Integrating nature-based solutions and the conservation of urban built heritage: Challenges, opportunities, and prospects. In: *Urban Forestry & Urban Greening*, Vol. 63, 2021, 127192. ISSN 1618-8667, <https://doi.org/10.1016/j.ufug.2021.127192>.

<sup>30</sup> PARDELA, Lukasz, LIS, Aleksandra, IWANKOWSKI, Pawel, WILKANIEC, Agnieszka, THEILE, Markus. The importance of seeking a win-win solution in shaping the vegetation of military heritage landscapes: The role of legibility, naturalness and user preference. In: *Landscape and Urban Planning* 221, 2022, 104377. <https://doi.org/10.1016/j.landurbplan.2022.104377>.

<sup>31</sup> ICOMOS, Australia. *Understanding and assessing cultural significance*. Practice Note, Version, 1. 2013, Available at: <https://australia.icomos.org/publications/burra-charter-practice-notes> (accessed February 5, 2022).

<sup>32</sup> EBEJER, John. Using fortifications for tourism: Can conservation objectives be reconciled with financial sustainability? In: Kusek, R. & Purchla, J. (Eds). *Heritage and Society*. Krakow 2019, Poland, International Cultural Centre, pp. 353–366. ISBN: 9788363463861.

Hence prior to considering the adaptive reuse of fortified heritage, it is useful to provide some background on the conservation and reuse of built heritage in general with relation to values at stake. The recently observed increase in the number of heritage designations, which include also fortified heritage sites, can be explained by an ongoing heritage loss<sup>33</sup> and growing awareness of the values which form the base for policy making.

In 1903, Alois Riegl wrote “The Modern Cult of Monuments: Its Character and Origin”, which was the first systematic analysis of heritage values and of a theory of restoration.<sup>34</sup> The manuscript was intended as a framework for the understanding and formulating of opinions that underpin various choices of solutions in the treatment of historic buildings and artifacts. Riegl focused on two main types of values associated with monuments by “the modern society”<sup>35</sup>: namely historic and artistic, in which the first was considered to be dominant.

International charters and standards are essential guides in the process of the conservation of heritage buildings, including fortified heritage. They point out international criteria for the preservation of built cultural heritage indicating the essential role of the values. Riegl’s values and concepts, still vital today,<sup>36</sup> eventually became fundamental principles of the Venice Charter (1964),<sup>37</sup> which is one of the most significant charters. The UNESCO World Heritage Convention (1972)<sup>38</sup> aims at protecting heritage “for all mankind” and selects sites on the basis of their unique and irreplaceable properties and defining their outstanding universal value (OUV) from the point of view of history, art or science. The Burra Charter (1979),<sup>39</sup> which resulted from going beyond a solely European perspective, pointed out the need to assess the significance of place, suggesting that the values of a place are not limited to its utilitarian value.<sup>40</sup> Barbara Bucher and Andreas Kolbitsch, referring to a complex case study of the protection and contemporary use of the Vienna city centre,<sup>41</sup> analysed thoroughly whether the origin of the values indicated as a basis for particular international heritage documents is intrinsic or extrinsic. Most of the international charters represent the approach that values of heritage are “inherent to the material fabric and recognised by a society that uses it”. However, there is also an approach which emphasises that heritage value can be disconnected

<sup>33</sup> LIPP, Wilfried. *Kultur Des Bewahrens: Schrägansichten Zur Denkmalflege*. Böhlau, Verlag, Wien 2008, ISBN 978-3-205-77663-5, p. 42.

<sup>34</sup> RIEGL, Alois *Moderne Denkmalkultus : sein Wesen und seine Entstehung*, Wien 1903, K. K. Zentral-Kommission für Kunst- und Historische Denkmale : Braumüller, English translation: RIEGL, Alois. *The Modern Cult of Monuments: Its Character and Its Origin*, trans. FORSTER, K. W. & GHIRARDO, D. *Oppositions*. 25, Princeton 1982, pp. 21–51.

<sup>35</sup> AHMER, Carolyn. Riegl’s “Modern Cult of Monuments” as a theory underpinning practical conservation and restoration work. In: *Journal of Architectural Conservation*, Vol. 26, No. 2, 2020, pp. 150–165. <https://doi.org/10.1080/13556207.2020.1738727>. Online ISSN: 2326-6384.

<sup>36</sup> HARRER, Alexandra A. The Legacy of Alois Riegl: Material Authenticity of the Monument in the Digital Age. In: *Built Heritage*, Vol. 1, 2017, pp. 29–40. <https://doi.org/10.1186/BF03545661>. Online ISSN: 2662-6802.

<sup>37</sup> ICOMOS. *Venice Charter; International Charter for the Conservation and Restoration of Monuments and Sites*. 1964 Available at: [http://www.icomos.org/charters/venice\\_e.pdf](http://www.icomos.org/charters/venice_e.pdf) (accessed February 4, 2022).

<sup>38</sup> UNESCO World Heritage Convention, Convention Concerning the Protection of the World Cultural and Natural Heritage, 1972, online: <https://whc.unesco.org/en/conventiontext/> (accessed January 31, 2022).

<sup>39</sup> ICOMOS, Australia. *Understanding and assessing cultural significance*. Practice Note, Version, 1, 2013. Available at: <https://australia.icomos.org/publications/burra-charter-practice-notes> (accessed February 5, 2022).

<sup>40</sup> DÍAZ-ANDREU, Margarita. Heritage Values and the Public. In: *Journal of Community Archaeology & Heritage*, 4(1), 2017, pp. 2–6, DOI: 10.1080/20518196.2016.1228213.

<sup>41</sup> BUCHER, Barbara, KOLBITSCH, Andreas. Coming to Terms with Value... , p. 43.

from material substance and only created by the society that uses it.<sup>42</sup> The importance of intangible expressions of cultures and societies that can contribute to human development and the collective memory of humanity is stressed by the ICOMOS Nara Document (1994).<sup>43</sup> Also, the European Faro Convention (2005) focuses on an approach that states that heritage “reflects and expresses constantly evolving values, beliefs, knowledge and traditions aspects, derived from the experience gained through progress and past conflicts”. And this reference to past conflicts and wars is particularly relevant to fortified heritage.

There are various approaches that assume in dealing with built heritage that it should be safeguarded, and adaptive reuse is one of them.<sup>44</sup> Adaptive reuse involves any activity that conserves the physical fabric and the historic value of a heritage building while concurrently providing the building with a new use that guarantees its continued upkeep and maintenance over the long term. Very often this requires design creativity to transform internal spaces for a use for which they were not intended. The issue of the reuse of heritage buildings, structures and landscapes remains a vital one in the context of the values attached to the achievements of the past in the fields of arts, architecture, technology and construction. There is the need to keep the heritage alive even if it loses its primary function. However, Article 5 of the Venice Charter states:

The conservation of monuments is always facilitated by making use of them for some socially useful purpose. Such use is, therefore, desirable but it must not change the lay-out or decoration of the building. It is within these limits only that modifications demanded by a change of function should be envisaged and may be permitted.

Interventions on historic buildings may be considered necessary in particular for the adaptive reuse to adhere to modern standards and requirements, such as internal vertical circulation, accessibility and fire safety. In accordance to the Charter of Venice, such interventions should bear a contemporary stamp. The interventions’ distinctiveness should not, however, be so imposing in scale, materials and aesthetic characteristics as to conflict with the rest of the site or somehow put the fortification itself into the background.<sup>45</sup> The interventions should not destroy historic materials that characterise the property. Moreover, the new work should be differentiated from the old and should be compatible with the massing, size, scale and architectural features such that the historic integrity of the property is safeguarded. The Vienna Memorandum (2005)<sup>46</sup> puts an emphasis on improving quality of life without compromising values, indicating that the limits of adaptation should be defined by preserving the authenticity and integrity of heritage.

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<sup>42</sup> JOKILEHTO, Jukka World Heritage: Defining the Outstanding Universal Value. In: *City & Time*, 2(2), 2006, pp. 1–10.

<sup>43</sup> ICOMOS. The NARA document on authenticity. 1994. Available at: <https://www.icomos.org/en/charters-and-texts/179-articles-en-francais/ressources/charters-and-standards/386-the-nara-document-on-authenticity-1994> (accessed January 31, 2022).

<sup>44</sup> MISIRLISOY, Damla, GÜNÇE, Kağan. Assessment of the adaptive reuse...

<sup>45</sup> JAIN, Sikha, HOOJA, Rima (Eds). *Conserving Fortified Heritage...*

<sup>46</sup> UNESCO. Vienna Memorandum on World Heritage and Contemporary Architecture: Managing the Historic Urban Landscape. 2005. Online: <https://whc.unesco.org/en/documents/5965> (accessed January 31, 2022).

Adaptive reuse has implications not only for a building itself but also for the surrounding area. The Recommendation on the Historic Urban Landscape 2010<sup>47</sup> indicates that cultural heritage may represent a social, cultural and economic asset and that historic layering of values has a wider impact. While the economic value of heritage can be measured to some extent, cultural values cannot be fully expressed in monetary terms.<sup>48</sup> The new uses combined with the historic value of the building generate new interest in an area, and this often brings new investments in adjoining buildings and spaces.

One aspect in this debate is the value that the general public attaches to specific sites.<sup>49</sup> It determines the willingness or otherwise of the local community and the local authorities to undertake adaptation efforts. In the latter half of the twentieth century, there was increased awareness of the social and monetary values of heritage buildings. This brought with it greater pressures on the public authorities for the retention and conservation of built heritage. A European Heritage Label introduced in 2011<sup>50</sup> appreciates heritage sites that represent symbolic European values and promote understanding and esteem while focusing on providing site access.

### Adaptive reuse of fortified landscapes

As the art of warfare evolved, many fortified buildings and structures became outdated and ineffective for defence purposes and were therefore usually restructured. As means of war dramatically changed over the last 70 years, many fortification buildings and landscapes lost their military function and were abandoned. Although many fortified landscapes have been restored and brought back into civil use, derelict military defensive structures and buildings are plentiful and widespread across Europe. These are not only restricted to buildings and earthworks. They sometimes also include natural elements such as water and technical infrastructure, as was the case of the New Dutch Waterline.<sup>51</sup>

Over the last three decades, there has been an ongoing academic debate concerning the adaptability of fortifications and their landscapes for current needs, the nature and scale of the intervention, and the recommended conservation methods. Also subject to discussion have been strategies to make these sites accessible to the public.<sup>52</sup> International organisations have sought to establish advisory bodies with scientific expertise to provide guidance for fortified heritage projects. For example, in 2005, ICOMOS established the International Scientific

<sup>47</sup> UNESCO. Recommendation on the Historic Urban Landscape. 2010. Online: <https://whc.unesco.org/en/hul/> (accessed January 31, 2022).

<sup>48</sup> THROSBY, David. *The Economics of Cultural Policy*. Cambridge: Cambridge University Press, 2010.

<sup>49</sup> SIÂN, Jones. Wrestling with the Social Value of Heritage: Problems, Dilemmas and Opportunities. In: *Journal of Community Archaeology & Heritage*, Vol.4, No.1, 2017, pp. 21–37, DOI: 10.1080/20518196.2016.1193996. Online ISSN: 2051-820X.

<sup>50</sup> <https://culture.ec.europa.eu/cultural-heritage/initiatives-and-success-stories/european-heritage-label> (accessed January 31, 2022).

<sup>51</sup> VERSCHUURE-STUIP, Gerdy. Hold the line: The transformation of the New Dutch Waterline and the future possibilities of heritage. In: Hein. C. (ed), *Adaptive Strategies for Water Heritage*, Springer: Cham 2020, Switzerland, pp. 251– 269, ISBN: 978-3-030-00267-1.

<sup>52</sup> BREBBIA, Carlos. A., CLARK, Celia. *Defence Sites I: Heritage and Future*. WIT Transactions on The Built Environment, Vol. 123, 2012, Wessex Institute of Technology, UK, ISBN: 978-1-84564-590-8; BREBBIA, Carlos. A., CLARK, Celia. *Defence Sites II: Heritage and Future*. WIT Transactions on The Built Environment, Vol. 143, 2014, Wessex Institute of Technology, UK. ISBN: 978-1-84564-833-6; BREBBIA, Carlos. A., ECHARRI, Víctor, CLARK, Celia, GONZÁLEZ AVILÉS, Ángel. *Defence Sites III: Heritage and Future*. WIT Transactions on The Built Environment, Vol. 158, 2016, Wessex Institute of Technology, UK. ISBN: 978-1-78466-081-9.

Committee on Fortifications and Military Heritage (ICOFORT).<sup>53</sup> Apart from numerous non-governmental organisations at all levels (international, national and local), several networks promoting the rehabilitation and re-use of fortifications have emerged across Europe. The two most prominent are Forte Cultura (European Culture Route and World of Experience Fortified Monuments<sup>54</sup>) and EFFORTS (European Federation of Fortified Sites: The European network for fortified cities, forts and defence lines<sup>55</sup>).

Efforts to renovate and preserve fortified heritage should seek to comply with heritage restoration principles. The principles are laid down in various international charters and are embodied by good practice developed over many years. Original structures and their various features should be respected, although reconstruction is also an option in justified cases. The design team requires talent and sensitivity to the *genius loci* as they restore the past and create the present of a fortified landscape. Misguided decisions on the scale, materials and function of the contemporary elements may cause them to overwhelm the original structure and detract from its values.<sup>56</sup>

In the above section, this paper argues that the safeguarding of the values of fortified heritage should be an overriding consideration when taking decisions on conservation and adaptive reuse. Another consideration is the physical characteristics of the fortified heritage. This is inevitable because ultimately it is the physical buildings, structures and spaces that will have to be conserved and adapted to make them appropriate for a new use.

In particular, the size, shape and layout of internal spaces within the fortified heritage are a vital consideration and will require careful assessment before final decisions on adaptive reuse are taken. The physical attributes of internal spaces are dependent on a wide variety of factors, including the time they were built, the specific circumstances of the time and the nature of the terrain. Providing some kind of typology of internal spaces is therefore problematic. There are however some observations that can be made.

A fortified landscape normally includes internal spaces located within or atop fortified walls and defensive structures. These were related to combat features and provisional shelters and the communications of the fortress crew. These were typically dug or carved out of rock and/or built with massive walls and thick roofs to protect them from enemy fire. Such spaces are normally relatively small and may have a single point of access to the outside. There are instances where a series of interconnected spaces are provided within fortification walls, normally serving as combat chambers where the crew was quartered.

The internal spaces of former combat structures are the most difficult to adapt to modern day use for a number of reasons. Single or otherwise limited access points and the lengths of corridors or tunnels that connect them create difficulties in terms of fire safety. Differences in levels and stairs create problems for people with mobility difficulties. The lack of or small-sized windows necessitate the use of artificial lighting and means for air exchange, necessitating the use of space for mechanical equipment. Particular building construction and specific structures require numerous special solutions with regard to other modern installations and technical devices such as water and sewerage, energy, heating, fire/ventilation, etc. Physical

<sup>53</sup> ICOFORT. <https://www.icofort.org> (accessed February 24, 2023).

<sup>54</sup> Forte Cultura (European Culture Route and World of Experience Fortified Monuments: <https://www.forte-cultura.eu> (accessed February 24, 2023).

<sup>55</sup> EFFORTS (European Federation of Fortified Sites: The European network for fortified cities, forts and defence lines). <https://www.efforts-europe.eu> (accessed February 24, 2023).

<sup>56</sup> STANIEWSKA, Anna. Translating fortified landscape heritage to the public...

interventions are unlikely to be acceptable as these would diminish the historic and scientific values of the original fortification structures. This naturally means that many spaces and rooms may be treated rather like exhibits themselves rather than be adopted extensively for the new functions, since they should be intended for short term stay or just the passing-through of visitors. These also are the places where relics or elements of original equipment could be conserved and presented on site. Preserving the functional compatibility of those spaces goes along the “Utilitas” principle whereby characteristic elements of a fortification should preserve their functional design.

Another type of internal spaces is those located within the various buildings that form part of the fortified landscape and that were background facilities or representative buildings not used directly for combat. This refers to the administrative buildings, soldiers’ barracks, hospitals and magazines. These internal spaces may not be too dissimilar to the internal spaces that would be found in other historic buildings in the city. Their adaptation to modern day use would involve issues that are normally encountered in historic buildings that are not part of fortified heritage. Some level of intervention may be required to provide for vertical circulation, including passenger lifts as well as for fire safety and hygienic facilities.

There are numerous fortified heritage sites across Europe and the contexts and surroundings of these various sites are very diverse. The most common can be broadly categorised into urban inland, urban coastal and rural. Some fortified landscapes are located on elevated ground, at or near the historic centre of a city. The original purpose of the fortifications was to protect an urban settlement. As the geopolitical context of the city and region changed, the defensive role of the fortifications become redundant. The settlement grew into a city leaving the fortifications as a dominant feature of the city skyline. This is what happened at Hohensalzburg Fortress, Königstein Fortress in Saxony and Fortress Klodzko in Poland. Coastal fortified landscapes normally overlook a seaport and were intended to protect both the port and the city from enemy attack. The fortifications were designed mainly to protect against a sea attack and the configuration of the walls and structures were located accordingly. Main features of coastal fortifications are the maritime ambience and the relationship of the fortified landscape to the sea.

Whether located inland or on the coast, there are several factors that make fortified landscapes in urban settings suitable for tourism use. Since the protection of the settlements, mountain passes, ports and river gorges or important service areas required appropriate observation of the foreground and distance, fortified landscapes nowadays offer breathtaking views and panoramas which can attract visitors. Being located close to a historic city centre, a fortified landscape will be within walking distance of other visitor attractions. It would then be fairly straightforward to include it in the walking itinerary of the city centre. Almost inevitably, the fortified landscape had a prominent role in the history of the city and therefore the city narrative would not be complete if it did not include the role of the fortifications in that narrative. Converting the fortifications to tourism use would greatly facilitate the communication of the city narrative to visitors, as the buildings, structures and spaces would constitute tangible evidence of the stories that are being narrated.

An alternative situation is where the fortified landscape is in a rural setting at some distance from any town or city. As with fortifications in urban settings, the fortified landscape would be located on elevated ground, normally at the top of a hill. The views offered by such a location would likely be of unspoilt countryside and possibly also of a nearby river. Compared to an

urban setting, the views would likely be much more pleasant, and this could be an asset that could be used to encourage visitors. On the other hand, the distance from established tourism locations makes the rural fortified landscape less amenable for tourism use. Of course, it would be an attractive place to visit for walkers and other users of the countryside, but the number of visitors that could possibly be generated is not likely to be sufficient to make the attraction commercially viable. An additional promotional effort or appealing function would be required to justify a longer journey by potential visitors. A remote location makes the site reliant on means of access, including the availability of public transport and the ease of car access from nearby towns and main road networks. There are many purposes that former fortifications could serve today. Those that first come to mind are usually associated with tourism. Fortified landscapes have features that make them suitable for commodification into tourism products. Cultural tourism uses in particular are most appropriate because of the opportunities for education and narration that fortifications offer.

Many fortified heritage sites are converted into museums. This brings into play another aspect in adaptive reuse, namely museography. The design of contemporary museums is a challenging, complex and creative activity. It is an activity of collaboration between many areas of professional expertise, from curatorship to design and from architecture to theatre and film.<sup>57</sup> In the case studies, we put particular emphasis on how the values are related to this function.

Because of the significant meaning of the visual landscape context of fortifications, they offer unique scenic experiences to the visitor and often are particularly suitable to be turned into open-air museums.<sup>58</sup> Furthermore, fortified landscapes that occupy large areas of land make an ideal setting for walking trails. Such trails normally lead across the scenic landscape, with beautiful panoramic views being a main feature of the trail's attractiveness. The scenic value of fortress trails is not coincidental. When in use for defence, forts were required to have clear lines of sight for observation and rapid warning, and subsequently for the effective shelling of enemy positions.<sup>59</sup> Another vital aspect of a walking trail is that it enables the visitor to understand the complexity and defensive layout of the fortified landscape and appreciate it as a coherent heritage object. The fortified landscape may include stretches of wall (or possibly even the entire surrounding defensive wall) that may be capable of being walked upon. A walk along the fortifications provides a flexible product that can be enjoyed at the pace and duration determined by the visitor. The elevated walkway often offers spectacular outward views of the surrounding countryside or of the adjoining urban areas. The scenery may include pleasant views of rivers, plains, mountains or ports areas.<sup>60</sup>

Obsolete and outdated fortifications such as medieval town walls or more complex bastion defences around old towns were often the subject of major urban redevelopment projects. This was the case of many town walls or more complex bastion defences around old towns of rapidly developing European cities in the nineteenth century. Numerous cities established city

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<sup>57</sup> MACLEOD, Suzanne, HOURSTON HANKS, Laura, HALE, Jonathan A. (Eds). *Museum making: Narratives, architectures, exhibitions*. London, New York: Routledge, 2012, ISBN 978-0-415-67603-8; MISIRLISOY, Damla, GÜNÇE, Kağan. Assessment of the adaptive reuse of castles...

<sup>58</sup> VON ROHRSCHEIDT, Armin Mikos. Poland: The Largest Fortified Open-Air Museum Under the Aspect of Culture and Tourism Development. In: H. Röder, H-R. Neumann (Eds) *Fortress-Monuments for Peace, Culture, Tourism and Integration*. Wyd. Viadrina University, Frankfurt/O 2008, pp. 104–127.

<sup>59</sup> STANIEWSKA, Anna. Translating fortified landscape heritage to the public..., pp. 195–196.

<sup>60</sup> EBEJER, John. *Tourism in European Cities...*



promenades and public gardens along the outline of the former town walls and water ditches. These are nowadays places used by local residents and tourists for walking, jogging or just relaxing.<sup>61</sup> Examples of this include Lucca, Luxembourg, Kraków, Wrocław and Poznań, while others consumed these spaces not only for parks but also for public buildings, such as Vienna at its Ringstrasse.<sup>62</sup>

For a fortified landscape, the provision of an enjoyable and meaningful experience to the visitor should be one that is in tune with the spirit and the values of the place. It should not be confused with the supply of pleasant environments and visitor services that may be obtained from non-historic contexts.<sup>63</sup> Some fortified landscapes – especially those connected with violent war circumstances and death,<sup>64</sup> such as battlefields or frontlines – would require respect and quiet from the visitor. They will be defined as landscapes of memory, following the definition of “lieux de memoire” or memory places.<sup>65</sup> Chylińska and Musiaka analysed various aspects of military museums<sup>66</sup> as collections linked with historic war circumstances and artifacts. They discuss not only the shift in the museum paradigm – from preserving the remains of the past to focusing on telling a story and education<sup>67</sup> – but also the relationship of museums to nation-building and their commonly understood pacifist meanings. They also discuss the controversial notions of dissonant heritage<sup>68</sup> and the problem of the aestheticisation of war.<sup>69</sup> Similarly, relating fortified heritage to tourism raises an issue of dissonance.

Fortifications were always an active element of war, offering protection as well as enabling counter-attack. They also discouraged the enemy. The design and layout of fortified landscapes had a specific purpose – to render the infliction of human suffering more efficient.<sup>70</sup> Many fortresses or forts are often described as “war machines” or “defence machines”.

When converted to tourism and leisure use, fortified heritage is now used to distract and entertain visitors. They voluntarily spend their discretionary time and money on pleasurable consumption. For this reason, fortified heritage is inherently dissonant in that it can evoke

<sup>61</sup> CASTAGNOLI, Donata. City wall parks in Italy: An opportunity to strengthen the city’s identity; Placetelling. In: *Collana di Studi Geografici sui luoghi e sulle loro rappresentazioni*, Vol. 3, 2021, pp. 303–308. <https://dx.doi.org/10.1285/i26121581n3>. ISBN: 978-8-88305-178-4.

<sup>62</sup> NIERHAUS, A. (Ed.). *Der Ring: Pionierjahre einer Prachtstrasse*. Wien: Rezidenz Verlag, 2015. ISBN: 9783701733675.

<sup>63</sup> JAIN, Sikha, HOOJA, Rima (Eds). *Conserving Fortified Heritage: The Proceedings of the 1st International Conference on Fortifications and World Heritage*, New Delhi, 2015. Cambridge Scholars Publishing, 2016. ISBN: 1-4438-9453-2.

<sup>64</sup> STICHELBAUT, Birger. *Traces of War: The Archaeology of the First World War*. Lanham: Cannibal Publishing, 2018. ISBN: 978-9492677518.

<sup>65</sup> NORA, Pierre. Between Memory and History: Les Lieux de Mémoire. *Representations*, No. 26, Special Issue: Memory and Counter-Memory, Spring, 1989, pp. 7–24. <https://doi.org/10.2307/2928520> SSN: 0734-6018, 1533-855X.

<sup>66</sup> CHYLIŃSKA, Dagmara, MUSIAKA Łukasz. Military museums in Poland: Between the past and the future. In: *Muzeológia a kultúrne dedičstvo*, 8(3), 2020, pp. 5–39. ISSN: 2453-9759 (Online). DOI: 10.46284/mkd.2020.8.3.1.

<sup>67</sup> GÜNAY, Burcu. Museum concept from past to present and importance of museums as centers of art education. In: *Procedia – Social and Behavioral Sciences*, 55, 2012, pp. 1250–1258.

<sup>68</sup> TUNBRIDGE, John, ASHWORTH, Gregory. *Dissonant Heritage: The Management of the Past as a Resource in Conflict*. Chichester: Wiley, 1996.

<sup>69</sup> JARECKA, Urszula. Turystyka patetyczna? Groza wojny jako atrakcja turystyczna. [Pompous tourism? The terror of war as an attraction in tourist experience]. In: *Kultura Współczesna*, 3, 2010, pp. 75–91. [In Polish].

<sup>70</sup> SAUNDERS, Nicholas J., CORNISH, Paul. *Conflict Landscapes: Materiality and Meaning in Contested Places*. London, New York: Routledge/Taylor & Francis Group, 2021. ISBN 9780367690199.

feelings ranging from “vague disquiet through distress to a complete cognitive alienation and rejection”.<sup>71</sup>

### Case Study: Zamość



**Figure 1:** Contemporary plan of Zamość with its fortification (Map created on Inkatlas.com, Copyright OpenStreetMap contributors (openstreetmap.org), on the right: aerial view of the Fortress Zamość after renovation, photo: M. Jawor, source: City of Zamość, zamosc.pl.

The first case study describes the project of the rehabilitation and consolidation of the torn ring of the fortified Renaissance town Zamość in Poland. We present the extent of work undertaken and indicate how the values presented above in this paper were put forward. Two of the co-authors of this paper were involved in the research and design process at the stage of both the application for EU funding and the implementation of the project on site. The description of this case study is based entirely on the direct experience of the project.

The bastion fortifications of Zamość were built as a private town-fortress of the Great Crown Chancellor Jan Zamoyski in 1579–1618. They were rebuilt many times over the years according to the designs of numerous famous military engineers. This town fortress was called the “pearl of the Renaissance”, the “town of arcades” and the “Padua of the north”. In its history the fortress of Zamość has been besieged five times: it was defended against the Cossack and Tartar armies during the Chmielnicki Uprising in 1648, Swedish troops in 1656, troops of the Duchy of Warsaw and Russian troops in 1813. The last time Zamość defended itself was during the November Uprising in autumn 1831. The fortress was conquered once, by Polish troops in 1809, and liquidated in 1866.<sup>72</sup>

The Old Town complex including the area of the former fortifications was listed as a monument in 1936. It was the point at which historical and conservation research of the fortress had begun. Conservation works began in 1976.

In 1992 the Old Town in Zamość together with its fortifications were listed as the UNESCO World Heritage Site as an excellent example of a late sixteenth century Renaissance town that preserved its original plan, fortifications and numerous buildings, combining Italian and Central European architectural traditions. In 1994, the historic city complex within the range

<sup>71</sup> ASHWORTH, Gregory, BRUCE, David M. Town walls, walled towns and tourism: Paradoxes and paradigms. In: *Journal of Heritage Tourism*, 4(4), 2009, pp. 299–313. <https://doi.org/10.1080/17438730903118097>. Online ISSN: 1747-6631, p. 301.

<sup>72</sup> HERBST, Jan, ZACHWATOWICZ, Jan. *Twierdza Zamość*. Warszawa: Wydawnictwo Zakładu Architektury Polskiej i Historji Sztuki Politechniki Warszawskiej, 1936. [In Polish]; KOPRUKOWNIK, Albin, WITUSIK Andrzej A. (Eds). *Zamość. Z przeszłości twierdzy i miasta*. Lublin: Wydawnictwo Lubelskie, 1980. [In Polish], ISBN: 978-83-222-0046-2.

of the nineteenth-century fortifications was also declared a Monument of History which is the highest form of heritage protection in Poland. In 2011 the Zamość project received financial support from the European Union.<sup>73</sup>

**Intrinsic values: History, memory and identity; scientific and technical; territorial and architectural**

**The values of history and memory**

The town of Zamość was founded by a nobleman, Jan Zamoyski, educated at the Strasbourg Academy and one of the most powerful politicians of his time. The Paduan architect Bernard Morando drew plans of Zamość as a Renaissance “*citta ideale*”. The town was immediately surrounded by modern bastion fortifications – initially built according to the principles of the Old Italian school (completed in 1618), but soon replaced by New Italian fortifications. These fortifications were modernised several times.

Zamość is a unique example of a complete Renaissance ideal town where the fortifications protected the regular grid of the urban inner core of the city with its rectangular market square and important public buildings such as the town hall and the first Polish private university. Its particular historic value lies in the completeness of the ensemble, and the persistence of a structure that has become a monument to the rational and far-reaching policies of a politician from a time considered to be the golden age of the Polish state.

**Scientific and technical values**

The initial defences of Zamość were soon rebuilt to follow the newest changes in warfare doctrine: first in the first half of the seventeenth century and then at the end of that century. In the eighteenth century, the field fortifications were extended with a belt of tick-bar earth fortifications in the eastern foreground. Undoubtedly, most important for the development of the Zamość Fortress was the modernisation of the fortifications during the times of the Duchy of Warsaw (1809), which was completed in the 1820s. At that time, the setbacks behind the oryllions of the bastions were built, a shooting gallery was introduced along the entire perimeter of the walls, and additionally, a Carnot wall was built in their foreground. In the years 1825–1827, in the neck parts of bastions VI and VII (on the eastern side), huge, three-storey high bulwarks were built, reinforcing the firepower of the fortress artillery from the direction of the greatest danger. On the marshes, in the place of the former “great lagoon”, a round gun emplacement, the so-called Rotunda, was placed to the south. It was linked with the main circuit of the fortifications by a covered road. However, ten years later, as a result of a change in military doctrine ordered by Tsar Alexander II, the fortress ceased to exist: the fortifications were almost completely blown up; only the bulwarks on bastions VI and VII, as well as the Rotunda, survived, and the relics of the other destroyed fortifications were covered with earth.

The project to rehabilitate and open up the Zamość Fortress is the only one in Poland, and one of the few in Europe, which has led to the revalorisation of the silhouette of the fortified Renaissance town without relying on a total reconstruction. This was achieved by means of minor additions and authentications and small-scale reconstruction activities. In doctrinal terms, these actions should be counted as reintegration – i.e., integrating the monument, and

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<sup>73</sup> The total value of the project was PLN 69,581,728.89 with EU co-funding of PLN 53,261,113.09. Source: Zamość - miasto idealne (Zamość the ideal city), project website: <http://twierdza.zamosc.pl/en/> (accessed February 24, 2023).

supplementing it with lost elements, which increases its value and facilitates its understanding by visitors. The project has consolidated the features thanks to which Zamość was inscribed on the UNESCO World Heritage List and has consistently met the obligations resulting from this fact.

#### Territorial and architectural qualities

The implementation of the project allowed for the first consolidation of the torn ring of fortifications since 1868. It was a modern interpretation of the ideas of architecture historians and researchers who investigated Zamość before World War II and their followers who undertook studies and projects in the late 1970s and early 1980s, and the first conservation and reconstruction works which were to expose the unique qualities of this fortress-city as described by Kadłuczka in 2020.<sup>74</sup>

Extrinsic values: Landscape and aesthetic; environmental sustainability; social and cultural; economic

#### Landscape and aesthetic value

The subject of the project was not only the architectural substance of the fortification elements but the historical fortified landscape of the Zamość Fortress from the sixteenth to the nineteenth century, as a phenomenon of the large-scale organisation of space for defence purposes. It was based on long term interdisciplinary research.<sup>75</sup> The scope of the project covered the whole post-fortification area of the former fortress, i.e., not only the existing and non-existing defensive works but also all the elements that were once subordinated to defensive functions and are today conducive to their identification.

The scenic axes overlooking the Zamość Old Town have been consolidated and the fortress foreground, which was open in its historical form, has been recovered. The designed promenade now allows the panorama of Zamość to be finally perceived, and the use of the rampart allowed for the hiding from view of contemporary buildings.

<sup>74</sup> KADŁUCZKA, Andrzej. Zamość—an Ideal City: The European Character of the Urban Planning Solutions of a Commonwealth of Both Nations Citta Di Fortezza. In: *Wiadomości Konservatorskie – Journal of Heritage Conservation*, Vol. 63, 2020, pp. 7–16, doi: 10.48234/WK63ZAMOSC.

<sup>75</sup> MYCZKOWSKI, Zbigniew, WIELGUS, Krzysztof, ŚRODULSKA-WIELGUS, Jadwiga, et al. Studium kształtowania terenów pofortecznych twierdzy Zamość za szczególnym uwzględnieniem kształtowania zieleni, Kraków 2006. Typescript of an expert project report in the collection of the Chair of Landscape Architecture of the Cracow University of Technology. [In Polish]; MYCZKOWSKI, Zbigniew, WIELGUS, Krzysztof, ŚRODULSKA-WIELGUS, Jadwiga, et al. Koncepcja architektoniczno-krajobrazowa terenów pofortecznych frontu południowego Twierdzy Zamość. Kraków 2007. Typescript of an expert project report in the collection of the Chair of Landscape Architecture of the Cracow University of Technology. [In Polish]; MYCZKOWSKI, Zbigniew, ŚRODULSKA-WIELGUS, Jadwiga, WIELGUS, Krzysztof, PIEKŁO, Joanna, et al. Koncepcja zagospodarowania i udostępnienia turystycznego Twierdzy Zamość. Kraków 2008. Typescript of an expert project report in the collection of the Chair of Landscape Architecture of the Cracow University of Technology. [In Polish]; MYCZKOWSKI, Zbigniew, ŚRODULSKA-WIELGUS, Jadwiga, WIELGUS, Krzysztof Konsultacje naukowe – badawcze dotyczące projektu realizowanego przez zamawiającego: utworzenie muzeum fortyfikacji i broni w obrębie bastionu iii i arsenału w Zamościu „program operacyjny infrastruktura i środowisko”, Zlecający: Urząd Miasta Zamościa, Finansowanie: Europejski Program Operacyjny ‘Infrastruktura i Środowisko’, Zamość 2011. Typescript of an expert project report in the collection of the Chair of Landscape Architecture of the Cracow University of Technology. [In Polish]; MYCZKOWSKI, Zbigniew, WIELGUS, Krzysztof, MIREK, Zbigniew, et al. Koncepcja zagospodarowania południowego przedpoła Zamościa – miasta UNESCO: terenów otoczenia zalewu z uwzględnieniem rotundy i zamczyska o powierzchni ok. 316 ha + 25%. Kraków 2012. Typescript of an expert project report in the collection of the Chair of Landscape Architecture of the Cracow University of Technology. [In Polish].

### Environmental sustainability

The revitalisation of Zamość Fortress has enriched the city not only with new cultural spaces in adopted historic buildings (by reusing old architectural substance) but also with newly regained public green areas. In the foreground of the fortress a promenade was restored, along with the surroundings of the Rotunda and the areas of the restored historic City Park. The park was created on the post-fortress areas – including the remains of Bastion IV and fragments of the fortifications, along with a moat, a counterguard, a nearby ravelin and a caponier. The first design of the park was selected in a competition in 1917. The park gained recognition and was listed in 1982 in the register of historical monuments, including a number of veteran tree specimens. The park was the subject of a municipal investment project between 2011 and 2014 which, among other things, included the reconstruction and fortification of selected defensive structures, the alteration of existing pavements and the demarcation of new ones, and the insertion of new benches and lanterns, unifying the entire project. In addition, a third footbridge across the pond was created and a section of the island, which had been inaccessible to walkers for many years, was opened. Information points relating to the history of the Zamość Fortress were put on site. As part of the project, the park was integrated into the system of greenery and paths for visiting the Fortress.

### Social and cultural values

The fortified landscape of the Zamość Fortress, that recovered thanks to the EU-funded project, consisted of original elements combined with applications of more or less literal reconstructions, recompositions and additions. Despite the predominance of contemporary elements, this landscape as a whole is a rare example of a recovered fortified landscape of a major bastion fortress in Poland. It provides a setting, a foreground for looking at the unique silhouette of the Renaissance city, underpinned by bastion fortifications demonstrating the achievements of the entire modern fortification – from the sixteenth-century debut of the bastion fortification to its twilight in the second half of the nineteenth century.

Making Zamość Fortress accessible to tourists is therefore not just an architectural and conservation project, but rather a landscape setting for a peculiar performance. Its spectator – repeatedly surprised, skilfully guided and educated – is to be immersed in a friendly, attractive, “cunningly didactic” historical space. This all engages a visitor according to the principle that every culture in the process of education also passes on to the next generation knowledge of its own space, which has a symbolic meaning. Renovated and adapted and integrated relics of the fortifications became a defined, vast space, a large, screened, fortress park – a boulevard with distant insights and bands of greenery, laced with thematic educational paths and info posts, with educational boards including panoramic and 3D mock-ups enriched with elements for the visually impaired.

Several individual buildings included in the project gained new functions. In the north-eastern foreground, the two barracks buildings were converted into an information centre and a museum of sculptures. In Bastion II an exhibition of historical costumes was set up. The eastern casemate of Bastion I is the seat of the “Wszystko Gra” association, the organiser of the cultural festival of the same name. The Zamość Fortress area is the venue of many open-air events with the participation of re-enactment groups, the best example of which is “Storming the Zamość Fortress”.

The existing Museum of Fortifications and Weapons was expanded, and until the new museum was established, its collections were located in the historic Arsenal building (since 1980). In addition to the Arsenal, the new museum included the nearby historic Powder House and a new facility in the shaft of the reconstructed Curtain II-III. The Museum of Fortifications and Weapons is unique in that it can trace the development of the art of war from the sixteenth century to the post-war era through an exhibition of weapons and soldiers' equipment.

#### Economic values

Creating a unique tourist product including describing and making the Zamość Fortress available led to changing the image of places already known but poorly exposed and to the "discovering" of places hitherto not accessible and unpredictable as tourist attractions. Zamość is now considered an exemplary model of exposing the fortifications from the sixteenth-century ideal city to the polygonal fortifications. These activities have been appreciated and have received various awards related to tourism. Following project implementation, the number of visitors has increased steadily over the years, reaching 300,000 in 2018.<sup>76</sup> Zamość has become one of the most important centres for historic military engineering and construction education in Poland and Europe.<sup>77</sup> A survey monitoring the satisfaction of users and tourists carried out on the website of the Zamość Fortress<sup>78</sup> indicates a high rating for the attractiveness of the fortifications compared to other monuments of the city. Fortifications and City Gates lead the ranking of the most interesting tourist attractions (37%), leaving other monuments far behind.

#### Case Study: The rehabilitation and adaptive reuse of Fort St Elmo

This case study considers the project of the rehabilitation and reuse of Fort St Elmo in Malta. We explain the thought process in the development of the project concept and in particular demonstrate how the values discussed in this paper were taken into account, even if implicitly. One of the co-authors of this paper led the project team, particularly in its initial phases when the project concept was being developed and the application for EU funding prepared. The description of this case study is based mostly on direct experience of the project.

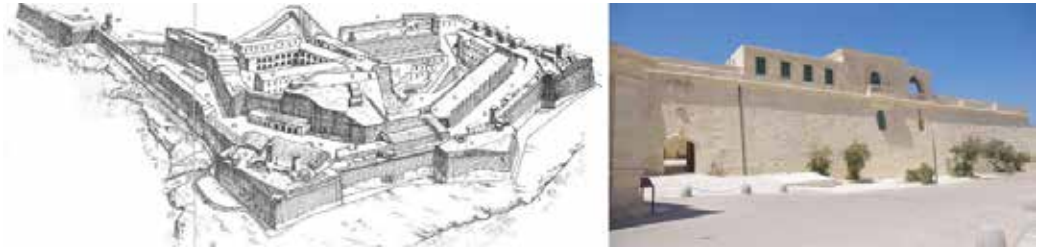
Fort St Elmo is an extensive fortification system occupying a large area at the end of the Valletta peninsula. It is strategically located overlooking the entrances of the Grand Harbour and Marsamxett Harbour. Within the fort and the bastions are many buildings, mostly small in size, many of which were used as barracks. After the end of the British military base in Malta in 1979, parts of Fort St Elmo were used as a police academy but most of the site was abandoned. With decades of neglect, buildings and spaces suffered significant deterioration, though some buildings received some basic maintenance as they were being used as a police academy.

Around 2006, the Maltese authorities decided to embark on the Fort St Elmo project. The intention was to restore an important historic site and bring it back to viable use; however, at the time, there was no clear idea as to what the eventual uses would be. A project team was set up and it was up to the project team to come up with doable proposals and carry them forward.

<sup>76</sup> Source: A summary of regional tourist activity in 2018 Roztocze region: [https://roztocze.net/pl/693\\_turystyka/315877\\_zamosc-podsumowanie-sezonu-turystycznego-2018-statystyki.html](https://roztocze.net/pl/693_turystyka/315877_zamosc-podsumowanie-sezonu-turystycznego-2018-statystyki.html) (accessed January 31, 2022).

<sup>77</sup> FURLEPA, Ewa Zamość – twierdza przyjazna. In: Narewski, L.(Ed.) *Dawne fortyfikacje – dla turystyki, rekreacji i kultury*. Toruń: Towarzystwo Opieki nad Zabytkami Oddział w Toruniu, 2018, pp. 103–114. [In Polish]. ISBN: 978-83-946377-1-2.

<sup>78</sup> <http://twierdza.zamosc.pl/pl/poll>



**Figure 2:** *On the left: Drawing showing the entire Fort St Elmo complex as it appeared during the Second World War.* Copyright: Stephen Spiteri. *On the right: Porta del Soccorso as seen from an outer Fort St Elmo bastion.* Photo: J. Ebejer.

The professional skills included in the team were project management, heritage conservation, architectural design, history and museology.

The project site presented many challenges. It consisted of numerous buildings, cavaliers, fortification walls, bastions and other structures spread out over a relatively large area of four hectares. All of the site merited Grade 1 listing because of its historicity. The poor condition of the site and the buildings made the task all the more difficult.

It was decided to have two primary uses for the site, namely, a military history museum and a ramparts walk. The project was completed in 2015. The new museum is housed in various buildings within the fort, with each building having a particular theme. The museum has a total indoor display area of 3,000 square metres. The ramparts walk is along parts of the bastions, enabling walkers to enjoy outward views of the harbours, whilst appreciating the historic heritage of the fort. Moreover, the central parade ground and other external spaces in between the various buildings and structures operate as open-air venues for concerts, theatre, receptions, fairs and exhibitions. The rehabilitated buildings provide a unique heritage backdrop thus enhancing the event experience. Facilities for performers, including changing rooms, toilets and storage, are provided in one of the fort buildings.

The project transformed the site from one that was poorly kept and closed to visitors to one with a pleasant ambience where the historic relevance of the site can be appreciated by Maltese and tourists alike. The project resulted in the better utilisation, conservation, enhancement and presentation of a fortification system that is a key component of Valletta's and Malta's cultural heritage.

In a previous section of this paper, we spoke about seven values that very often guide the restoration and adaptive reuse of fortified heritage. The following is an explanation of how each of the seven values helped guide the decisions taken on the reuse and interventions at Fort St Elmo.

**Intrinsic values:** History, memory and identity; scientific and technical; territorial and architectural

The values of history and memory

Because of its position at the centre of the Mediterranean, Malta has played an important role throughout history as superpowers have vied for supremacy in the Mediterranean and in southern Europe. Fort St Elmo has a unique geographical location at the tip of a peninsula separating two natural harbours. It protects the entrance to the harbours and it is for this

reason that the Knights of St John invested so heavily in its development and defence, as did the British forces after 1800.

A detailed historical account is beyond the purpose of this paper but it suffices to say that Fort St Elmo is Malta's most important historic site because of its role in two important events in the history of Malta and of the Mediterranean, namely the Great Siege of 1565 and the island's defence during World War II (1940–1944).

#### Scientific and technical values

Fort St Elmo started its existence as a solitary tower in the early 1500s and eventually became a complex system of cavaliers, fortified walls, barracks, ammunition stores, bastions and gun emplacements. It was a “war machine” that evolved and was constantly adapted in accordance to the warfare technology of the time and to the then-current construction techniques. Most of the buildings and structures were built by the Knights of St John (1530–1798), intended primarily to resist seaborne attacks. The evolution of the fort continued with further structures and alterations by the British forces (1800–1979). In the early part of the twentieth century the British introduced a new material into the fort, namely concrete in the construction of gun emplacements and pillboxes. These were intended to defend the harbours from both seaborne and air attacks and subsequently had a pivotal role in Malta's defence during the Second World War.

The fort and its many buildings and structures displayed construction techniques spanning hundreds of years. Moreover, the fort displayed a narrative of military history with the buildings and structures being tangible evidence of that narrative.

In the development of the project concept therefore it was considered essential to retain and restore all the buildings and spaces into their original state so that the many different construction techniques would be conserved and presented to current and future generations. A clear decision was taken by the project team not to demolish any structure, no matter how insignificant it may have seemed. It was also decided not to build any new structures in the open spaces to safeguard the spirit of the historic spaces. The only exceptions were minor additions to facilitate accessibility for people with mobility difficulties.

The restoration process of each building and structure was guided by restoration method statements to ensure that the correct techniques were used throughout.

#### Territorial and architectural values

The project was not seen in isolation but considered as part of a wider urban area. The project site adjoins residential areas of lower Valletta and is within walking distance of the centre of Valletta, Malta's capital. The adaptive reuse of Fort St Elmo was considered to be a catalyst for the regeneration of the lower end of Valletta, which had seen many years of under investment. Increased activity in the area was a means for encouraging investment by the private sector in the restoration and reuse of historic buildings.

Because of its military use, Fort St Elmo had never previously been accessible to the public. Even after the end of its military use in 1979, the public was not allowed in. Residents living in lower Valletta would have never stepped into the fort in spite of living just a few metres away. In their minds the fort was not considered to be part of the city they cherish. The project concept wanted to encourage the perception that the fort is part of the city of Valletta and



not something distinct from it. The intention was for the area, or at least part of it, to become accessible without restrictions to the general public.

In terms of architectural interventions within the site, its historic nature meant that modern alterations and additions could compromise the cultural value. Moreover, the internal spaces within the buildings were small. So, although the total internal space was quite substantial, this was fragmented across a large number of buildings. This made it difficult to identify uses that were suitable for the site while at the same time making it financially viable.

Extrinsic values: Landscape and aesthetic; environmental sustainability; social and cultural; economic

Landscape and aesthetic value

In terms of landscape, the site offers many opportunities, with exceptional views of both the Grand Harbour and Marsamxett Harbour. All buildings and structures within it are historic, so it provides numerous attractive open spaces with a heritage backdrop. The project team sought to make the best possible use of the aesthetic outward and inward views.

Environmental sustainability

The project brought back into sustainable use buildings that were unused or underutilised. If the same uses and facilities had had to be provided in a new construction, the carbon impact would have been significantly higher. Restoration prevented the further decay and eventual collapse of many historic buildings and structures within the fort. More than just being restored, however, the buildings and area were brought into a sustainable use.

Social and cultural values

Fort St Elmo has immense cultural value, not only because of its historical significance to Valletta and Malta but also because it is part of a larger World Heritage Site, namely Valletta. The project sought to safeguard and reinforce the cultural value of the site. The new uses for the site, namely the museum and ramparts walk, are compatible with the cultural value of the site. Moreover, the use of the spaces for cultural events such as concerts further reinforces the fort's cultural significance. The use of the open spaces for activities, especially in the summer, provides an added facility for use by residents of Valletta and beyond.

The original project concept was to provide interpretation throughout the fort especially along the ramparts walk and thus make the fort a place for education and the awareness of heritage for Maltese and tourists. Although initial investments were made for the interpretation of the various historic features, regrettably this was not followed up by the operator and the education and heritage awareness aspect of the place is greatly diminished. The operator treats the fort just as a fee-paying museum and there is little effort to encourage appreciation of the historicity of the place.

Economic values

The economic value of the project was considered at two levels. At the level of the national economy, the newly refurbished Fort St Elmo provides a new experience for visitors thus resulting in the enhancement of the tourism product. The fortifications surrounding Valletta are an essential feature of the city's attractiveness, and the adaptive reuse of Fort St Elmo enhances

that attractiveness. This makes Valletta and Malta more attractive for international visitors. The project was in line with the strategy of rebranding Malta's tourism towards heritage and culture.

At the level of the site itself, the financial feasibility was a foremost consideration. In the long term, the conservation value of a historic site is best maintained if the adaptive reuse generates sufficient income for the upkeep of the buildings and the spaces. Making Fort St Elmo financially feasible was not an easy task because of the extensive area involved and because the internal spaces were fragmented across a number of relatively small buildings. A cost-benefit analysis was carried out and it was established that the operation of the museum and of the various facilities would generate enough revenue for the ongoing maintenance and upkeep of the facilities and of the buildings. Long-term financial viability was also one of the criteria EU authorities referred to when assessing the application for funding. In essence the capital costs for the project were covered by EU and national funds whereas the ongoing running costs are derived from the operation of the facilities.

The primary objective for the project was to restore and bring back to life historic buildings and structures and to do so in a manner that is financially sustainable. In effect, the project converted what was previously a war machine into a machine for tourism, leisure, education and the appreciation of heritage.

## Conclusion

This paper seeks to promote a better understanding of fortified heritage and also of the values that require consideration when a project on fortified heritage is being carried out.

Central and Eastern Europe has an abundance of such heritage which, in recent years, has come under increasing pressure to adapt. It is being pushed forward by many cities and regions for it to become their most interesting tourist attractions (e.g., European Fortress Summer). It is therefore necessary to develop a framework of values, the application of which will allow for the introduction of a new function in a sustainable manner – reconciling the preservation of heritage while making it accessible to the wider public.

It considers two projects carried out in Poland and in Malta to develop insights into these values. Seven values have been identified, possibly of different levels of priority but all requiring careful attention. They are based on doctrinal documents and the work of expert teams in ICOMOS and are an attempt to identify values that should form a universal basis for the making of decisions about the new functions of fortifications. Taking them into account makes it possible to establish the objective value of an object and to take into account the wealth of local social, cultural and economic conditions.

This research is subject to two limitations in particular. There is a very broad range of features of fortifications, depending mostly on the time they were built, the surrounding geography and also the culture of the region. An attempt of developing a coherent description for all these different types would probably result in a discussion of the priority values, and the scale of the uniqueness of particular structures and objects.

Another limitation is that the paper is based on two case studies which, like all other fortified heritage, are very particular and which have their own distinctive features. They were also subject to their own distinct circumstances when the adaptive reuse projects were being carried out. There are risks in developing theories on adaptive reuse on the basis of just two case studies.

In the case of fortifications, the priority was usually their defensive function and utilitarian values. The functional values were often systematically updated. Usually, the facilities were often modernised, rebuilt and adapted so that they could still perform a defensive function. Even after the loss of combat value, many fortification objects became passive elements of defence (warehouses, back-up buildings, etc.). General demilitarisation in the second half of the twentieth century brought further changes in usage. While many objects have been abandoned, there are defensive objects and landscapes whose historic value has been appreciated and has been successfully adapted and made available. Among the particularly spectacular adaptations, the use of objects for tourist and museum functions is dominant. Against this background, however, the conflict of values mentioned by Ashworth is often visible – between the value of the object itself (intrinsic) and social values related to usability and adaptation to modern functions and detaching them from the material substance (the whole palette of extrinsic values). Too much emphasis on adaptation and economic viability of reuse is often detrimental to the historic substance and authenticity. Furthermore, the cost of and difficulties in the adaptation of structures not suitable for public-use functions are also major challenges linked with the issues of the viable reuse of fortified buildings and landscapes. That is why identifying and balancing the values should be at the core of each fortified landscape and building reuse strategy.

This paper provides a general framework referring to a set of seven values related to fortified heritage and is a useful basis for further study. The analysis of other case studies is needed to reaffirm or challenge the framework of values that is presented in this paper.

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