

EAC Occasional Paper No. 15

Archaeological Sites and Monuments in the Care of the State
Sharing Our Experiences

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Edited by Chris Corlett

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Edited by Chris Corlett

National Monuments Service (RoI) Scientific Coordinator
of the 20th EAC Heritage Management Symposium

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Cover image: The Koknese medieval castle ruins after the flooding of the Pļaviņu hydroelectric power plant water reservoir. (Photo: E. Šulcs)

Contents

Introduction / Foreword	7
<i>Chris Corlett</i>	
Authenticity and Attractiveness by Presentation of Archaeological Sites in Bulgaria	9
<i>Milena Kamenova and Lyudmil Vagalinski</i>	
VirtualArch – Making Archaeological Heritage Visible	21
<i>Jiří Unger, Christiane Hemker, Christoph Lobinger and Jan Mařík</i>	
Challenges Facing the State Management of Historic Shipwrecks in English Territorial Waters	31
<i>Hefin Meara</i>	
Managing the Managers: State Control over the Monuments in Estonia	51
<i>Ulla Kadakas and Anu Lillak</i>	
Seddin, Freyenstein and Wittstock. Research, Presentation and Sustainable Site Management in Northern Brandenburg	57
<i>Franz Schopper</i>	
Investments for Touristic Purposes at Archaeological Sites and Historical Monuments	77
<i>Dóra Hegyi and Zsófia Náday</i>	
Management of Isolated Islands: An Example of Sceilg Mhichíl, Ireland	101
<i>Edward Bourke</i>	
Take Care of Me! Experiencing Protection, Conservation and Presentation of Archaeological Sites to the Public in the Autonomous Province of Trento, Northern Italy	109
<i>Franco Nicolis</i>	
The Practice of Preserving and Presenting Archaeological Sites in Latvia	119
<i>Sandra Zirne</i>	
The Dutch Triple Heritage Helix. A Working Model for the Protection of the Landscape. Introduction and the Example of Utrechts Landschap	135
<i>Saskia van Dockum and Leonard de Wit</i>	
Medieval Churches in Novgorod: Aspects of Archaeological Investigations and Museum Presentation	141
<i>Marina Vdovichenko</i>	

Visitor Erosion in Fragile Landscapes: Balancing Conflicting Agendas of Access and Conservation at Properties in Care	157
<i>Rachel Pickering</i>	
Whose Archaeological Site Is It? – A Case Study of the Public’s Implication in the Caretaking and Opening of Archaeological Sites in Switzerland	181
<i>Cynthia Dunning Thierstein</i>	
An Overview of the Changing Policies on the Protection and Management of Archaeological Sites in Turkey	195
<i>Zeynep Eres</i>	

Introduction / Foreword

CHRIS CORLETT

National Monuments Service (RoI) Scientific Coordinator of the 20th EAC Heritage Management Symposium

The focus of discussion in regard to archaeological heritage management within EAC over several years has been on archaeology and development and, in particular, maximising the value of the results of development led archaeology. This reflects the wider trend in archaeological heritage management in Europe and in many ways reflects the focus of the Valletta Convention.

Themes at EAC symposia over several years has also touched on wider issues of connecting the public with their archaeological heritage which is of course a key theme of the Faro Convention. The Valletta Convention also touches on public engagement, and on the topic of sites and monuments in state care – it provides expressly in Article 9 for the promotion of public access to important elements of the archaeological heritage, while at the same time (in Article 5) requiring that the opening of archaeological sites to the public does not adversely affect their archaeological and scientific character.

The 20th EAC Symposium (Europae Archaeologiae Consilium) in Dublin was convened under a concept note that recognised that the State's role in the management of archaeological monuments has many different forms throughout Europe. The different degrees of involvement across Europe are usually a product of an individual state's history (often traced back to the 19th century), yet common to all jurisdictions are shared issues concerning conservation, protection, interpretation, sustainability and accessibility.

The provision of public access to archaeological sites and monuments is, along with access to well-presented museum collections, a powerful way of connecting the public to their past and enabling them to directly experience the physical remains of that past. While public access can be achieved in some cases in regard to archaeological sites and monuments which remain in private management, it is safe to say that, at the least, the bringing of such sites into public or state ownership or management has been throughout Europe a key means by which countries have sought to promote public access. Indeed, in some cases currently existing state archaeological services had their origins in the services created in the 19th century for the management of the first archaeological monuments in state care.

While the challenges of managing development led archaeology have been a central focus of debate across Europe for several decades past, the challenges of presenting archaeological monuments to the public while (in the words of the Valletta Convention) protecting their archaeological and scientific character have continued throughout this period. With a new focus on the achieving the aims of the Faro Convention in the archaeological context, meeting those challenges must now be seen as an issue of even greater relevance. Furthermore, presentation of archaeological sites and monuments to the public in the context of tourism has long been seen by governments as of great economic value. While this is a welcome argument in support of the value of archaeological heritage and one evident in recent EU statements on cultural heritage, this has often presented challenges for managers of the archaeological heritage in terms of reconciling economic and heritage interests.

The Dublin symposium was held over two days and comprised twenty-one presentations. The main topics discussed were the conservation, protection, interpretation, sustainability and accessibility of sites and monuments in the care of the State (whatever form that might take), or in the case of the Netherlands, the role of Trust organisations in tackling many of these issues. At the conclusion of the symposium, two things were clear; we share a great many of the same issues and there is an enormous benefit to learning from our shared experiences. However, what may be lacking are regular opportunities to learn from these shared experiences going forward.

Acknowledgements

I would like to thank all the presenters who have kindly taken the time to adapt their symposium contributions into papers for the present volume, as well as all those who chaired the sessions and participated in the symposium discussions. A very special thanks to my National Monuments Service colleagues who assisted in the organisation in the symposium, in particular Michael MacDonagh (Chief Archaeologist), Sean Kirwan and Dave Farrell, and also to our colleagues in the Office of Public Works for providing EAC with the venue for the symposium and hosting several events. Also a special mention of thanks to Djurra Scharff and Desislava Gradinarova, former and current assistants to EAC.

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Authenticity and Attractiveness by Presentation of Archaeological Sites in Bulgaria

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Keywords: archaeological sites, conservation and restoration, socialization, Bulgaria

Abstract: The paper presents the challenges facing Bulgarian experts in finding the balance between preserving the authenticity of the archaeological structure and its context, and turning them into a comprehensible and attractive site. Thanks basically to the European funding, over the past 10 years, a number of projects have been implemented in Bulgaria for conservation, restoration, exhibition and socialization of archaeological heritage, where the main aim is to achieve a complete tourist product. The economic and social effect, on the one hand, has a positive effect as an inspirer for archaeological researches and the popularization of this type of cultural heritage, but has led to a compromise of their scientific value at some sites. Different examples illustrate the role of the experts, participants and stakeholders and their joint work on 'reading' and 'translating' the archaeological structure – the search for the opportunity to intrigue, clarify and convey the experience of 'genius loci'. The role of the state in the management of archaeological heritage is examined through its different governmental levels and their interaction. The requirements imposed by legislation and practice are discussed.

First, the development of the archaeological heritage conservation system in Bulgaria will be briefly reviewed, its current state of the processes, its actors and the interactions between them, the positive and the negative aspects, and, in more detail, the problems we face in preserving authenticity while turning the archaeological site into an attractive one. Then we focus on our main topic; the authenticity and the attractiveness of archaeological sites in Bulgaria.

Development of the archaeological heritage conservation system in Bulgaria

Bulgaria can be proud of its good tradition in the legal protection of cultural heritage. The first official document in this respect was issued in 1888, only 10 years after the Liberation of Bulgaria from Ottoman rule. The aim of the 'Temporary Rules for Scientific

and Literary Enterprises’ was to protect the historical heritage in all its diversity, including protection of immovable cultural values. In 1890, The Law for Search of Antiquities and for Supporting Scholarly Institutions and Libraries was promulgated, whereby conservation through State protection and financing of immovable cultural values were established (Figure 1). In 1911, the Law on Antiquities was promulgated, through which the ‘preservation of Antiquities’ is established as an activity of high societal importance, for the realization of which a mechanism and an administrative state structure were built, with the leading role of the Ministry of Education. In 1957, the National Institute of Monuments of Culture was established as the main structure dealing with conservation activities. In 1969, the Law on Monuments of Culture and Museums was adopted, which was subsequently modified in the Cultural Heritage Act (2009), which, to date, follows established international postulates and principles.

1. UNTIL WORLD WAR II

NEGATIVES

- No training system for staff in this field was established.
- Conservation activities were not systematically documented.

POSITIVES

- The Ministry of National Education was the main manager. It implemented the search and preservation of archaeology through the National Archaeological Museum, which operated through a specialized expert unit. At local level the municipal administrations, museums, archaeological societies and school clubs were playing a crucial role.
- The restoration of archaeological values was carried out by professionals with specialized knowledge in the field of architectural history who were familiar with European experience in the preservation of historical sites.
- Making an archaeological site comprehensible became an important tool for integrating the public into the archaeological heritage.

2. FROM WORLD WAR II TO POLITICAL CHANGES IN 1989

NEGATIVES

- Strong nationalist approach due to the celebrations of 1300 years of the Bulgarian state.
- Lack of free market initiative and competition.

POSITIVES

- Well-structured system with the leading role of the state; exclusive state ownership of archaeological heritage.
- Decentralization of the system.
- Multidisciplinary approach.
- Successful interaction between experts and craftsmen at the sites.
- Sufficient funds.

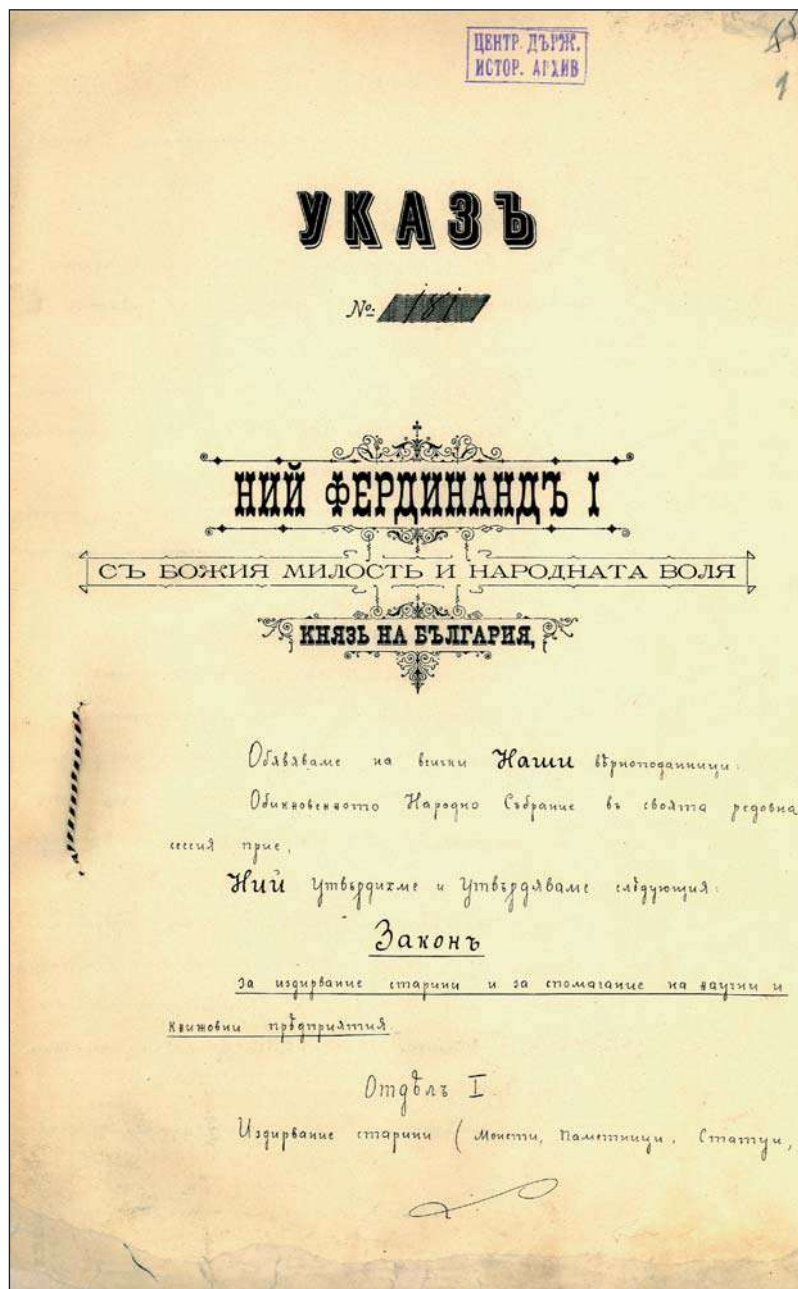


Figure 1. The Law for Search of Antiquities and for Supporting Scholarly Institutions and Libraries.
(Photo: Georgi Ivanov)

3. FROM THE POLITICAL CHANGES IN 1989 UP TO THE END OF THE EUROPEAN PROGRAM PERIOD 2014

NEGATIVES

- System breakdown, no local level structures, reduction of expert capacity.
- Considerable reduction of funds provided by the State budget.
- Bad staff policy.
- Legal discrepancy between the State's ownership of all archaeological remains and private properties that have the potential of archaeological sites.

POSITIVES

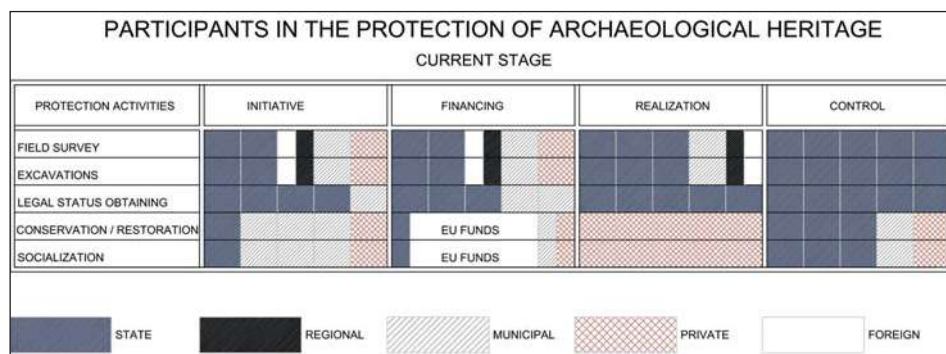
- Significant financing by European funds.
- Development of many previously unpopular sites in small municipalities.
- Creation of more active public opinion on the archaeological heritage.
- Accumulation of experience in analysis, design, conservation and restoration.

4. AFTER 2014 (Figure 2)

NEGATIVES

- Strong centralization, deficiency and clumsiness of control system.
- Shortage of funding for conservation and restoration at both national and municipal level.
- Insufficient usage of Euro-funding opportunities.
- Lack of proper connections among different stages of protection: research, conservation/restoration and management.
- Shortage of practical training in conservation/restoration.
- Discrepancy among three main Acts – The Law of Cultural Heritage, The Law of Territory Planning and The Law of Forests. It causes serious problems in

Figure 2. Participants in the protection of archaeological heritage in Bulgaria, current stage (authors)



defining boundaries and regimes of archaeological sites, in changing the purpose and ownership of the plots with archaeological remains.

- Lack of clear state strategy for the archaeological heritage.
- No plans for preservation and management even for the national archaeological reserves (33) and World Heritage Sites (7), though they are obligatory according to The Law of Cultural Heritage.
- Investment of the earnings back into the archaeological sites.
- Still weak marketing of the archaeological heritage.
- Shortage of public discussion about development of the archaeological sites.
- A great scale of illegal treasure hunting.

POSITIVES

- The archaeological sites are still an exclusive state property.
- Current Bulgarian legislation of archaeological heritage is good and implements all relevant international charters and conventions.
- Expert state control on each phase of conservation design.
- Obligatory approval of any conservation project by the relevant archaeologist.
- Design, conservation/restoration projects can be carried out only by licensed experts.
- Obligatory field conservation after excavations.
- Accumulation of experience in analysis, design, conservation and restoration.
- Gradual increase of public interest; www.archaeologia-bulgaria.com as a good example to attract.
- Intensive digitalization of the archaeological heritage.

RECOMMENDATIONS

- Preserving the leading role of the state.
- Horizontal de-concentration of the protection system by sharing out responsibilities among the Ministry of Culture, the Ministry of Environment and the Ministry of Regional Development.
- Vertical de-concentration to regional and municipal levels.
- Involvement of non-profit organizations and local communities.

The authenticity and the attractiveness of archaeological sites

Archaeological sites are a unique witness of a certain epoch and culture. Their most precious and significant characteristic is their authenticity, without which they lose their value and cannot be considered cultural heritage.

Other important characteristic of an archaeological site is its attractiveness. Only by drawing public attention to this can we be certain that we have succeeded in our main purpose – to preserve a certain piece of history for the future generations. That is why we should strive, by all means, to make a given archaeological site both attractive and comprehensible but at the same time preserve its authenticity. This is a very difficult

task, keeping in mind that any intervention to an archaeological structure results in the diminishing of its authenticity. The balance between authenticity and attractiveness is an individual solution for each archaeological site and it should be tested beforehand in the local community.

The socialized archaeological site has a positive emotional impact on visitors, if it stimulates their imagination. They should receive additional information about the site, placed in a wide cultural and spatial-temporal context. The attractiveness of a certain site should be estimated by the educational and emotional impact on the visitor rather than the profit it makes.

The authenticity is the main value of the archaeological heritage and it has different aspects:

- Visual authenticity: the degree of preservation of the authentic appearance.
- Functional authenticity: the degree of preservation of the original function.
- Context authenticity: the degree of preservation of the context of the archaeological structure, and the relationship between its elements.

One of the characteristics of immovable cultural values is the knowledge they carry as a testimony to a specific culture. While this knowledge has to be reached scientifically it is important that it is made available to the general public. What is understandable to the specialist (archaeologist, restorer, architect, etc.) is often unclear for a visitor.

If we consider the problem of authenticity outside the context of the presentation of the site and instead pose questions for further scientific interpretation, the issue is solvable due to the development of technology. The only way to avoid conflict with science and to allow development of the place as a cultural and visitor-accessible site, is to apply an interdisciplinary approach of documenting all stages of archaeological survey. An example of such an approach is the use of LiDAR, photogrammetry and 3D scanning in the antique city of *Heraclea Sintica*, near the present city of Petrich (Figure 3).

It is easy to talk about authenticity when we have 4–6m high Roman curtain wall still standing, or a functioning water system of Roman baths. However, the majority of archaeological sites in Bulgaria are highly ruinous, for various reasons. It is very difficult to preserve the fragile archaeological structure extracted from its comfort within the earth's layers, where it is subjected to nearly seventy freeze-thaw cycles every winter.

Archaeology, preserved only in substructure is completely incomprehensible for the non-specialists. The visitors cannot imagine the whole structure and, thus, the site is not interesting to them. In trying to make it comprehensible, it is very difficult to guarantee the authenticity of the material, because the intervention in the restoration inevitably changes the original (Figure 4).

Several Bulgarian sites restored in the last ten years have resulted in negative outcomes, despite the fact that their respective conservators followed Article 9 of the

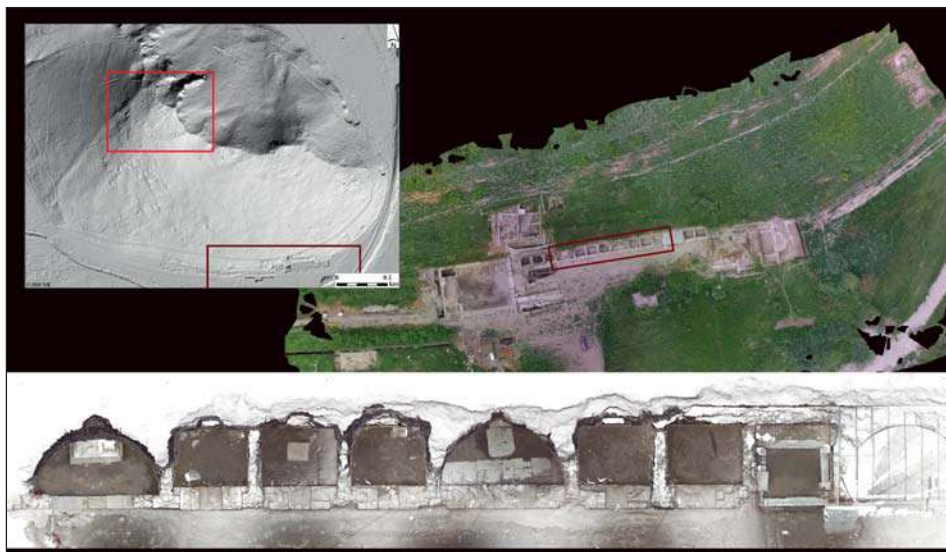


Figure 3. Documenting archaeological heritage in different levels – LiDAR, photogrammetry, 3D scanning in the antique city of *Heraclea Sintica*, near the present city of Petrich (authors; see also www.archaeologia-bulgarica.com)

Figure 4. Roman villa in *Cabyle* (near the city of Yambol) – ruins and virtual reconstruction. (Photo and virtual reconstructions: Milena Kamenova)



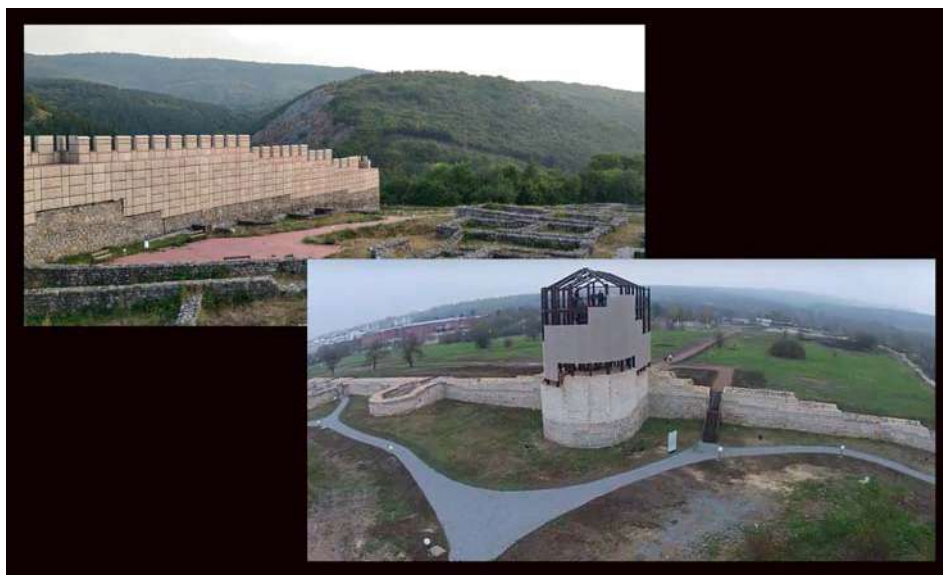


Figure 5. Contemporary reconstructions – the medieval fortress of Krakra (by the city of Pernik) and the Roman city of *Abritus* (now Razgrad)

Venice Charter, which recommends that “any extra work... must bear a contemporary stamp”. In order to make the archaeological sites more understandable, they carried out a solid reconstruction, which often surpassed the anastylosis. This approach helps to visualize the site in its initial integrity and volume, but it harms the archaeological ruins (Figure 5).

Creating such a large and heavy structure requires solid foundations that destroy cultural layers. The incorporation of new columns and beams into the ancient structure leads to the destruction of the latter. The original ruins look insignificant compared to the restored elements.

A large-scale restoration with modern materials breaks the connection with the context. Such a restoration approach might be acceptable in an urban landscape with the surroundings of other buildings, but it is not suitable in natural, rural settings.

Applying modern materials does not necessarily compromise the scientific value, as it provides a degree of intelligibility, but it spoils the perception of the site by damaging the harmony and authenticity of the context.

When we have destroyed the visual qualities of the surroundings, we have significantly reduced the value of the site, because it can no longer be perceived outside the surrounding context.



Figure 6. The reconstructions and the context – the Lower Danube Roman legion's camp and late antique city of *Novae* (left; near the city of Svishtov) and the late antique fortress of Roman *Pautalia* (now the city of Kyustendil). (Photo: Milena Kamenova)

Aiming to avoid the conflict with the new materials, some archaeological sites were rebuilt like in this example, where the fortress wall and towers were erected in maximum height (Figure 6). The question of the balance between authenticity and attractiveness still stands here.

The response seems clear at today's level of technological advances. Augmented and virtual reality preserve the material authenticity of a site and, at the same time, present the site in its entirety. However, it cannot provide a strong emotional perception. Virtual reality might prove sufficient for the next generation, but it is not enough for ours.

We still need to feel the attractive charm of the ruin, displaying in itself the patina of ages. We still need to enter the volume of an ancient temple or palace to feel its greatness. The notion of attractiveness is actually determined by the intellectual and emotional grounding of the visitor, and most of us depend on creating the right mindset in people for the proper perception of cultural heritage.

In order to achieve a richer experience and deeper understanding of the archaeological site, different types of attractions were made whereby the visitor can become a participant. More and more frequently, sites use the combination of archaeology, creative industries and various types of arts, lighting and sound shows, re-enactment festivals and other methods, such as the 'Sounds and Views' show on the hill of the



Figure 7. Archaeological heritage and creative industries, art and reenactment at the city of Veliko Tarnovo (left) and in the city of Belogradchik. (Photo: Milena Kamenova)

medieval capital Tarnovo, or the 'Opera on the Peaks' festival in Belogradchik fortress and re-enactments in the Roman ruins of Sexaginta Prista in Ruse (Figure 7).

It is the emotional impact that provides intrigue and excitement. If the main aim is to inspire visitors, then we should try to transmit the spirit of the site.

We cannot talk about authenticity if we lose genius loci.

There is no universal restoration formula, even for similar archaeological sites, except, perhaps;

Find, feel and follow the genius loci!

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VirtualArch – Making Archaeological Heritage Visible

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Keywords: virtual reconstructions, Interreg, Central Europe, visualization, mines, underwater sites, 3D models

Abstract: Rapid technological development in recent years means that virtual reconstructions have evolved from an illustrative complement of archaeological presentation to becoming a standard part of the interpretative process of archaeological data. VirtualArch has been engaged to develop the use of virtual reconstructions as an innovative visualisation tool. Ten partners from eight countries have come together in an EU-funded project (Interreg Central Europe), running from 2017 to 2020. The partnership is comprised of regional and national archaeological institutes and heritage offices, two universities/research institutions and also two local communities. Eight pilot sites have been selected across Central Europe. They form three main types; urban areas, mines and underwater sites. All have one thing in common; none are publicly accessible or visible. The aim of the project has been to make all of these sites accessible and comprehensible through the use of virtual and augmented reality.

Introduction

The rich and diverse archaeological heritage of Central Europe is in parts excellently developed and utilised. However, in contrast to finds in museums, a broad share of these heritage sites, even of international importance, is very often hardly visible and tangible for the public. Moreover, archaeological heritage is effected by different human activities and spatial usage conflicts.

While searching for instruments for effective protection of archaeological monuments, clear presentation of the archaeological heritage and communication with the general public have become essential topics in many European countries in the last few years (Olivier 2016). Great emphasis is placed mainly on the active involvement of the general public. Such a 'new' approach represents, to a considerable extent, reaction of a strongly professionalised discipline that more-or-less alienated itself from the general

public during the second half of the 20th century, whereby its promotional activities primarily relied on a passive consumer of the research results presented (Willems 2014).

VirtualArch focuses on the practical application of innovative and trendsetting visualisation tools in the field of virtual and augmented reality. One of the aims is to unveil regional archaeological heritage located underground or submerged, and partly with global importance (UNESCO), to local and regional stakeholders that are responsible for economic development. By tailoring and implementing of target-group-oriented and specially designed visualisation and presentations using virtual or augmented reality (VR resp. AR), their level of awareness and acknowledgement will be increased (Pierdicca et al. 2015). Furthermore, virtual reconstructions could be used as an innovative visualisation tool during spatial usage conflict management and, hence, contribute to better heritage protection.

Partners and pilot sites

Different to many other VR/AR visualisation projects in archaeology, VirtualArch's approach is through transnational cooperation with diverse heritage. Facing similar challenges and sharing the same objectives, ten partners from eight countries have come together in an EU-funded project (Interreg Central Europe), running from 2017 to 2020. The partnership is comprised of regional and national archaeological institutes and heritage offices, two universities/research institutions and also two local communities as heritage owner. On eight selected pilot sites all over Central Europe, their experiences were shared, distinct innovative visualisation and communication approaches were discussed and introduced. Based on the experiences in these pilot regions, a transnational strategy for future projects, as well as guidelines for similar heritage sites, will be agreed.

This heterogeneous approach is also reflected in the diversity of the pilot sites, which are characterised by various archaeological cultures, areas, environments, impacts and challenges. All of these sites contain unique finds, often from organic material, which provide considerable insights into past life and are, therefore, of international importance for research and the general public. However, none of them are publically accessible or visible, and because of their complex structures, they are somewhat intangible to non-professionals.

According to their nature, the pilot sites can be separated into three groups: urban areas, mines and underwater sites. Each of these groups has its specifics, as in the way of the gathering primary data, but also in a way in which they are further presented to the public. Also, each pilot site has its specifications concerning the ambitions of their goals.

Within the group of mining heritage, there are, firstly, the prehistoric salt mines of Hallstatt, Austria, part of the UNESCO cultural landscape 'Hallstatt-Dachstein/ Salzkammergut' since 1997. Known to the scientific community for the famous cemetery excavated in the 19th century, Hallstatt is one of the most important sites in European archaeology, thanks to the outstanding results of excavations and

experimental research undertaken by the Natural History Museum Vienna since the 1960s in the still active salt mines (Reschreiter & Kowarik 2017). Nowadays, the Salt Valley is already a popular tourist destination with an excellent infrastructure, so the aim of this project is to develop more precise and attractive ways of presenting the finds or displaying them in a new light for the public. On the other hand, the heritage is seriously threatened by natural movements of the rock itself (Reschreiter et al. 2017).

The second important mining site is located in Saxony, Germany, where unique and almost complete mines of the Middle Ages were found under the town of Dippoldiswalde. Since 2008, the Archaeological Heritage Office of Saxony records and recovers this outstanding heritage (Hemker 2011; Hemker & Schubert 2018), which, due to security reasons, is not accessible or visible to non-professionals or tourists.

An important mining landscape was in the mountainous area around Civezzano, near Trento in Italy. From the 12th to the 15th centuries, silver ore was exploited there intensively, so archaeologists discovered a mining area with sinkholes and gallery entrances over 12 sq. km (Casagrande et al. 2017). Due to security reasons they are not accessible. They are also at risk from threats posed by agriculture and forestry.

A big and important mining and metallurgic settlement from the 13th and 14th centuries, associated with visible mining relicts, was discovered near Utín in the Bohemian-Moravian highlands (Hrubý et al. 2016). The settlement, known mostly thanks to geophysical surveys, includes interesting features, such as miners' houses, an ore mill, a stamping mill and furnaces, as well as a hospice and a filial chapel. The area is largely uninhabited today, but agriculture and forestry could endanger this unique site. Identifying in its full extent, virtual reconstructions and target-group-oriented lectures and tools enable a better understanding and, consequently, protection, for example, by establishing special exclusion zones.

Urban archaeology is represented by the pilot site of Nitra, Slovakia, which was a princely residence since the 9th century and is of national importance as the oldest centre of early Christianity (Ruttikay & Bednár 2018). In fact, the urban area of Nitra was first settled in the Neolithic period. The settlement stratigraphy and phases of rebuilding made the archaeological layers invisible to the visitors' eyes. Here, mainly the excavations carried out over 30 years by the Slovak Academy of Sciences, as well as small finds, will be visualised to present the importance of the site from the smallest detail like a tiny cup to the big picture.

In contrast to the latter example, the Slovenian pilot site is a large wetland area near Ljubljana, where there is a large wetland containing several prehistoric pile dwellings, a World Heritage Site (<https://www.palafittes.org>) since 2011. The pile dwellings are a tremendous source of information, not only for archaeology, but also for dendrochronology, botany, climatology, geology and other fields of interest. The preservation of this archaeological heritage of global importance is, however, heavily endangered. Ljubljansko barje constitutes a very attractive area from an agricultural point of view and is, therefore, highly endangered by the interventions of the local farmers, such as digging new, deep drainage channels and deep ploughing. Interactive

historic landscape visualisations and AR-applications, showing the invisible settlement structures, aims to sensitise the stakeholders for better protection.

Finally, the field of underwater archaeology is represented by two important harbours. Firstly, we have the ancient Roman harbour of Barbir in Sukosan, located at the Adriatic Sea coast of Croatia. There are several submerged remnants of stone piers or breakwaters, as well as pottery and small finds from the 3rd to the 4th century. Although the International Centre for Underwater Archaeology is seated in near Zadar, only little research and few surveys were conducted, and the site is almost unknown to the general public. Secondly, a large site from the 10th to 14th centuries in the Baltic Sea is known offshore to the Polish town of Puck (Pomian et al. 2016). Over an area of 12 hectares are the remains of the harbour structures, four shipwrecks, potsherds and bones dating from the 10th to the 14th centuries. Puck was probably the most important early medieval port in the southern Baltic coast, more prominent than well-known places like Haithabu, Schleswig or Lübeck.

From field survey to 3D models

Although there are significant differences between the heritage sites mentioned above, activities in the pilot regions are based more-or-less on the same multi-stepped strategy.

Firstly, all partners gathered and digitised data obtained on the archaeological pilot heritages, including field surveys and methods of aerial archaeology. Finds and archaeological features were 3D recorded by using different techniques, ranging from structured-light scanners to photogrammetry and 3D scanning of finds (for an example of mining archaeology see Elburg et al. 2014), as well as hydro-acoustic survey methods for underwater sites.

The processed data provides the basis for modelling the virtual reconstructions, which represents the second step. Depending on the visualisation options and the 'storytelling' behind the picture, the high-resolution meshes have to be reduced, missing items added, or situations and textures exchanged.

In the third step, the end-result being a realistic virtual model of a heritage site, shall be visualised and presented by using various VR/AR options. In 2018, the project partners met with other interested parties (external experts, stakeholders, etc.) to create a coherent vision for digitalisation and visualisation of the pilot sites. Among the suggestions was the application of interactive panoramic views of, for example, prehistoric or medieval settlements that are currently invisible and concealed beneath modern towns or farmland. In addition, interactive 3D models of small finds, or even entire segments of a landscape, allow us to better understand and interpret the subject matter of our research. The AR methods would enable users to walk virtually through past settlements and mines directly on or over the heritage site. Finally, new VR data glasses enables immersive experience of inaccessible sites using 'ancient items' that would be otherwise hidden in archives or exhibited in showcases of archaeological museums.

Why use augmented and virtual reality tools?

The biggest challenge in presenting the earliest history of human culture is that its cognition largely remains encapsulated within the highly professional environment of archaeological monument care and particular scientific projects. Therefore, an alternative approach, i.e. the effort to make knowledge in our field virtually accessible, is highly desirable. Augmented reality technologies can quickly provide access to archaeological artefacts as well as entire sites.

It is very likely that virtual presentations of archaeological objects and features present a distinct trend for the future. This approach guarantees many benefits, including easy and fast dissemination of information, as there is already an established and functioning infrastructure, namely a massive extension of smartphones and affordable Internet connection. Thus, such possibilities open the way to address the computer literate young generation, who already perceive virtual space as a natural part of their real world. Building virtual presentations is much easier, as far as organisation and financial demands are concerned, than the physical presentations. Moreover, the costs of operation and maintenance of mobile applications are virtually zero. Virtual open-air museums can also be created in an environment where other forms of presentation cannot be envisaged, such as directly at the site of a protected cultural monument or in a city centre.

The rapid development of information technologies has been significantly facilitated by the widespread use of virtual and augmented reality for the presentation of archaeological sites without substantial financial costs. Moreover, there is a wide range of free tools. If 3D data from reconstruction models or digital non-contact documentation is available, it can be presented free of charge in augmented reality by using the Sketchfab platform. After you install the application on your phone, it allows you to present and view all the 3D models that are loaded on the platform. Similarly, it is possible to directly present 360° panoramic images generated from a 3D model using a mobile application such as VR Media Player.

An open platform for creating mobile applications that can be used for the presentation of archaeological sites is being created within the scope of the VirtualArch project. The aim is to enable even complete computer novices to create mobile applications. All information and content would be imported via a website interface, and the user shall be able to upload texts, accompanying images, 3D models and 360° panoramic images to the application and display them. Thus, users will be able to interactively view 3D models, as well as 360° panoramic outputs from computer reconstruction models, just by swiping their fingers across the screen. The application will also include a map with points of interest and the current position of the user.

Another outcome of the project under preparation, which should facilitate the creation of computer models, is the so-called '3D Home Kit'. It is, in fact, a catalogue of digital models of objects and features (buildings, technological equipment, movable objects) that have been prepared to simplify computer visualisation of archaeological

sites. The 3D Home Kit is designed primarily for smaller archaeological institutions or amateur interest groups to facilitate the creation of low-budget computer models.

Presentation of the medieval archaeological site at Buchberg, a 13th and 14th century silver mine near the village of Utín in the Czech Republic, is among the pilot project studies using game elements. The user will have the opportunity to become acquainted on the site itself with the appearance and function of the mine galleries and the adjoining processing district, through the prepared 3D reconstruction model available in the mobile application. To draw the public more intensively and actively into the topic, the application includes a game with a detective plot called the 'Devil's Adit' (Figure 1), the story of which takes place directly in medieval Buchberg in 1269. The player takes on the role of a young knight named 'James of Týn' and shall gradually reveal the terrible secret concealed within the mining area. During the young knight's journey, the user encounters different historical figures who are known from written sources and directly connected with the site, and visit particular places in the mines, which are connected, in various ways, to the mining and processing of silver ore. The whole plot will be unravelled in the underground galleries of the mine, and the player will be able to enter them via augmented reality. The game, which has the potential to quickly draw the visitor into the action, mediates in a funny and original way the computerised reconstruction and visualisation of the medieval mining area, and also to convey information about everyday life there and the operation of the entire silver mining process in the Middle Ages.

Figure 1. Game Devil's Adit – Medieval silver mining site Buchberg (Utín) in 1269



Specifics of computer reconstructions in archaeology

The presentation of archaeological heritage to the public through virtual reality also involves a number of risks. Archaeological features are inherently incomplete, and their interpretation is overwhelmingly ambiguous. Thus, computer visualisations are pre-conditioned to, somehow, cope with the relatively high degree of uncertainty of archaeological data. The London Charter, which states, among other things, that visualisation should accurately determine the differences between real data and hypotheses, and also between different levels of probability, may serve as a guideline for identifying appropriate practices (Denard 2012, 60).

Since the 1990s, many publications have been dedicated to the use of computer visualisations and their professional value (Reilly 1991; Miller & Richards 1995; Sims 1997; Barceló 2001; Sanders 2014). A concern that visualisations would only be used for production of attractive images and, thus, become another version of PC games or fantasy movies, runs like a silver thread through these publications. In this respect, one of the essential tasks of the Virtual Arch project is to respect the London Charter recommendations and look for specific technical or visual solutions.

We can only regret that no methodology of visual communication of computer reconstructions has been developed yet. Frameworks created for digital reconstructions, such as the London Charter, represented an essential step in evaluating the creative process and its objectification, but they do not pursue any consecutive possibilities and creative potential that 3D computer visualisations can

Figure 2. Reconstruction of the archaeological site in Břiza (Czech Republic) based on aerial photographs





Figure 3. Reconstruction of an Iron Age grave in Lovosice (Czech Republic) based on multiple photogrammetry

bring to archaeology. One possible approach represents projection into photorealistic models of an actual archaeological field situation obtained by laser scanning or multiple photogrammetry. In such environments, it is possible to distinguish existing structures and those that have been modelled based on interpretation (Figures 2 and 3). Another possibility is the application of principles of technical illustration utilising diagrams, simplified technical sketches, plans or graphs. Such type of data can convey more information and explain the context of the situation.

Each ordinary amateur 'consumer' of computer visualisations or outputs of the VirtualArch project shall be aware of several essential characteristics of the archaeological heritage, namely of the incompleteness of archaeological data and the possibility of alternative interpretations of archaeological contexts. The impossibility of creating a single correct interpretation of an archaeological context based on the field excavations should support the arguments for maintaining any archaeological site *in situ* as much as possible.

Conclusion

Rapid technological development and, thus, easier accessibility has significantly transformed the role of virtual reconstructions from a mere illustrative complement of archaeological popularisation to the position of a standard part of the interpretative process of archaeological data. Inevitably, such a process always involves subjective imagination, even if the reconstruction is only verbal. Contrary to interpretative texts, virtual visualisation can very quickly and clearly determine the boundary between

attested, anticipated and imaginative features. It is crucial to supplement virtual reconstruction models with metadata that explain the selected reconstruction steps and interpretative methods. Thus, the virtual visualisation could become a standard part of the process of learning about the past in many fields, not only in archaeology.

Reconstruction and direct interpretation of the past is a crucial factor in making it accessible to people in the present. Visualising the past in virtual space with all the available options described above will undoubtedly continue to strengthen and broaden its potential. If we can dare to predict, then such a form of presentation will challenge the prevailing and conventional forms based more or less on textual communication. Why would an image significantly substitute the word? Because the text demands understanding (the text is a language-dependent medium) and requires the consumer to concentrate. On the other hand, an image is generally comprehensible, and it is up to the viewer to decide how much attention he or she is willing to read into it.

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Challenges Facing the State Management of Historic Shipwrecks in English Territorial Waters

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Abstract: Funding challenges for maritime archaeology in the UK means that Historic England has to seek creative solutions to historic wreck management. This paper details how historic shipwrecks in English territorial waters are protected, managed and conserved by Historic England, on behalf of the nation.

Public access to protected wreck sites by volunteers is a vital part of site management. Licenced volunteers act as custodians of the wrecks and carry out many hours of diving on site, undertaking survey, condition assessments and detailed excavation. The energy, enthusiasm and skills of volunteer licensees, who have dedicated countless hours and large amounts of resources to the study of the wrecks, ensures their protection in a sustainable way for future generations to enjoy.

Introduction

The European Convention on the Protection of the Archaeological Heritage 1992, ratified by the UK in 2001, does not distinguish between archaeological sites located on land, and those located on the seabed. The management of monuments in the care of the state is always a challenge. This is particularly the case when the monuments are located in the most inaccessible of places, at the bottom of the sea. The seas around England are full of shipwrecks. Historic England is responsible for the management of a select number of wrecks that have been afforded statutory protection. Funding challenges for maritime archaeology in the UK mean that Historic England has to seek creative solutions to the management of historic wrecks.

Historic England is responsible for maintaining a national record of historic shipwrecks located within territorial waters as part of the National Record of the Historic Environment. The database currently includes records for over 37,000 shipwrecks, including approximately 6,000 wreck sites whose position on the seabed is known, and also a further 31,000 unlocated wrecks that are known only from documentary sources.



Figure 1. Diver surveying a protected wreck. © CISMAS

However, only a small fraction of these wrecks have been designated as protected wrecks under the Protection of Wrecks Act 1973.

Historic England's responsibilities for archaeological sites under the sea is derived from the National Heritage Act 2002. This Act tasked Historic England (formerly English Heritage) with "securing the preservation of ancient monuments in, on or under the seabed, and promoting the public's enjoyment of, and advancing their knowledge of ancient monuments in, on or under the seabed" (Historic England 2015, 3). In addition, the act allowed Historic England to provide grant aid to projects working on protected wreck sites.

The Protection of Wrecks Act 1973

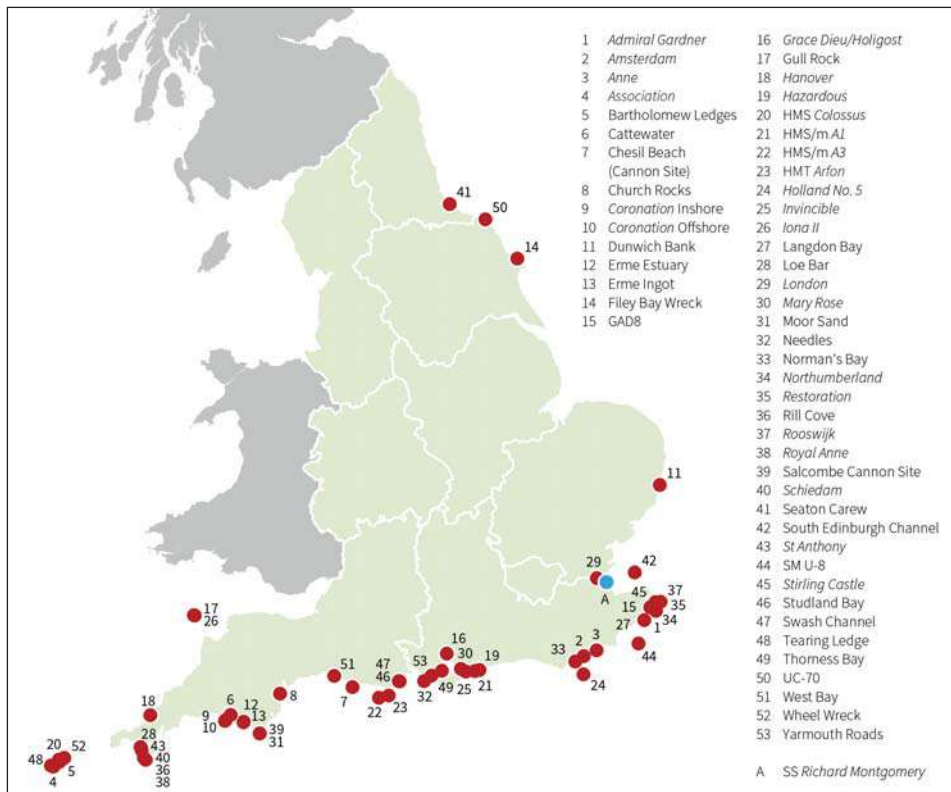
Shipwreck sites in English waters do not automatically receive legal protection. The Protection of Wrecks Act 1973 allows the Secretary of State to designate a restricted area around a wreck site, in order to prevent uncontrolled interference.

The Act is divided into two sections. Section 1 of the Act allows for the protection of wreck sites that are considered to be of historical, artistic or archaeological importance. It is the management of wrecks protected under this section of the Act that is the responsibility of Historic England.

Section 2 of the Act allows for the designation of a restricted area around a wreck considered to be dangerous. There is currently only one wreck in English waters which is designated under Section 2 of the act, the remains of the *Richard Montgomery*, a Second World War era Liberty Ship, which stranded near Sheerness, Kent in 1944, while carrying a cargo of bombs and other munitions, bound for Cherbourg to aid in the liberation of France.

Shipwreck sites are designated based on an assessment of their significance. As well as being able to reveal a great deal of information about how ships were constructed in the past, wrecks can also reveal much about international trade, the daily lives of the sailors on board, and can reveal detailed information about specific historic events. When considering whether or not a shipwreck should be given protection, factors including period, rarity, documentation, group value, survival, vulnerability, diversity, and potential will be taken into consideration when determining their national importance (Historic England 2017b).

Figure 2. Protected wreck sites in English waters. © Historic England



There are currently 53 shipwrecks in English waters that have been designated under Section 1 of the Protection of Wrecks Act 1973. These cover a very broad date range, with the earliest site being the remains of the scattered cargo of a late Bronze Age shipwreck, and the most recent being the remains of the UC-70, a UC II class German submarine sunk by bombs and depth-charges during the First World War. Details of all of the wrecks protected under Section 1 of the Protection of Wrecks Act 1973 can be found online on the National Heritage List for England: <https://historicengland.org.uk/listing/the-list/>.

Although access to protected wrecks is restricted, the Protection of Wrecks Act doesn't prohibit all access to protected wreck sites. Instead, it encourages responsible access, in order to ensure that the activities undertaken do not put the archaeological remains at risk. Access to the wrecks is controlled by a licensing system administered by Historic England on behalf of the Department for Digital, Culture, Media and Sport (DCMS). Each licence will have a specific set of conditions attached, which control the type of activity that can take place. A licence will only be granted if the proposed activity will be beneficial to the long term care of the wreck, or will aid in public appreciation of the site. A wide variety of activities can be undertaken on protected wreck sites, but they usually fall into one of these four categories:

- Visiting a wreck site – This type of licence is often held by a dive charter boat operator, and it allows them to take recreational divers out to visit a protected site, in order to give them an out-of-the-ordinary diving experience.
- Survey of a site – This type of licence covers any type of survey activity, including the use of photography, video, photogrammetry, and also manual measuring techniques.
- The recovery of at-risk objects from the surface of the seabed.
- The intrusive excavation of a shipwreck site in order to record buried stratigraphy, and recover artefacts and structural elements.

The requirements for obtaining a licence vary depending on the nature of the proposed work on the site. In order to obtain a licence to visit a wreck, the applicant is required to complete an online application form, detailing the proposed activity, outlining any relevant experience they hold, and detailing the names of two people willing to provide references on their behalf. In order to obtain a licence to allow the recovery of material or to undertake excavation, a full Project Design is required detailing the research objectives and a method statement, including provision for conservation and a suitable repository for artefacts.

Managing protected wreck sites

The Secretary of State provides funding for a commercial archaeological company to provide archaeological services relating to wreck sites in UK territorial waters. Historic England is responsible for the management of the English part of this service. Responsibility for wrecks in the rest of UK territorial waters lies with the devolved administrations in Wales, Scotland and Northern Ireland. The current provider of archaeological services in relation to historic wreck sites in English waters is Wessex



Figure 3. Diver investigating a wreck site. © Wessex Archaeology

Archaeology. The purpose of this service is to provide quality information to inform the protection and management of these heritage assets. Wessex Archaeology will undertake fieldwork to assess new sites being considered for designation. They will also undertake periodic monitoring of sites, in order to assess their condition and survival. A broad variety of work will be undertaken as part of this contract, including desk-based research, remote sensing, and also site investigation by divers. On occasion, site investigation will be undertaken by remote operated vehicle (ROV) on sites that are particularly deep or otherwise inaccessible to divers.

However, the budget for undertaking work by the commercial archaeological company is very limited. In addition, the conducting of archaeological work at sea is particularly at risk to the adverse effects of the weather, which can frustrate the best-laid plans. As a result, it is only possible for a small number of sites to be visited for assessment and study each year.

Licensees and affiliated volunteers

We need to monitor protected wreck sites in order to maintain an up-to-date understanding of their condition. The challenge of undertaking the greater part of the monitoring is met by volunteer divers, who hold licenses to access the sites. These individuals are known as licensees. They are, in many ways, the voluntary custodians of the protected wreck sites. They play a vital role in the management of the sites. They undertake many hours of diving, often at their own expense, and provide information which enables stewardship and effective management. During 2018 there were over 200 licensees and team members undertaking study of England's protected wreck



Figure 4. Protected wreck licensees. © MSDS Marine

sites. Historic England has recognised the importance of the licensees by awarding them with Affiliated Volunteer status.

Each licensee is required to submit a report to Historic England at the end of the year. The reports detail any work undertaken over the course of the year, and provide valuable information on the current condition of the site. For example, has the wreck become more exposed over the course of the year, or, conversely, has the wreck become reburied by seabed sediments. In addition to the annual reporting, licensees maintain regular communication with Historic England throughout the year. In this way, the security of the sites is maintained. Reports of activity, such as unauthorised diving, illegal salvage, or fishing activity that could damage the archaeological remains, can be addressed. Through this mechanism new discoveries are reported quickly to Historic England, which allows us to target our funding and support to where it will be most beneficial.

The ability of licensees to mobilise quickly to take advantage of the best conditions is a key part of their success. A small group of locally based divers can mobilise at short notice, and are able to take advantage of the best weather and seabed conditions. In this way, they can undertake monitoring visits, create detailed photogrammetric

surveys, and when necessary, at-risk material can be recovered for study, conservation and eventual display.

There is no requirement for licensees to be trained and qualified archaeologists, although they should be competent to undertake their activities on a protected wreck site. A licensee will undertake their projects under the guidance of a Nominated Archaeologist, a voluntary role which provides advice and guidance to the licensees throughout the course of the project.

The licensees are a very dedicated group of volunteers. In many cases they have been involved with the sites over several decades. Statistics from a recent survey undertaken by Historic England indicated that over 43% have been involved with the sites for ten years or more, and that 21% had been involved with sites for over 20 years. However, the ageing demographic of the licensees presents a big challenge, as many of the current licensees are approaching an age when they will no longer be diving. We have identified the need to actively encourage a younger generation of divers to become involved with protected wreck sites. We are currently in the early stages of a project designed to pair up new recruits with existing teams, so that the expert knowledge of these long-standing volunteers can be passed on to produce the next generation of skilled and highly motivated custodians. In addition, we are undertaking projects to train and increase the skills of local divers to fulfil the role on newly discovered and protected sites, where there are no pre-existing licensee teams in place. This increase in local capacity is vital for the future management of England's protected wreck sites.

Prioritising work on protected wreck sites

In 2008 we began an annual program of assessing risks to all protected sites, both terrestrial and marine, in order to better understand their condition and vulnerability. The sites are individually assessed, and are given a status of either low, medium or high risk, with the results published in the annual Heritage at Risk register (Historic England 2017a).

By undertaking this annual review of sites, we are able to identify the management needs of each site, and thereby prioritise the programme of work for the following year, ensuring that the limited budget available for work is targeted at the sites that are most in need. When the initial audit was undertaken in 2008, there were 11 protected wreck sites considered to be at high risk.

Over the last decade, there has been a reduction in the number of wreck sites considered to be at high risk, as a result of ongoing management, the work that the volunteer licensee teams are doing, and working in partnership with other organisations. There are currently four protected wreck sites on the Heritage at Risk register:

- HMS Invincible, a 3rd Rate Ship of the line stranded and lost in the Solent in 1758.
- The Northumberland, a 70 gun 3rd rate Ship of the Line, lost in the Great Storm of 1703 on the Goodwin Sands.

- The London, a Second Rate 'Large Ship' that exploded and sunk in the Thames Estuary in 1665.
- The Rooswijk, a vessel of the Dutch East India Company (VOC), lost on the Goodwin Sands in 1740.

These sites are the main recipients for additional funding and targeted programmes of work to reduce the risk that they face.

Preservation *in situ* is usually considered to be the most suitable management approach. This is in line with the Annex to the 2001 UNESCO Convention on the Protection of Underwater Cultural Heritage, which has been adopted as best practice by the UK government. However, the risk to each of the protected wreck sites has been managed and reduced in a variety of ways, depending on the needs of the particular site. In many instances, a programme of ongoing monitoring to ensure that the wreck site remains safely buried beneath seabed sediments is the main requirement. On other sites, the security of the site has been increased by the promotion of public access via the installation of diver trails on the seabed. On sites where considerable erosion is taking place, programmes of finds recovery and also detailed excavation have been undertaken. Site specific conservation statements and management plans have been produced, and these identify how the values and features of the protected wreck sites can be conserved, maintained and enhanced.

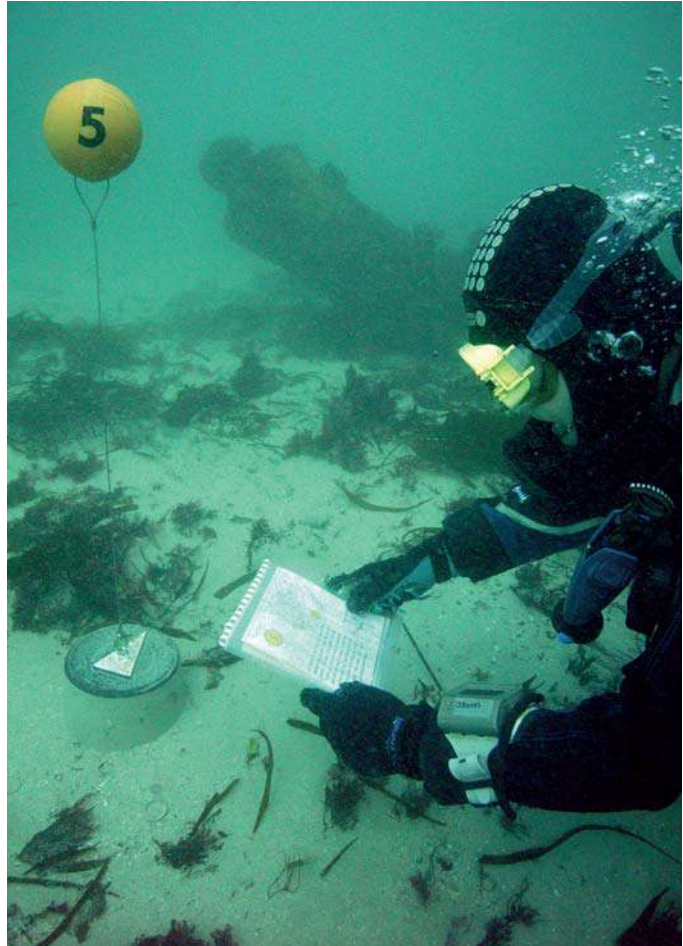
Case study 1: Public access via dive trails

Shipwreck sites are by their very nature difficult to access. They are located at sea, and often in areas of particularly dangerous stretches of coastline, which have historically been the causes of other wrecks. It is a great challenge for us to find ways to encourage visitors to these sites, in order to ensure that they are experienced and enjoyed by as wide a stretch of the population as possible. One way in which we have gone about providing enhanced access to wreck sites is by facilitating the creation of diver trails.

These trails encourage responsible access. Each trail is accompanied by interpretation material in the form of guides for reading on the boat prior to the dive, or waterproof slates to be carried during the dive, which aid in orientating the diver on the seabed. The sites themselves are enhanced through the placing of waypoints on the seabed, connected by lines in order to guide divers in low visibility. These trails are managed locally by teams of volunteers, including charter boat operators, recreational diving groups, archaeological societies and other special interest groups.

There are significant benefits to increasing the number of visitors to the sites. Visiting divers are encouraged to share photographs taken during their diving. These photographs are included in the annual licensee reports submitted at the end of the year. In addition, they can be submitted throughout the year, and shared via social media. These visitors assist with site monitoring, and provide up-to-date information throughout the year, which keeps us informed of any urgently required intervention. Increased numbers of legitimate visitors on a given site has an additional benefit of deterring anyone looking to access the site illegally.

Figure 5. Diver on Colossus dive trail.
© CISMAS



There are currently dive trails in operation on six protected wreck sites. These trails are located on some of the more robust wreck sites, where visiting divers are unlikely to inadvertently cause damage to fragile archaeological remains. There are trails located on the following wrecks:

- HMS Colossus, a 74 gun ship of the line wrecked off the isles of Scilly in 1798.
- Thorness Bay, the remains of an unidentified mid to late 19th century merchant sailing vessel located off the Isle of Wight.
- Norman's Bay, the remains of a wooden wreck, possibly the remains of the Wapen Van Utrecht, lost during the Battle of Beachy Head in 1690.
- Iona II, remains of a paddle steamer which was employed as a blockade runner in the American Civil War, located off the Isle of Lundy.
- Coronation, a 90 gun Second Rate which foundered off Plymouth in 1691.

- HMS/m A1, the first British designed and built submarine, lost off Selsey Bill in 1911 during unmanned trials.

There was formerly a trail in operation on the wreck of the *Hazardous*, a Third-Rate ship of the line, lost in 1706 in Bracklesham Bay, West Sussex. However, when much of the wreck became buried by sediment, this trail went out of use. As part of an Historic England funded programme of work, the dive trail will be reinstated on this site in the future, following the completion of an ongoing excavation.

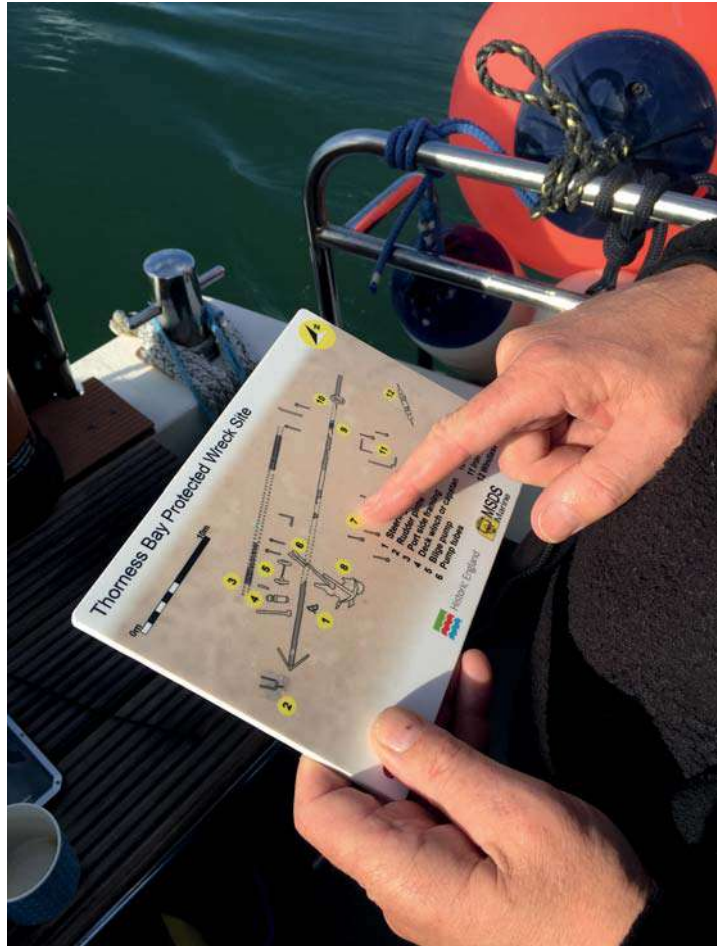
The diver trail on the wreck of HMS *Colossus*, located off the Isles of Scilly has been in operation for over 10 years. The trail has proved immensely popular, with over 250 divers visiting the trail each year. In 2018, it was reported to Historic England by the licenced volunteers that the dive trail was beginning to show its age. Some of the markers had been lost and required replacing. In addition, abandoned fishing gear including lines and lobster pots had become ensnared in the trail, making it a hazard for visiting divers. As a result, we have funded a project for a local group, the Cornwall and Isles of Scilly Maritime Archaeology Society (CISMAS) to visit the wreck in order to remove the trapped fishing gear, and to renovate and repair the stations on the seabed. In addition, the project includes provision for developing new and improved interpretation material, in the form of a dive slate, for visitors to take with them to the seabed when visiting the wreck, based on lessons learned through the development of trails on other wreck sites since this trail was originally developed.

Divers visiting the protected wreck dive trails have provided very positive feedback. In addition, research indicates that diver trails have considerable economic benefits to the local economy. A study commissioned by Historic England, and undertaken by the Nautical Archaeology Society, indicated that the diver trail on the wreck of the *Coronation* protected wreck, located off Plymouth, was worth around £42,000 to the local economy during the course of a single year (Nautical Archaeology Society 2013). The protected wreck dive trails have been recognised as examples of best practice for audience engagement by UNESCO.

However, not everyone is lucky enough to be able to dive on a protected wreck site. In order to share these fascinating sites with everyone, we have been experimenting with innovative forms of display and interpretation, enabling the public to enjoy diving these sites from the comfort of their own armchairs. The virtual dive trails have been developed from a wide variety of sources, including information gleaned from research into documentary and archival evidence, underwater photographs and video footage captured by licensees and contractors, as well as cutting-edge computer-generated imagery derived from marine geophysical datasets. By combining these different sources of information together we are able to bring the sites to life, and share what it is like to dive a protected wreck site.

The public reaction to the virtual dive trails scheme has been very positive. Over 10,000 people have accessed the trails since they were launched. The dive trails have been accessed from all over the world, thereby bringing experience of England's protected wrecks to a geographically wide audience (James 2018).

Figure 6.
Interpretation
material for the
Thorness Bay dive
trail. © MSDS Marine



From the beginning, the virtual dive trails have had accessibility built into them as a key driving factor, with the aim that the virtual trail would be accessible to everyone. All information is provided in both visual and audio formats. Videos are always subtitled when needed, and images are provided with suitable alt-text to enable the visually impaired to access the trails (Cant 2018). All of the dive trails commissioned by Historic England can be accessed via <https://historicengland.org.uk/get-involved/visit/protected-wrecks/virtual-dive-trails>.

To date, we have commissioned virtual dive trails on 15 of England's protected wreck sites. The trails have been developed using a variety of both bespoke and pre-existing platforms, in order to allow their producers the freedom to explore the emerging technologies as much as possible. A consistent tone of voice and the use of Historic England branding has ensured a coherent look for the trails across the various platforms.



Figure 7. Rooswijk virtual dive trail. © MSDS Marine

There are several new trails in production. Each new trail builds on the lessons learned from the ones that came before and are, therefore, constantly improving.

Case study 2: The wreck of HMS Colossus

HMS Colossus was a 74 gun warship wrecked on the Isles of Scilly in 1798, while *en route* from Naples to England, carrying wounded from the Battle of the Nile, as well as a cargo that included a large collection of Greek antiquities belonging to Sir William Hamilton. The wreck was discovered in 1972 and designated under the Protection of Wrecks Act in 1975. Over the following years the wreck was investigated and over 30,000 sherds of Greek pottery were recovered. The ceramics are now held at the British Museum. Following the end of the investigation, the site was de-designated in 1984. A further section of the remains of Colossus was discovered by a local diver in 1999, and this section of the wreck was subsequently designated in 2001. This area of wreckage consisted of a large section of the port side of the stern of the vessel, and included cannon, muskets, and rigging elements. Wooden elements of the ship have survived very well on this section of the wreck. For example, in 2001 a 3.3m long carving of a neo-classical male figure, which formed part of the decoration on the stern of the vessel, was excavated and recovered by the Archaeological Diving Unit (Camidge 2016). This case study will look at a selection of the projects undertaken on the wreck of HMS Colossus by the Cornwall and Isles of Scilly Maritime Archaeology Society (CISMAS), a group formed in 2004 in order to promote maritime archaeology in Cornwall and the Isles of Scilly.

The first work undertaken on the Colossus by CISMAS was in 2005, when the group secured funding in the form of a Local Heritage Initiative grant to undertake a survey of the debris field surrounding the remains of the wreck. The aim of this survey was to characterise and map the surviving debris, and to establish the exact location in which



Figure 8. Diver recording the Colossus. © CISMAS

the earlier discoveries had been made. During this survey, the positions of over 100 artefacts were plotted and recorded.

Since its discovery, the structural timbers of the stern section of the wreck had visibly deteriorated due to erosion and attack from marine organisms. With funding from English Heritage, in 2005 CISMAS undertook a series of trials, in order to determine what would be the best method to stabilise the remains and slow down any further decay. It was decided that a section of the stern of the wreck should be covered with a geotextile mat, held in position with sandbags. In the intervening years, this mat has become covered with seaweed and a layer of sediment, protecting the timbers concealed underneath it.

The annual monitoring reports indicated that the wreck was becoming more exposed, and that small objects were being revealed by the falling sediment levels. In 2010, CISMAS were commissioned to undertake a survey of these artefacts on the seabed, and to record their position and condition. Areas of structural ship timbers, newly exposed by the falling sediment levels on the seabed, were also recorded. The recording confirmed that previously exposed timbers were being eroded and subjected to attack by marine organisms.

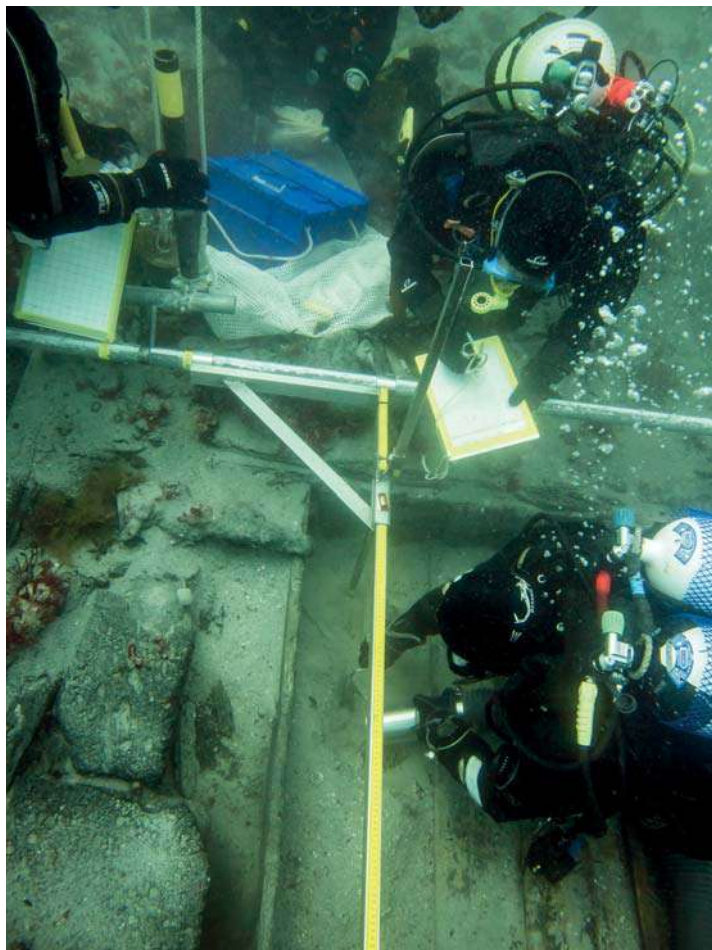


Figure 9. Excavation of the Colossus in 2012. © CISMAS

In 2012, CISMAS were commissioned to undertake the excavation of a section of the stern of the wreck, in order to investigate the surviving main gun deck ordnance, record a gun-deck port, and to further record the stratigraphy within the wreck. In addition to these goals, the project included the first phase of a long-term reburial trial, in which artefacts recovered from the wreck during the course of the excavation were reburied on the site (following initial recording and conservation), in order to test reburial as a method of long-term storage of artefacts from wreck sites. The artefacts were buried in two separate collections. The first is to be recovered after 10 years, and the second is to be recovered after 25 years.

Following the discovery of newly exposed wreck material during 2014, a project to record and excavate was commissioned, in order to establish the nature and extent of the material, and to recover any objects at risk of loss. Three trenches were excavated

during this season, and the project led to a reappraisal of how the Colossus was wrecked. The following year, CISMAS again returned to the wreck site in order to seek evidence that would confirm the new wrecking theory.

This case study demonstrates the breadth of work, including monitoring, survey, excavation, the development of new theories, and the testing of ground-breaking methodologies that can be undertaken by a group consisting largely of volunteers donating their free time and expertise, working under the guidance of a nominated archaeologist, with a limited quantity of funding from both the state, via Historic England and its predecessors, and from other funding bodies.

Case study 3: The wreck of the London

The London was a Second Rate 'Large Ship' built at Chatham in 1656, which served in both the Cromwellian and Restoration navies. The London was present at the siege of Dunkirk in 1658, and was part of the fleet that transported Charles II back to England during the restoration of the monarchy in 1660. In 1665, at the outset of the Second Anglo-Dutch War, the London was destroyed by a large explosion in the Thames Estuary. The loss of the London was seen by Samuel Pepys, who recorded the event in his diary – "This morning is brought me to the office the sad newes of The London, in which Sir J. Lawson's men were all bringing her from Chatham to the Hope, and thence he was to go to sea in her; but a little a'this side the buoy of the Nower, she suddenly blew up. About 24 [men] and a woman that were in the round-house and coach saved; the rest, being above 300, drowned: the ship breaking all in pieces, with 80 pieces of brass ordnance. She lies sunk, with her round-house above water. Sir J. Lawson hath a great loss in this of so many good chosen men, and many relations among them." The wreck of the London was discovered in 2005 during work in advance of a large-scale port development. Following assessment, the site was designated under the Protection of Wrecks Act 1973 in 2008 (Evans 2017).

Since 2010, a group of local divers have undertaken monitoring of the site, led by Licensee Steve Ellis, under the guidance of a nominated archaeologist, currently Mark Beattie-Edwards of the Nautical Archaeology Society. As the site was suffering from erosion, and artefacts were at risk of being lost, a licence for the recovery of finds found on the surface of the seabed was granted in 2012. The wreck of the London lies in the Thames estuary, and represents a very difficult working environment. It is located, in two separate areas, on the edge of a very busy shipping lane, and large cargo vessels regularly pass close to the site. It is also a highly tidal environment, with visibility on the site often virtually zero, and work on the site undertaken almost by touch alone.

In 2014, Historic England commissioned a project to evaluate the site. This project was undertaken by Cotswold Archaeology, and incorporated both the volunteer licensee, and a team of professional archaeologists. The aim of the project was to improve our understanding of the surviving vessel structure and associated seabed deposits, and to undertake the recovery of artefacts which were at risk of loss due to the ongoing erosion of the site.



Figure 10. Lifting of the London gun carriage.
© Historic England

During the course of this project, a gun carriage was discovered by the licensee and team, after being partly exposed following movement of seabed material. It was in excellent condition, having been preserved by the clay of the Thames Estuary. Over the following months, parts of the gun carriage became more exposed and at risk of breaking up due to the strong currents and exposure to marine organisms. The waterlogged wooden gun carriage, which weighed approximately one ton, was lifted in the summer of 2015. It is currently undergoing conservation at York Archaeological Trust. When the conservation process is completed, it is intended that the carriage will go on display at Southend Museum.

In 2019, Historic England commissioned the Nautical Archaeology Society to undertake a feasibility study into a programme of recovery, recording and reburial on artefacts and structural timbers from the London wreck. This project will explore a possible method of avoiding the permanent loss of objects and information, but without the prohibitive costs associated with conservation.

Figure 11. The London Shipwreck exhibition.
© Historic England



The London Shipwreck Trust was established in order to raise funds for the continued study of the shipwreck site. In July 2019, the trust, working in partnership with the Nautical Archaeology Society, and Southend Museum, launched the 'Save the London' campaign. The aim of this campaign is to seek public and corporate sponsorship, in order to raise funds to pay for the recovery, conservation and display of artefacts from the London. Historic England is supportive of this independent initiative as it develops cultural partnerships and collaboration, as well as increasing local community capacity and skills.

We have also commissioned MSDS Marine to undertake a programme of geophysical survey of the wreck site in the summer of 2019. This project consists of a desk-based review of extant datasets relating to the wreck, and a survey which will comprise sub-bottom profiling of the wreck, in order to provide further understanding of the nature and extent of buried deposits associated with the protected wreck site. The results of this project will inform the on-going management of the wreck.

This site continues to be classified as high-risk. However, the work being undertaken by the site licensee and nominated archaeologist, alongside research projects commissioned by Historic England and fundraising activities undertaken by the London Shipwreck Trust and its partner organisations is helping to ensure a better understanding of the London, and to ensure the future conservation and management of the wreck. An exhibition at Southend Museum called 'The London Shipwreck: A Sunken Story' opened in 2018. The exhibition features displays of artefacts recovered from the seabed by the Licensee Steve Ellis, and conserved at the Historic England facility at Fort Cumberland. The exhibition is an excellent example of what can be achieved through close co-operation between Historic England as representatives of the state, the local authority museum, professional archaeologists and a dedicated team of volunteer divers.

Case study 4: The wreck of HMT Arfon

Not all of the wrecks protected under the Protection of Wrecks Act 1973 are of wooden sailing vessels. This next case study concerns a shipwreck of a much more recent era. The wreck of HMT Arfon was discovered in 2014 by two divers who run a dive charter boat business. The wreck is located off the Dorset coast.

The Arfon was a steam trawler, requisitioned by the navy in 1914 for use as a mine-sweeper, and fitted with a 6 pounder gun. The trawler worked out of Portland Harbour, sweeping mines laid by German submarines along the shipping lanes of the Dorset coast. The Arfon spent three years successfully sweeping mines before it detonated a mine on 30 April 1917, and sank in less than two minutes, with the loss of 10 members of the crew of 13.

The wreck is exceptionally well-preserved. The trawler's key features, such as its mine sweeping gear, deck gun, portholes, and engine room are still intact on the seabed. The vast majority of wrecks of this period around the English coast have been heavily salvaged, with their fixtures and fittings taken as trophies and souvenirs by visiting divers. The Arfon is unique, as it has been untouched for almost 100 years, before it was first discovered in 2014. The wreck was considered to be vulnerable to souvenir hunters and uncontrolled salvage, and was therefore designated under the Protection of Wrecks Act 1973.

Since the site became protected, the finders have been undertaking further archival research in order to further knowledge and understanding of the wreck. They have discovered previously unknown documentation, which supported the positive identification of the wreck. In addition, the licensees have taken an active role in maintaining site-security, developing a good relationship with the National Coastwatch Institution, a voluntary organisation whose aim is to keep a visual watch along UK shores in order to protect life at sea. As a result of this relationship, it is now a condition of all licences that anyone diving the Arfon must radio St Aldhem's Head NCI in order to announce their intention to dive. Unauthorised divers will be monitored and reported to the Coastguard. This ensures that only legitimate visitors access the protected wreck.



Figure 12. Diver on the wreck of the Arfon. © Bryan Jones

The wreck has proved popular with visiting recreational divers. Six local charter boat companies now hold licences for the wreck, and regularly take groups of divers to visit the site. HMT Arfon is an excellent example of how developing an increase in awareness, a sense of community pride, and the encouraging of local vigilance, can assist in overcoming the risk to a wreck from souvenir hunting and illegal salvage.

Conclusions

The Protection of Wrecks Act 1973 provides an effective means to protect and manage nationally important historic shipwrecks. The licensing system allows for the effective management of the wrecks through engagement with the diving community, who act as volunteer custodians of the sites.

The case studies described above have shown the broad range of sites that are protected under the Act. The variety of sites means that there is no simple approach that is suitable for all the sites. They each have their own particular needs and requirements. In a climate of limited resources and reduced budgets, Historic England works closely with dedicated teams of volunteers, to train and to enthuse individuals, and increase the skills of local groups and societies to help preserve these important sites for the future.

In addition, we are committed to increasing public access to the wreck sites, with enhanced visitor experiences being provided by dive trails where appropriate, and, with public access being enabled by virtual trails as well, to ensure that as broad

a section of the population as possible are able to access and experience these fascinating sites.

The contribution of the volunteer licensees to the protection of these sites is invaluable. Our current projects to recruit new volunteers to existing dive teams will ensure that the decades of experience held by many of these groups is handed-on to the next generation of protected wreck Licensee divers, and that England's historic wreck sites continue to be protected, managed and conserved on behalf of the nation.

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Managing the Managers: State Control over the Monuments in Estonia

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Keywords: Estonia, heritage management, archaeological monuments, best practice

Abstract: The paper introduces the management system of archaeological monuments of Estonia. It focuses on the state of archaeological heritage and land usage of listed monuments. The legal background is explained while discussing the needs to enhance visitor experience on archaeological sites. A few successful and some unfavourable examples are given to show the struggle of finding balance between development, exposition and preservation.

Introduction

There are more than 6700 archaeological monuments listed in Estonia today. In addition to these, archaeological heritage is also protected among other types of monuments (architectural or historic) that include archaeological values, for example, historic churches, castles, manors and towns. In addition to the listed ones, approximately 1200 archaeological sites are registered and waiting to be listed.

Archaeological monuments comprise prehistoric, medieval and historical dwelling sites, strongholds, places related to agriculture and early industry, burial sites from the Stone Age to Early Modern eras, sacred places and groves, cup-marked stones, listed shipwrecks and other loci that have been altered during the course of human activities (e.g. bog roads).

Condition of archaeological sites

The majority of Estonian archaeological sites have structures below the ground, with little surface expression in the landscape. The vulnerability of the site is determined by its type and current use. Monuments in the areas with active use, e.g. fields, settlements, mines etc., are considered rather endangered, while sites in remote areas

without intensive land use or monuments of high local importance are less likely to be damaged.

For example, the occupation layers of rural dwelling sites are rather thin and mainly characterised by pot-sherds, animal bones, and other household waste, as well as charcoal and burnt stones from the ovens and hearths. Structural remains of the dwelling sites, in most cases, no longer survive. This is largely due to the fact that, until the 13th century, the buildings were constructed from horizontal timber logs without solid stone foundations, or had dry-stone walls without mortar. Another reason for the incomplete nature of the occupation layers and the scarcity of finds at dwelling sites is the poor condition of the sites in question. In many cases the prehistoric dwelling sites are located in areas of intensive agricultural use, or share their locations with historical villages, all of which have contributed to their vulnerability.

Archaeological sites are better-preserved in areas where the later occupation and land use has been less intensive, or which are more visible in the landscape. For example, in case of monumental sites like hill-forts and large burial cairns, dry-stone walls have often been preserved. In historical towns, fully-preserved, intact cellars, walls and even upper storeys are sometimes found hidden in the later rubble and masonry. In cases where such structures are discovered, there are often tense negotiations between different stakeholders in terms of what should and can be preserved and displayed; how the site should be managed.

Management and use

The state itself is often among the owners, but not as the National Heritage Board (NHB), but other state agencies, for example, the State Forest Management Centre, State Real Estate, museums, etc. Therefore, usually, the main stately goal is to manage the primary economic resources, while the archaeological heritage is often seen as an obstacle. Management of the sites is also complicated as the size of the monuments (0.8–40 hectares) often means there are several owners and a common management scheme is challenging.

The new Heritage Conservation Act that gained effect on 1st May, 2019, has a better grasp on the concept of heritage, its values, and principles of heritage preservation. For archaeological heritage, the Act now states that, in addition to their scientific value, archaeological monuments are also important for understanding the multiple layers of cultural landscape. This means that archaeological monuments are considered not only as scientifically important but are recognised as integral parts of the cultural landscape itself.

The use and exploration of the monuments and the cultural landscape is permitted for everyone from dawn until dusk. In cases where the monument is situated in someone's yard, the visitor must ask the homeowner's permission for access and the proprietor has the right to ask for a fee. Nevertheless, most archaeological monuments are situated on agricultural or forest lands, where access is free and the law is on the side of the visitor. The problem in remote areas is that since there is no infrastructure leading

towards the sites, most of the archaeological monuments will probably remain only a niche attraction that are rarely visited by anyone else but archaeologists. Besides the monuments with few visual assets, every county has at least five to ten larger sites that are already seen as potential tourist attractions. However, in order to promote them and attract visitors, they will need appropriate infrastructure and interpretation.

Upgrading the monuments

Any enhancements to a monument must prioritise the preservation of the monument, whereas the site may be used in accordance of modern needs. New additions must appreciate the existing values and, if possible, meet the needs of potential visitors with special needs. People responsible for the site – a private landowner, an institution or the local community – can decide if and to what extent they want to present or display. So far, most of the improvements have been project-based, encompassing the particular ambitions and needs of the project managers.

There are no stately guidelines, but the NHB coordinates activities concerning the monuments. All the restoration, renovation as well as exposition projects have to be approved by the board. In order to be approved, projects need to be prepared to the highest contemporary standard based on best practice. If needed, the NHB can also help with expertise or finances, but does not carry out any plans or projects itself.

Best practice

All of the projects concerning monuments have to be based on best-practice. The concept of best practice is rather abstract, as there are no published guidelines and it is strongly related to the object in question. Also, the objectives of heritage protection in Estonia have changed radically during the last few decades. At the moment it is advised to conserve and preserve the sites in the form that they have reached modern times. Nevertheless, reconstruction was the most popular choice as recently as 30 years ago, still creating confused expectations among those people wishing to see 'nice and proper' reconstructions rather than conserved ruins.

It is understandable that complete ruins attract less visitors than roofed structures, but nowadays, the goal of heritage protection is to show how the site has reached the present day; new buildings must be distinctive, suitable to the environment, not dominate the monument(s) and the additions must be reversible. In archaeology, hill-forts and fortresses are the most visited sites and often used for gatherings, therefore, the pressure to enhance, rebuild or reconstruct is definitely existing. Even though the NHB has agreed upon some guiding principles, best-practice and solutions are discussed separately for each project.

Recent developments and projects

In recent years, there have been several large-scale development plans on different archaeological monuments. Most of the projects have not been carried out as the NHB

has disapproved of large portions of the proposals. The topic is briefly discussed based on a few examples.

Medieval castles

A medieval stone castle at Rakvere, acting as a museum, wished to rebuild and add structures to extend their roofed exhibition and activity space. The additions were to be constructed using wooden planks, which would make it both reversible and readily distinguishable from the original masonry. The problem was that even though the medieval castle already had several reconstructed towers and walls from the earlier 20th century and there were definitely some parts based on the architects' imagination, most of the restoration had been performed according to historical documentation and embraced the preserved structures. Many of new additions, even though reversible, would have covered up the historical layers and added something that had never existed. Therefore, the National Heritage Board was not able to agree with the museum to create extra amenities on the castle site.

Nevertheless, there are several other medieval stone castles that are preserved in a much better state and did not require radical restoration works to achieve a roofed building. Even then, however, the restoration architects have decided to change the view according to their vision of the castle during a specific era. For example, the bishop's castle in Kuressaare was fairly intact prior to the restoration works in 1970s, but according to the restoration project from 1971, the medieval form of the castle was restored;¹ a buttress was added and one of the corner towers was built higher. This would not be acceptable by today's standards, but as this is something already existing and its demolition would deteriorate the state of the medieval structures, it will most probably remain as it is. In contrast to the slightly excessive restoration of the 1970s, the moat and bastions of the castle were cleaned of vegetation for display purposes and recent restoration of the bastions was conducted according to

Figure 1. Kuressaare castle convent in 1965 (NHB archives, photo collection of Veljo Ranniku) and in 2011 (NHB, Keidi Saks)



¹ ERA.T-76.1.1155, https://register.muinas.ee/ftp/DIGI_2013/pdf/eraT-o-76_001_0001155.pdf

the highest contemporary standards. Changes to the bastion zone have been both delicate and necessary due to health and safety regulations.

Underground structures

In addition to above-ground architecture, it is advised to mark the location of walls and structures that are known, but no longer visible. Former building lines have been displayed in different ways. It is mostly understood that reconstruction is not always necessary in order to comprehend earlier development stages or show the grandeur of historical structures. After World War II bombings, some facades of the ruined houses in the city centres were not demolished, but many neighbourhoods were torn down. Nowadays, in most towns, the destroyed building lines are marked on the pavement. In Tallinn, a whole medieval street called Nõelasilm (Needle's Eye), once filled with World War II ruins, was excavated and restored in 2007 adding medieval milieu to the Old Town area that was most affected by the bombings.

Hill-forts and ruins

In addition to the medieval towns, there are several projects planning to enhance the visitor's experience of prehistoric hillforts. The State Forest Management Centre has chosen a more subtle way to add or repair modern infrastructure and information

Figure 2. Vastseliina 'Pilgrim house' and bishop's castle ruins (Ulla Kadakas)



boards. Some communities want to do more, and even though the goal is well-intentioned, the execution of the proposed projects would create 'reconstructions' of structures that may have never existed, damage the actual monument, or drastically change its character.

Another good example is the ruined bishop's castle in Vastseliina where new museum space was created with a new visitor centre, 'Pilgrim house', slightly off the castle site (but on a surprisingly large cemetery). With the emphasis set on pilgrimage, it was planned to also restore and cover the ruins of the Holy Cross Chapel, but as its remaining walls turned out to be too brittle, the chapel area was filled with sand and conserved. The holy site was instead reconstructed on the conserved ruins as a flat stage area with a simple cross and altar. With new additions, the maintenance and integrity of the monument are just as important as the visitor experience and turning an archaeological site into a theme park should be avoided.

Conclusion

To conclude, it seems that the archaeological monuments are accessible, but not attractive enough for the general public. The monuments often have a large area, meaning that there are several owners with different understanding what to do with the site. Building tradition in combination with later extensive land use has resulted in a fragile and poorly preserved occupation layer in rural areas.

While trying to make the monuments more attractive and enhance the accessibility, owners often plan actions that are potentially damaging to the site, or want to reconstruct something that has never been there. It has been poorly explained how restoration principles have changed quite drastically during only a few decades and the expectations of the owners and developers are often very different from the ones of heritage officials. As the NHB offers mainly consultation, but almost no financial support in terms of project implementation, it is difficult to find a balanced solution for each project and monument.

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Seddin, Freyenstein and Wittstock. Research, Presentation and Sustainable Site Management in Northern Brandenburg

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Keywords: Brandenburg, touristic route, Bronze Age, abandoned medieval town, 17th century battlefield

Abstract: Brandenburg State Authorities for Heritage Management and State Museum of Archaeology, together with local authorities, developed a project, to integrate various important archaeological sites into a shared cultural tourism concept – thus the Prignitz Archaeological Route was formed. This paper highlights three of the seven sites that are assembled in the project: The Bronze Age grave mound from 800 BC in Seddin, the abandoned town of the 12th and 13th century in Freyenstein and the battlefield from 1636 near Wittstock. Each place had to be dealt with applying three main approaches: heritage management, research and tourism development.

The Archaeological Route

The State of Brandenburg covers an area of around 30,000 sq km, surrounding Berlin City. However, the focus of this paper is the more remote areas in the north western parts of our state (Figure 1). The Prignitz is a historic region halfway between Berlin and Hamburg. Its name still survives in the names of County Prignitz and County Ostprignitz-Ruppin. For approximately 15 years, the Brandenburg State Authorities for Heritage Management and State Museum of Archaeology (BLDAM), together with the local authorities, have been working on a touristic route to discover archaeology (http://landkreis-prignitz.de/de/zu-gast-im-landkreis/tourismus/zao/zao_inhalt.php). It is based on remarkable sites and monuments with important archaeological or historical information. The Prignitz Archaeological Route (Figure 2) includes the Slavonic-German stronghold at Lenzen, a megalithic tomb at Mellen, the Bronze Age King's Grave at Seddin, the Bronze Age features of the so called 'Teufelsberg' near Wolfshagen, a medieval castle in Meyenburg, an abandoned town in Freyenstein and



Figure 1. Map of Brandenburg and Prignitz (F. Schopper/C. Krauskopf, BLDAM)

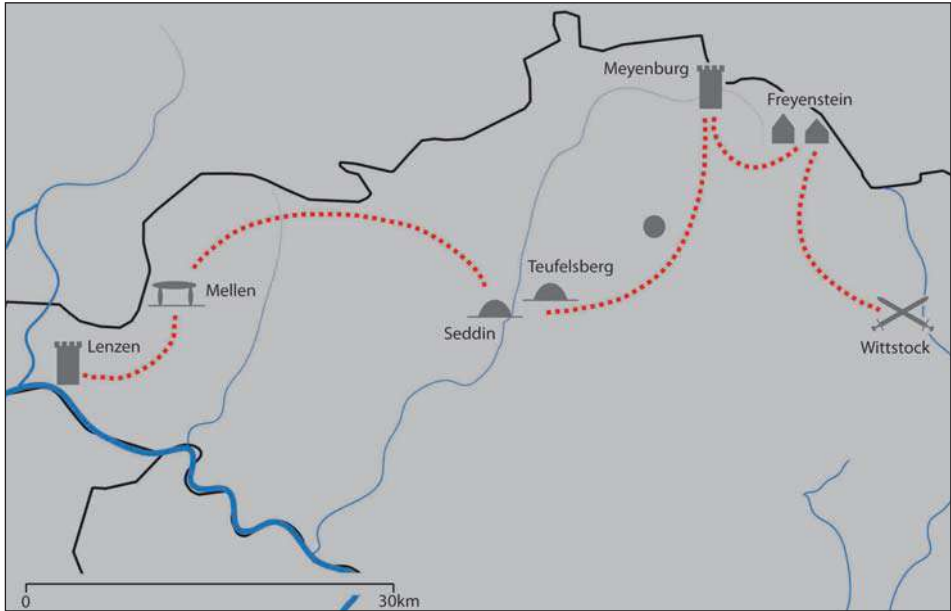
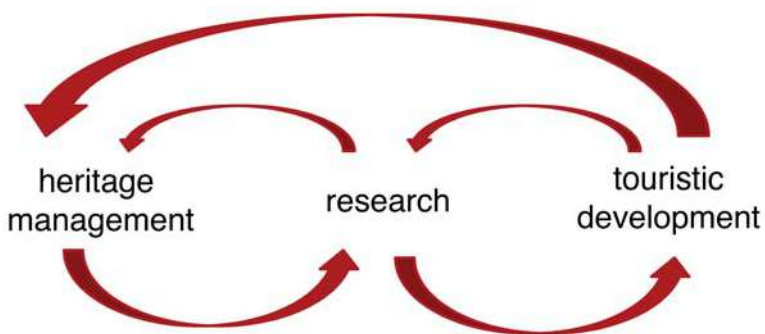


Figure 2. Touristic Route 'Zeitschätze Prignitz – ZAO' (F. Schopper/C. Krauskopf, BLDAM)

the 17th century battlefield near Wittstock. The pace of development and research possibilities are differing from site to site. Therefore, this paper concentrates on the three, thus far, most-developed sites of Seddin, Freyenstein and Wittstock.

Each place had to be dealt with applying three main approaches (Figure 3). Firstly, there was the heritage management and administration work. They had to lay out the

Figure 3. Three approaches to the sites (F. Schopper, BLDAM)



track and make ends meet regarding protection, admissions and funding. Secondly, there was the research phase, including a lot of effort to qualify older information on the sites and to add new insights. Thirdly there was the touristic development, which involved the erection of sign posts and the construction of cycle tracks, as well as creating commercial touristic products, branding and advertising efforts. Museum work had to bring the stories to the people. Of course, all three approaches are very much linked together. The ropes of the framework went back and forth. This paper can only reflect a small part of the workload, nevertheless it hopefully will give an insight into the structures of the archaeological monuments and a short outline of the complex projects.

An important step was the so-called 'Prignitzer Erklärung' (Prignitz declaration), signed on 28th May, 2009. It is a letter of intent signed by the county authorities, the mayors, the touristic board, NGOs and the State Authorities for Heritage Management and the State Museum of Archaeology to declare their commitment to the project.

Seddin Bronze Age burial mound

Close to the village of Seddin is an impressive late Bronze Age burial mound, known as the King's Grave. The dimensions of the mound, with a diameter of 63m and a height

Figure 4. King's Grave of Seddin (D. Sommer, BLDAM)

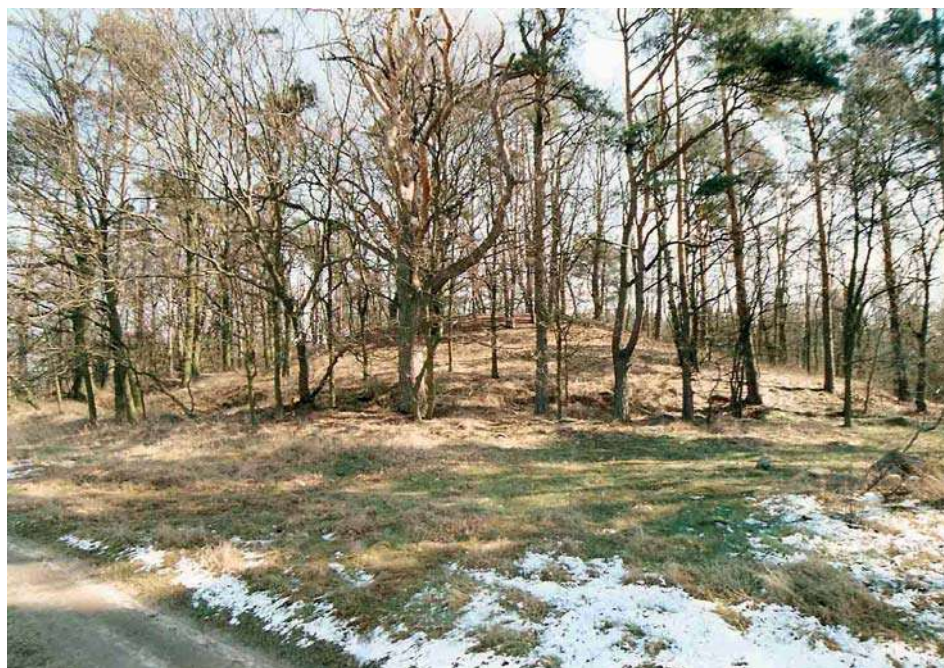




Figure 5. Finds from the King's Grave of Seddin (D. Sommer, BLDAM)

of approximately 10m, is quite unique for that period (Figure 4). As far as we know, it contains only a single grave chamber. Even new geophysical methods gave no hints of further graves. Grave goods and radiocarbon analysis dates the mound shortly before 800 BC (Figure 5). Compared to the dimensions of the mound, the collection of ceramics is astonishingly limited, but compared with other graves of the Nordic Bronze Age (usually only one or two vessels), the collection is of considerable size. Quite remarkable is the outer urn, which was covered with a ceramic cap and fixed with ceramic nails. Within this was the inner urn, a bronze amphora, containing burnt bones. Its cap was a bronze phallera. Axe heads, a knife, rings, pearls, a razorblade, a bronze comb, a sword, a lancet, small bronze vessels and iron pins demonstrate the importance of the deceased. The stone chamber was constructed using glacial stones, and had a corbelled roof. The walls were plastered with clay and painted (Figure 6). New analysis of the plaster material caused a dispute about its deliberate mixture with chalk to enhance its appearance (Knoll et al. 2014; Schlütter et al. 2018). There was no entrance to the chamber, which was sealed and covered by the earth and stone mound.

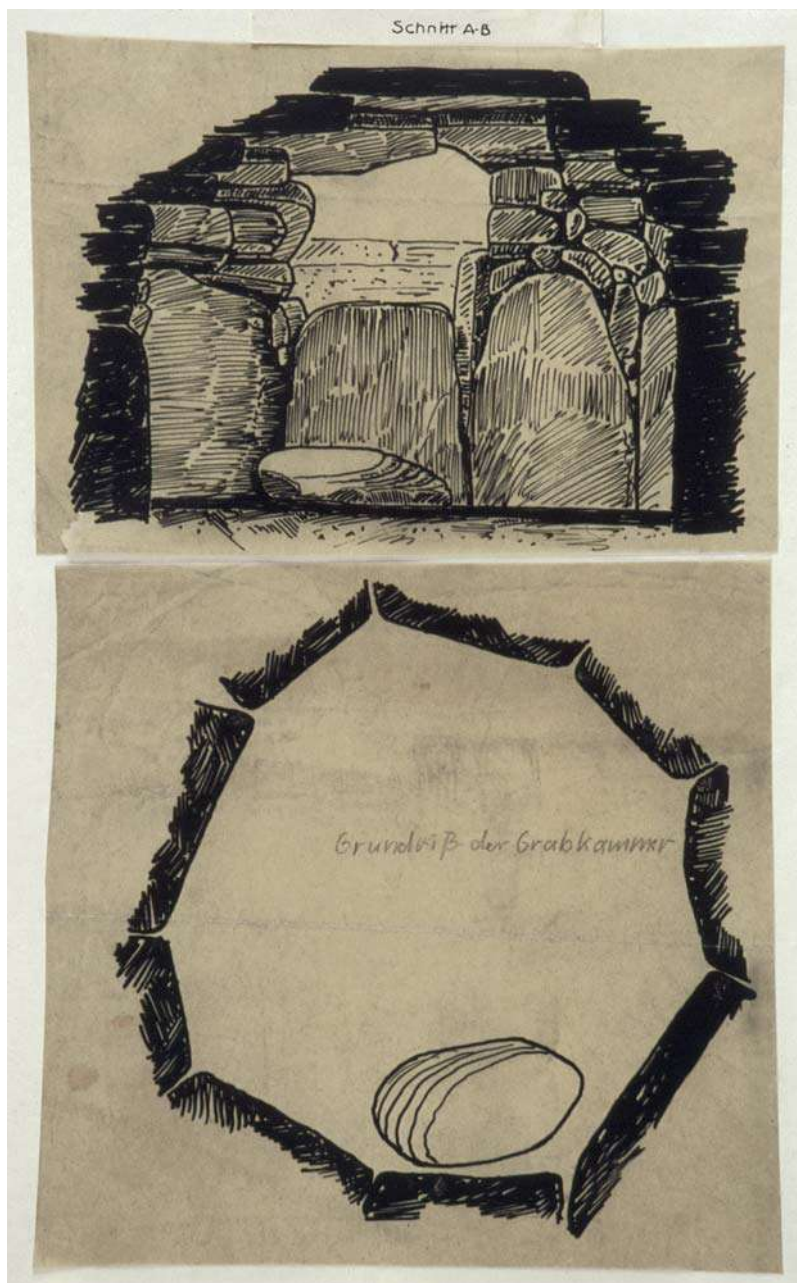


Figure. 6. Stone chamber with plastered wall and corbelled roof. Drawing by Dr. Jung, 1900 (Stiftung Stadtmuseum Berlin)



Figure 7. Venerable persons and archaeologists from Berlin visit the find spot, 1899 (Stiftung Stadtmuseum Berlin)

These stones made the mound a promising site for economic exploitation in the late 19th century. The then privately owned mound was used as a stone quarry for street paving. After the unexpected discovery of the grave chamber and its remarkable contents in 1899, the museum in Berlin was informed and the site was inspected by several eminent archaeologists (Figure 7). In an unprecedented event, the area was bought as an archaeological monument by the Brandenburg Province of the Prussian state to stop the quarry activities and preserve the site for the future. Today it is property of the Community of Groß Pankow.

When the grave was discovered the mound was almost bare of trees and its surface had been damaged by the quarrying activities. Having bought the mound, the province authorities proceeded to smooth the surface. Due to conceptions of the time, they even planted trees on top of it to make it look better. With 19th-century Mediterranean discoveries in mind, they built a modern, dromos-shaped entrance to the originally sealed grave chamber. After that, the site itself was left practically untouched for almost 100 years.

Subsequent research work concentrated almost entirely on the finds. Alfred Kiekebusch was engaged to publish the finds and parts of the documentation, which eventually took place almost 30 years after the discovery (Kiekebusch 1928). The grave was famous amongst the general public (Pastenaci 1935; Kitzler 1936) as well as by scholars, who frequently referred to the finds and the elaborate architecture of the grave by quoting Kiekebusch. In the mid-1970s, the East German archaeologist, Harry Wüstemann, published a paper on the social structure of the Bronze Age societies in the Seddin region (Wüstemann 1974).

To commemorate the discovery and evaluate its impact on Bronze Age research in Germany the BLDAM organised an anniversary conference in 1999. The presented papers and the discussions made it very clear that it was due time to revive research on the material and the original documentation, as well as to apply new methods to reveal further information (Schopper 2000; Kunow 2003). The condition and appearance of the site was quite inadequate for the importance of the King's Grave and its enormous mound.

In the aftermath of the conference, Jens May, an archaeologist within the BLDAM, made an elaborate plan of necessary steps to preserve and investigate the mound, as well as to enhance its importance in terms of cultural tourism (May 2003). Furthermore, he re-assessed older information (May 2005). From the beginning of the new approach to Seddin, there was significant interest amongst the Prignitz county council, in particular Ortrud Effenberger (Head of the Counties Heritage unit) and Edelgard Schimko (Head of Economy and Development Department of Prignitz County). Likewise the mayor of Groß Pankow, Thomas Brandt, and his community administration made a big effort to enhance the project. In addition to these three main partners (County of Prignitz, Community of Groß Pankow, Brandenburg State Authorities for Heritage Management and State Museum of Archaeology), further partners became involved and provided varying amount of support (a short list: Brandenburg State Ministry of Culture, Research and Science; Freie Universität Berlin; Hochschule für Technik und Wirtschaft, Berlin; Beuth Hochschule für Technik, Berlin; Georg-August-Universität Göttingen; Eurasien Abteilung des Deutschen des Archäologischen Instituts, DFG (German Research Fund), EU 'Leader' Development Fund; Students; local Volunteers; and so on).

A significant problem was the fact that the King's Grave was nearly invisible beneath the trees planted in the late 19th century and the underwood that had taken hold of the site since then. Due to German laws, a forest has to stay a forest and the area of the mound is defined as forest. Negotiations with forest wardens and environmental authorities resulted in the felling of 70% of the trees, while it was agreed that 30% of the trees would be retained. This was also important because a group of locals was very fond of the mound with the trees and started an international petition against tree cutting. The compromise is a visible mound with a few trees, which provide a park-like appearance.

To understand the site and its surroundings in greater detail, a programme of surveying was carried out using modern methods, such as airborne laser scanning, drone based photography, geophysics and so on. The mound is on a shallow ridge between little



Figure 8. A selection of activities on the site of Seddin (F. Schopper/C. Krauskopf, BLDAM)

rivulets. The stone quarry of the 19th century destroyed quite a lot. Adjacent to the mound a line of pits with burned stone was excavated.

In addition to the county-led excavations, Svend Hansen from the German Archaeological Institute and the present author were lucky to include the research work on Seddin in the Berlin Excellence Cluster of the German Research Fund 'TOPOI', which allowed us to intensify the research work for 6 years. Quite an amount of publication work was done in several articles and books (May 2018, footnote 17).

To develop Seddin within the touristic route a lot of different steps were necessary. They ranged from international conferences to visitations of politicians, and provision of information panels to the construction of cycle tracks (Figure 8). One of the most important steps was the declaration of an archaeological reservation by Brandenburg State Cabinet. The Ministry, following the proposal of the Brandenburg State Authorities for Heritage Management and State Museum of Archaeology, suggested a wider area for the reservation in order to understand the King's Grave within the context of the regional Bronze Age. Not far from Seddin you find other, older Bronze Age graves with swords and traces of large grave mounds. A few kilometres away is a fortification, which was previously not well-dated (Figure 9). Following a programme of survey and excavation, we are now able to date the ramparts of the so called 'Schwedenschanze' to the Bronze Age.

In the environs of Seddin we mapped and classified all Bronze Age remains, especially grave mounds. Of course, most of them are not precisely dated, but in this area grave mounds were only built during the Bronze Age period. To preserve the landscape and its Bronze Age remains around Seddin, the State Cabinet of Brandenburg established

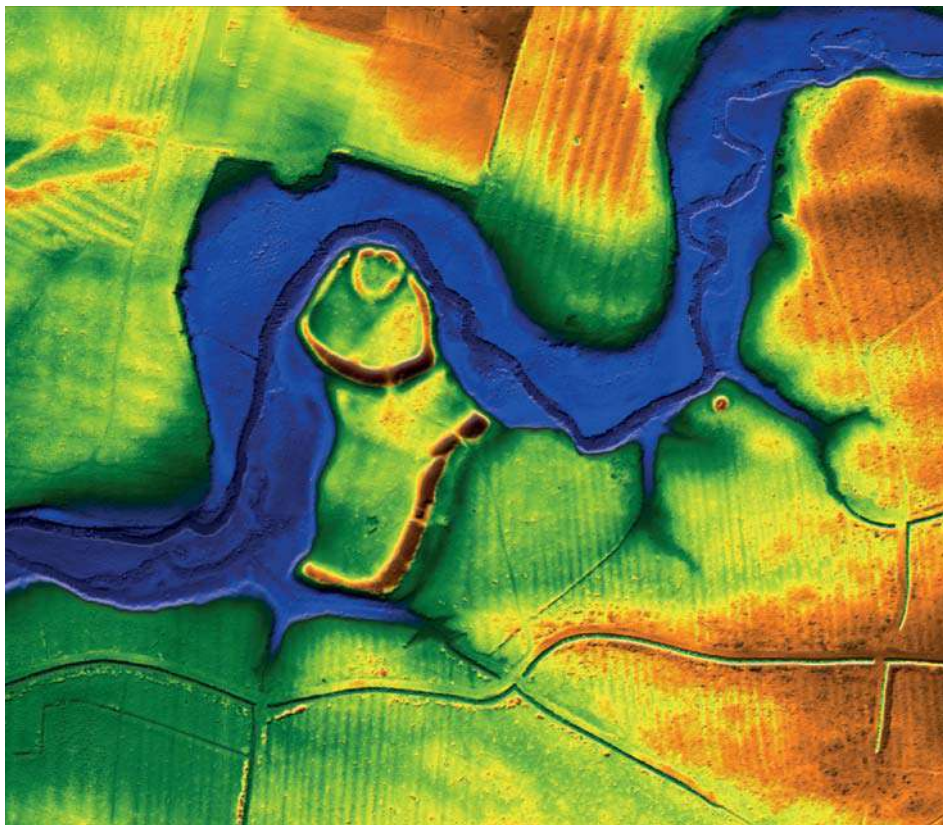


Figure 9. Plan of the 'Schwedenschanze' from Horst (Th. Hauptmann)

an archaeological reservation named 'Siedlungs- und Ritualraum Königsgrab Seddin' ('settlement area and ritual landscape of the King's Grave of Seddin'). Comprising 5661 hectares, or 17,000 acres, it is nearly 60 sq km and is one of the largest archaeological reserves in Germany (Figure 10).

Feyenstein, abandoned medieval town

About 40km northeast of Seddin is the small, picturesque town of Freyenstein, with a market place, a church and even two palaces. It looks quite old, but it is, in fact, the new town of Freyenstein, founded in 1287. The old town of Freyenstein, which existed between 1100 and 1280, was double the size and up the hill from the new town, and was invisible and almost forgotten. Only inscriptions on older maps and parchment documents preserved limited information about the old town. The vulnerable position of Freyenstein, on the border between Brandenburg and Mecklenburg, resulted in abandonment of the old town, and its subsequent replacement by a smaller town on

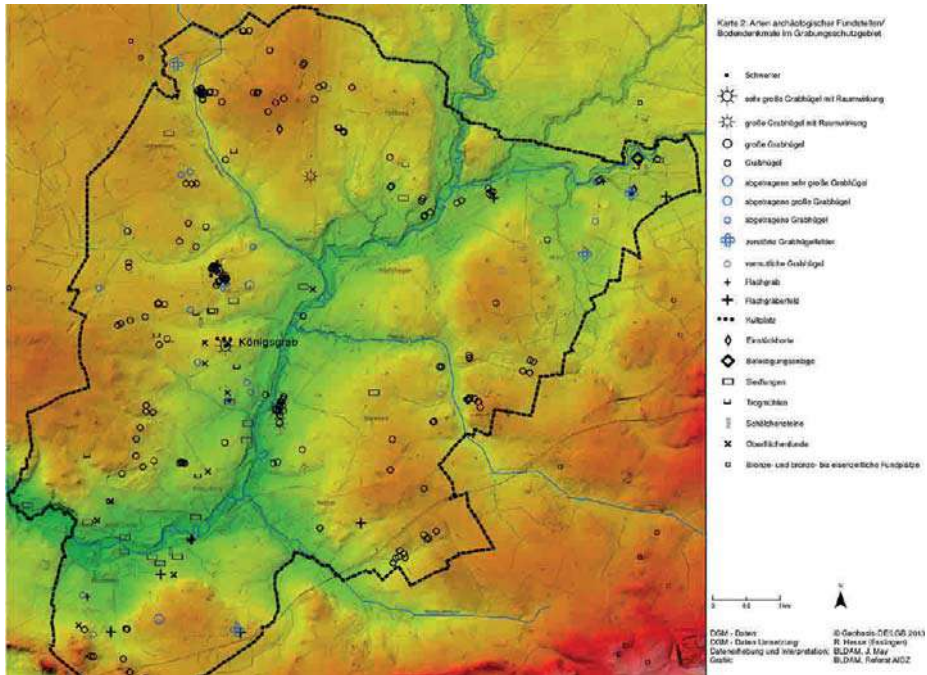


Figure 10. Plan of the archaeological reservation 'settlement area and ritual landscape of the King's Grave of Seddin' (BLDAM)

a new site. In contrast to virtually all other Central European towns, the area of the old town was used almost exclusively for agricultural purposes. This has resulted in an unusual degree of preservation of subsurface archaeology and a unique treasure for modern archaeologists. Hardly any part of the old town, which lays in an open area surrounded by a band of green where the old town wall ran (Figure 11), was impacted by subsequent building activity or infrastructural projects. All subsurface structures of the old town, including stone cellars and paved roads, remained intact on the site.

Archaeological research started in the 1980s, when Christa and Fritz Plate excavated some stone cellars. One cellar contained a great deal of ceramics, including drinking vessels, jugs and jars, giving the impression that it once belonged to an inn (Figure 12). While these excavations were limited, in the early 21st century, Thomas Schenk used geophysical survey to reveal the general outline of the town, with its rows of houses, the market place and the wide main road. He was even able to find an old castle, which was completely unknown from the written sources (Figure 13). This new town map showed the archaeological potential of the site for preservation and research, as well as for cultural- and heritage-based tourism.



Figure 11. Aerial photography of Freyenstein. Foreground 'Old Town'; background 'New Town' (J. Wacker, BLDAM)

Figure 12. Drinking vessels, jugs and jar from a medieval stone cellar in Freyenstein (D. Sommer, BLDAM)



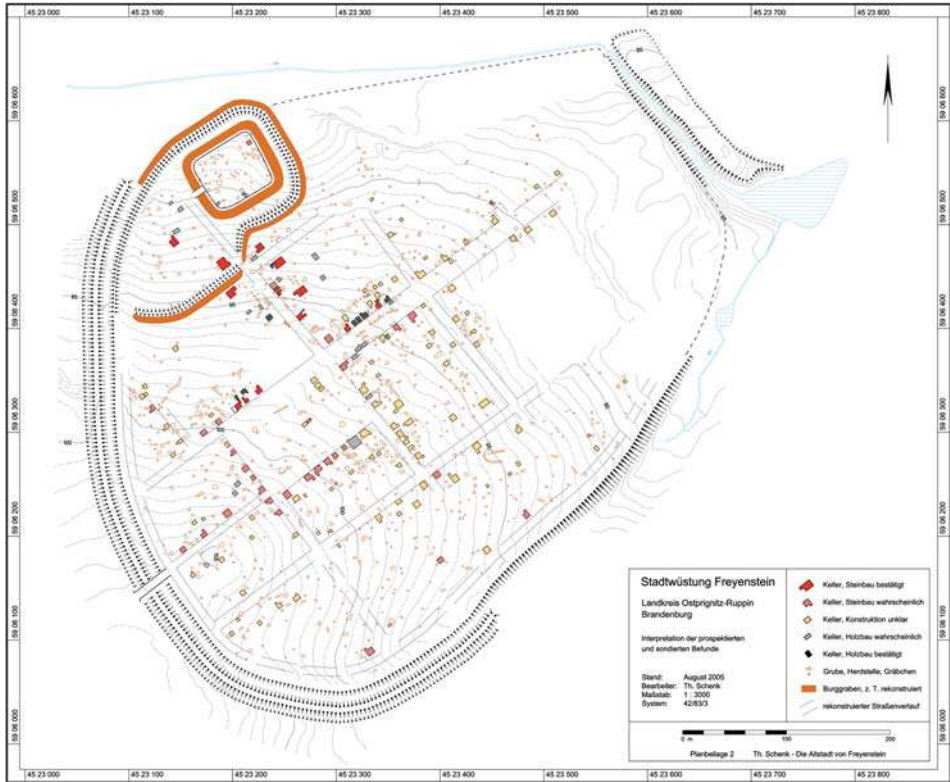


Figure 13. Map of the Old Town according to geophysical examination (T. Schenk 2009)

Fortunately, the community of Wittstock, which Freyenstein is a part of, was really interested in developing the site. Especially the mayor, Jörg Germann, was a great supporter and local champion of the project.

In order to develop such a site, it is necessary to have long-term access to the land or, ideally, to own it outright. The area of the old town, about 25 hectares, was privately owned by various landowners, who frequently leased it to others for use. Following a lot of discussions and repeated efforts, the community of Wittstock managed to buy most of the land. In parts of the site where this proved to be impossible, long-term leasing contracts were signed. Agriculture continues in small parts of the site, but is carefully and without deep ploughing. As a result, destruction of archaeological features is prevented or, at least, minimized.

In one corner of the old town there is a public school building, dating from the 1950s. Given the fact that it was closed a few years ago, but still retained facilities such as toilets, a car park with enough space for buses and former class rooms that could



Figure 14. Steel children a playing in the streets (BLDAM)

Figure 15. The new town gate with its view point platform (C. Krauskopf, BLDAM)



be adapted as exhibition spaces, it was readily and cost-effectively adapted as a temporary entrance to the site.

Step by step, an archaeological park was developed with funding from the European Union and the state of Brandenburg, as well as from the community of Wittstock itself. To present Thomas Schenk's important research to the public, an archaeological park was established and information about the site, as well as living conditions in the 12th and 13th centuries, is scattered around the overwhelmingly empty space. Iron children are playing (Figure 14), a merchant is coming along and you can walk around the marketplace between stalls. Here and there, shelters for excavated stone cellars are built. Citations of medieval architecture explain the structure of the town. The highest point of the site is marked by a new town gate (Figure 15). The platform provides a wonderful viewpoint to look over the old town and also the adjoining medieval 'new town' that continues to be inhabited.

Wittstock Battlefield from 1636

Not far from Freyenstein, within the same community, is the battlefield of Wittstock. In the autumn of 1636, during the throes of the Thirty Years War, the Swedes fought against the armies of the German empire. The Swedes won this significant battle, though the war lasted 12 more years.

Of course, the battle of Wittstock was well-known and historians had a good idea of where the battlefield was located, but there was nothing recognisable in the field and no archaeological finds had been recorded here. This changed when, during sand quarry

Figure 16. Buried in file. Mass Grave of 1636 near Wittstock (A. Grothe, BLDAM)





Figure 17. Exhibition on the battle of 1636 near Wittstock in the State Museum of Archaeology, Brandenburg City (D. Sommer, BLDAM)



Figure 18. Re-enactment during the exhibition in the State Museum of Archaeology (C. Krauskopf, BLDAM)



Figure 19. Spin-off exhibition on the battlefield site near Wittstock located in an old water reservoir (BLDAM)

activities, at the foot of a hill called 'Scharfenberg' south of Wittstock, for the first time ever in Central Europe a mass grave of soldiers from the 17th century was discovered. The remains of 120 soldiers were found packed in a grave-pit. Hardly any traces of clothes were found. Friend and foe lay side by side, naked as they were (Figure 16).

The newly discovered grave represented a substantial archaeological trace of this important battle and was an inspiring focal point to commemorate it. Fortunately, the local administration and the mayor already had such a positive experience with Freyenstein and urged us to do more with the site. Therefore, we decided to include the battlefield within the Prignitz Archaeological Route.

From the outset, it was clear that there are no original features, such as ditches or ramparts, to illustrate the battlefield. So we decided to tell the story of the soldiers from Sweden, Finland, Scotland, Spain, Austria, Saxonia, Bavaria and Croatia in a large exhibition. In the State Museum of Archaeology in Brandenburg City we showed the living conditions and warfare of the 17th century (Figure 17). The exhibition, which was accompanied by a catalogue (Eickhoff et al. 2013), conferences (Eickhoff & Schopper 2014) and re-enactments (Figure 18), was a great success in Brandenburg, and



Figure 20. Information platform on the battlefield site (BLDAM)

subsequently travelled throughout major German museums (Dresden, Munich, Stade, Trier). Overall, we had more than 150,000 visitors.

This very much illustrated the importance of the archaeological site to the state administration and the broader public, a fact that made funding a lot easier. Additionally, it was possible to use many of the presentation ideas and real life experience of the big exhibition to establish a spin-off exhibition (Figure 19) right on the battle site. Today, an old water reservoir from the 1970s on the highest point of the battle field hosts various information panels about the battle and the archaeological approach to the site. The above ground parts of the reservoir serve as a viewing platform (Figure 20).

Conclusion

Hopefully this paper gives a slight idea of our heritage management approaches of these three major sites. Some aspects are similar. Some methods were adjusted. The results differ.

When you want to have a closer look, visit and see our treasures of time.

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Investments for Touristic Purposes at Archaeological Sites and Historical Monuments

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Keywords: town wall, historical garden, monument protection in Hungary, touristic investments, Sárospatak, Szabadkígyós

Abstract: The proper management of monuments and archaeological sites as well as the possibilities of presenting them to the wider public have been critical issues for years. The discussions on monument protection have focused mainly on the problems posed by the relationship of the research of the buildings and their surroundings to investments. In cultural tourism, the interests and needs of these two fields meet or clash. In Hungary, this is most conspicuous in relation to the so-called heritage developments undertaken within the framework of the National Program for Mansions and Castles, coordinated by the National Heritage Protection and Development Ltd (Nemzeti Örökségvédelmi és Fejlesztési Nkft, NÖF). Two sites, Sárospatak and Szabadkígyós, are presented in this paper as examples of archaeological research projects undertaken in preparation for the further development of an area.

Introduction

The period after WWII is traditionally viewed as the golden age of Hungarian monument protection; both the institutional and legal framework were progressive, even in a European context. However, the considerable success of this era is somewhat shadowed by its negative consequences, which remained unaddressed after the political regime change following the collapse of the soviet system. Transformations made necessary by the changing functions of sites, in-building, the division of these areas, as well as the lack of proper professional management has had an impact on the sites. Long-term strategies are crucial, but hampered by the present project-based financing system. The tasks of the National Program for Mansions and Castles have been divided between several institutions and state-owned companies:

project planning and coordination belongs to NÖF, while research-related tasks are subdivided. Academic documentation of garden history is done by professionals at NÖF, the remains of walls are researched by the Heritage Protection Documentation Center, Hungarian Museum of Architecture, Hungarian Academy of Arts (Magyar Művészeti Akadémia Magyar Építészeti Múzeum Műemlékvédelmi Dokumentációs Központja, MÉM-MDK), while restoration of the artefacts and monuments as well as the preliminary archaeological documentation (Előzetes Régészeti Dokumentációk, ERD) are undertaken by the Castle Headquarters Integrated Center of Regional Development Ltd (Várkapitányság Integrált Területfejlesztési Központ Nonprofit Zrt., Várkapitányság Nkft.).

At some of the sites involved in the program, archaeological surveys proved to be a precondition for developing any concept on further planning. These explorations were undertaken as ERD-related test excavations. Castles were explored through test pits, while the study of historical gardens was carried out in cooperation with landscape architects at NÖF, as well as heritage protection specialist András Koppány (MMA MÉM-MDK).

Research on the western town wall in Sárospatak

A promenade is planned to be built on the western side of the wall that once encircled the early modern town of Sárospatak. This promenade would connect the area with the already restored castle park. Accordingly, test excavations were made in two locations: on the external side of the western town wall, in the area of the so-called Lion Bastion in the centre, and on the internal side of the same wall, in the elevated area of the so-called cannon hill. The aim was to identify the closure and the floor level of the zwinger – the open area between the two defensive walls – and its relation to the Lion Bastion. The promenade's plans were made with the ambition that its line and floor level should reflect the structure of the old fortification, and there should be a passage between the higher floor inside the town wall and the lower floor outside it.

The settlement is situated on the right bank of the Bodrog Stream. After the battle of Mohács in 1526, in which the Turkish armies decisively defeated the forces of the Hungarian Kingdom, Péter Perényi was one of Hungary's most powerful aristocrats. The earlier owner of the town, Antal Pálóczi, who was the last male scion of his family, fell at Mohács. His estates were arbitrarily seized by Péter Perényi. As the keeper of the crown, he was soon given deeds both by King John Szapolyai and the rival king Ferdinand of Habsburg, which confirmed him in the possession of the landed property that he had taken over on his own initiative. He received these estates in reward for having lent the crown for the coronation ceremonies in both rulers. The castle of Siklós and Trebisov (today in Slovakia), which were the earlier residences of the Perényi family, were in both dangerous land because of the Turks and were not suitable for well-protected dwellings. With the taking of Sárospatak, he began to build a secure family seat around 1534. The castle with the Red Tower was certainly finished by 1537, because in May that year he dated a letter "from our castle of Patak". In the eastern town wall, there is the Water Gate. According to the inscription above the gate, the fortification was fully completed in 1541 (Feld & Szekér 1994, 182; Feld 2000; Détshy 1970, 8–9).

In the 17th century the town was in the ownership of the Rákóczi family, and this period is seen as a second heyday, when large-scale constructions and modernization started, and the castle and the fortifications were enlarged. However, in 1702 the Habsburg Chamber ordered the castle to be blown up and made useless. During the 18th–19th centuries, the owners of the complex transformed the Red Tower and the castle wings into a romantic-style aristocratic mansion, and their environment into a landscape park. The moat around the walls was filled up; its line is perceptible today on the western side (Nováki et al. 2007, 102; 104–105) (Figure 1).

Systematic archaeological research started in Sárospatak in 1958, preceding the restoration works in the town. These excavations focused primarily on the fortified castle in the south-eastern corner of the settlement. The large-scale reconstruction project made it possible for archaeologists Katalin Dankó, István Feld and Csaba László to undertake a research of the Red Tower's walls, using test pits. At the same time, further archaeological surveys were conducted in several locations of the town. The north-western New Bastion on the western town wall – important for the 2018 excavations –, the south-western corner bastion, and the Matthew Bastion north of it in the castle garden, were also excavated. These were also restored after their scientific exploration (Nováki et al. 2007, 103–104). North of the Matthew Bastion, the Lion Bastion was partially excavated by Katalin Dankó in 1983. This project showed that there was a double defensive wall on the northern side of the western town wall and clarified the relationship between the zwinger's wall and an earlier, rectangular bastion erected in the Perényi period. The upper floor of this latter, two-story building consisted of two barrel-vaulted parts and a small opening between them, which was later walled up. The two stories were divided by a flat ceiling. On the northern and southern sides, there were three loopholes each on both floors. A primary source of pivotal importance for the research and identification of these remains is a survey completed around 1570 by Nicolo Angelini, an Italian military engineer; this document recorded the fortifications built during the ownership of the Perényi family (Figure 2). The 17th-century structures are evidenced by an 18th-century ground plan of the town, which was also helpful when the large, pentagonal Lion Bastion was identified. An earlier bastion was incorporated into the south-eastern corner of the Lion Bastion. The two construction phases of the defence system differ in terms of building materials as well. While limestone was used in the 16th century, the later builders preferred grey andesite (Dankó 1984, 242–244; 245).

Besides the archaeological and architectural researches, the written sources of the town and the castle were also collected by Mihály Détsky, the architect of the first monumental restoration of the castle (Détsky 1966; Détsky 2008). For many years, the Red Tower was identified with the castle named *castrum Patak*, *castrum Potak* or *castrum Potok* in some 13–14th-century sources. This identification inveterated in the historical-architectural literature for a long time. In 1966, Mihály Détsky proved that the 13th-century castle named Patak today stands on the Castle Hill above the nearby located Sátoraljaújhely. This castle had several owners in the 14th–15th century and finally it became also Péter Perényi's estate after 1526 (Détsky 1966, 177–197; Détsky 2008, 7–26; Ringer 2017).

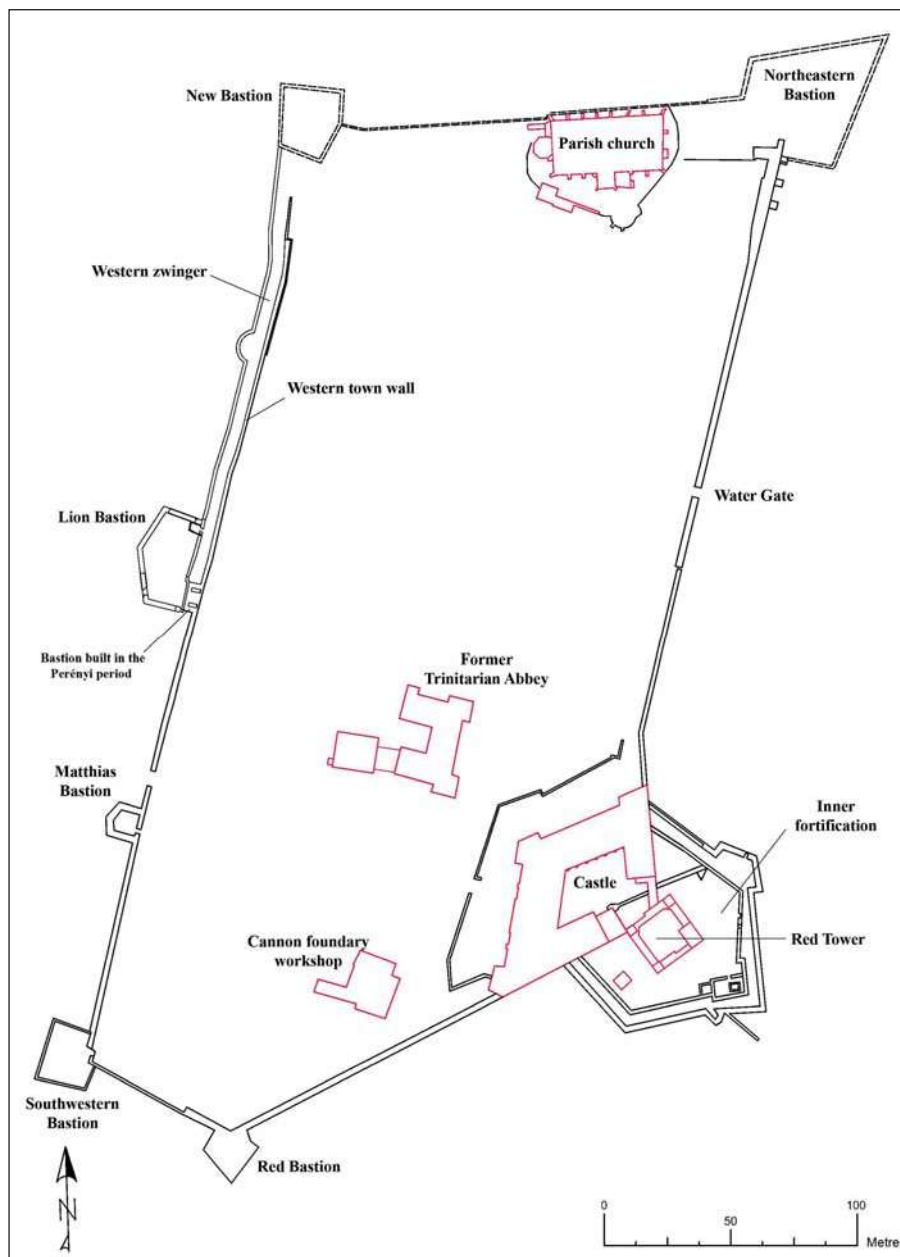


Figure 1. The ground plan of the historical town of Sáropatak with the fortifications from the Early Modern Period and the castle in the southeastern corner
(by Róbert Fülöpp, László Pokorni, Péter Szökrön)

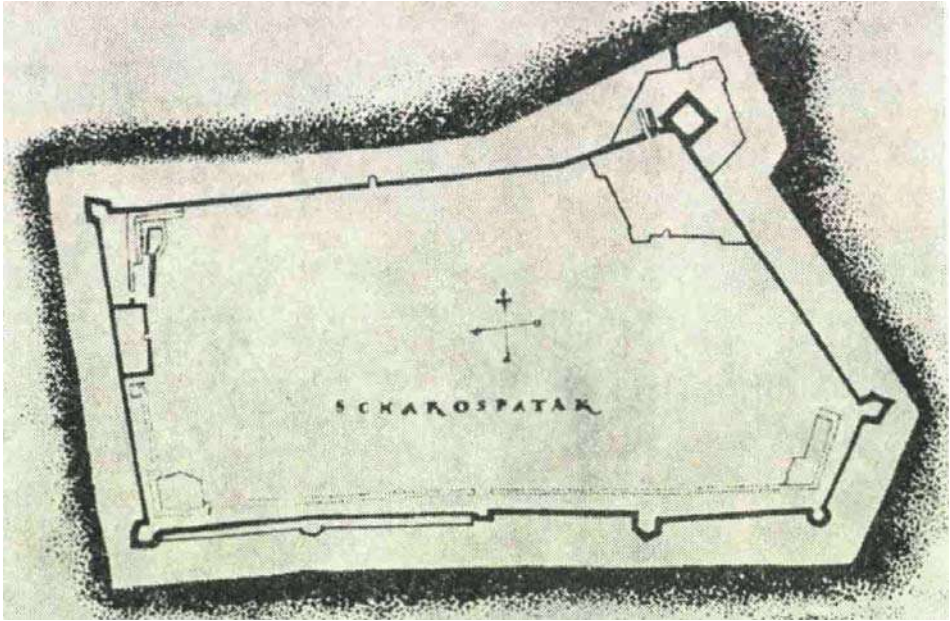


Figure 2. Survey by the Italian military engineer Nicolo Angelini, around 1570.
(Source: Karlsruhe National Archives)

During the 2018 test excavation (Figure 3), one trench (1st trench) was dug at the southern wall of the Lion Bastion's Perényi-period predecessor, precisely at the location where it abutted on the western town wall. Here it was possible to investigate the relationship between the southern wall of the later bastion and the earlier building. The southwestern corner of the earlier bastion, the southern end of the zwinger wall that was built on the early bastion's western side, and the eastern end of the Lion Bastion's southern wall came to light first. Connections between the walls, at a depth of 2m below present-day floor level, are interpreted as follows (Figure 4):

1. The western town wall, built in the Perényi Period, represents the earliest building phase. The Perényi Period bastion and the western town wall are separated; the ashlar overlay that fortified the bastion's walls does not continue on the town wall (Figures 5 and 6).
2. In the next phase, the zwinger was built on the western side of the Perényi Period bastion. According to Angelini's documentation, the zwinger continued north of the Perényi period bastion in a corner, widening the space between the two defensive walls. The excavation revealed that the zwinger continues on the southern side of the bastion of the Perényi period in a similar projection; however, it is still uncertain how the northern and southern segments of the zwinger relate to each other. Present research suggests that the zwinger's southern part was finished earlier than its northern half, and the latter was

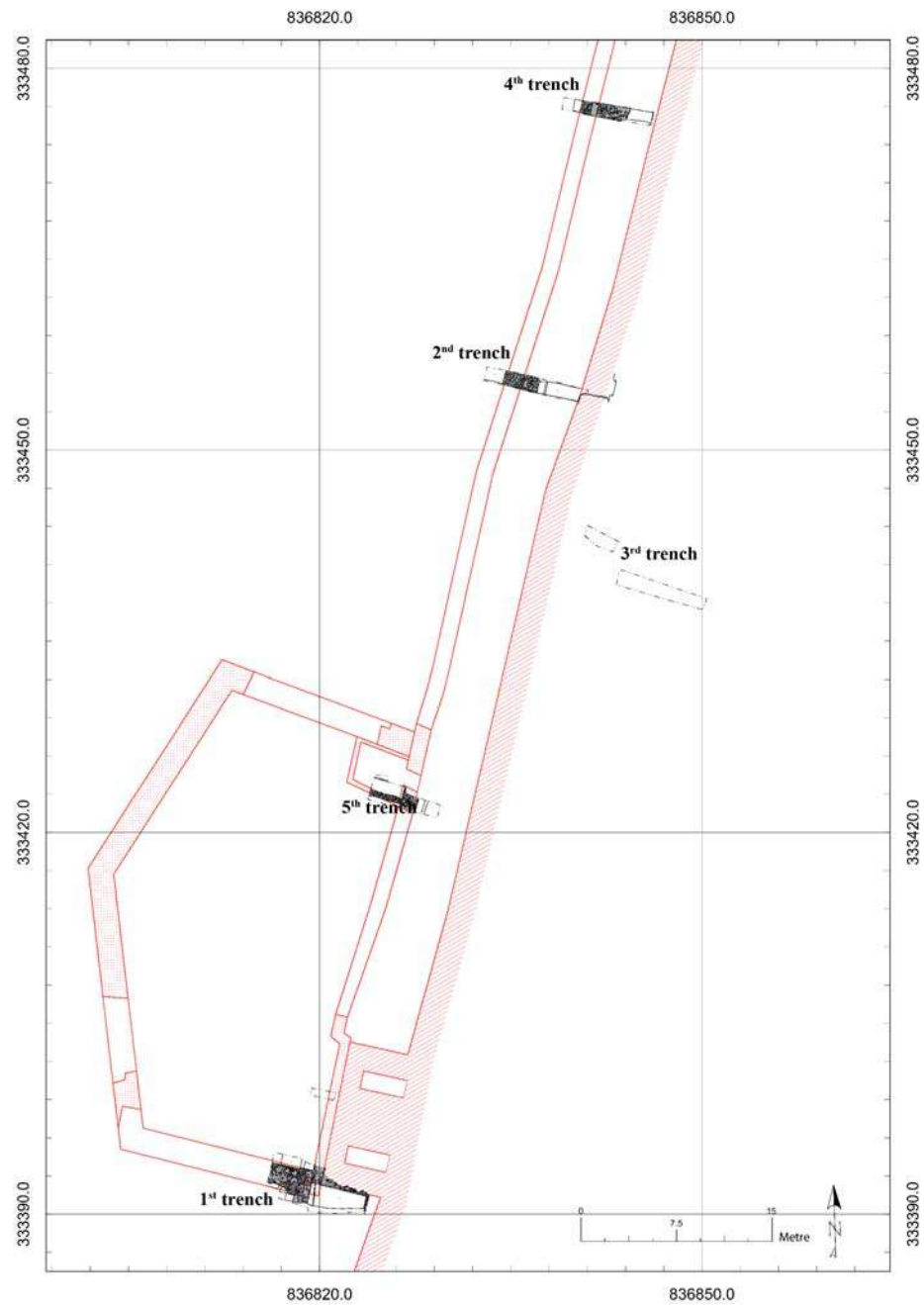


Figure 3. Exploratory trenches in the area of the western town wall and the Lion Bastion

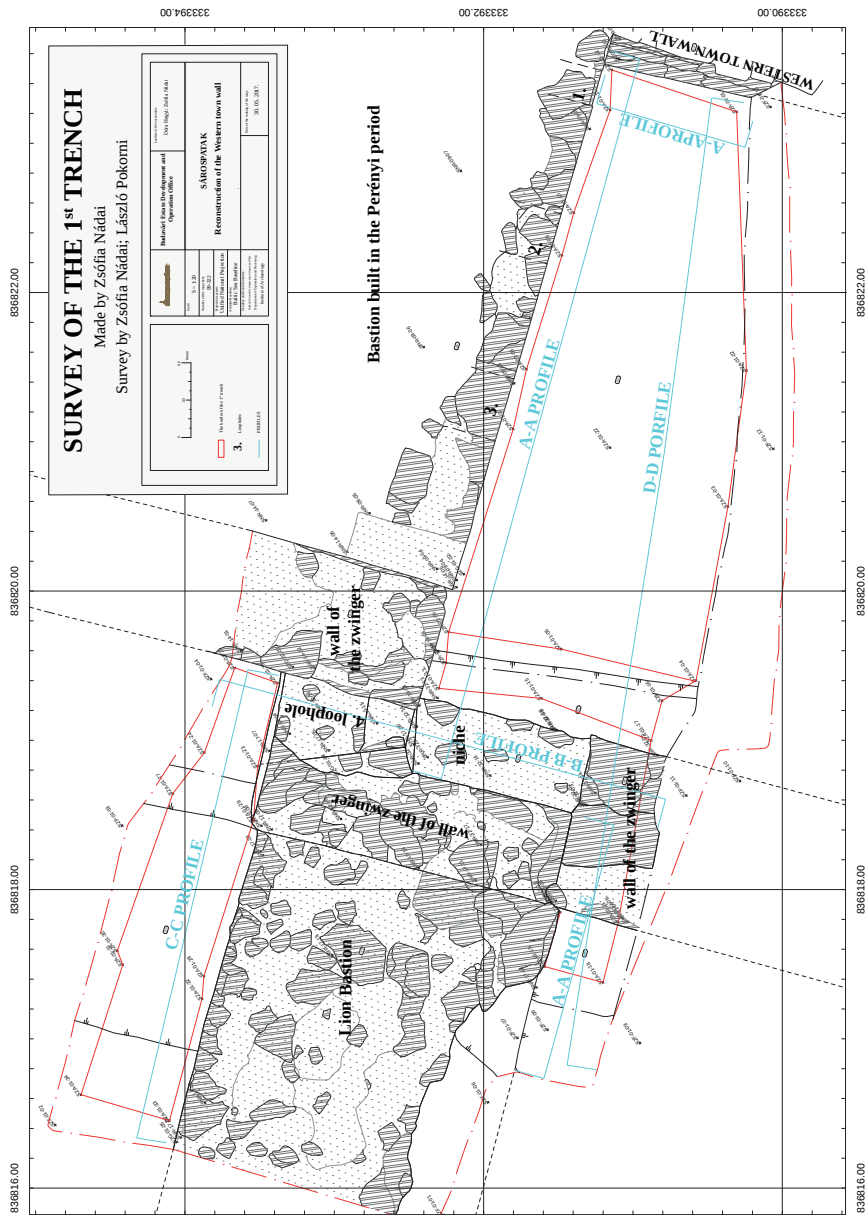


Figure 4. Overview of the exploratory trench on the southern side of the Lion Bastion (by Dóra Hegyi, Zsófia Nádai, László Pokorni)



Figure 5. The bastion built in the Perényi Period, the predecessor of the Lion Bastion, viewed from the northwest

adjoined to the southwestern corner of the bastion by a loophole, which thus became the fourth opening in the lower row of the already existing loopholes. This loophole later opened to the interior of the Lion Bastion, however, at the time when the zwinger was constructed, this part of the building was still on the outside of the town fortifications. A niche was subsequently created in front of this fourth loophole in order to make it useable (Figure 7).

3. Thereafter, in the next phase, the Lion Bastion was erected, adjoining the southern projection of the zwinger. As seen in the 18th-century documentation, the Lion Bastion abutted on the zwinger's wall and not on the western town wall. The zwinger was partly dismantled when the bastion was built; however, the above mentioned fourth loophole was neither destroyed nor walled up.

We investigated the zwinger further in a trench (5th trench) south of the pentagonal bastion's northern wall. Here the south-eastern corner of a building of unknown function, which was erected later than the zwinger's wall, was unearthed. It was undoubtedly

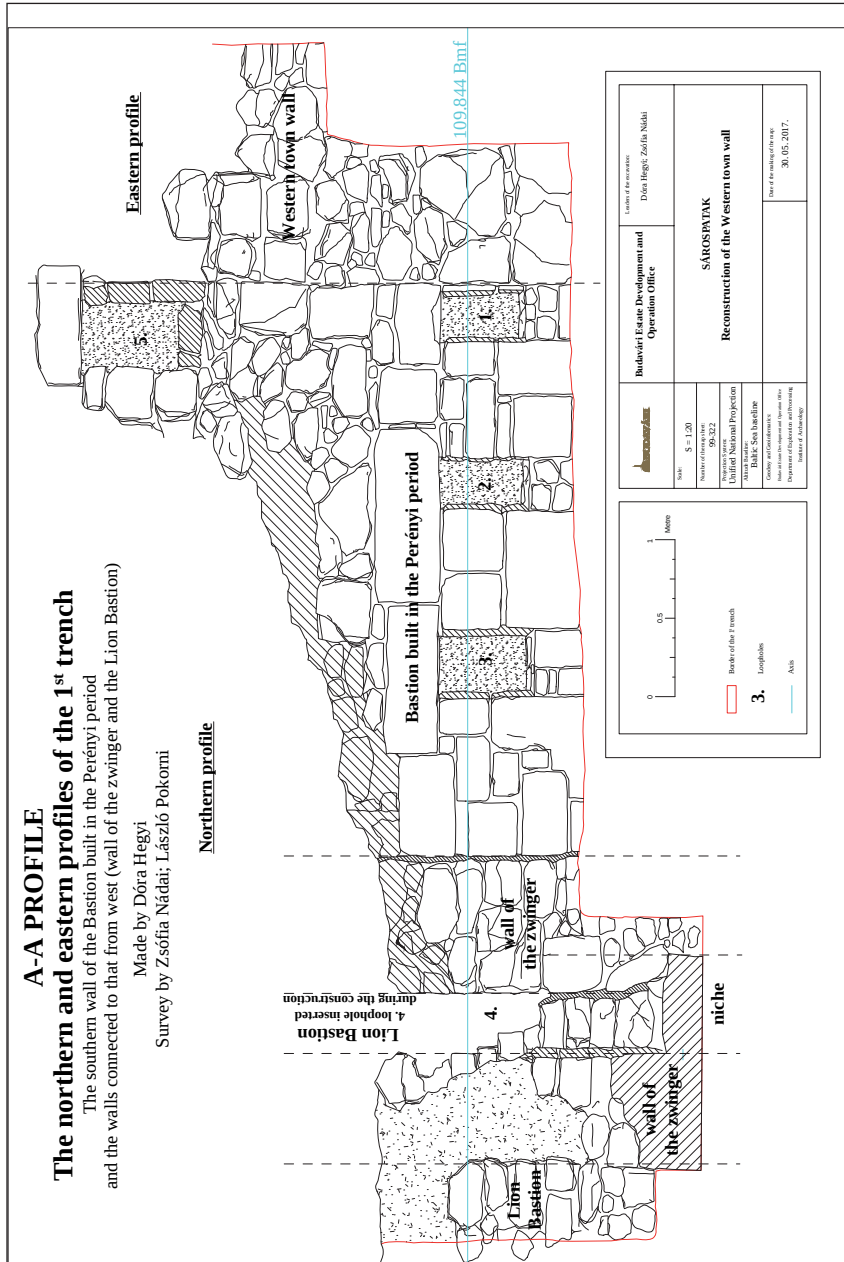


Figure 6. The southern facade of the Lion Bastion and the bastion of the Perényi Period; the numbers indicate the location of the loopholes (by Zsófia Nádai, László Pokorni)



Figure 7. The meeting point of the Lion Bastion and the zwinger, with the 4th loophole

built after the Perényi-period zwinger had been partly dismantled, and stones from the zwinger were probably used in its construction; the north-south oriented section of this building rests on the stub of the previously dismantled zwinger wall. Katalin Dankó already recorded this segment in 1983, but she could not date it more precisely either. The northern wall of this building's small room abuts on the wall of the Lion Bastion.

The zwinger wall was investigated further at two locations north of the Lion Bastion (2nd and 4th trenches). The space between the two walls became narrower towards the north (Figure 8). It was observed in both trenches that the external surface of the wall was tiered; but it cannot be ruled out that this represented deliberate dismantling. In a depth of 1.5m there was a homogenous, brown, clayey fill that slanted westwards, in the direction of the once existing moat. The internal surface of the zwinger walls, however, was even, and the excavated wall segments showed that it was almost vertical. In the southern trench (2nd trench), it was possible to explore the zwinger in a depth of c. 3m; the top 2.5m was a homogenous, brown clay fill that yielded no artefacts. Underneath this a white, limey, friable layer was present, which was mixed with pebbles in places. This may be interpreted as the historical floor level of the zwinger (Figure 9), but more research is needed to validate this argument, as the southern segments formerly excavated by Katalin Dankó failed to resolve this question. Our excavation team cut this layer in a half-meter-long section in the lee of the external wall in order to find the bottom of the wall foundation. This, however, could not be accomplished: when the

Figure 8. The zwinger wall north of the Lion Bastion



friable, marly upper layer was removed, a white rock surface came to light, which was identified as a natural, undisturbed subsoil surface.

Two further exploratory trenches (3rd trench) were dug within the western town wall to explore the structure of the cannon hill, its relationship with the western town wall, and the hypothesized road between the two. Unfortunately, modern disturbances and the poor condition of the wall top hampered our observations. The structure of the cannon hill could partly be explored. The uppermost, 15–20cm thick layer of humus yielded a considerable number of artefacts. Beneath this there was a harder, yellowish brown, clayey layer, from which a few objects were recovered. Underneath the latter, a greyish brown, limy, and very dense layer of soil came to light on top of another brown, very hard, clayey layer. These two lowermost layers must belong to the historical structure of the cannon hill; they yielded a few 17th–18th-century pottery fragments (Figure 10).



Figure 9. The white rock surface north of the Lion Bastion

In conclusion, several segments of the 16th–17th-century zwinger that fortified the northern part of the western town wall were brought to light, and so its line could be reconstructed. Moreover, it was clarified that the zwinger shown in Angelini's survey north of the Perényi-period bastion, in the middle of the western town wall, in fact continues beyond the bastion in a southern direction. This segment must have been built in a later phase and adjoined the southwestern corner of the already existing fortification by a loophole created in alignment with the loopholes on the bastion's lower floor. Later, a 17th-century pentagonal bastion was erected abutting the external wall of the zwinger. Our observations on the cannon hill's structure suggest that no support structure was utilized when the hill was constructed; layers of clay, partly mixed with lime, were deposited and compressed, and the hill proved to be sturdy enough even without any wooden construction to support it.

Figure 10. The section of the cannon hill



Research in the park of the Wenckheim mansion in Szabadkígyós

Development plans concerning the renovation of the Wenckheim mansion in Szabadkígyós also aim to reconstruct the mansion's large park. Our team was involved in the research of this mansion garden, within the framework of the preliminary archaeological documentation. The 19th-century landscape park is in an area of 25.3 hectares, though investment involves only the mansion's more immediate surroundings.

The research started with the preparation of a study of the area's garden history by Ágnes Bechtold (landscape architect, art historian, NÖF). In connection with this phase, the whole mansion park was declared a historical monument garden in 2017. The position of historic gardens among protected monuments is a complicated issue. Present regulations can provide protection in two ways: the garden may be considered

a historic monument in itself, or it may enjoy protection as the environment of a historical monument building. The latter case is more problematic, because only the area registered under the same number as the monument itself, which means that usually only certain parts of such historical gardens are protected (Bechtold 2017).

The first available piece of data on the landed properties in Kígyóspuszta dates from the 1720s, when the village, which had been abandoned in the Ottoman Turkish Wars, came into the possession of the Harruckern family. József Wenckheim acquired it in 1790 as an entailed estate, and it remained in the possession of the Wenckheim family until the end of WWII. József Wenckheim's grandson, József Antal Wenckheim (1780–1852) had the first manor built here between 1808 and 1831. The smaller house, its annexes, and the family crypt are still standing east of the Neo-Renaissance mansion. József Antal Wenckheim modernized the Kígyós manor, which enjoyed a period of economic flourishing thereafter.

Krisztina Wenckheim (1849–1924), the daughter of József Antal Wenckheim, and her husband Frigyes Wenckheim (1842–1912) had the Neo-Renaissance mansion built according to the designs of architect Miklós Ybl, between 1875 and 1879. Unfortunately, the plans of the mansion were lost during WWII; however, drawings of the garden buildings have been preserved and these also show characteristic elements of Miklós Ybl's designs (Figure 11). Four subsidiary buildings were constructed in the park: a kitchen, a stable, a coach-house, and a gas house, where the gas used in lighting was produced.

The mansion park was created in the 1870s in the deliberately archaic, historical landscape style typical for that period. It was certainly finished by 1883, because it is shown in draft drawings by Gyula Dolesch, made in preparation for cadastral maps (Figure 12). Exotic tree species, such as sweet chestnut, hybrid planes, ginkgo, pond cypress, and large-leaved linden were planted in the already existing oak woodland. A so-called *bosco*, a reserve for pheasants, was established in the southern part of the park in 1874.

There was one gate on each of the four sides of the park, and the southern and eastern gates had gatehouses as well. An artificial terrace adjoining the southern halls of the mansion was created from the soil piled up around the building. In front of the southern facade, a geometrical ornamental garden, a 'pleasure ground', was built, with a decorative flowerbed featuring a water basin and a fountain in the middle as the main attraction. Archive photographs suggest that the main basin's fountain had been made of quarried rocks instead of the present ornamental one (Figure 13). Another attraction of the park was an amorph, artificial lake with a small island, an iron bridge, and a wooden pavilion on a hill. The artificial lakefront is still visible today.

Frigyes and Krisztina Wenckheim had built a swimming pool, a training field, and a so-called doll's house for their seven children. The latter building stood within a visual range from the mansion, next to the road that led northwards. This small, bipartite brick construction copied a peasant house with a porch and a thatch roof (Figure 14). Later, a polo field and a tennis court were established as well, and Dénes Szigfrid Wenckheim (1921–1943), the grandson of Frigyes and Krisztina, had built a landing strip and a hangar for aircrafts.

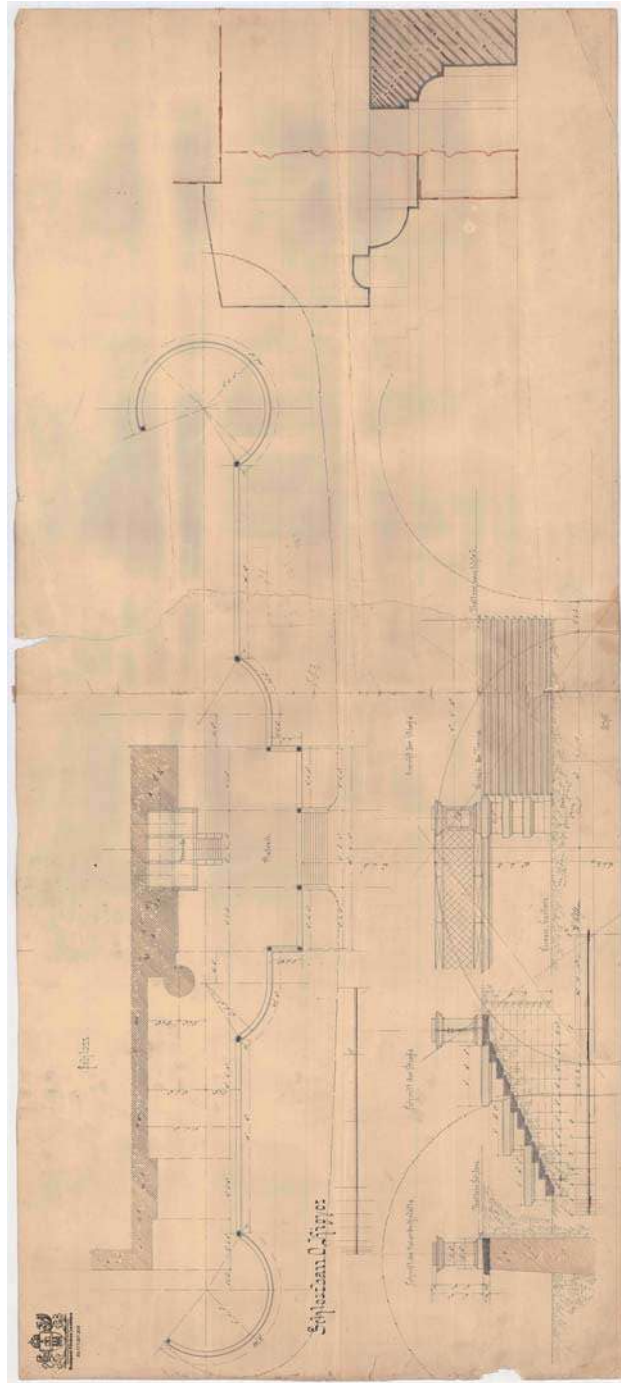


Figure 11. The plans of the terrace by Miklós Ybl (Source: BFL XV.17.f.331.20/5)

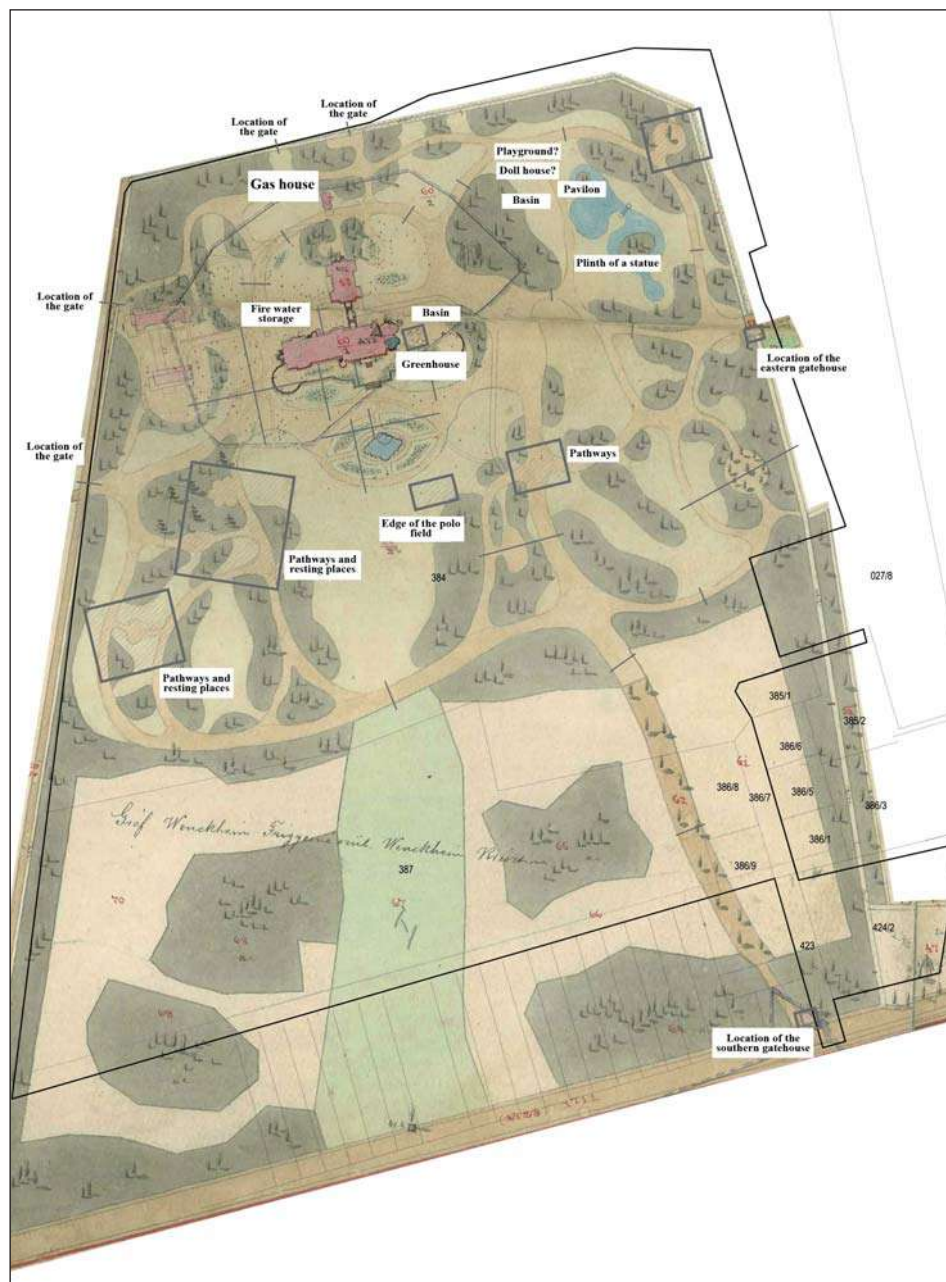


Figure 12. Identified elements of the garden in the 1883 cadastral map (by Ágnes Bechtold, based on MOL S79 No. 0216/0459, 0467, <http://www.archivportal.arcanum.hu/kataszter/>)



Figure 13. The Wenckheim Mansion, photo by György Klösz, 1895–1899
(Source: Fortepan 83296/HU BFL XV.19.d.1.11.204)

Figure 14. The doll-house in Szabadkígyós, viewed from the south
(photo in the private collection of János Tuska, 1940s [Becthold 2017, fig. 108])



After WWII the mansion was nationalized and the complex housed several agricultural schools. The last school ceased to operate in the mansion in 2011, and since then the building has been managed by the local administration of Szabadkígyós. The mansion belonged to the Szabadkígyós Natural Reserve, and since 1997 it has been part of the Körös-Maros National Park.

The mansion park was investigated through test trenches in July 2017. Ágnes Bechtold, Zita Németh (landscape architects, NÖF) and András Koppány (expert of building research, MÉM-MDK) contributed to this work. These explorations focused on the immediate environment of the mansion and the northern part of the garden, because the first stage of the park's reconstruction targeted this area. This survey primarily aimed to locate sites already known from historical documents (Figure 15), and to examine their built structure and foundations. Built features of the pleasure ground, i.e., the foundation of the central basin, the pathways, and the stone jar foundations around the garden, were brought to light. A flight of stairs leading to, and a retaining wall around the terrace, as well as the foundation of a smaller stone basin were also explored in the mansion's vicinity (Figure 16).

Concerning the garden pathways, we observed that only the main routes running to the four gates were supported by artificial layers (Figure 17), and their original track could be reconstructed. The remaining pathways, however, were hardly perceptible; at places, not even their gravel surface was preserved. These must have been simple, small cart passages with an elevated stripe of lawn on the two sides. The edges of the polo field were damaged by the running track of the later training field, while the tennis court was partly destroyed by the waterworks that was established here later.

The greenhouse in the south-eastern zone of the complex was surrounded by the walls of the chapel and the dining room. It could be accessed from two directions; from the park and from the dining room. The shape followed the chapel's ground plan, and its stone plinths and the stairs are still visible today. The walls and vaulted roof were glass-and-iron structures, as seen in archive photographs (Figure 13). One arched iron element survives on the facade of the chapel, embedded in the plaster. Archaeological explorations were conducted in the greenhouse in 2003, led by András Liska (Liska 2003). The results suggest that the building was heated by a structure of brick corridors circulating hot air under the floor; this structure went around the whole room in a rectangular shape, 1.3m under the greenhouse floor. During the 2017 excavations, the whole surface of the greenhouse's stone wall plinth was brought to light, and the building's ground plan was also explored. This makes the reconstruction of the greenhouse possible.

A single 1940s photograph is known of the doll's house, probably built in the early 20th century. The building was demolished in the 1970s. When the rubble was removed, a bipartite brick house, oriented from northwest to southeast and equipped with a patio, came to light (Figure 18). The timber-supported patio, covered in bricks, ran along the western wall. The northern room of the building also had a brick floor. A niche window was found in the northern wall of this room. The southern room could be accessed from the other room through a relatively large opening. The original floor of the southern room was not preserved; its window opened to the patio. At the north-

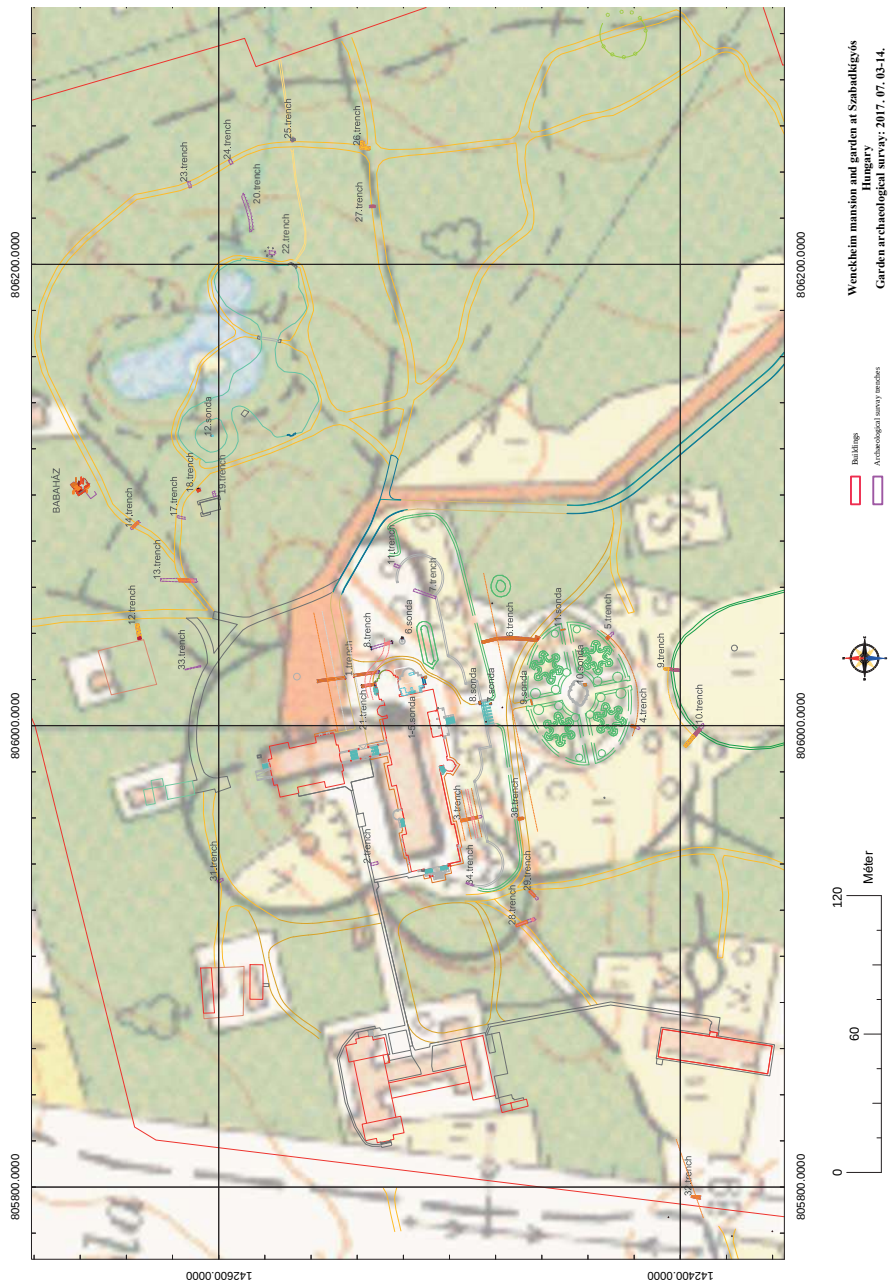


Figure 15. Overview of the explored surfaces (by Péter Szókrón)



Figure 16. Foundation of the southern great basin and its transposed fountain



Figure 17. Foundation of the pathway in front of the mansion's southern facade

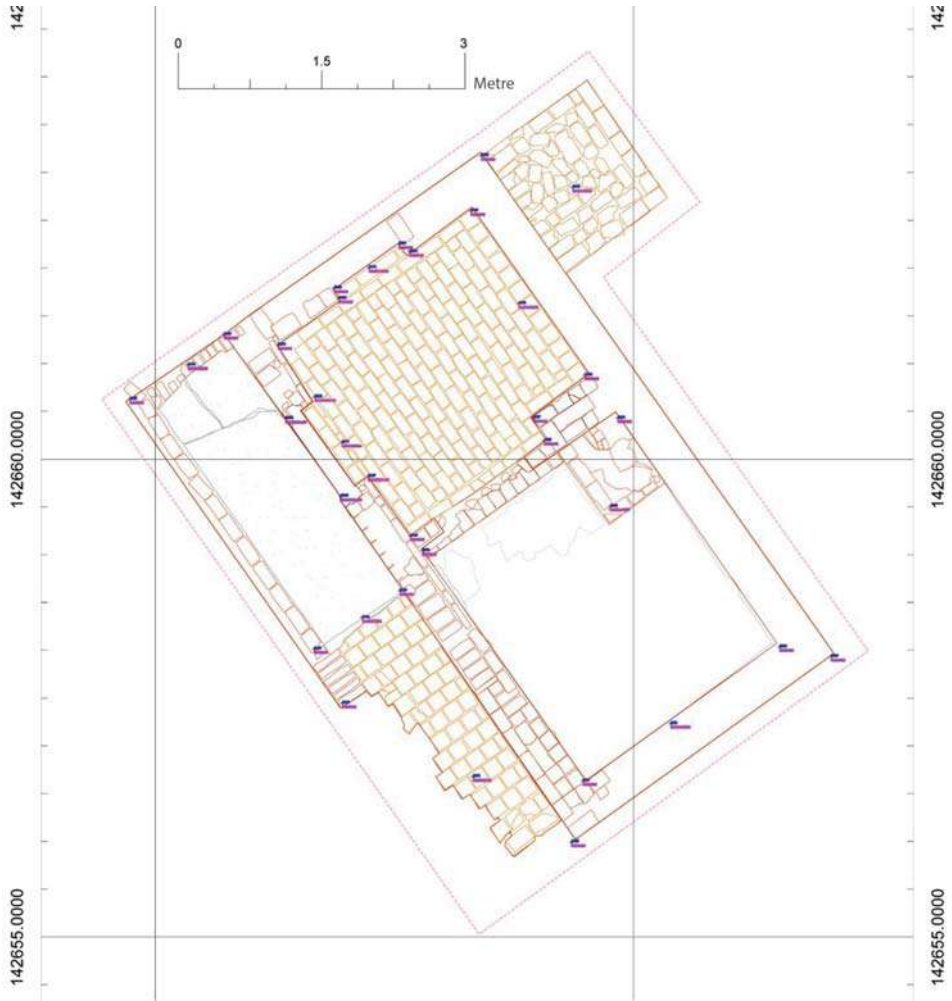


Figure 18. Georeferenced overview of the doll-house in Szabadkígyós
(by Péter Szökrön, Dóra Hegyi, and Zsófia Nádai)

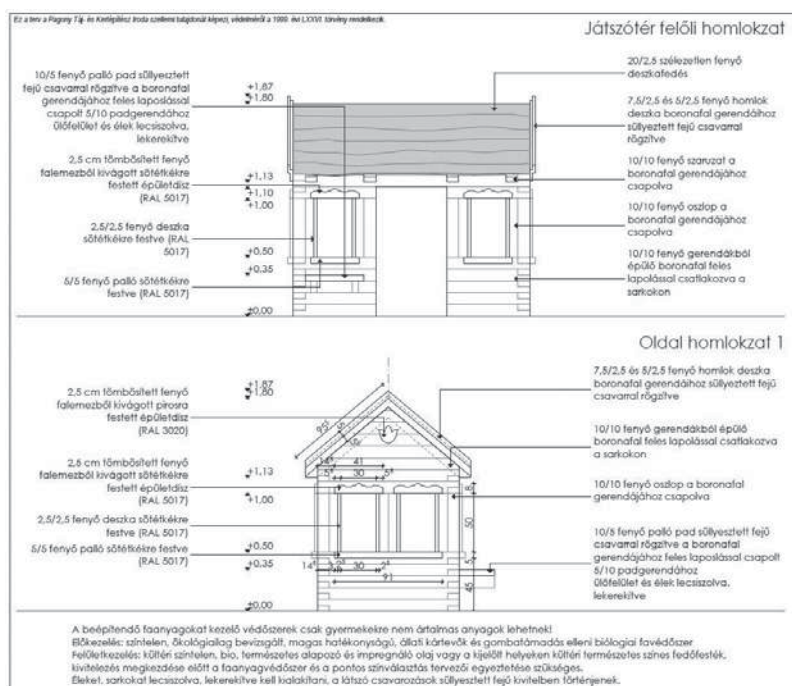
eastern end of the dividing wall between the two rooms there was a heating structure with a chimney that projected into both rooms. After 1945, the part of the patio that was parallel to the northern room was transformed into a narrow hallway and its floor was covered in cement. A small, rectangular storage building was also added to the northern corner of the doll's house (Figure 19).

Such garden houses, where people could rest and play, were typical for 19th- and 20th-century gardens. Built in a deliberately archaic style, such buildings were usually



Figure 19. Details of the excavated doll-house

Figure 20. Toys planned for the playground: doll-house (Pagony Tájépítész Iroda)



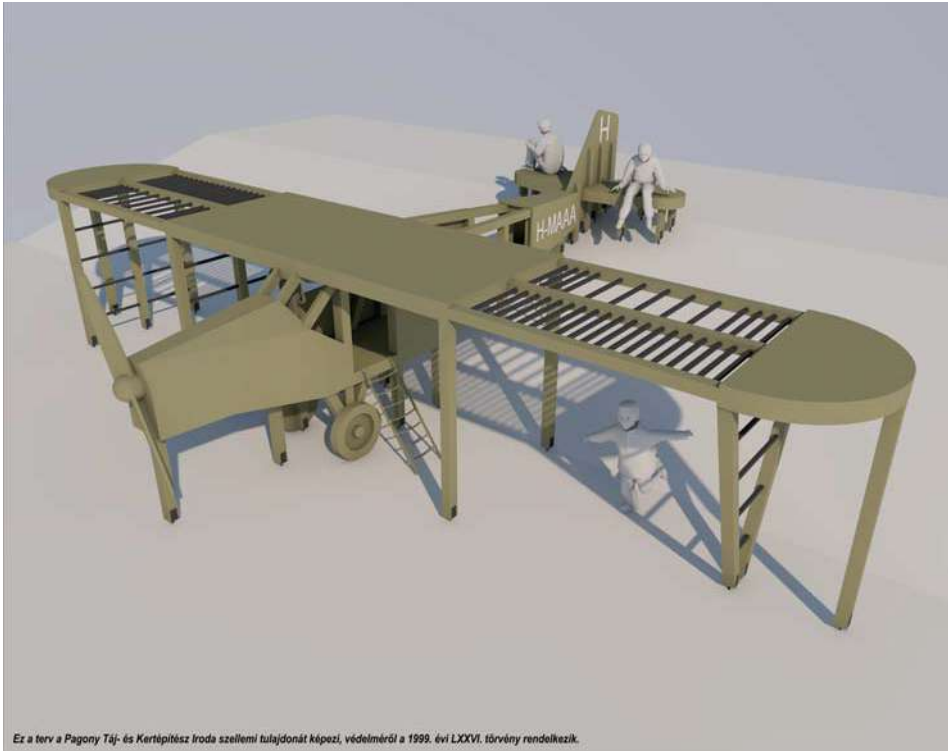


Figure 21. Toys planned for the playground: jungle-gym in the shape of an aircraft (Pagony Tájépítész Iroda)

ornamented with folklore elements. In the royal gardens of Buda, a peasant house was built for Queen Elisabeth in 1898 in place of the 'Dutch peasant house'; this house was embellished with Hungarian folklore motifs. This building, also called 'the Hungarian house' (although its style is rather typical for houses in Switzerland) was built according to the plans of Alajos Hauszmann. The playhouse built for the children of the count of Nádasdladány also belongs to this type: it was a small, rectangular, bipartite building with a thatch roof and a patio around it. This was known as the so-called 'school of Hungarian farmer women', which later, when the children grew up, was used as an ornamented garden house.

The plans for the park's reconstruction were developed by Ágnes Herczeg (Pagony Tájépítész Iroda, 'Pagony' Landscape Building Office). The park will be renovated in three phases; first the mansion's immediate environment was reconstructed. The garden pathways will be rebuilt according to the hierarchy suggested by research, partly as gravel-walks and partly as simple dirt roads. Substructures of the built heritage, such as retaining walls, flights of stairs, basins, and garden fountains, will be

re-made as copies of the originals. In addition to the reconstructed features there will be a playground in the north-eastern part of the garden, with special toys referring to the history of the Wenckheim family. A timber house will be erected next to the original foundations of the doll's house. This will not copy the original, but rather give an idea about it. Another interesting element of the planned playground is a jungle-gym in the shape of an aircraft, to remind visitors that Dénes Szigfrid Wenckheim was a passionate pilot (Figures 20 and 21).

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Management of Isolated Islands: An Example of Sceilg Mhichíl, Ireland

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Keywords: Skellig Michael, Sceilg Mhichíl, World Heritage Site, archaeology, island, management

Abstract: The island of Skellig Michael (in Irish, Sceilg Mhichíl) lies 11.6km off the westernmost tip of the Iveragh peninsula, Co. Kerry. The island, which is approximately 21.9 hectares in area, is owned by the Minister for Culture, Heritage and the Gaeltacht on behalf of the Irish people, with the exception of the lower (working) lighthouse and its curtilage, the helipad and adjacent store. Skellig Michael is primarily managed as a National Monument in state ownership. The entire island was inscribed on the UNESCO World Heritage List in 1996 in recognition of the outstanding universal significance of its cultural landscape and the importance of its protection to the highest international standards. As well as the World Heritage Site, the rocks are home to gannets, puffins, storm petrels and many other birds. Owing to its ornithological importance, Skellig Michael is designated as a Statutory Nature Reserve and a Special Protection Area, and is a proposed Natural Heritage Area. As an Atlantic island situated a significant distance from the mainland, the management of the site, in terms of protection, conservation and providing a guide service, comes with many unusual and unique challenges.

Introduction

There are two separate elements to the monastic settlement on Skellig Michael: an extensive and well-preserved monastery constructed just below the top of a high, sloping rock platform on the east side of the island and a range of structures constructed on ledges high on the South Peak. Three long flights of steps lead up to the monastery from three different landing places. The monastery consists of an inner enclosure containing two oratories, a mortared church, seven beehive cells and the remains of a 'latrine', water cisterns, a cemetery, *leachta* (outdoor stone altars), crosses and cross-slabs. Two large terraces, referred to as the upper and lower monks' gardens, comprise the outer enclosure. High retaining walls support all the terracing upon which everything is constructed. On the other side of the island, rock-cut steps and ledges lead up to the structures on the South Peak. They comprise a series of



Figure 1. General view of Skellig Michael. © National Monuments Service, Dept. of Culture, Heritage, and the Gaeltacht

platforms, traverses, enclosures and terraces daringly constructed on quarried ledges just below the peak. The oratory terrace still retains its original features: an oratory, altar, leacht, bench, water cisterns and a possible shrine. Crosses and a cross-slab were also found on the South Peak.

Conservation and management challenges

Many commentators have taken an exaggerated view of the dangers of the island, but with no fresh water and gales, winter and summer, one thing that I came to realise in the 26 years that I worked on the island was that any permanent, or semi-permanent settlement on the island required an adequately resourced shore base. So this is the story of the monks, lighthouse keepers and our own efforts to work on the island and the kind of resources each of us needed to continue to work and live there. We know a lot about how we are supported, and much of how the lighthouse keepers were supported, but learning something meaningful about how the monks were supported is a matter of working with the evidence that we have gleaned.

Modern workers on the island

The main support for the modern-day workers on the island comes from the Office of Public Works, who have a local depot in Killarney, with a separate role for their



Figure 2. The main monastery on Skellig Michael. © National Monuments Service, Dept. of Culture, Heritage, and the Gaeltacht

Visitor Service Unit who manage the guide service on the island. All supplies come from Killarney and all the workmen and other tradesmen are based there. The huts have to be opened in the spring and maintenance carried out on them prior to work starting each season. The Department of Culture, Heritage and the Gaeltacht has a role on archaeological policy and the National Parks and Wildlife Service deals with the wildlife. There are engineers on contract, and so too are safety and scaffolding experts.

The huts are quite comfortable, though small, and all water, gas and other supplies have to be brought to the island. All material brought to the island and not consumed is returned to the mainland. The crew work five days a week, twelve hours a day, but the guides stay on for two weeks at a time. The guides have an extremely busy job when tourists arrive, but the visitors are mostly gone by 4pm, which gives them time to see a different view of the island. Sometimes the sun is shining but frequently there is a fierce swell; in ways they are more like the former lighthouse keepers, with very busy periods, as well as lots of down-time.

Conservation works

In 1880 the Office of Public Work took the monastic remains into guardianship and commenced a project for the repair of collapsed structures. However, by the late



Figure 3. The South Peak on Skellig Michael. © National Monuments Service, Dept. of Culture, Heritage, and the Gaeltacht

1970s, the condition of the site was such that there were considerable structural problems requiring attention. Some were very serious in scale with potentially grave consequences, while others were more localised. The ongoing conservation works programme at the early medieval monastic site on Skellig Michael commenced in 1978 and has continued each summer season since then. The first season's work was in response to the collapse of a section of retaining wall to the west of St Michael's Church within the monastery, and shortly thereafter work focused on the repair of the south steps, the main access route to the monastery. Survey work began at this time and the first archaeological intervention took place in 1980, with excavations proper commencing in 1986 and continuing almost every season until 2010. The scope of the archaeological work on Skellig Michael was primarily determined by the conservation



Figure 4. Staff accommodation on the Skellig Michael. © National Monuments Service, Dept. of Culture, Heritage, and the Gaeltacht

needs. This strategy was deemed the most appropriate, given the limited area actually available for excavation on this precipitous island and the intact nature of the structures, in the monastery in particular, which were left undisturbed.

Over the years the archaeological work ranged from monitoring and supervision to full excavation and, because the scope of the archaeological work was determined by and large by the conservation works programme, investigations were focused on the monastery and associated structures and the South Peak. In 2010 survey and conservation works commenced on the lighthouse road, and currently a programme of conservation works is on-going at the old (disused) lighthouse.

Our interventions have varied between large-scale ones in the monastery, the South Peak and, more recently, the lighthouse structures, to small-scale emergency excavations where interventions had to be made to solve a small-scale problem. In the monastery, the problem was often the fact that there had been many previous collapses of drystone masonry and that interventions were frequently based on multiple previous failures. Indeed, some of our difficulties came from late 19th century repairs, when the site was originally vested into State Care.

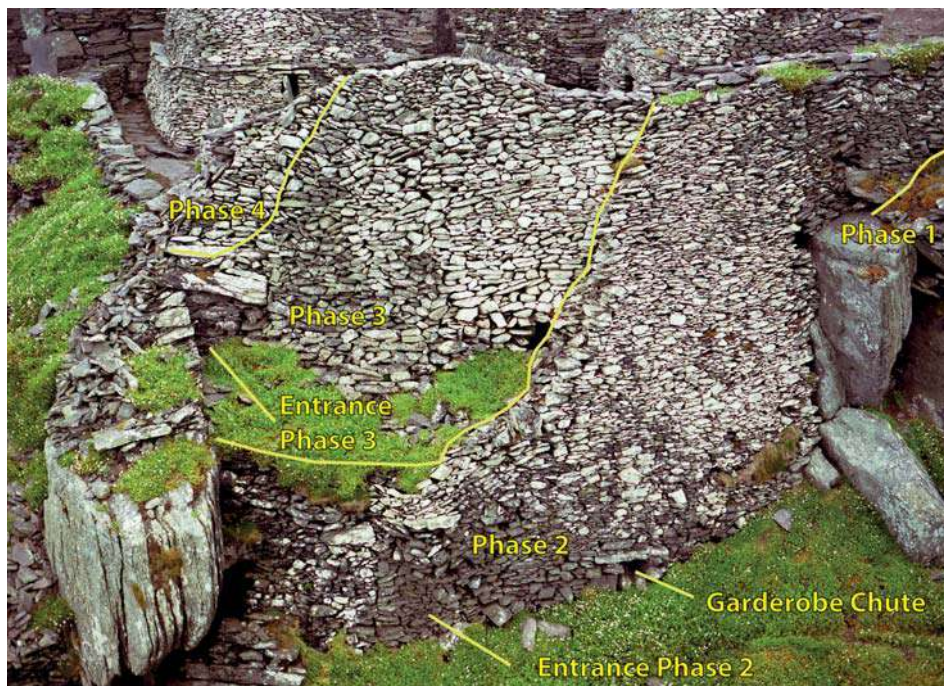


Figure 5. Eastern end of the monastic enclosure showing various phases of collapse and the intervention into the middle entrance

Detailed pre-works surveys commenced in the late 1970s and have continued throughout the duration of the works programme. Both measured surveys and photographic surveys are carried out, and since 1994 the works have been recorded professionally on film. Plans, sectional profiles and elevations are recorded at various scales during excavation; following conservation, all structures are again recorded in detail. Surveying on Skellig Michael presents many challenges, not least of which is the vertiginous nature of the terrain, with its attendant health and safety requirements. Plane table surveys were used extensively and in 1982 a photogrammetric survey (1:1000) of the island was commissioned, which provided detailed contours and allowed the individual monastic structures to be correctly located on the island. As survey and recording of the South Peak structures progressed, however, it became clear that the level of locational detail on the contour map was insufficient for accurate recording in this precipitous terrain. Consequently, a three-dimensional geometric survey of the island was carried out in 2007, using aerial LiDAR (Light Detection And Ranging).

The featuring of Skelligs in the most recent Star Wars films has dramatically increased the public interest in this site. If it was located anywhere else, the increased footfall brought by its new-found fame would certainly have an impact. Thankfully, its Atlantic location and a narrow visitor season that itself is so weather dependent, means that

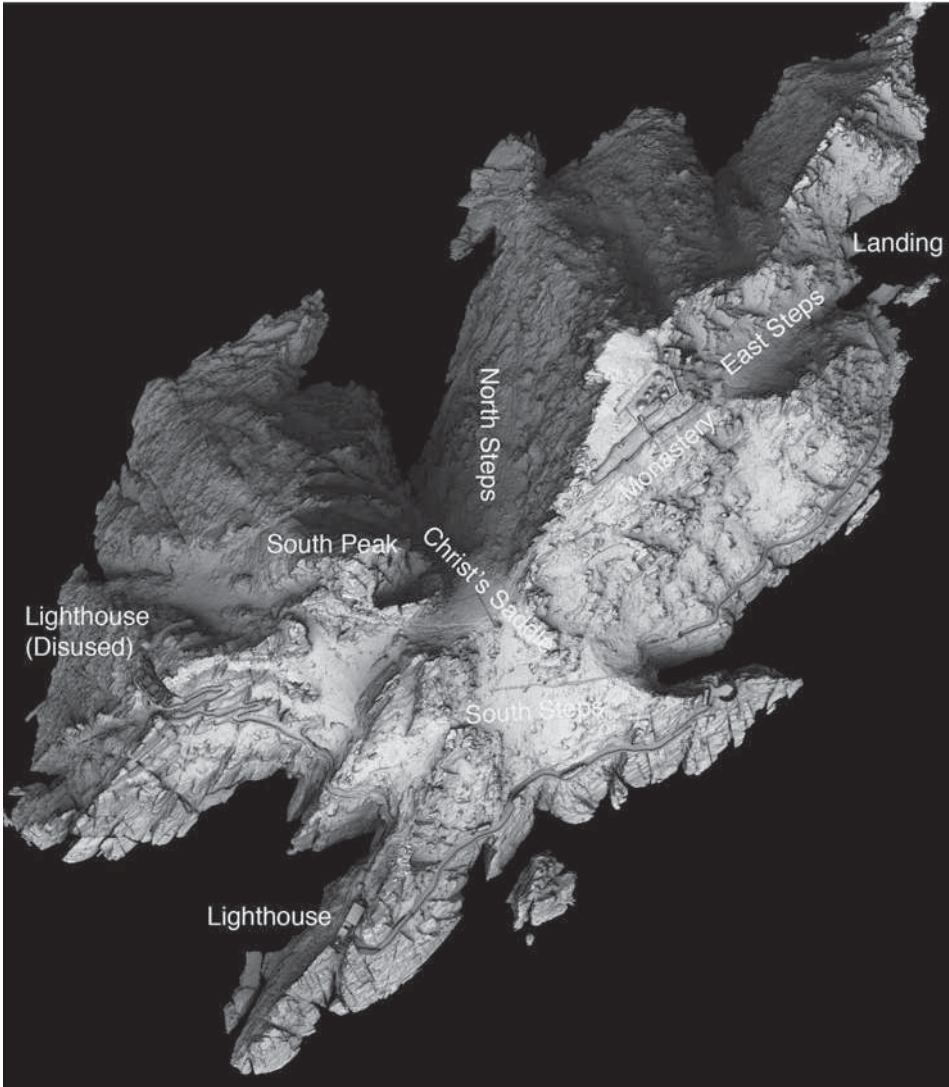


Figure 6. LiDAR-based image of Skellig Michael

the island has natural restrictions that limit its visitor capacity. While new technological advances will certainly help us record and monitor the impact of natural forces on the archaeological monuments perched on the edge of the Atlantic, its location will continue to present logistical challenges in terms of protecting and presenting the site to the public.

Further Reading

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Take Care of Me!

Experiencing Protection, Conservation and Presentation of Archaeological Sites to the Public in the Autonomous Province of Trento, Northern Italy

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Keywords: Archaeological management, conservation, presentation, Weaving Memories Project, Punta Linke Project, Trento, Italy

Abstract: The Archaeological Heritage Office of the Autonomous Province of Trento carries out institutional activities for the research, protection, conservation and promotion of archaeological heritage in the Trentino region. Its range of activities includes a Restoration Laboratory, an archaeological library, an Education Department, two museums and several archaeological sites, which are briefly outlined in this paper. A recent project to research, preserve and present to the public a unique World War I site located high in the Italian Alps, the Punta Linke Project, is described here. The Archaeological Heritage Office is also strongly committed to developing initiatives and activities that promote public engagement with the provincial archaeological heritage. One recent project aimed at people in the community with special needs is described here. This is the T-essere memoria or Weaving Memories Project, which has been carried out in several nursing homes in the Trentino region with groups of Alzheimer's patients, their families and caregivers.

The activities of the Archaeological Heritage Office

The Archaeological Heritage Office of the Autonomous Province of Trento, northern Italy, carries out institutional activities for the research, protection, conservation and promotion of the Trentino region archaeological heritage. Its range of activities includes a Restoration Laboratory, the archaeological library 'Pia Laviosa Zambotti' and the Education Department. In addition, the office manages two museums and

several archaeological sites that are open to the public, and edits scientific, informative and popular publications

Conservation and Restoration Laboratory

The Archaeological Conservation and Restoration Laboratory is in charge of the restoration of sites, monuments, finds and structures of archaeological interest owned by the Province and as well as those owned by other institutions or private bodies. The laboratory has the skills, instruments and capacity to restore all classes of materials: pottery, glass, metals, mosaics, osteological remains. Moreover it is specialised in the restoration of organic material from wetland habitats, such as the wooden objects from the Bronze Age pile-dwelling site situated in the peat bog at Fiaavé.

Library 'Pia Laviosa Zambotti'

The library of the Office is specialised in the archaeology of the Alpine region and contains more than 29,000 publications. It includes books, journals, monographs, abstracts, newspapers. It has exchanges with about 300 national and international institutions (museums, heritage offices, universities, institutes). The library's collection can be viewed online on the Catalogo Bibliografico Trentino website. The library is named after Pia Laviosa Zambotti (1898–1965), locally-born prehistoric archaeologist and scholar, whose library is its founding core. In 2011, the library also acquired prof. Lawrence H. Barfield's fund, an archaeologist and professor at the University of Birmingham and scholar of prehistory of northern Italy. In 2016 and 2017 it has developed a project aimed at rediscovering Pia Laviosa Zambotti's life and her legacy.

Museums and archaeological sites

The Trentino Archaeological Museum and Site network comprises two main museums (Museo Retico and Museo delle Palafitte di Fiaavé) and many different sites; the most relevant are the S.A.S.S. Underground Archaeological Space, the archaeological area of Palazzo Lodron, the archaeological area of Porta Veronensis in Trento, the Acqua Fredda archaeometallurgical site at Passo del Redebus, the pile-dwelling site of Fiaavé (UNESCO World Heritage site), the Bronze Age site at Fai della Paganella, among others. They are not just museums and archaeological areas, but also host meetings, conferences, educational activities, exhibitions and performances. In 2018, the three main sites (Museo Retico, Museo delle Palafitte di Fiaavé and S.A.S.S.) were visited by almost 39,000 people.

Underneath the historic centre of Trento we find the ancient Roman city of *Tridentum*, the *splendidum municipium*, as it was called by the Emperor Claudius in 46 AD. Symbolic of *Tridentum* is the S.A.S.S. Sas Underground Archaeological Space: two thousand years of history and 1,700 sq m of Roman city in a fascinating setting, the result of archaeological excavations carried out during the restoration and extension of the Teatro Sociale. The extensive area is made up of public and private spaces and buildings, including a long stretch of the eastern city walls, a lengthy section of paved road, fragments of houses with the remains of mosaics, courtyards and artisan



Figure 1. Tridentum, SASS archaeological site, Trento (L. Moser)

workshops. Visitors can also view the 3D reconstruction of the archaeological site showing what *Tridentum* was like in Roman times.

The displays in the Museo Retico, Centre for the archaeology and ancient history of the Val di Non, follow an evocative itinerary which accompanies the visitor on an imaginary journey through time, from Prehistory to the Early Middle Ages. With the aid of technological and multimedia resources, the museum presents a succession of evidence relating to Palaeolithic hunter-gatherers, the first Neolithic farmers, the metal-workers of the Copper Age and cult places dating back to the Bronze Age. An important role is reserved for evidence regarding the Rhaetic people, documented in Roman sources, presenting a wide range of material related to the culture, such as magnificent artistic items, objects linked to the field of worship, working tools and simple everyday objects. The various stages of Romanisation in the valley are followed, marked by the realisation of statues, rich funeral objects, epigraphic documentation and signs of the new cults coming from the east. Finally, the tragic episode that saw the death of the Anania martyrs, which preceded the definitive establishment of Christianity, is recalled.



Figure 2. Museo Retico (O. Michelin)

The Fiafé Pile dwelling Museum is a compelling journey into the past, and the era of the pile dwellings. A unique opportunity to immerse oneself in the atmosphere of a pile dwelling village along the banks of the ancient Lake Carera some 3,500 years ago. Video footage, installations, accurately-reconstructed replicas and an extraordinary collection of more than 300 wooden objects allow us to get to know and better understand the life of our Bronze Age ancestors. The pile dwelling settlement of Fiafé is included within the UNESCO world heritage site 'Prehistoric Pile dwellings around the Alps'. One section of the museum is dedicated to the unique Fiafé-Carera biotope, a provincial nature reserve and site of European interest, where the remains of the prehistoric pile dwellings can still be seen. A new archaeological park is under construction in the peat-bog close to the pile-dwelling remains, and will open in 2020.

Education Department

The Archaeological Heritage Office places great importance on education and lifelong learning. The Education Department offers a variety of educational programmes, workshops, guided visits to schoolchildren, teachers, families with kids, seniors and individuals with special needs and disabilities.

Every year the publication 'A scuola con l'archeologia' (archaeology at school) offers to schools, from kindergarten to primary and secondary school, more than 40



Figure 3. Fiavé pile-dwelling archaeological site (P. Bellintani)

educational activities, which cover the time from Prehistory to the Middle Ages. The importance of preserving the cultural heritage and its impact on society are at the core of all activities. They are aimed at helping students understand the historic and cultural dynamics of the Trentino region, learn methods and approaches to historical research and develop analytical capacity, skills and abilities. In the school year 2018–2019 about 14,000 participants took part in the programmes.

Public engagement

The Archaeological Heritage Office is strongly committed to developing initiatives and activities aimed at promoting and increasing the knowledge of the provincial archaeological heritage, museums and archaeological areas open to the public and ensuring the best conditions for their use and enjoyment by the public. Studies, scientific research and the related results are presented to the public in order to raise awareness about the importance of cultural heritage as an invaluable asset for everyone to enjoy. Cultural events, such as exhibitions, conferences, talks and workshops are also organised in cooperation with other institutions or private bodies. The involvement of local communities represents an important aspect for the preservation of the archaeological heritage as a shared resource. In the case of



Figure 4. Archaeometallurgy at Acqua Fredda archaeological site (L. Moser)

archaeological excavations, talks and meetings are held in order to inform the local population about the excavations and their importance for the history of the territory. Experience has shown that citizens are willing to learn and to know more about the place where they live and that, if they are properly informed, they are more inclined to face the inconvenience.

In addition to the programmes addressed to schools, the Education Department offers a variety of year-round educational activities, workshops and guided site visits for families, seniors, individuals with special needs and with disabilities. The initiatives are achieved in collaboration with municipalities, tourist boards and other associations that share the Office's commitment to promoting our cultural heritage.

Most of the activities for the public take place during the summer months, as the Trentino region is an important holiday destination that attracts millions of tourists annually. The cultural proposals integrate and enrich the tourist offer by providing an interesting insight into the ancient history of the locality. The interaction between culture and tourism also help highlight the uniqueness of the territory and reinforce its identity. The general public are invited to join the activities by participating in an

active way, both by interacting with the archaeologists who lead the initiatives and also by experiencing ancient techniques during the hands-on workshops. In 2018, about 3,000 people participated in the summer activities organised by the educators from June through September at the museums and archaeological areas.

Communication and promotion

Communication and promotion of the activities of the Heritage Office are achieved in different ways. Press releases are sent to the media through the Press Office of the Autonomous Province of Trento. In some cases press conferences are organised, in order to highlight events of particular importance. News, information and events are also promoted online (www.cultura.trentino.it), in the section dedicated to archaeology. A newsletter is sent to a mailing list of people who have showed interest in the activity of the Office and have requested to be regularly informed. The Office has also a profile on social media: Facebook, Instagram and Twitter. A great deal of work and effort would be required in order to communicate to potential visitors and to increase the public's engagement, above all among the younger generations.

Critical aspects

Most critical aspects are related to bureaucracy, lack of planning and limited budgets, or budgets that are not assigned sufficiently in advance in order to guarantee an efficient planning. Public funding, upon which the entire activity of the Office is based, has constantly dropped in recent years. The Office experiences constant difficulties in employing auxiliary staff for extended periods. In particular, museum management and the organization of activities for the public, would require more flexibility.

A special project for special needs: T-essere memoria – Weaving Memories Project

As a commitment to the inclusion of people with disabilities, since 2015 the Servizi Educativi (Education Department) of the Ufficio beni archeologici, Soprintendenza per i beni culturali of the Provincia autonoma di Trento have been collaborating with the Azienda Pubblica di Servizi alla Persona. This facility has been working for a long time with the Alzheimer and dementia patients, and it is committed to find new, non-pharmacological therapeutic treatments. The collaborative project 'T-essere memoria – Weaving Memories' is an experimental one that has been carried out in several nursing homes in the Trentino region with groups of Alzheimer's patients, their families and caregivers.

The project consists of workshops in the nursing homes and guided tours of the Museo delle Palafitte di Fiavé, Pile Dwelling Museum. Guided discussions take place during the meetings (dedicated to weaving techniques, to work with clay and to make butter). Participants are invited to observe and handle copies of the ancient objects that were found during the excavations in the pile-dwelling site of Fiavé. This phase is particularly important to stimulate the cognitive abilities, in order to maintain and to increase them. All patients show interest and are willing to take part in the activities

and to get involved. They all participated emotionally and were able to reproduce ancient gestures easily and carefully, often to the surprise of their caregivers. They demonstrate that, if they are encouraged, they are able to keep their abilities and creativity despite their illness. Each project ends with a tour of the Museo delle Palafitte di Fiavé. This is an emotionally enriching experience for the patients, as they have the possibility to visit a new and stimulating place.

The project helps to confirm that museums (archaeological museums too) can play an important social role if they are user-friendly and participatory. They can contribute to help the course of the disease and to improve the quality not only of the patients' everyday life, but of their families and caregivers too.

The project evolved and was implemented in the last year, including pupils of primary schools who met this 'specials grandparents' and more nursery homes in Trentino. Moreover, the project took part in three editions of the Alzheimer Fest, a national event held in a different venue each year to raise awareness about Alzheimer's disease. Two photography exhibitions dedicated to the project were also hosted in Trento at the S.A.S.S. archaeological area.

The Punta Linke Project: WWI history in the ice

Following the fieldwork carried out by the Heritage Office in the context of the archaeology of the First World War, a real archaeological site, dating back to 1914–1918 and located in the Ortles Cevedale massif at an altitude of 3629m above sea level, has been open to the public since 2014, in cooperation with the local Great War Museum of Pejo. During each of the recent visiting seasons (around 55 days each summer) more than 2,500 people have visited the site.

The climate changes currently underway are progressively bringing to light evidence of the conflict at high altitude in the Alpine glacial areas during the First World War. In view of these new cultural findings, the Archaeological Heritage Office initiated a research project to recover this evidence using scientific methods, with the objective of reconstructing the historical and human context of these events.

Since 2007, research, documentation and the recovery projects have been organised at sites high in the mountains in the Ortles area, western Trentino, on the front between the Austro-Hungarian Empire and the Kingdom of Italy during WWI. All the projects were carried out on peaks situated at an altitude of well over 3000m above sea level (Piz Giumela, 3593m; Punta Cadini, 3524m; Punta Linke, 3629m). All procedures necessary for scientific recovery of the most extensive data possible were adopted, including fact-finding surveys to determine the character of the sites prior to their abandonment, archaeological excavations and documentary research.

Of particular interest has been an important cableway system that was constructed in 1917, at an altitude of 1160m, to provide supplies from the Pejo valley to the western peak of the Vioz, Punta Linke (3629m). From here, it crossed the Forni glacier with a further span of 1300m, to arrive at the important military area on the south-eastern

ridge of the Palòn de la Mare, today known as the 'Coston delle barache brusade'. Due to the particular environmental conditions, the excavations were carried out in the summer months and involved the use of minimally invasive equipment, such as heat diffusers, together with light tools suitable for excavations in ice.

At Punta Linke the cableway transit station was constructed within a tunnel in the ice. Another tunnel was dug out of the rock and permafrost (permanently frozen terrain) in order to allow the ridge of the mountain to be crossed under cover. The cableway traction motor and the mechanical workshop were housed inside the wooden hut. Other barracks were constructed outside and a mountain gun battery was stationed on the plateau to the north of the ridge. When hostilities terminated the military outpost was abandoned, leaving a large quantity of materials of every kind at the site.

The archaeological research work led to complete recovery of the hut, inside which the German-made diesel motor was repositioned, having been found dismantled in various parts in the tunnel. The tunnel was then freed, bringing to light the original mining structures inside, in addition to many other materials, such as an abandoned cableway carriage.

Most of the mobile materials were found outside the structure: working tools, rolls of barbed wire, material for the cableway, shields, helmets, a wooden sauerkraut brining tub etc.

The finding of around a hundred overshoes in rye straw was of particular interest. These were made using a traditional technique and were worn by the soldiers during guard duties. The soles of the overshoes were sometimes made up of small blocks of wood; one of these carried the stamp of the Kriegsgefangenenlager (concentration camp for prisoners of war) in Kleinmünchen, near Linz, Austria. Other soles had names written on them (Antonio, Januk), which must have corresponded with the soldiers using the boots.

The investigations and consolidation activities continued until summer 2014, requiring a major organisational, logistical and professional effort. Alpine guides from Trentino also assisted with the restoration work and activities to ensure the safety of the structures.

The highly perishable nature of the findings emerging from the ice, above all those made of organic materials, made it necessary to carry-out rapid, initial conservation work at the site, carried out by the restorers of the Cultural Heritage Department's laboratories.

In order to reconstruct the geomorphological and palaeo-environmental history and the glacial development of the site, a team of glaciologists from the Universities of Pisa, Rome, Milan Bicocca and Padua worked at the site, together with the archaeologists from the Autonomous Province of Trento and SAP, Società archeologica from Mantua.

Filming was carried out during the various phases of investigations at the site, leading to the production of the documentary film 'Punta Linke. La memoria' by the director Paolo Chiodarelli.

Today Punta Linke has become a memorial of the First World War, probably the highest site in Europe. At Punta Linke the ice has conserved much of the supply system and this, in turn, has made it possible to create a visitor itinerary of great emotional impact. The Punta Linke site was inaugurated in July 2014 and since then is open to the public in summer. The visit allows physical contact with environments witnessing the course of the dramatic events so long ago, which nature has returned to us perfectly intact after almost a century.

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The Practice of Preserving and Presenting Archaeological Sites in Latvia

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Keywords: Latvia, archaeological sites, conservation, reconstruction, landscape

Abstract: Preservation and protection of archaeological sites is one of the issues that, for many years, has not lost its importance among a wide range of specialists. Over the centuries, archaeological sites have changed dramatically due to natural processes, military conflicts and different economical activities. Nowadays, Latvian hillforts are without visible wooden structures, medieval castles have become ruins, but they still retain their historical and scientific significance, and have become an integral part of the landscape. How to protect and make them relevant and interesting to the general public? This article reviews several examples of how archaeological sites are protected and presented in Latvia.

Historical overview

The Republic of Latvia is one of those European countries that was established after the First World War. Thus, the formation of the national cultural monument protection system only began in the 1920s, when the political and economic situation in the country was stabilized. Until then, the heritage protection policy in the country was dependent on the overall geopolitical situation in the Baltic region.

The first Latvian Law on Protection of Monuments was passed on 1923. The main purpose of the legislation was protection of movable and immovable monuments with the archaeological, ethnological, historical or artistic value, whose preservation was in the interests of the Latvian state and people (Law 1923, Section 1). In accordance with the legislation, a new institution was established; the Board of Monuments. This marked the beginning of the national cultural heritage management system in Latvia. The Board of Monuments was responsible for the whole of Latvia's cultural heritage, but special attention in its activities was paid to the identification, study and protection of archaeological sites.

For example, in 1927 the Board organized and carried out one of the first large-scale archaeological excavations in the fortified Iron Age settlement of Rauna Tanīša hillfort, located in the central part of Latvia. The excavations were visited by the President of Latvia, Gustavs Zemgals, and Minister for Education, Jānis Pliekšāns. The course of excavations was filmed. A documentary film called 'The Ancestral Hillfort' was later screened at the *Splendid Palace* cinema in Riga. An introductory lecture on Latvian hillforts and their significance was read before film screening. Thereby the importance of archaeological heritage was raised at national level.

Until the Soviet occupation in 1940, about 1,000 archaeological sites were identified and included in the Lists of the State's protected cultural monuments. Subsequent lists of the archaeological monuments of Latvia are mainly based on the materials collected by the Board of Monuments until the autumn of 1944, when the Board was abolished.

Systematic state management of cultural heritage was interrupted by the Second World War and the Soviet occupation. In the post-war period, heritage protection was under the responsibility of the Ministry of Culture and its special institutions. The character of listed monuments was reconsidered on the basis of class-conflict paradigms, but it more affected historical and architectural monuments. Several lists of cultural monuments were compiled during this time. Archaeological monuments were included in all lists, with a tendency of increasing their total number. Thus, among the cultural monuments listed in 1952, there were 171 archaeological monuments, but by 1984 the total number had increased to 1504 (Šnē 1999, 167). To some extent, economic activities prompted the discovery of new archaeological sites. For example, in the rural areas of Latvia, between 1950 and 1980, intensive and large-scale melioration took place. During these works, 27 Stone Age settlements and 41 Bronze Age and Iron Age settlements were discovered in the area of the wetlands of Lake Lubāns, located in the eastern part of Latvia.

A single institution responsible for cultural heritage was established in 1988. That was the time when political changes began in Soviet Union. In 1992, after the restoration of Latvia's national independence, it was reformed into the State Inspection for Heritage Protection. The name of the institution since 2018 is the National Heritage Board of Latvia. The Law on Protection of cultural monuments was also adopted in 1992, with last amendments in 2018 (Law 1992).

Along with other responsibilities, the National Heritage Board gathers information, studies cultural heritage, carries-out national record keeping of cultural monuments and issues instructions to owners on the utilization and preservation of their cultural monument.

The practice of maintenance and conservation of archaeological monuments

There are 2,524 archaeological monuments in Latvia. They are mainly territorial objects located on a state, municipal or private land. The owner or land user is responsible for maintenance and use of archaeological monuments. According to the Law on

Protection of Cultural Monuments, modification of a cultural monument shall only be permitted if it is the best possibility to preserve the monument, or if the cultural and historical value of the monument does not decrease as a result of the modification.

The owners of cultural monuments may receive public financial support. Funding sources, such as State cultural monument research, rescue and restoration programme of the Ministry of Culture, State non-profit organisation Culture Capital Foundation (CCF), are available for owners and researchers. Among the strategic directions set by the CCF are the training of specialists in cultural heritage research, preservation, practice and support of theoretical and research works for public use or reference purposes. These mechanisms support various projects implemented by public organizations, municipalities and regional authorities.

The specific values of the sites are defined in the documentation prepared for listing. They differ according to the typological group of the cultural monument. There is no doubt about the scientific, cultural and educational significance of archaeological monuments. However, their set of values is much often wider, as they also include historic and symbolic importance, as well as the intangible aspects.

Most archaeological monuments are not visible above the ground, and their main values to be physically preserved are the topography, archaeological context, structure of the earth's layers with historical constructions, ancient burials and other historical elements. In order to ensure their preservation, activities that change the surface of the ground in such places are not permitted. The preservation of archaeological sites is sometimes threatened by the attitude of landowners, especially when priority is given to the economic benefit of land management, such as forestry, various types of construction and agricultural activities.

Certain types of archaeological monuments, such as hillforts, medieval castles, ancient cult sites and others, are distinguished by their external form. The outer form of hillforts and their fortification elements, such as terraces, ramparts and ditches, has become an outstanding landscape value. Therefore, at the hillforts, any buildings or historical reconstructions are not permitted, even if they are based on the archaeological evidence. Reconstruction of buildings is usually carried out on a site adjoining the hillfort. Exceptions are allowed in places where a long-standing cultural tradition has developed. Hillforts and medieval castle sites were often popular places for local celebrations, and during the 19th and 20th centuries, open-air stages were built at some Latvian hillforts and castles, sometimes without any prior archaeological investigations. If such places have retained their cultural significance for local people, it is permissible to reconstruct the open-air stages, without expanding them. Also, some improvements for visitors, such as stairs, benches, etc., are allowed to be built, but they should not become the dominant element.

After several unsuccessful solutions for the preservation of medieval castle ruins, the Scientific Council of the National Heritage Board issued guidelines in 2010 for the preservation, restoration and use of medieval castle ruins. The guidelines were



Figure 1. Bauska Castle complex consists of a medieval fortress built in the middle of the 15th century and a ducal palace constructed in the mannerist style in the late 16th century. (Photo: E. Šulcs)

developed on the basis of the experience of the conservation of Bauska's medieval castle ruins.

Bauska Castle complex is located in the southern part of Latvia, on the land strip between the Rivers Mūsa and Mēmele. The castle complex consists of two interconnected parts that were built in different periods (Figure 1). The oldest part is a medieval fortress built in the middle of the 15th century by the German Order. The other part is a ducal palace, constructed at the end of the 16th century in the mannerist style in place of the former castle-front. The castle was fortified with protective walls, bastions and ramparts. In 1706, during the Great Northern war, the fortification systems of the castle were blown up. After the war, the castle lost its functional meaning and gradually turned into ruins. For centuries, the roofless walls of the castle were exposed to precipitation that accelerated erosion processes and deterioration of the walls.

The investigation and gradual restoration of the castle's newest part began in 1973. The main task of the new castle's restoration was to preserve all the existing authentic fragments of the building. The project for the preservation of the medieval fortress ruins was developed by the Bauska Castle Museum, which had been formed in 1990.

In 1999, the Czech studio, Girska a.t., in cooperation with the museum and the Czech conservator, Miloš Gavenda, developed the concept of the preservation of castle ruins and the project of conservation technologies.

The Bauska Medieval Castle conservation concept was to fully preserve the landscape and historical value of the ruins, as well as to stop the erosion processes and ensure stability of the stone walls by minimal intervention with the original structure, and make the ruins safe for visitors. The quality of conservation works was ensured by studies of historical crafts and materials, and their application at the site (Girska 2002, 20–22). Bauska mortar technologies were used in the stabilisation process of Bauska Castle. The upper part of the restored stone walls was covered with peat and a clay layer, which provide good protection against the effects of precipitation.

Archaeological monuments in the landscape

Maintaining an archaeological monument means not only taking care of its archaeological features, but also respecting the surrounding landscape. Despite the changes that have taken place over the centuries, archaeological sites have become an integral part of the landscape.

Endangered archaeological monuments

One of the territories in Latvia where significant landscape changes have taken place during the last century is the Daugava River valley. The Daugava originates in the Valdai Hills in Russia, from where it flows through Russia, Belarus and Latvia, where it finally reaches the Baltic Sea in the Gulf of Riga. Historically, the Daugava River was one of the most important Eastern European trade routes, which promoted the development of local cultures along the river. During the Late Iron Age, there was an intercultural environment along the Lower Daugava River, influenced also by the arrival of the first Christian missionaries.

Today, the Daugava River valley area is known for its multiplicity of archaeological sites, ranging from the Stone Age settlements to medieval castle sites. During the last century, three hydroelectric power plants were built in the lower reaches of the Daugava River. The reservoirs of these power plants cover part of the Daugava ancient valley. As a result, several archaeological sites and important natural objects such as dolomite cliffs and rapids, are completely or partly submerged under water. Construction works on reservoirs for power stations caused changes to the local water levels, and erosion of riverbanks began. This endangers archaeological sites near the reservoirs. To prevent this, various technical solutions are being sought and implemented.

One example of such a situation is the Daugmale archaeological complex, comprising a hillfort, settlement and burial ground. Daugmale was one of the most important ancient craft and trade centres along the Daugava River during the Middle and Late Iron Age (5th–12th centuries AD), and archaeological excavations show that the hillfort was first inhabited in the second millennium BC.



Figure 2. Daugmale hillfort after the construction of the Riga Hydroelectric Power Plant. To prevent erosion of the slope, a technical road has been built at the foot of the hillfort. (Photo: E. Šulcs)

The archaeological complex at Daugmale is located on the left bank of the Daugava River. After the Riga Hydroelectric Power Plant was put into operation in 1974, Daugmale hillfort remained close to the shores of the reservoir. In order to prevent the erosion of the hillfort slope, a technical road has been built along the foot of the hillfort. In this way, the foundations of the hillfort have been shored up. At the same time, the road is used for strengthening the shoreline of the reservoir (Figure 2).

Koknese Castle (Figure 3) is a medieval monument that was partly flooded in 1965. The stone castle of Koknese was built in 1209 on the site of a previous hillfort destroyed by Crusaders. The medieval castle was constructed on a 30m high hill near the confluence of Perse and Daugava rivers. From 1397 to 1566, Koknese served as a residence of the archbishops of Riga. Koknese castle was separated from a forecastle by a moat with a bridge over it. To the east of the castle was a medieval town. During the Great Northern War, the castle was destroyed and left unrestored.

After the construction of the hydroelectric power plant reservoir, water levels reached the foundations of the castle ruins and started to undermine them. From the 1990s, the walls and foundations of the castle have been reinforced and conserved. The ruins



Figure 3. The Koknese medieval castle ruins after the flooding of the Pļaviņu hydroelectric power plant water reservoir. (Photo: E. Šulcs)

are reinforced with concrete structures below the water, which was achieved during periodic lowering of the reservoir levels. At the same time, systematic conservation of the castle ruins above the water level have been carried out. Today, Koknese castle is a popular tourist destination and has become one of the symbols of lost values during the Soviet occupation.

Archaeological monuments in specially protected territories

There are several territories in Latvia that are distinguished by the diversity of their natural landscapes and cultural heritage values. They have a special protection status. The maintenance, preservation and use of such areas are subject to special regulations. In these territories, archaeological sites, cultural monuments of different periods and landscape are protected in their mutual relationship as an unified complex. The ancient Dviete River Valley, the Abava River Valley and the Gauja National Park are just some of these territories in different regions of Latvia.

Dviete River valley

The ancient Dviete River valley (Figure 4) is located in the eastern part of Latvia. The landscape of the Dviete River valley has developed in close relation to human activity. The first people arrived here about eleven thousand years ago, soon after the glaciers retreated. A small reindeer-antler harpoon, found on the banks of the Dviete River, provides evidence of human presence here. More intensive settlement of the Dviete Valley is thought to have taken place during the Mesolithic and Neolithic. In the late 1930s, artefacts characteristic of these periods were found (bone, flint artefacts and ceramics) on the shores of the Dviete, while the riverbed was being straightened.

Today in the Dviete River Valley, there are a range of archaeological monuments that characterise the historical development of this area over a period of thousands of years; the settlement sites from the Stone Age and the Middle Ages, and Iron Age burial grounds. Stone Age settlements are found along the banks of the Dviete River, as well as on the shores of the nearby Skuku (Grīvas) Lake, where two settlements were discovered in 2002. The cultural layer of the settlements is well-preserved because the meadows where they are located are damp and flood regularly. The water level in the lower reaches of the Dviete in springtime can exceed the level of low-water period by more than 6 meters, so settlement areas have only been used to harvest hay and have

Figure 4. The ancient Dviete River valley. (Photo: D. Gruberts)



never been ploughed. These settlements are closely linked with Skuķu (Grīvas) Lake, where other possible settlement sites have been identified.

In the Dviete river valley, a nature park, Dviete Water-Meadows, was established in 2004, covering an area of 4,989 hectares. The park has an information centre, which provides information about the natural and historical values of the Dviete River valley. Thanks to staff activities, new archaeological sites were discovered and explored here. The Dviete Valley is an illustration of how nature protection policy can also ensure the identification, research and protection of archaeological sites.

Valley of the Abava River

In the western part of Latvia is the valley of the Abava River (Figure 5). It has formed as a result of melting ice waters during the Ice Age. The Abava River valley comprises a rich landscape of cultural-historical and natural heritage, which has formed from 2nd millennium BC to 20th century AD. There are more than 30 different archaeological monuments located here. In 1996, following the inclusion on the World Monuments Fund's Watch List of endangered heritage sites, Latvia designated the Abava Valley as a specially protected cultural and historical territory, the 'Abava River Valley'. For

Figure 5. Abava River Valley – specially protected cultural and historical territory. (Photo: E. Šulcs)



the maintenance and development of this territory, the Regulations of the specially protected cultural and historical area 'Abava River Valley' were adopted in 1996 (Regulations 1996). According to the Regulations, in this territory it is prohibited to construct a new structure that degrades the environment, or to enlarge existing structures that are environmentally degrading. It is also forbidden to destroy cultural and historical monuments in the valley, as well as to transform or modify the historical relief.

Gauja National Park

Gauja National Park, founded in 1973, is the largest national park in Latvia. It covers an area of over 90,000 hectares in the central part of Latvia, along the Gauja River. According to the 'Law on Specially Protected Nature Territories' (adopted in 1997), the main goals of national parks shall be nature protection, preservation of cultural and historical heritage, scientific research, organisation of education and recreation, which are restricted by the goals of the protection of nature and cultural environment (Law 1997).

In the territory of the Gauja National Park there are more than 500 cultural monuments, included such archaeologically important places as Turaida, Cēsis and Āraiši.

Figure 6. Reconstructed Turaida medieval castle in the territory of the Turaida Museum Reserve.
(Photo: Turaida Museum Reserve)



Turaida Museum Reserve was established in 1988 and occupies an area of 42 hectares in the territory of the Gauja National Park. In 2013, the Regulations of the specially protected cultural monument Turaida Museum Reserve (Regulations 2013) came into force. According to the Regulations, the mission of Turaida Museum Reserve is to build a harmonious society through natural, cultural and historical values accumulated in the Turaida Region.

There are numerous objects of heritage value related to the period from 11th to 20th century within Turaida Museum Reserve. The most impressive archaeological monument is the Turaida medieval castle (Figure 6), built at the beginning of 13th century. From the 13th century until the second half of the 16th century, Turaida was of great economic and military importance to the Archbishop of Rīga. The castle experienced gradual decline from the 17th century, by losing its military significance and becoming a private property. During the 18th to 20th centuries, several medieval defensive structures of the castle were adjusted to economic needs.

Figure 7. The Cēsis Castle complex consists of the partly reconstructed medieval castle, built in the beginning of 13th century, a manor complex and the Riekstu kalns hillfort, and it is located in the territory of the 18th and 19th century manor park. (Photo: E. Šulcs)



From 1974 to 1999, systematic and extensive archaeological excavations were carried out, together with the architectonic investigation of the castle, followed by restoration, reconstruction and conservation of the buildings. The works were led by archaeologist, Jānis Graudonis (1913–2005), and architect, Gunārs Jansons (1928–2013). The tower height, roof form and buildings had been designed by historical analogues. The structures of the castle revealed in the archaeological excavations were restored, and exhibitions were installed in these buildings. Today, the complex of Turaida castle is one of the most impressive cultural landmarks in Latvia.

Cēsis is a small town in the territory of Gauja National park. The Cēsis Castle complex, which consists of various historical sites, is located in the historical core of the town (Figure 7). In the centre of the complex is the archaeologically investigated and partly reconstructed medieval castle, built at the beginning of 13th century. Nearby is the manor complex of the castle, dominated by the manor building, which houses the municipality's agency, Cēsis Culture and Tourism Centre, and the Cēsis History and Art Museum, a section of the agency. The Riekstu kalns hillfort is located in the territory of the 18th and 19th century manor's park. The hillfort was inhabited by the local tribes *vendi* before the stone castle was built. The complex of Cēsis ancient sites has

Figure 8. Reconstruction of the Āraiši Lake fortress. (Photo: E. Šulcs)



a high cultural-historical value that reflects the continuity of the town's historical development.

Not far from Cēsis, in the territory of Gauja National Park, there is another complex of archaeological sites at Āraiši Museum Park. The archaeological museum park consists of a 9th–11th century lake fortress and its reconstruction, ruins of a 14th–17th-century castle, and Meitu Island, on which Stone and Bronze Age dwellings were built as a result of experimental archaeology. In total, the museum park covers an area of 12 hectares on the shores of Āraiši Lake.

The reconstruction of the Āraiši Lake fortress (Figure 8) is an example of experimental archaeology in Latvia, carried out from 1981 to 1995, and still continues nowadays. Lake fortresses are a particular form of ancient settlements. Remains of such lake villages have been found at several other lakes in northern Latvia and southern Estonia. Āraiši Lake fortress is located on an island situated 50m from the shore. The island was linked to the lake shore by a rocky shallow. The lake settlement area is approximately 2500 square meters.

The first archaeological excavations here were carried out in 1876–77, but the most extensive research was carried out by archaeologist Jānis Apals (1930–2011) between 1965 and 1969, and subsequently from 1975 to 1979. Until the excavations of the 20th century, the site was fully covered by water, which ensured the preservation of wooden structures and organic materials (Apals 2002, 24).

During the archaeological excavations five chronologically successive and uninterrupted stages of building processes were discovered. In each phase, the settlement had sixteen dwelling houses. The buildings were placed on a substructure of piles that were covered with a circular wooden floor, and surrounded by defensive structures. In the submerged, waterlogged conditions, the lower parts of the buildings had been preserved to a height of 4–5 logs, and elements from the demolished upper parts were found in the cultural layer (Apals 2011, 219).

The project to reconstruct the village-fortress was initiated by Jānis Apals. Chosen for reconstruction was the earliest building-phase, from the 9th century, since this was the best-preserved. The lower sections of the buildings were recreated as copies of the recovered originals, while the upper parts were reconstructed on the basis of structural elements from these buildings found in the archaeological layers. Reconstruction was carried out using replicas of ancient tools and methods were used to give it maximum authenticity. Until the 2010 the reconstructions of 16 buildings and the foundation of the outer passageway of the lake fortress were built. The buildings were built of timber corresponding to those of the original structure- round timbers of spruce, with some pine. Thus, the reconstructed Āraiši Lake fortress exhibits a high degree of historical accuracy. The buildings of the lake fortress have been repaired every 5 to 12 years (Apals 2011, 219).

Under the leadership of Janis Apals, the Āraiši complex was developed as the first open-air archaeology museum in the Baltic. It stands out with its unique archaeological

finds, the reconstruction in the original environment, and the characteristic historical-cultural landscapes of the central part of Latvia. Āraiši archaeological museum park is a member of EXARC organization of open-air archaeological museums in Europe.

Grobiņa archaeological ensemble

The town of Grobiņa is situated in the eastern part of Latvia. Here is an archaeological ensemble that comprises several contemporary archaeological monuments: Grobiņa hillfort (Skābarža hill) and the ancient town, two burial mound sites and two flat-grave burial sites, which are located compactly in Grobiņa and its surroundings. These monuments mostly date back to the 7th–9th centuries and they are related to an impressive Scandinavian settlement, which was mentioned in the 9th century written sources under the name of *Seeburg*. Near the hillfort are the ruins of a 13th–17th-century castle (Figure 9).

In the early centuries AD, Grobiņa and its surroundings was associated with the Curonians, one of the Baltic ethnocultural groups. With the arrival of Scandinavian seafarers in the 7th century two different cultures and ethno-linguistic groups co-

Figure 9. Grobiņa hillfort (Skābarža hill), ancient town and medieval castle ruins. (Photo: J. Urtāns)



existed in Grobiņa, which lasted until the 9th century, when Scandinavian presence in the region can no longer be identified.

Since 2017, the Grobiņa archaeological ensemble has been on Latvia's Tentative World Heritage List. This has considerably changed the attitude of the local community towards their archaeological heritage. Prior to the UNESCO nomination, the archaeological monuments of Grobiņa did not attract significant local interest. Today, major cultural activities are inspired specifically by the archaeological sites and related historical events. Most of the local people now know about the Vikings and how they lived. Reconstructions of historical events and other activities, even on an international level, have become a tradition and have attracted the attention of tourists. It seems, that the town has found its identity.

Archaeological sites have to live; they are important for people. In the past few years the interest in them has been increasing, especially alongside the growing interest in historical reconstructions. Various historical reconstruction and reenactment clubs and societies are studying archaeological materials to create suitable costumes, jewellery, weapons and tools in preparation for events that have already become an annual tradition. Venues are selected near the archaeological sites and these activities provide the opportunity for general public to have an insight into that period of history when the site was inhabited. Archaeological sites are not only a backdrop to host an event, they also help to create a sense of the historical epoch, whilst increasing the value of the archaeological heritage.

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The Dutch Triple Heritage Helix.

A working model for the protection of the landscape. Introduction and the example of Utrechts Landschap

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Keywords: Netherland, landscape, heritage, protection, trust organisations

Abstract: In the Netherlands the state does not take direct responsibility for the care of archaeological monuments. Instead, the emphasis is on supporting private owners to care for monuments in their care. However, the focus of this paper is the range of non-governmental trust organisations that have been established to care for built heritage in the Netherlands. One such organization is the Utrechts Landschap Foundation, established in 1927, which has recently championed what can be termed a 'triple heritage helix' to describe the role played by the foundation, public government and civil society. In this triple heritage helix model, all three partners have a role, but Utrechts Landschap is the central, lead partner that provides the long-term vision, skills and administration to ensure that the heritage sites under the trust's care are managed and protected effectively.

Introduction

The title of the EAC symposium 2019 'Archaeological sites and monuments in the care of the state' isn't very inviting for the Dutch. We will not claim that the government of the Netherlands doesn't care about the sites and monuments. It does. But it has no policy to actively use the instrument of state ownership of sites and monuments for public objectives. The registered monuments that the Dutch state actually did own have recently been sold or are in the process of being sold. A striking example is the sale of the former royal palace Soestdijk, where Queen Juliana and Prince Bernhard lived for 60 years. The only registered monuments the Dutch state keeps in possession are the ones that can be used for governmental functions, such as office buildings for civil servants.

Instead, the prime focus of Dutch heritage policy is to enable private owners to take good care of our heritage. Within this system, it is important to focus on the group of non-governmental trust organisations who have an ideological objective to preserve the heritage. What are the strengths and weaknesses of this system that has evolved over more than a century, and what kind of improvements can be made for public benefit?

Trust organisations in the Netherlands

Surely a strength of the Dutch situation is the existence of many trust organisations who specialize in the preservation of certain kinds of monuments. There are specialized trust organisations for mills, historic houses, churches and industrial heritage, etc. Sometimes they work on a national scale. For instance, the Hendrick de Keyser Association is committed to the conservation of architecturally or historically important houses and their interiors. The Association achieves this goal by buying and restoring real estate and subsequently offering it up for rent. Houses once procured are never sold or otherwise disposed.

Another example is the national society for the preservation, development and exploitation of industrial heritage (BOEi), which is concerned with the adaptive reuse of industrial heritage. In doing so, they take on different roles, such as those of developer, investor or advisor.

Other organisations work on a regional scale. A good example is Oude Groninger Kerken, a foundation whose main objective is the upkeep of historical church buildings of the province of Groningen. It owns 66 churches, 4 church towers and 34 churchyards. The backbone of this organisation are the local volunteers.

Another notable category of local trust organisations are the organisations of *stadsherstel*; 'city restoration' or urban regeneration. They emerged in reaction to the postwar wave of modernization, which put historic city centers under a lot of pressure. City restoration organisations bought premises in almost all inner cities, in order to restore and maintain them and to create exploitable heritage. These organisations started out as private initiatives, but along the way they were increasingly supported and facilitated by local authorities and the national government.

All the above-mentioned organisations have a primary focus on monument care. Obviously, that is not so much the case with trust organisations who engage in nature preservation. Organisations such as Natuurmonumenten and the provincial landscape organisations (Provinciale Landschappen) started buying land early in the 20th century. Nature conservation was a primary concern. However, since they also bought many estates, farms, defensive works, and – more or less accidentally – archaeological sites, these organisations are now among the major heritage owners of the Netherlands. Luckily, they all have incorporated a (secondary) heritage objective into their statutes and corporate policies. Recently, these organisations started to present themselves more frequently as heritage associations.

In this article we'll elaborate on the potential of the organisations for the benefit of heritage protection. In particular, we will examine the case of Utrechts Landschap Foundation.

Utrechts Landschap Foundation

Within the Dutch field of trust organisations it looks like we have a missing link. We seem to be lacking a trust which specializes on archaeological sites and features. Although this might not ultimately be so problematic if organisations for nature protection take up this task as an integral part of their property management. In that respect, we are looking with some expectations to Utrechts Landschap, not in the least because it is being led by an archaeologist, who once was the director of the State Agency for Archaeology.

Utrechts Landschap is a Dutch regional foundation focused on the conservation of natural and non-natural heritage in the Province of Utrecht. Utrecht is centrally located in the Netherlands, where the Delta, if you go from east to west, gradually falls below sea level. In this Dutch Delta, nature and heritage are closely linked in diverse landscapes.

The archetype of Dutch landscape is that of the 19th century: rich and diverse, with limited industrial activity, cities that only just grew beyond their medieval walls and an infrastructure that mainly followed the ancient road patterns. It is an artificial landscape of closed agricultural systems, polders and vast forests. While much of this landscape feels quite natural, the first dykes and polders in the Netherlands date from at least the Middle Ages.

It was not until the beginning of the 20th century that the protection of nature, landscape and heritage in the Netherlands became a real issue. Protection started because the familiar, cherished and historically layered landscape started to disappear rapidly. Cities grew, road and rail infrastructure cut the country in pieces and the countryside was more and more intensively planned and used. In particular, wildlife biologists and botanists started to take care of the protection of nature, while urban planners and architects took the initiative to protect landscape and heritage.

Natuurmonumenten (the Dutch foundation for protection of natural heritage) was founded in 1905 when the Naardermeer (a lake near Amsterdam) was threatened to be turned into a landfill. Another foundation, Hendrick de Keyser, oriented on the built heritage, was founded in 1918.

Utrechts Landschap, the organisation we take as an example here, was founded in 1927 when the forests of the 17th century estate Eykenstein were threatened to be sold to a project developer. Dozens of villa's were planned in this area.

The model of protection in those days was simple: the foundations, supported by donations from their members (often affluent merchants, industrialists or other members of the *élites*), became owners of the threatened sites. And it worked. The acquisition by the newly founded trusts protected both sites and many more. Today, they are still places of exceptional natural beauty visited by many. In those days there

was still no legal protection. However, in 1875, the Dutch government took the first steps to provide financial subsidies for the restoration of monuments.

Only since the 1950s has cultural and natural heritage been afforded legal protection in the Netherlands. But in our view *legal* protection and governmental *subsidies* are not enough. Heritage is best secured by driven owners with more forms of income and must be managed with expertise. Ownership is decisive for the conservation of natural landscapes and monuments in their landscape context. This is the reason that Utrechts Landschap's promise to society can be realized: protection for eternity.

Both the forests of Eykenstein and the Naardermeer also show how nature and heritage go hand-in-hand in the Netherlands. The Naardermeer is an old peat extraction site, while the forests of Eykenstein have a historical layering dating back to prehistoric times and includes, amongst others, Celtic fields, a 17th century house and a 19th century park.

For Utrechts Landschap, the first land purchases were primarily done with a view to nature conservation, but quite soon the foundation became more aware of the cultural heritage embedded in the landscape and bought land with archaeological sites and historical buildings as well, and started to acquire heritage also for its cultural value. For example, the Grebbeberg, with an iron age fort, or the castle of Loenersloot and brickworks along the river Rhine. Utrechts Landschap owns now 6,000 hectares of land, and approximately 200 buildings and archaeological sites, of which, about almost 50% are listed national monuments. The other half are generally protected by other state authorities, such as municipalities. The ownership is still growing.

One of the biggest purchases was the former airbase at Soesterberg, bought by Utrechts Landschap in 2018. It comprises 400 hectares of nature, mainly dry grasslands and sandy soils, with habitats for rare and even newly discovered insect species, birds and larger fauna. The airbase however also includes all kinds of monumental (but not legally protected) military and cold war remains, with airplane shelters, underground ammunition bunkers and a 4km long runway.

Triple heritage helix

In order to achieve its goals, the organisation cooperates with public governments and civil society. This cooperation forms the DNA of heritage conservation; we therefore name it the 'triple heritage helix'. In this triple helix, the three parties all play their essential role.

Civil society provides the justification for heritage conservation. Although reliable data is sparse, we can with certainty say that, in a province of 1.2 million population, Utrechts Landschap has more than one million visitors to our monuments and nature reserves every year, possibly more than double that figure. Almost 27,000 local members support the foundation financially, and membership increased with 7% in 2018.

In addition, Utrechts Landschap has more than 600 volunteers that contribute to activities at least twice a month. Some volunteers also have very strong expertise in

Figure 1. The triple heritage helix

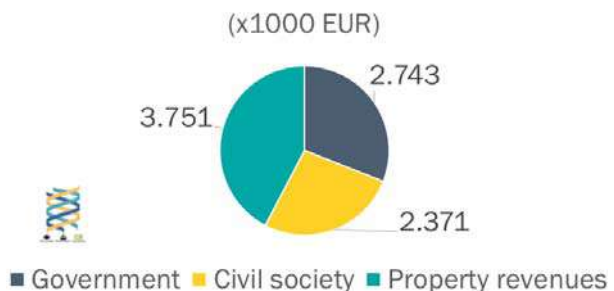


certain areas that they share (e.g. botanists, historians, archivists, etc.). More than 60 regional companies have a business membership, and that number is growing too.

Government in the first place provides boundary conditions; the policies that determine how to deal with the environment, and the funding for those things that are considered of public value. In the case of nature and heritage protection, not only the legislation around legal protection is important, but also the policies for spatial planning, agriculture and water management, among others. The government also gives subsidies for the management of heritage and nature. Furthermore, the government facilitates access to experts, nature education and public debate. They have a strong influence on the public agenda.

In this triple heritage helix, Utrechts Landschap is the stable factor in conservation that provides long-term continuity and cohesion, and the integral vision that is including nature, landscape and heritage. The foundation has sufficient size to employ adequate expertise in nature and heritage management and policy development, but is also sufficiently small to be agile and flexible. As a regional organisation, Utrechts Landschap is close to, and recognizable for inhabitants, regional politicians and civil servants.

Figure 2. The funding of Utrechts Landschap in 2017



The financing of Utrechts Landschap reflects the triple helix. From the early days onwards, the organisation is very much dependent on donations from members. In later years, Utrechts Landschap also received large financial support from the national government, for instance, for the acquisition of areas of natural importance. Because of State Aid Regulation, that is not allowed anymore. In this matter, it is interesting to know that, when the discussions about the airbase started more than 15 years ago, it was foreseen that the government would transfer the ownership of the property to Utrechts Landschap for a symbolic amount. However, in the end, the foundation paid almost 5 million euro. A serious setback, but with support of a Lottery and hundreds of individual donors Utrechts Landschap was able to buy the airbase.

A closer look at how financing of the foundation is built up shows that in 2017 there was a turnover of approximately 8 million euro. One-third of this turnover came from the civil society in the form of membership fees, donations and sponsoring. In this category, endowments are also an important source of income. Government subsidies for the management of (natural) heritage and provided for another third of the financial means. The remaining third of the income is generated by activities related to the ownership of land and real estate, for example, leasing of land, renting out properties and managing financial assets.

In the triple heritage helix, the foundation successfully protects heritage, provides space for recreation and education, develops nature and increases biodiversity and promotes sustainable economic activities. Utrechts Landschap will keep on doing that in the future, with support from society and government. The support from society is increasing, but governments (ir)regularly change. To make the triple helix work, it is important that government:

1. Has a positive attitude towards private heritage protection.
2. Takes responsibility for legislation and regulation at the appropriate government level.
3. Gives some form of continuity, without too large policy changes.
4. Provides a stable and predictable financial support structure.
5. Arranges taxation policies that promote donations, sponsoring and endowments.
6. Require limited bureaucracy.
7. Provides funding for large research projects.

The wolf, that disappeared together with our 19th century landscape, recently returned to the Netherlands. In Utrecht there have been several sightings in the last year. Utrechts Landschap welcomes this return of the wolf as apex predator in the ecosystem. Nevertheless, this is also a real challenge in a densely populated country as the Netherlands. The triple helix debates are heated, but will definitely come to a solution, as it works for heritage protection.

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Medieval Churches in Novgorod: Aspects of Archaeological Investigations and Museum Presentation

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Keywords: Medieval archaeology, Velikiy Novgorod, architectural archaeology, Church of the Annunciation, Gorodische, Church of the Assumption, Volotovo, museum presentation, Russia

Abstract: Veliky Novgorod is an ancient Russian medieval metropolis that formed part of the system of European trade and cultural relations. Many important monuments central to the history of the city were damaged during the first half of the 20th century. Three sites that have been the focus of recent conservation and presentation projects are discussed here; the medieval Church of the Assumption in Volotovo, St. Panteleimon's Cathedral and the Church of the Annunciation on Gorodische, a 12th century church of great significance in medieval Russia. Archaeological excavations informed the conservation and presentation phase of each project, and the completed works have become an important element of Novgorod's tourism branding.

Introduction

Veliky Novgorod is an ancient Russian medieval metropolis that formed part of the system of European trade and cultural relations. Many architectural monuments suffered both in the 1920–1930s, and the Second World War. The process of renovation and conservation of many monuments started in the second half of the 20th century and is on-going. The Institute of Archaeology of the Russian Academy of Sciences is leading archaeological excavations at several destroyed architectural objects of Novgorod. The latest works of our Institute resulted in the museum presentation of the ruins of the Church of the Annunciation on Gorodische, which was constructed at the beginning of the 12th century and is included in the UNESCO World Heritage list. The cultural layer of Novgorod is under state protection. Therefore, regular rescue archaeological research is being conducted in the center of the city by the Institute of Archaeology with Moscow State University and the Institute of History of Material

Culture. The excavations are revealing exceptional scientific results and it has already become one of the tourist brands of Novgorod.

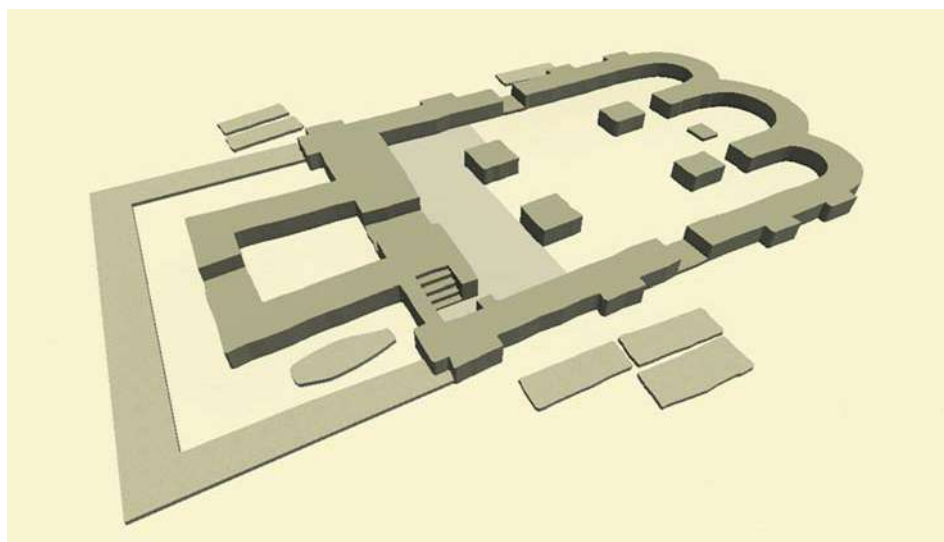
Church of the Assumption, Volotovo

Throughout the second half of the 20th century, large-scale restoration of some of the architectural monuments of Novgorod was carried out. Most of these sites were destroyed during the Second World War. Many of them required parallel archaeological research. In the 1990s, the 14th century Church of the Assumption in Volotovo was reconstructed and raised out of the ruins as part of a Russian-German project. More than half a million fragments of frescoes of the 14th century were recovered during the archaeological investigations in advance of the reconstruction. A complex process of reassembling individual fragments into whole images began in 2002 at the specialized workshop in Novgorod. By 2010, several fresco compositions, comprised of authentic elements, were mounted on the walls of the restored monument. Now the Church is a museum presentation that is open to the public.

St. Panteleimon's Cathedral

A specialized architectural and archaeological team from the Institute of Archaeology of the Russian Academy of Sciences, under the leadership of Vladimir Sedov, has been working on the territory of the Novgorod region since 1999. Our work is concentrated mainly on the territories of Novgorod suburban monasteries that were the centers of cultural and social life in the Middle Ages. One of these places is located on the southern outskirts of Novgorod, on the territory of the Museum of Wooden Architecture. This

Figure 1. Novgorod. Saint Panteleimon Cathedral. Project of museum presentation



place was once the monastery of St. Panteleimon, the last brick building of which was disassembled in the 1930s.

Over the course of six summer seasons, our team revealed the remains of St. Panteleimon Cathedral in small areas (Figure 1). The location of this building was easy to find, since the foundations were preserved just under the sod and some stones were lying on the surface on the ground. Several construction periods were identified in the surviving and revealed structures. The first and most ancient period is the beginning of the 13th century, when the building was constructed as a four-pillar, single-apse church with a small vestibule at the west. The second period dates from the middle of the 14th century, when the church was repaired, its pillars were strengthened, side apses were attached to the original apse, and the western vestibule was expanded to the side walls of the church. During the third period (the first half of the 19th century) the church was entirely rebuilt and redecorated, and a new western vestibule was laid on the old foundations. A cemetery was found surrounding the church and included the remains of 13th century brick sarcophagi, a 15th century rock sarcophagus, and earth-cut graves of the 18th–19th centuries. After the completion of the archaeological investigations and documentation of the discovered structures, all the remaining constructions in

Figure 2. Novgorod. Saint Panteleimon Cathedral. Model of the preserved structure



the ground were filled in and preserved so that there were no traces of construction on the surface.

In 2015, the process of developing a project of museum presentation of the church began. The land on which it is located is under protection, as it belongs the Novgorod Museum. In this regard, problems with vandalism were not supposed to occur. According to the existing concept, the setting of the church structures on a leveled site on the surface of the ground will be arranged.

The setting of the walls will demonstrate the construction biography of the monument. The color or features of the setting will show the different periods of reconstruction of the structure (Figure 2). Firstly, when the side apses were added, secondly, when the porch was extended, and thirdly, when the porch was reconstructed in the 19th century. It is proposed to present several original tombstones, found during the excavations, around the walls of the church. The reconstruction of the monastery Cathedral square of the 13th and 14th centuries will be carried out this way.

Figure 3. Church of the Annunciation on Gorodische and Yuriev monastery. (Photo taken in 2016)



Church of the Annunciation

The Church of the Annunciation is located in the south-eastern outskirts of Novgorod, on the territory of Gorodische, which translates as 'settlement'. It subsequently received the nickname Rurikovo, after last name of Rurik in the 18th century. Gorodische and the church are located in a picturesque area on the right bank of the River Volkhov, flowing from Lake Ilmen (Figure 3). Another ancient Novgorod monastery, which is called Yuriev monastery, is situated on the opposite bank of the River Volkhov. Both of these sites seem to be based on the ancient Greek concept of propylaeum.

The Church of the Annunciation is a complex monument. The brick church, built in 1103 by command of Novgorod Prince Mstislav Vladimirovich, was demolished in 1342. A new church was built on its place in early 1340s, by command of the Grand Duke Simeon the Proud, and partially remained to this day. The 14th century brick church was first rebuilt in the 18th century and was severely damaged during the Second World War. The monument had become ruined by the 1950s and was partially covered by vegetation (Figure 4).

Figure 4. Church of the Annunciation on Gorodische. Ruins of the church from the west. (Photo taken in the 1950s)





Figure 5. Church of the Annunciation on Gorodische from the south-west.
Results of the 2016 excavations

The Church of the Annunciation is one of the key monuments of Novgorod's history and architecture. Its location on the elevated bank of the Volkhov river, close to Novgorod, organically prompted its museum presentation as a tourism asset. Plans of the State Novgorod Museum for the conservation and museum presentation of the Church of the Annunciation allowed the excavation of the church over the course of two summer seasons in 2016 and 2017, under the guidance of Vladimir Sedov, scientist with the Institute of Archaeology (Седов 2019).

What is the importance and significance of this building for the history of medieval Russia? Dedication to the Annunciation was associated with the eldest son of Prince Mstislav. Together with his civil name, Vsevolod, his Christian name was Gavriil (Gabriel). His patron, Archangel Gabriel, was one of the participants in the Evangelical event of the Annunciation of Mary. The construction of the brick Church of the Annunciation can be associated with the birth of the first son of Prince Mstislav Vsevolod-Gavriilfigure. Such a close connection between the church construction and the prince's family apparently led to the efforts of Mstislav to decorate the church. It is known that the original 12th century church was frescoed and elaborately decorated. Chronicle sources say that a messenger of the Prince was sent to Constantinople to decorate hand-written Gospels, which was made specially for this church.



Figure 6. Church of the Annunciation on Gorodische from the above. (Photo taken in 2016)

The archaeological excavations at Gorodische have been conducted systematically by the St. Petersburg Institute of the History of Material Culture since 1966. During this time, extensive results have been obtained on the history of Gorodische and Novgorod as a whole. Our excavations of the church were carried out in context of this wider archaeological research of Gorodische. However, the church itself had been studied in the 1960s by Leningrad archaeologist, Mikhail Karger (Kaprep 1970).

During the first season, in the summer of 2016, we excavated the western part of the 12th century church, underlying the church of the 14th century (Figure 6) (Седов & Вдовиченко 2017). As a result, we have managed to discover all the stone structures located to the west and south of the church of the 14th century, as well as study the layers associated with them. This year's excavation was a rather complex spatial composition, which had upstanding stone structures of walls and foundations. Within this network of walls and foundations there were excavated areas, which we called 'archaeological windows'. Only in this western part of the 12th century church, where stone structures remained below the floor level, was it possible to excavate the 'archaeological windows' between these structures. The surviving floor preserved in the eastern part of the church prevented us from excavating the space between the pillars and walls.



Figure 7. Church of the Annunciation on Gorodische. Layout of the churches with color coding of the 'archaeological windows' that were excavated below the foundations

If you look at the illustration (Figure 7) of the foundations of the 1103 church that were discovered in 2016-2017, you will see that the purple colour indicates the places where we have carried out excavations of the ordinary layer. The light blue colour marks areas where we have found layers of successive backfilling, which we associate with the leveling of the Gorodische in the 10th century as part of the construction of fortifications with a deep moat. The red colour shows those areas that were excavated down to the subsoil. This was only possible where there was no danger of collapse of the stone structures.

The stratification is divided into two rather well-documented periods: we have emphasized the level of the 11th century, dated by findings, ceramics, silver coins and radiocarbon analysis of wood. At this level there were at least three collapsed ovens (Figure 8). A calcined layer was discovered under the ovens and demonstrates that they were *in situ*. The complex of findings from this layer and a layer above is rather significant, especially we can note a nail with the image of a winged lion.



Figure 8. Church of the Annunciation on Gorodische. Fragments of ovens. (Photo taken in 2016)



Figure 9. Church of the Annunciation on Gorodische. Stone setting remains. (Photo taken in 2016)

The lowest and earliest horizon dated to the 10th century. The dating is based on the finding of a series of Arab coins, radiocarbon analysis of wood, and further supported by the analysis of individual artefacts and ceramic material. Excavations revealed evidence for a wooden dwelling in the eastern part, as well as a evidence for ploughing, obviously somewhat earlier than the 10th century, in the western part of the excavated area. Among the interesting objects was a wooden door, dating back to the 10th century. Timbers found below the door may have formed part of a wooden floor of the dwelling. The Arab silver coins, found in this horizon, correspond to the 9th to early 10th centuries.

However, I would like to devote a significant part of this report to architectural and archaeological discoveries, and those methods by which the surviving structures were conserved and prepared for the Museum's presentation.

The ruins of the monastery's refectory from the end of the 18th century and the bell tower dated back to the second half of the 19th century, were preserved at the western side of the present excavations. In order to expose the walls of the church of the 12th century, the walls of the 18th century refectory were disassembled. The base of the bell tower was revealed and otherwise left untouched. After disassembling the walls and foundations of the refectory, sections of the walls and pillars of the original Church of Prince Mstislav were opened (Figure 9), as well as sections of continuous foundations that connected the foundations under the walls and pillars to form one common



Figure 10. Church of the Annunciation on Gorodische. Fragments of frescos. (Photo taken in 2017)

network (Вдовиченко 2019). We carried out careful measurements of the preserved parts of the walls and pillars, as well as documenting all the details. Where possible, the foundations of the walls and pillars were revealed to the bottom. The stair tower is of great interest, partially preserved *in situ*, and partially inclined as a result of the destruction. The central pillar of the stair tower and its first steps were revealed after the work.



Figure 11. Church of the Annunciation on Gorodische from the south-west after finishing the restoration. (Photo taken in 2018)

In 2016, a small exploratory excavation was arranged inside the ruins of the 14th century church to understand the situation we were to face the following year. The profile of the small excavation showed that the ruins of the 12th century church had been covered with sand (in 1342), and that this sand was covered with a layer of construction rubbish of the 12th century church. These layers contained numerous fragments of frescoes, which were processed by Novgorod conservators who had been invited to participate in the excavations.

In 2017, the fragments of frescoes were picked out by the archaeologists and conservators during the very thorough joint project (Figure 10) (Седов & Вдовиченко 2019). The foundations of the 14th century church and the eastern part of the 12th century church were slowly excavated. The structures of the 14th century were literally cut into the ruins of the church of the 12th century, and the foundations of the pillars and walls were dug to a great depth.

The surviving portions of the eastern part of the 12th century church comprised portions of the two apses, the base of the bishop's bench and the first stage of the archbishop's seat, the base of the large communion table, a small communion table in the northern apse and two eastern cross-shaped pillars (Figure 11). The limestone floor

was preserved across a reasonably large area, which, after close examination, turned out to be a double floor; the lowest one belonged to the time of the construction of the church early in 12th century, and the upper one to a later phase of repairs. The church was decorated with fresco paintings created immediately after its construction. Numerous fragments of these frescoes, including the ones which had faces on them, were found during the excavations. Indeed, frescoes survived *in situ* on many of the interior faces of the walls. Fragments of smalt with geometric shapes were found and suggest that the walls of the eastern part of the church were decorated with mosaics.

The fragments of fresco plaster extracted from the layer had graffiti inscriptions. They had inscriptions of exceptional content, mainly chronical data: who died, when they died and in what circumstances. In some cases, the inscriptions coincided with the chronicles. One of the largest inscriptions that was found and collected during the excavations, told about the death of the Prince Vsevolod-Gavriil, in whose honour, most probably, the church was built. The inscription, in addition to the facts, contained poetic images, not peculiar to the language of strict Chronicles. The Prince's servants who stayed alive after the Prince's death cried for the Prince, like a herd cries for its shepherd.

The revealed structures of the church of 1103 allowed us to make several graphic reconstructions, including the layout of the church, its parts and even a hypothetical reconstruction of the whole building. When all the structures revealed in two seasons were connected, it became possible to reconstruct the original layout of the 1103 church and to impose the layout of the church built in 1342–1343. This layout is mainly the subject of conclusions about the place and importance of the Church of the Annunciation on Gorodishche in the history of Kiev and Novgorod architecture. In addition, the revealed foundations have great importance, as well as sections of continuous foundations connecting those under the walls and pillars into one common network.

In 2011, the Church of the Annunciation on Gorodishche was included in the project named 'Preservation and use of cultural heritage in Russia', which was financed by the World Bank, according to proposals by the State Novgorod Museum. In 2012, there was an international competition to develop a project for the preservation of the monument. The construction organization from Veliky Novgorod called 'Small architectural and restoration partnership' was the winner of the competition.

The conservators carried out a series of works to preserve the stone setting; bio-processing, in-filling with a stone-reinforcing liquid, covering with a profiled membrane and geotextile material, filling with a layer of compacted sand and closing with a reinforced concrete line, which is the final element of the conservation programme. There was the exact layout of the 12th century church laid out on the top of the line and consisted of from three to five courses of bricks and stones chosen from the archaeological excavation collection (Figures 12 and 13). The chopped bricks were used inside the stone setting, as well as natural rocks. According to the ancient technology the joints of the stone and brick rows were in-filled with chopped bricks



Figure 12. Church of the Annunciation on Gorodische. Interior from the south. (Photo taken in 2018)

and sand. As part of the museum presentation project, a new roof was suggested and arranged inside the 14th century walls, at the angle of 12 degrees.

The main central part of the roof has been made of glass for interior lighting. The roof is almost invisible from outside, because it is visually closed with the upper parts of the walls. A metal platform with a wooden deck was arranged at the 14th century floor level to let everyone see the remains of the 12th century church. The platforms are located along the western, southern and northern walls, in the interior of the church. Outside it passes over the reconstructed layout of the 12th century church. The western area of the platform is located above the base of the bell tower of the 19th century, the remains of which were revealed and conserved.

The exposition of the interior of the church is being formed and will communicate the history of the archaeological study of the church and highlight the most important results of research, in particular the frescoes and findings.

The work on research and preparation of Novgorod monuments for the museum presentation continues. The archaeological work on the territory neighboring the Trinity Church is being held in the center of Novgorod. This excavation has become a



Figure 13. Church of the Annunciation on Gorodische from the north-west after finishing the restoration. (Photo taken in 2018)

real open-air Museum and one of the tourist sites of the city. However, this is a topic for a separate long report, possibly at the next conference.

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Visitor Erosion in Fragile Landscapes: Balancing Conflicting Agendas of Access and Conservation at Properties in Care

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Abstract: There are difficult and often conflicting agendas to balance with regard to managing historic and archaeological sites as visitor attractions. This paper discusses the significant impact of high visitor numbers at archaeologically sensitive sites in the care of Historic Environment Scotland and the approaches taken to mitigate visitor erosion and manage access. Understanding a monument's significance, a robust management plan and stakeholder and community engagement are essential to successful long-term conservation. Two cases studies are discussed: Holyrood Park, Edinburgh and the Ring of Brodgar, Orkney.

Introduction

Historic Environment Scotland (HES) is the lead public body established to investigate, care for and promote Scotland's historic environment. A major function of HES is to manage the portfolio of Properties in Care (PICs) on behalf of Scottish Ministers.

Conserving, managing and providing access to these historic sites can be challenging; there is often a difficult balance to strike between conservation needs and encouraging access, between commercial needs and ensuring visitor safety, while protecting the cultural significance and preserving fragile remains. This paper explores some of these challenges, focusing on two case studies where increasing visitor numbers are posing a threat to fragile archaeological landscapes and the practical measures that have been taken in recent years to address this. In both cases, the threat of visitor erosion has led us to reassess how we protect and conserve these sites in the long term, how we choose to present them and provide access, and to reconsider how we define, promote, and prioritise the various elements of a site's cultural significance. Both examples raise difficult questions around successful long-term management

and conservation of seemingly 'wild' and 'natural' landscapes in the face of increasing visitor numbers.

Properties in state care in Scotland

There are over 300 properties across Scotland that are managed by HES on behalf of Scottish Ministers. The portfolio represents over 5000 years of Scotland's history and prehistory. These are nationally and internationally significant monuments, most of which are legally protected as scheduled monuments or listed buildings, in addition to being in state care. HES' role is to enhance knowledge and understanding of these sites, to share and celebrate them and provide access for all, and to conserve and protect them for future generations.

Our remit in relation to the PICs is defined by two main pieces of legislation: the Ancient Monuments and Archaeological Areas Act (1979), which provides legal powers to secure public access arrangements for PICs and sets out the terms for ownership and guardianship of monuments in state care, and the Historic Environment Scotland Act (2014), which sets out the terms by which Scottish Ministers may delegate functions relating to the PICs. The majority of the PICs are free to access and many are open all year round, without restriction. Our access policy (HES, 2016) sets out aims to make access to the PICs increasingly accessible, broadening the visitor demographic and encouraging all to engage with, enjoy, and benefit from the historic environment.

Holyrood Park case study

Holyrood Park is the largest and most varied of all of the PICS managed by HES. It is a unique landscape in an urban setting, a dramatic and rugged open space within the heart of the city of Edinburgh. The park covers around 259ha and is a varied terrain, with playing fields and sweeping grassy slopes around the perimeter, and hills, rocky crags, and lochs within. The remains of an extinct volcano stand at the centre, rising to 251m above sea level. Arthur's Seat and Salisbury Crags are both iconic landmarks, visible from miles around, and, although not part of it, form a dramatic setting for Edinburgh's World Heritage Site. Of all of the PICs, Holyrood Park exhibits the broadest range of heritage values and has exceptionally high levels of visitation and use. This makes it a great asset to HES' estate and to the city of Edinburgh. However, the site also poses many challenges in terms of management, conservation and visitor access.

Holyrood Park is significant for both its natural and cultural heritage, and is recognised and protected as such through a number of different statutory designations that inform its management. In addition to its status as a Royal Park and a PIC, it is legally protected as a Scheduled Monument. There are also two separate Sites of Special Scientific Interest (SSSIs) that fall within the park: Arthur's Seat SSSI covers the whole of the park; the second SSSI covers Duddingston Loch. Its complex geology supports rich and diverse plant communities, with over 350 species identified, including over 60 species that are regionally or nationally rare. Duddingston Loch is the only natural freshwater loch in the city of Edinburgh and it provides a nutrient rich habitat that supports a wide range of species, especially breeding water birds.

As a large open space within the capital city, Holyrood Park is an important recreational resource and has been recognised as such for over 150 years. It is viewed as a place to escape, to relax, to exercise in and explore, and is loved by locals and visitors alike. Many use the park daily, for exercise, commuting or dog-walking, and climbing to the top of Arthur's Seat is viewed as a 'must see' among tourists in the city.

A brief history of Holyrood Park

Holyrood Park is not just a green open space, but an ancient landscape, with evidence of human activity spanning from the Mesolithic to the present day. It is nationally significant for its history and archaeology. With the visible survival of features such as the cultivation terraces and four hillforts, it offers a unique opportunity to experience and interpret such archaeological remains within an urban setting. Over 100 sites or features of archaeological interest have been recorded within the park (see the National Record for the Historic Environment; Carruthers 2018; Alexander 1997).

The earliest traces of human activity are in the form of stray finds; a microlith and two arrowheads provide the sole evidence for the Mesolithic and Neolithic. From

Figure 1. View of Arthur's Seat from the east, with the cultivation terraces clearly visible and cut by desire lines to the summit from the road. © Crown Copyright HES



the Bronze Age onwards, there is evidence to suggest the land was settled and under cultivation – and that occupation and land use seems to have continued right through to the modern era. There is considerable evidence for agricultural activity in the landscape, with well-preserved sections of cultivation terraces on the eastern slopes of Arthur's Seat (some of which are likely to date from the Bronze Age) and rig-and-furrow of a later date. The cultivation terraces are among the best-preserved examples in southern Scotland and provide valuable evidence for prehistoric human activity in and around Edinburgh. There are also the remains of four Iron Age or early medieval hillforts. Each is of different size, form and probable date of occupation; the best preserved is that on Dunsapie Crag.

From the founding of Holyrood Abbey in 1128, the park's history becomes intertwined with the abbey and the royal palace that subsequently grew up there. The land was divided between the monasteries of Holyrood and Kelso and was used extensively for cultivation and pasture. Lengths of earth and stone banks, swathes of rig and furrow and the remains of dams attest to the intensive use of the landscape. The most striking architectural remains in the park are that of St Anthony's Chapel, which stands on a rocky crag at the edge of the park, overlooking Holyrood Abbey. The chapel is associated with Kelso Abbey and is thought to date to at least the early 1400s, though evidence in the surrounding area and connections to a holy well suggest there may have been religious activity here from a much earlier date. In 1541 the land became a royal park; James V had a boundary wall constructed around the perimeter, elements of which survive today. In recent centuries, there is evidence for quarrying activity, rifle ranges, air-raid shelters, allotments and First World War practice trenches.

Emergence of a managed park landscape

In the early 1800s, Holyrood Park was far from the calm, natural 'wilderness' we see today. It was surrounded by industry, with much of the park itself being actively quarried or used for agriculture. This began to change towards the mid-1800s as the government sought to address the excessive quarrying of Salisbury Crags by the Hereditary Keepers, the Earls of Haddington. By 1845, the Hereditary Keepers office had been bought back for the Crown and the Commissioner for Woods and Forests became responsible for management of the park. These changes signified a shift in attitudes towards the park, as it increasingly came to be seen as a place for recreation and leisure. Queen Victoria and Prince Albert were responsible for many changes that essentially shaped the park as we know it today; five picturesque lodges were built around the edges of the park, the entrances were formalised and embellished, and a road was constructed to follow a circuit around the park. This was the start of the formal recognition of the park as a place of 'wildness' in the city and a place for the wider population to benefit from. These are still among the most valued aspects of the park today and are a key part of what makes it attractive and significant.

Challenges

Visitor footfall

One of the biggest challenges faced in Holyrood Park is how to manage the impact of increasing visitor numbers. The park is a top visitor attraction in Edinburgh and one of the most visited sites in the estate. With the expansion of Edinburgh Airport and favourable exchange rates, visitor numbers to the city have soared in recent years and this seems to be a continuing upward trend. There are over 3.5m visitors to Edinburgh each year – many of whom are likely to visit the park – in addition to the probable hundreds of thousands of visits each year from residents. There have been no studies to calculate the exact number of visitors, but anecdotal annual estimates range from 0.5 to 5 million visits per year, with the exact figure most likely to be at the top end of this estimate.

Increased visitor footfall, and activities such as cycling and running, commercial dog-walking and organised training within the park is leading to the erosion of archaeologically sensitive areas. There is now a real risk of loss of significant archaeological deposits in certain areas.

Climate change – a perfect storm

An exacerbating factor in this is the increased wet weather and storm events as a result of climate change. Figures suggest that Scotland is on average seeing 21% more rainfall

Figure 2. Erosion scar on main route to Arthur's Seat summit, June 2018.

© Historic Environment Scotland



in recent years. Increased footfall leads to compaction of the soil; with increased rainfall there is increased run-off and the compacted ground easily becomes saturated. This in turn results in topsoil being eroded and washed away. Visitors then avoid these areas where the ground is churned up, or paths have been eroded, leading to the widening of paths and new desire lines forming. The park's uneven terrain, steep slopes and friable volcanic rock make this especially problematic.

Understanding and access

It is challenging to effectively communicate the sensitivity of this landscape. While it may appear bold, rugged and dramatic, many of the elements that make it culturally significant are easily overlooked and vulnerable to visitor impact. The archaeological remains are often not easily apparent and most visitors are unlikely to be aware of their significance. The cultivation terraces are an impressive landscape feature, especially when viewed in low, raking light, but we know frustratingly little about them and most visitors do not recognise them as archaeological features. The hillforts and various earth and stone enclosing banks within the park are similarly easy to overlook, and again have not been scientifically investigated. Across much of the park there is high potential for the survival of significant buried archaeological deposits that could provide valuable evidence for settlement and use of the landscape from the Bronze Age through to the present day, but the nature and extent of such deposits is not currently known and may be at risk of erosion from visitor footfall.

HES shares, celebrates and encourages learning about both the cultural and natural significance of the park in a number of ways, through the Rangers Service (who provide outreach, education, volunteer opportunities, public talks and guided tours), fixed graphic interpretation panels at key locations, online and social media content, and a small exhibition in Holyrood Lodge. With such a huge number of visitors and a wide range of reasons for visits to the park, it can also be difficult to reach the right audiences. It is recognised that more could be done to promote this unique and significant historic landscape, and that in raising awareness, there are opportunities to promote better stewardship. However, there are limited staff resources in relation to the scale of the park and the number of visitors, making it difficult to be on hand to provide information about the significance and sensitivity of the park, other than through planned events such as guided walks, talks and tours. The addition of further fixed interpretation panels would not be a desirable approach to better informing visitors either, as this diminishes the sense of a wild and natural landscape.

Current management regime

The management regimes in place are aimed at encouraging access, while also trying to preserve and maintain the sense of a natural, wild and rugged landscape. The first formal management plan for the park was produced in 1993 and reviewed and updated in 2004. Though many of the objectives remain broadly the same, there are several factors – not least increasing visitor numbers and climate change – that mean the existing management plan is in need of considerable revision and updating to reflect the current situation. HES's Monument Conservation Unit and District Architect

are responsible for conservation and management of the entire area within care. The day-to-day practical management of the park is the responsibility of HES' Rangers Service. They are also responsible for managing visitor safety, nature conservation, encouraging learning, engagement and education, managing public events, and running a volunteer programme.

There are a number of managed footpaths around and across the park. These are aimed at encouraging access, while guiding people away from sensitive or dangerous areas. The key routes provide access to the summit from the two main entrances, a route through the centre of the park, and one along the 'Radical Road' that runs below Salisbury Crags. There are difficult tensions to manage between increasing access, providing clear signage and safe routes, managing visitor flow, and protecting sensitive areas. There is a rolling programme of path maintenance on the main routes, aimed at addressing erosion issues, improving drainage, and encouraging safe access. The path maintenance itself tends to be carried out in phases by specialist contractors experienced in the management of sensitive upland landscapes. As far as possible, soil and stones for the path repairs are geologically matched. At present there is no strategic management in place to address visitor erosion issues beyond the maintained paths, other than encouraging visitors to keep to marked routes.

Figure 3. Path maintenance in a challenging landscape. © Crown Copyright HES



Improving our understanding

Though the park is recognised, at least within the heritage profession, for its rich cultural heritage, the archaeology is not understood in great detail. Yet in order to effectively promote appreciation of this historic landscape, we need to be able to understand it. A greater understanding of its cultural significance can also enable us to better manage the site and to protect it for future generations.

A comprehensive GPS survey of the park was completed in 1997 by the (then) Royal Commission on Ancient and Historical Monuments of Scotland (now part of HES). Prior to that a number of smaller-scale surveys and interventions had taken place, with extremely limited research and focused scientific investigation (see Alexander 1997; Stevenson 1949; RCAHMS 1999). The probable prehistoric settlement, hillforts, cultivation terraces, linear banks, and rectilinear enclosures are all of unknown date, and the precise function of the latter features is also unknown. While some areas of the park have been mapped out according to their likely archaeological sensitivity, in many areas the archaeological potential remains unknown. Given these gaps in our knowledge and the increasing threat of visitor erosion, since 2016 we have focused upon improving our understanding of the park's archaeology and its significance before these remains are potentially lost.

Airborne Laser Scan

In March 2017 an airborne laser scan (ALS, also known as LiDAR) was commissioned, conducted by Blom Aerofilms, with the aim of producing a highly accurate and detailed baseline survey showing the topography of the landscape, along with high resolution aerial imagery. This method of survey was chosen as it can detect very subtle topographic features. Another huge advantage of using ALS is that the post-processing of the data allowed us to 'remove' the dense gorse and other vegetation which covers large areas of the park, essentially allowing us to see any features that may otherwise be obscured by vegetation. This negates the need for walk-over survey, access inaccessible areas, saves time and costs, as well as safety for surveying staff.

Figure 4. Extract of the ALS survey results, showing the hillfort remains at Dunsapie Crag (pictured in photograph) © Historic Environment Scotland



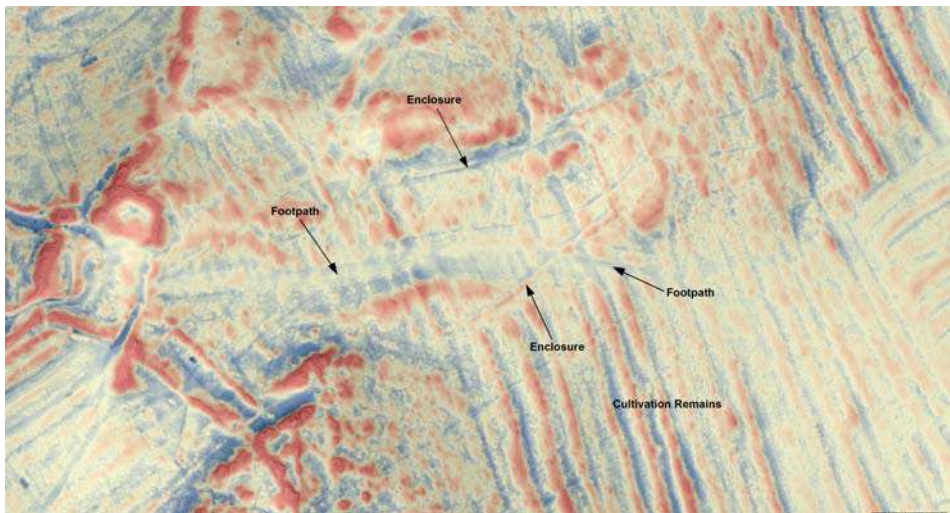


Figure 5. Aerial photography and ALS survey data for Whinny Hill, showing the DTM in the middle image and DSM, with vegetation cover 'removed' on the right. © Historic Environment Scotland

The survey identified stretches of enclosures, earthwork banks, boundaries and cultivation terraces that are not visible or accessible on the ground due to erosion or vegetation growth (Figures 4 and 6). New features were also identified, including the remains of First World War practice trenches dug by soldiers as a training exercise before they travelled to the front lines. The survey data has provided us with an incredibly detailed snapshot in time, allowing us to map out all upstanding archaeological features as accurately as possible, and to identify areas for concern in terms of erosion or vegetation cover (Figures 5 and 6). However, it does only provide

Figure 6. Extract of ALS survey data showing cultivation terraces and an enclosure on the eastern slopes of Arthur's Seat and the visible impact of desire lines cutting across these features.

© Historic Environment Scotland

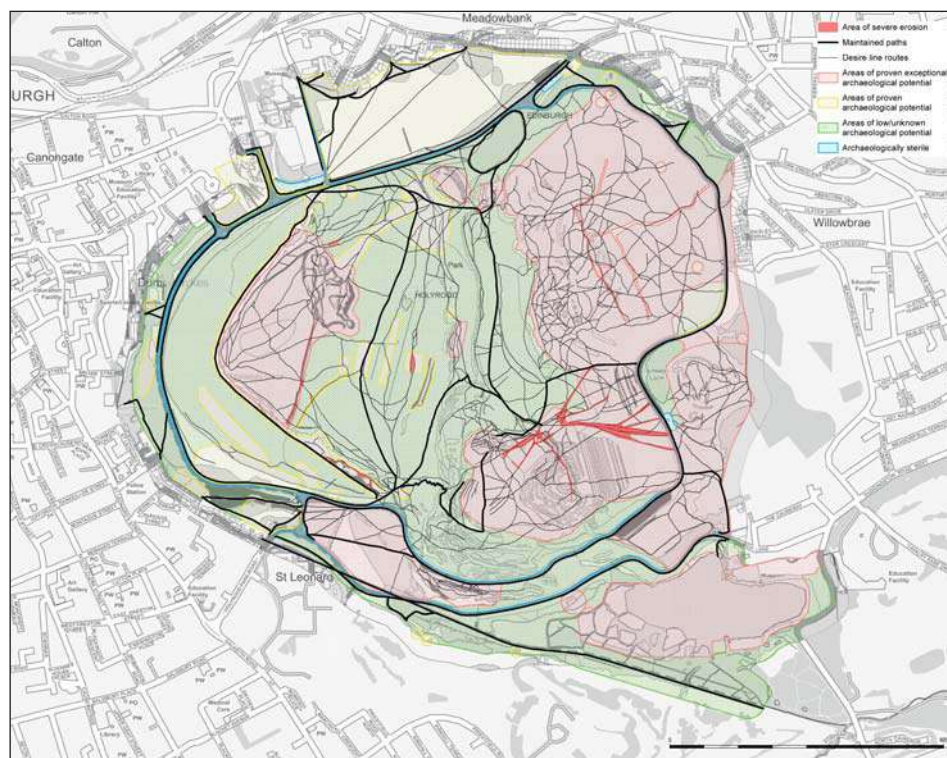


a baseline survey and the cost of ALS at present is prohibitive to allow regular repeat surveys for condition monitoring.

Recording condition data

Following on from the ALS survey we commissioned CFA Archaeology Ltd to conduct a cultural heritage condition survey. The first stage involved a desk-based assessment, with analysis of previous survey work, followed by fieldwork aimed at identifying all upstanding archaeological features visible on the ground and producing a rapid assessment of their condition, using a standardised methodology and recording form (Carruthers 2018; methodology developed from Dunwell & Trout 1999; Rimmington 2004). Where erosion or other damage was identified as impacting upon cultural heritage assets, the location and extent was recorded using handheld GPS. CFA Archaeology were able to overlay plans of the maintained footpaths and desire lines using the ALS data and the results of their desk based assessment and field visits to

Figure 7. Map showing areas of archaeological sensitivity and erosion in Holyrood Park, with main footpaths overlain. © CFA Archaeology Ltd (CFA); contains Historic Environment Scotland Data © Historic Environment Scotland



evaluate areas of relative archaeological potential and their condition (Figure 7); this data can then inform how we manage areas that are most at risk. As with the ALS survey, it is the intention that the results of this project will inform a new management plan in the near future.

The condition survey identified visitor footfall as a significant factor in the erosion of archaeological features in the park and the greatest threat to their survival. Visitor footfall is having three key effects:

- disfigurement of earthwork and other low-lying features.
- destabilisation – especially on the steep slopes where the cultivation terraces prevail.
- irretrievable information loss as a result of gradual destruction of both upstanding archaeological features and underlying deposits as a result of erosion. Desire lines tend to follow linear features such as ramparts, earthworks or field banks, or cut diagonally across cultivation terraces leading to disfiguration of the profile of these features and erosion of stone revetting walls (Carruthers 2018).

Visitor erosion has been recognised as an issue on the eastern slopes of Arthur's Seat since at least the 1970s, and was again flagged as an issue in the Cultural Heritage Survey

Figure 8. Aerial photograph of Nether Hill and Crow Hill, adjacent to Arthur's Seat, taken in 2014.
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Figure 9. Aerial photograph of Nether Hill (in foreground) and summit of Arthur's Seat (in midground), taken in 2017; note significant reduction in turf cover in areas close to the summit and close to the area of the hillfort remains. © Crown Copyright: HES

of 1996 – though at that time erosion was localised and small-scale. The recent survey indicated that erosion from visitor footfall has grown steadily worse in recent years, with many new desire lines criss-crossing the park. In some extreme cases, erosion is now so severe that the underlying bedrock has become exposed. The worst affected areas are around the fort on Arthur's Seat, the cultivation terraces on the eastern slopes of Arthur's Seat, St Anthony's Well, Samson's Ribs fort, and various enclosures and earthwork boundaries on Whinny Hill (see Figures 8 and 9 to see worsening conditions).

Aims for the future

It is clear that visitor erosion is at an all-time high and is posing a severe risk to the archaeological remains, as well as having a detrimental impact upon the aesthetic of the park. The results of the condition survey will be used to push for new management strategies – both surveys have already informed recent footpath and vegetation management. However, there is a need for a high-level and holistic management plan for the whole park that has a much wider scope than solely visitor access and footpath management. Given the complexity of the site and challenges with diminishing budgets, this is not a straightforward task. A new management plan would need to balance varied and competing needs of visitor experience, natural and archaeological

conservation, and the local community, as well as taking consideration of economic factors and traffic management.

Case studies of other sites facing similar challenges have shown that interpretation and promotion of good stewardship can go a long way to modifying visitor behaviour and reducing the impact of visitor erosion (McGlade 2016; Carter & Grimwade 1997; Millar 1989). Work has begun to promote the park and to raise awareness of its history, significance and sensitivity among visitors and locals alike. A new information hub was opened in 2018, re-using one of the Victorian lodges. This contains a small exhibition, explaining the significance of the park's history and wildlife, and encouraging visitors to treat the site with respect. In addition, a new leaflet is in development that outlines the main footpaths and encourages visitors to keep to newly marked routes, complemented by the addition of new signage that has been carefully designed and located so as to have maximum impact for visitors, with minimal impact upon the park's landscape. A new guidebook and audio-guide smartphone app are also in development, both of which discuss the sensitivities of the landscape and conservation work, in addition to the park's archaeology, history and natural heritage.

There are difficult decisions to be made regarding visitor access and acceptable loss in terms of the archaeological remains within the park. There is a need to promote core path routes and reduce access across more sensitive areas of the site. However, restricting or reducing access is far from a simple solution and it would be difficult monitor and manage with the current resources available.

Discussions have begun around how to develop a campaign to promote good stewardship of the park through the use of the web, social media, and improved marketing. Anecdotal evidence suggests that engagement with local stakeholders and user groups in other parks – working with local running clubs or climbing groups for example – has resulted in notable improvements, with many visitors being likely to change their behaviour in order to reduce their impact upon sensitive areas (Martin Gray, Ranger & Visitor Services Manager, pers. comm.). The park has such a large range of stakeholders and user groups – and is such a prominent part of the city – that any future management plans will need to engage with these various stakeholders in order to be successful.

In light of the severe on-going erosion in certain areas of high archaeological potential, new archaeological investigation is planned for September 2019 focused on some of the most at risk areas. Consent has been obtained for small-scale rescue excavation to determine the nature of the archaeological deposits and gain a better understanding of the degree of impact visitor erosion is having upon these remains. The investigation also aims to gain sufficient data through radiocarbon or OSL dating and soil micromorphology to shed light on the origin, development and use of the agricultural terraces and enclosures on Arthur's Seat, before this information is lost. In addition to this, between March 2018 and summer 2019, HES has funded palaeoenvironmental analysis of a loch core from Dunsapie Loch with the aim of furthering our understanding of the vegetational history and agricultural activity on the eastern slopes of Arthur's Seat. The work has been funded and managed by HES, with specialist fieldwork and analysis undertaken by the University of Stirling.

Ring of Brodgar case study

The Ring of Brodgar is a massive henge and stone circle, situated on gently sloping ground at one end of an isthmus between two lochs, on mainland Orkney. It forms part of the Heart of Neolithic Orkney World Heritage Site. At the opposite end of the isthmus is the Stones of Stenness henge and standing stones, and between and around these monuments are numerous other prehistoric sites, including the massive Neolithic ceremonial centre at the Ness of Brodgar, Barnhouse settlement, and Maeshowe chambered tomb. Each of these sites, with the exception of the Ness of Brodgar, which is currently under excavation, is protected as a scheduled monument. In addition to the impressive densely packed archaeological remains, much of the land around the Ring of Brodgar is owned and managed by the Royal Society for the Protection of Birds (RSPB) as a nature reserve.

The Ring of Brodgar is open to the public all year round, at all times. HES manages a footpath leading up to and around the monument. There is also a circular walk around the RSPB reserve, passing by the lochs either side (Figure 10). Visitors are encouraged



Figure 10. The Ring of Brodgar from the air



Figures 11 & 12. Then and now at the Ring of Brodgar. © Crown Copyright: HES



to keep to the footpaths, and to use the two prehistoric causeways over the ditch to enter the Ring (on entry a fence directs them towards the northernmost entrance). There are no surfaced paths around the Ring at present and until recently, visitors have been able to walk within and around the monument freely, to experience the standing stones without any restrictions. Though the site is managed as a visitor attraction, with signage, fencing and maintained pathways around the site, it is viewed as a wild and natural landscape and there is a desire to retain this aesthetic. The RSPB aim to conserve the grassland, heather and wildflower meadows in which the Ring of Brodgar is situated, but increasing visitor pressure also impacts upon this habitat and the many bird species that live here.

Increasing visitor numbers – increasing erosion

The islands have always been popular with visitors in search of history and nature – for both academics and tourists alike – but visitor numbers have risen steadily over recent years, leading to increased pressure at many of HES’ PICs as heritage tourism becomes increasingly popular. The inscription of the Heart of Neolithic Orkney World Heritage Site in 1999 has resulted in increased investment in visitor infrastructure and marketing, and research has been a key factor in this increase. The discovery, promotion and media coverage of the on-going excavations at the internationally significant Neolithic site at the Ness of Brodgar has also attracted increasing visitors. The rise in the number of cruise ships has been particularly significant, with huge numbers of visitors arriving on the mainland and visiting multiple sites on coach tours – especially between June and September (Tables 1 and 2).

Name of Property	2014-15	2015-16	2016-17	2017-18	2018-19
Ring of Brodgar	100 000	110 000	120 000	131 160	144 646

Table 1. Visitor number estimates since 2014–15

Period	Daily average	Monthly average	Busiest days (all recorded in August / early September)	Total visitors
March 2018 – August 2018	936	28 491	3500 – 4100	100 159
August 2018 – January 2019	484	14 723	2600 – 3100	73 526

Table 2. Visitor figures March 2018 – January 2019, since installation of people counter at main entrance

As with Holyrood Park, increasing visitor numbers, combined with climate change – with fluctuating longer dry spells, combined with wetter summers and increased storm events – has led to compaction of the soil, waterlogging and erosion of the

turf and topsoil. If left to continue to deteriorate, not only would such erosion impact upon the aesthetic and the visitor experience, it would also pose a threat to the archaeological remains themselves, potentially undermining the remaining standing stones or pushing visitors into more archaeologically sensitive areas.

Erosion repair works

Erosion repair was initially carried out on an ad-hoc basis, with turf and topsoil imported and laid into erosion hollows, as and when required. A programme of path monitoring began in 2002, with a photographic record produced every two years that allowed us to identify the worst affected areas of erosion and patterns of wear. It became evident that small-scale turf repair was not a successful or sustainable management solution. Concerns were also raised that the gradual accretion of layers of turf and topsoil could alter the appearance of the monument, potentially distorting or confusing the profile of the monument.

In 2011–2012 work began on a new programme of path repairs, as part of a longer-term approach to managing the significant increase of visitor numbers. In 2012 a series of evaluation trenches were excavated around the eastern section of the inner ring and across the south-eastern causeway to determine the location, character, and depth of

Figure 13. Plan showing proposed work to the inner path in 2012 and illustration of raised path design. © Historic Environment Scotland

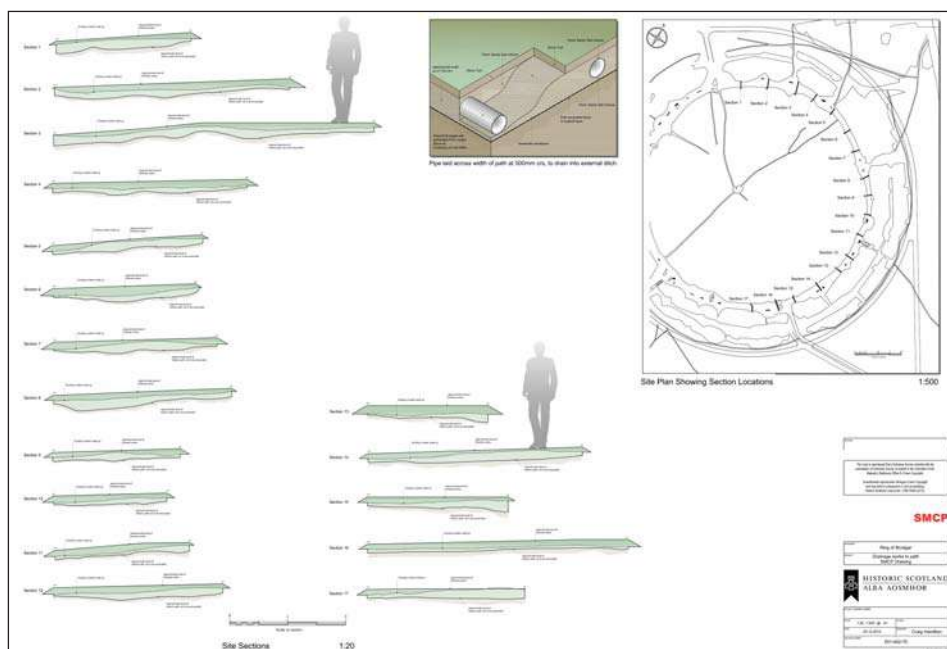




Figure 14. Installation of new raised path to part of the inner ring route, 2017.
© Historic Environment Scotland

the modern accumulation of deposits; excavation continued until the earlier ground surface was exposed. Following this, the modern turf and topsoil deposits were carefully removed and a new raised turf path was created, with an inbuilt drainage system below. The design was based on a similar footpath developed for Stonehenge (Figures 13 and 14). An initial pilot section was completed in 2013, with a further stretch completed by 2015 – a year that put the new drainage to the test, with 137mm of rainfall in May and 90mm in June compared to the usual average of 46mm for each. The extension of this approach around the whole of the inner ring continued between 2015 and 2017, until all prior turf repairs had been removed and replaced by the new raised and drained path. All of the work was conducted under archaeological evaluation and monitoring to ensure that no underlying archaeological deposits were disturbed.

A new management and monitoring regime

Once the inner ring path was fully established, a new management regime and programme of monitoring was enacted to reduce further impact from visitor erosion. The inner ring was partially or fully closed for periods between 2015 and 2017 to allow the new path to rest and the turf to establish itself. A new route around the outer ring was sign-posted and additional guidance was provided by HES Rangers Services. However, closing the inner ring shifted the problem of erosion on to the outer path, leading to further damage that now needs to be addressed.

Sections of the path are closed off, left to rest, re-seeded, fertilised and aerated on rotation as and when required. Path routes are shifted depending on predicted visitor

Figure 15. New signage is in place to advise of changes to access and the main route around the site, which also explains why such restrictions are important for the conservation of the monument. Author's own image



numbers, weather conditions and turf conditions, in an attempt to diffuse the impact of visitor footfall around the Ring. On days where multiple coach groups are expected, the most sensitive areas of the site are closed and this is clearly communicated to visitors, along with the reasoning behind this (Figure 15). As much of the pressure comes from cruise liner groups, visitor numbers can much more easily be anticipated and managed at this site, unlike visitors to Holyrood Park.

Such a management regime requires additional staff to monitor visitor numbers and conditions, enact and enforce changing path routes, carry out maintenance, and communicate with visitors. Increasing staff presence at a time of decreasing budgets, for a site which is free to access, is not without its challenges. As of spring 2019, four additional full-time assistant rangers are now in post during the busiest months (May, June, July and August), and one part-time ranger (June–August), to ensure that there is a constant staff presence on-site during the daytime. Devolving the day-to-day management of the site and supporting local decision making, rather than this being determined remotely from head office, has also had a positive impact. People

counters installed in 2018 allows us to capture more accurate data on visitor numbers and patterns in visitor flow, which will also help to inform longer term management plans for the site.

In addition to these measures, HES is supporting a collaborative doctoral award in partnership with the University of Stirling, which will develop non-invasive techniques for monitoring and mapping soil moisture in archaeological landscapes. The project will focus on footpaths and visitor footfall interactions at several Scottish World Heritage Sites, including the Ring of Brodgar, to establish the extent to which visitor footfall impacts upon soil moisture, with the aim of using these methodologies to monitor and manage this site and others more effectively in the future (Hazel Ramage, pers. comm.).

Engagement and outreach

Prior to completion of the new turf path and management regime, concerns had been raised by the local community about the degree of visitor erosion at the Ring of Brodgar. The strong sense of stewardship and pride in the historic environment among the Orcadian community has allowed us to work with interested parties to spread the message of good stewardship and improve understanding of the need for such conservation measures.

Alongside the path maintenance, closing, repair and re-opening there has been a great deal of careful communication about what is being done and why. Following the success of the pilot phase of path repairs between 2012 and 2015, a community meeting was held at nearby Stenness Village, to discuss HES' work at the site and listen to concerns from the local community. While there was considerable discussion around the pros and cons of the current situation, there was general acknowledgement that such work was required. More recently, HES has contacted all of the relevant stakeholders informing them of the new path management regime, especially making tour operators aware that the inner path will be closed on days where there are high visitor numbers or heavy rainfall, to ensure its protection.

Increased staff presence makes it easier to get this message across and to monitor visitor flow: long-term conservation of the monument is a key part of site tours by the Rangers, who work closely with the local community, travel trade, and tour operators. New signage has been added to the site to clearly indicate when and where routes are closed and to explain why. HES has also shared posts on social media platforms, promoting the message of good stewardship and explaining the conservation work and changes in access at the site. It is a message that seems to be working, locals and visitors alike understand the significance of the site and the need to make these changes to ensure its long term protection.

The wider landscape

Management issues have not been confined to the inner and outer paths around the Ring of Brodgar. As visitor numbers have increased, people have spread out into the



Figure 16. South Knowe has been increasingly impacted upon by visitor footfall and rabbits; it is temporarily fenced off to allow for conservation work and recovery (May, 2018).
Author's own image

wider landscape, beyond these paths. This is generally encouraged, as it diffuses the impact of visitor footfall and allows visitors to explore more of the historic and natural landscape. However, some parts of the site have been quite severely impacted on, such as the satellite cairns around the stone circle. South Knowe – a low lying prehistoric burial mound to the south of the Ring of Brodgar – is often climbed by visitors to gain a better vantage point of the landscape (Figure 16), without realisation of the mound's sensitivity or significance. The larger, steeper-sided mound of Salt Knowe is also suffering from similar threats as well as rabbit damage. These elements of the site serve as a reminder that visitor impact, conservation and management requirements must be addressed across the whole landscape and not be confined to the immediate vicinity of the Ring of Brodgar itself.

Discussion

A steady increase in visitor numbers across many of our sites in recent years has resulted in increased pressure upon these monuments and in several cases this is having a negative, potentially destructive impact upon sensitive archaeological remains. The rising visitor numbers is part of a wider trend, as Scotland has become an increasingly popular tourist destination. Certain PICs have seen visitor numbers soar after being used as filming locations on popular TV series (e.g. *Outlander*) or in major films (*Mary Queen of Scots*, *Outlaw King*). Both sites in this paper have at least in part seen an increase in visitor numbers due to World Heritage Site status too. At both sites, increasing visitor footfall is leading to soil compaction and erosion, exacerbated

by increasing wet weather as a result of climate change. Significant changes in the management of these sites is needed if we are to successfully reduce this impact and preserve these archaeological landscapes.

Though both the Ring of Brodgar and Holyrood Park are facing similar issues as a result of increasing visitor pressure, they are not directly comparable. The Ring of Brodgar is a much smaller site and its significance as an archaeological site is more easily understood, and its social and economic value and significance is acknowledged by HES and the local community. It is also a simpler site in terms of managing visitor access, as most visitors arrive by coach, bus or car, and there are a limited number of access points and routes. The recent conservation work and changes to the management of visitor flow and access at the Ring of Brodgar has seen notable improvements to date, but it still remains to be seen if this approach is sustainable in the long term.

Holyrood Park is a significantly larger and more complex site, and the issues of visitor erosion draw us into other discussions around value and significance. Increasing visitor numbers may be threatening the archaeological remains of the park, but the majority of visitors are unaware of this significance. To most visitors, the open green space and wildlife is more widely recognised and appreciated than the site's history and archaeology. One could take this further and even argue that the social or recreational value of the park has a greater contribution towards its significance than the evidential value of the archaeological remains. However, as a nationally scheduled monument, we have a legal responsibility to protect and conserve this site.

Both examples highlight the tension between meeting visitor needs, maintaining the character of the monument, and ensuring long-term protection of sensitive archaeological remains. It can be particularly challenging to manage this impact at sites that are free to access and in open, natural, landscapes – especially at a site as extensive and varied as Holyrood Park. Improving or reinforcing path networks and increasing signage could limit the impact of visitor erosion. But limiting access, adding infrastructure, or introducing more permanent and robust path networks would also 'erode' cultural significance, by undermining the wild and natural sense of these sites, or diminishing visitor experience. There is a delicate balance to strike, and difficult decisions may need to be made in the future regarding the level of visitor access versus the long term conservation of such properties.

There is much we can learn from examples at other heritage sites, such as Hadrian's Wall, where many similar issues are faced and there is the same need for sensitive conservation measures to protect the archaeological remains that do not detract from the natural landscape. It is evident that there is a need for robust management plans, combined with stakeholder and community engagement. Promoting a message of good stewardship and educating visitors about the significance and sensitivity of the site through interpretation has proven successful at the Ring of Brodgar, and at other heritage sites around the world, and is an approach that could be implemented to greater effect at Holyrood Park.

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Whose Archaeological Site Is It? – A Case Study of the Public's Implication in the Caretaking and Opening of Archaeological Sites in Switzerland

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Keywords: Associations, caretaking of archaeological sites, public-private initiatives, presentation of sites, democratic decision-making

Abstract: This article presents the roles of associations in the caretaking and presentation of archaeological sites and museums in Switzerland. These very popular non-governmental non-profit organizations can help the State agencies to develop the preservation of archaeological sites under their control. Yet, a few challenges have to be solved to render the work of these institutions viable for the future.

Introduction

Amongst the very numerous public archaeological sites and monuments found in Switzerland, more than a thousand are open to visitors. For those under the care of the State, which would in our country correspond to the different cantons, the cantonal archaeological services are responsible for their conservation, maintenance and presentation to the public. These activities require an enormous amount of time, money and personnel. This is where non-governmental non-profit organizations in the form of mostly community-led local associations come to be very useful.

What is an association and what is its importance in Switzerland?

An association is the descendant of the civil societies that developed in parallel to the academies during the 18th and 19th centuries. The characteristics of an association are voluntary participation, equal rights for all members voting in general assembly, and a simple organization based on statutes that define the *modus vivendi* including the common objective(s), resources and the structures. It is the most democratic legitimate form of collaborative participation since all decisions are taken at a general assembly (Dictionnaire historique de la Suisse).

In Switzerland, the basis of the association is its very simple juridical form which is inscribed in the Swiss Civil Code adopted on 10th December, 1907 (chapter 2, articles 60–79). Today there are more than 100,000 associations or societies for a total of 8.42 million inhabitants, and the Swiss federal office of statistics calculated that in 2016, 42.3% of the population actively participated in activities organized by associations (<https://www.bfs.admin.ch/bfs/fr/home/statistiques/population/migration-integration/indicateurs-integration/indicateurs-cles/culture-religion-medias/association-groupe.html>). We must not forget the passive members (25.8%) who support them only by their contributions. However, the number of associations involved in the protection and enhancement of the archaeological heritage is not known. Based on the lists mentioned on different websites, we assume that there are between 300 and 600 for the country as a whole (there is no exhaustive list of associations active in the field of archaeological heritage, as there is no obligation to register with the commercial register. Some websites mention the most active associations: http://www.archaeologie-schweiz.ch/PARTENAIRES.92.o.html?&L=3;http://www.burgenverein.ch/links/lin_burgenvereine.cfm; <https://www.infoclio.ch/fr/search/node/association%20type%3Ainstitution>; <https://www.infoclio.ch/de/search/node/verein%20type%3Ainstitution>).

The enthusiasm for associations is based on the many advantages they offer. Members value commitment to a cause by sharing common values and decision-making in a democratic and open manner. The association occupies a legal space that is independent of the authorities and can, as a non-profit organization, obtain funding – donations or grants – generally not accessible to either private or public institutions. It is also a place for strong socialization and networking around a given objective or theme that can have broader consequences, for example in local or regional politics. However, associations present several challenges. The first is based on a persistent myth that the amateur or active volunteer in an association has less knowledge and skills than the professional acting on behalf of official institutions. This sometimes results in difficult collaboration, which must be compensated for by better communication. A second challenge concerns the long-term existence of associations. Indeed, once their objectives have been achieved, continuity is not ensured. Also, the socialization offered by the regular meetings imposed by the associative life undergoes a generational change: members are aging and young people seem to prefer other forms of meetings and civic actions.

Advantages	Disadvantages
Commitment till the objectives are achieved – then it tends to disappear	No secured financing other than membership fees, which are usually insufficient to sustain the association, but there are other financing possibilities
Common values amongst all participants	Myth that being amateurs equals incapacity/ lack of knowledge, but working processes show that the amateurs are usually professionals in other branches that may be needed for conservation and presentation projects
Democratic decisions so long they correspond to the preservation of the site and its presentation as seen by the authorities	Difficult collaboration between professionals and non-professional volunteers
Occupation of spaces that are not taken in account by the authorities such as the presentation and publication of archaeological sites	No official control of finances (for the non-inscribed smaller associations)
Non-profit. Volunteer working on one side and the financing of the work usually based on donations and subventions thus escaping economical needs	Continuity is difficult to ensure (generation change). Two elements stand out: individualism and new methods of communication (social media)
Simple organizational form escapes formal constructs. It is based on local networks allowing quick action	Democratic decisions may also have negative consequences when knowledge is not founded and decisions have to be taken too quickly
Have possibilities to ensure financing (donations and subventions) that private entities or institutions do not have	
Instrument of socialization: People get together to attain a common goal, get to know each other, organize common activities	
Networking between like-minded people (amateurs and professionals get together, local companies are used to do the work, communities come together)	
Management learning: associations offer perfect examples to learn how to build concepts and manage them to attain the given goal	

Table 1. Advantages and disadvantages of associations for archaeological heritage

A small history of associations for archaeological heritage in Switzerland

The *Deutsche Gesellschaft zur Förderung der Deutsche Sprache* in Basel, founded in 1742, was the first association to support local historical research in Switzerland. The aim was to promote the archaeology of Augusta Raurica, considered since the 15th century as a place revealing ancient treasures (Kamber 2008). It is one of the 150 'sociétés savantes' known in Switzerland during the 17th and 18th centuries, which flourished at the same time as scientific academies elsewhere in Europe (Dictionnaire historique de la Suisse).

With the development of nationalism at the beginning of the 19th century, the number of societies increased rapidly, leading to a diversification of missions. Societies and associations are created for all kinds of reasons, mainly in Protestant, radical-liberal and urban circles. It is also then that this form of organization, based on active participation, begins to take on a political role in all possible domains from economy to social themes. At the end of the 19th century, there were more than 30,000 associations in Switzerland!

Aventicum, an archaeological site already known in the 16th century, saw the creation of the Vespasian Circle in 1824, bringing together lovers of Roman antiquities and allowing the establishment of the first municipal museum called the Musée du Cercle Vespasien. The Circle was dissolved in 1838 when the collections became the property of the State of Vaud. Despite the management by the Cantonal Museum of Antiquities in Lausanne, wild excavations intensified and archaeological objects were scattered. The citizens of Avenches asked the canton for funds for systematic research and, seeing that they did not obtain any agreement, decided in 1885 to create Pro Aventico, an association intended to arouse public interest and thus save the remains of the capital of Roman Helvetia (<https://www.aventicum.org/fr/musee-romain/historique-des-collections>).

These two cases are not unique: Antiquarian Societies (Historical Societies) were established in Zurich (Antiquarische Gesellschaft zu Zürich, 1832) where the results of pile-dwelling research in Switzerland were first presented; in Geneva (Société d'histoire et d'archéologie de Genève, 1838); in Fribourg (Société d'histoire de Fribourg, 1840); in Basel (Gesellschaft für vaterländische Altertümer, 1841/82); in Bern (Historischer Verein, 1846); or in Neuchâtel (Société d'histoire et d'archéologie du canton de Neuchâtel, 1864). All have a common goal: to preserve and study the remains of the human past.

These associations also contributed to the founding of cantonal history museums, such as those in Bern or Neuchâtel, which are now recognized for their important regional collections. They equally played an important role in research before the creation of archaeological institutes in universities during the 20th century by publishing maps, inventories, reports and monographs on archaeological discoveries and sites across the country.

With the drafting of the Swiss Civil Code in 1907, the role of these societies and associations changed radically. The cantons are thereafter responsible for the management of the archaeological heritage and become owners of all movable

archaeological property. Societies as they were known in the 19th century were forced to redefine their objectives or to disappear. Most associations refocused on research of historical themes and their presentation to the public through conferences, excursions and publications. This led to a schism. The subject of archaeology, for which the State, in the form of the cantons, was from then on responsible, was more or less abandoned by these older societies. It was, therefore, at the beginning of the 20th century that new societies and circles devoted specifically to archaeology appeared. The Swiss Society for Prehistory was founded in 1907. It is the first national association that deals only with archaeology (today Swiss Archaeology/Archaeologie Schweiz /Archéologie Suisse; <http://www.archaeologie-schweiz.ch/PRESENTATION.5.o.html?&L=4>). The Swiss Castle Association (<http://www.burgenverein.ch/>) was created in 1927 to promote medieval culture and research on castles, churches and medieval dwellings throughout Switzerland. And the protection of built heritage, vernacular or sacred, is the objective of Schweizer Heimatschutz/Patrimoine suisse, which exists since 1905 (http://www.patrimoinesusse.ch/index.php?id=904&L=1&utm_source=). In addition to these sacred monsters, we must not forget the many small associations that have been designed to support particular causes and sites, generated by municipalities or individuals to cover needs that cantonal or communal authorities cannot meet alone.

Different forms of associations active in the field of archaeological heritage

We can distinguish between different types of societies and associations active in the field of archaeology in Switzerland. First, let us consider the national associations and societies, such as Swiss Archaeology, the Swiss Castle Association, the Swiss Society for the Study of the Ancient Near East, the Swiss Association for the Study of Antiquity or the Swiss Numismatic Society. They are members of the Swiss Academy of Human and Social Sciences, itself an umbrella association bringing together some sixty learned societies in the field of the human and social sciences in Switzerland. Their objectives are to raise awareness of the fields of history they represent and to support research and conservation of archaeological remains. Schweizer Heimatschutz/Patrimoine Suisse is itself an umbrella association with 25 cantonal sections. It is closely related to Europa Nostra on an international scale. These associations, which are registered in the commercial register and have a national and long-standing representation, generally also have the right of appeal at national level under the Federal Act on the Protection of Nature and Landscape. Therefore, they are usually very active politically for the protection of heritage and the development of a sustainable legislation. Their organization is generally well-developed and often includes a permanent professional secretariat.

The second group includes professional associations or specialized working groups, such as the Working Group for Prehistoric Research in Switzerland (GPS), the Association for Roman Archaeology in Switzerland (ARS), the Swiss Group for the Study of Monetary Findings (GSETM), the Swiss Association for Classical Archaeology (ASAC), the Swiss Working Group for Medieval and Modern Archaeology (SAM), the Prospecting Working Group (GTP), the Swiss Working Group on Historical Anthropology (AGHAS) or ArchaeoTourism. To this group, we can also add the Swiss Conference of Cantonal Archaeologists (CSAC) and the Swiss Association of Technical Personnel for



Figure 1. Screenshot of the homepage of Swiss Archaeology. © Swiss Archaeology

Archaeological Excavations (ASTFA). These associations represent professionals or specialists working in different archaeological fields. Their objectives are to promote the exchange of information, foster contacts between researchers and be a specific interlocutor for policy makers and authorities.

A third set of associations are directly linked to the protection of archaeological sites (Pro Fenis Hasenburg, Pro Petinesca, Verein Weissenburgbad, to mention only a few in the canton of Berne), the promotion of museums (Pro Aventico, Freunde Augusta Raurica, etc.), or the conservation of archaeological or historical landscapes (e. g. Historische Vereinigung Seetal und Umgebung, Associazione Archeologica Ticinese, Tatort Vergangenheit). Their objectives are directly focused on the preservation of the local archaeological heritage. They facilitate activities related to the conservation, presentation and development of sites or museums. One of their main tasks is to find subsidiary funding for specific projects related to the sites for which they are responsible. These associations also form the link between cantonal institutions and municipalities, and even citizens at the local level. The organization of these

associations is often based on volunteering and their success depends on the network that the members have developed.

Last of all, let us mention the archaeological circles that can be found in all the major cities and which are often linked to university institutions (Bernese Circle for Prehistory and Archaeology; Zürich Circle for Prehistory and Archaeology; Basel Circle for Prehistory and Archaeology; etc.). Their specialty is to present the results of local archaeological research or projects that may be of interest to their members through conferences and excursions. Finally, there are also groups and circles included in larger associations such as the Archaeology Group of the Network Lake of Biel or the Archaeology Circle integrated into the Jura Emulation Society. They fulfil a role similar to that of the academic archaeological circles cited above.

The importance and challenges of associations in the Swiss archaeological landscape

The association is a legacy of the societies as they developed since the 19th century. Thanks to their diversity, archaeological associations play a fundamental role at different levels. At the national level, they are political partners and can have a decision-making weight both with the Confederation and with the cantons. In the regions, they federate different sites and act as a link between the cantonal authorities, municipalities and the interested citizen. Specialist associations make it possible to defend the rights of specialists and to communicate between colleagues. In this way, new knowledge and professional networks are built and transmitted. Societies open to all interested persons promote cultural sharing and encourage voluntary work around clear objectives related to heritage conservation and promotion.

In all cases, what attracts the associative member is the possibility of participating collectively and democratically in decisions related to the resolution of challenges and the organization of activities related to the goals of the association, which are devoted to sites and subjects the population feels closely attached to. In addition, associations, by virtue of their legal form, offer advantages, particularly in terms of financing. If the association has to set up expensive projects, it has easier access to funding through foundations and public funds, which often remain inaccessible to private and public institutions. In this way, it has acquired a privileged position between economic partners and government institutions. We can therefore affirm that archaeological associations play an important role, especially for the authorities, as they constitute an essential link between economic and political partners as well as with the local population, thus allowing archaeology to have a more pronounced social legitimacy.

But we must not be misled by these benefits. There are also major challenges to be met. In the 1980s, more than half of the Swiss population was a member of at least one association (*Dictionnaire historique de la Suisse*). The figures have changed little since then (see above). However, there is a real transformation in the typology of members. With the emergence of subjectivist modernism, which emphasizes a liberated individualism, associations are attracting less and less young generations. The majority of the members are elderly people, often with good professional

networks, but who rarely develop futuristic visions calling for young people. Renewal is difficult to achieve. However, it is certainly not because of a lack of interest, as we have seen in several studies on public archaeology, particularly seeking to understand the importance of archaeology for the future generations. Here we can mention a series of 'salons archéologiques' which have been initiated throughout the different regions of Switzerland to find out more about what the public understands about archaeology and its future (http://www.archaeoconcept.com/en/projects-2/projects_actuel/#3) Our younger peers seem to prefer other forms of community work related to their liberated individualism, which expresses itself with the difficulty of committing oneself for longer periods of time. This has a great impact on the traditional working methods of associations as we know them today. Also, other forms of communication, such as social media, requiring less presence as a group (at least physically) are favored. Associations must, therefore, adapt to new modes of communication and the obvious individualism of young people.

The members of archaeological associations, as for the majority of associations, are generally Swiss with a higher level of education (<https://www.bfs.admin.ch/bfs/fr/home/statistiques/population/migration-integration/indicateurs-integration/indicateurs-cles/culture-religion-medias/association-groupe.assetdetail.5546555.html>). Yet, this is not representative of the current demographic complexity of the country. If we want to engage citizens in heritage and make it accessible to different communities, it would be essential to find activities and topics that can speak to this audience that has become so diverse over the past forty decades. Also, volunteering, if necessary for community life, will have to evolve by adapting to these new criteria.

The majority of archaeological associations are small and often dedicated to a specific site or theme, and they mainly focus on this work. Once the goal has been achieved, interest declines and long-term continuity, often necessary to ensure the conservation of the site, is threatened. It is therefore important that they develop more networking processes and opportunities for exchanging procedures between associations with common objectives, in order to have a chance of sustainability.

Examples of good practice of archaeological associations

To illustrate the different approaches associations have towards the management of sites and museums, it is necessary to present several examples, which may be considered as examples of good practice.

Pro Aventico

I would like to start with maybe one of the oldest and most active associations in western Switzerland: Pro Aventico (<https://proaventico.ch/>). It is directly linked to the museum and site of national importance of Aventicum (Avenches, canton of Vaud), capital of Roman Helvetia. The objectives of the association are to support the conservation schemes, to present the site to the public and in particular to develop a new museum. One of its main jobs is to look for financing thanks to its relations with foundations, politicians and other private partners. If today, the excavations in the

space once occupied by the Roman town and large parts of the museum exhibition are generally financed by the canton of Vaud, all extra financing as well as most of the work involving the presentation to the public is taken over by the Pro Aventico.

The association has about 600 members, who pay a yearly subscription fee for which they receive the yearly publications of *Aventicum* as well as free entries to the museum and site, but also to other nearby Roman site museums. The statistics (<https://proaventico.ch/association-conservation-patrimoine-archeologique/>) show that the majority of the members of the association are private persons followed by archaeologists and members of different companies. The economical partners are more important than the institutions in number, although the latter usually have a bigger decisional power within the association. It is directed by a committee composed of a banker, current and ancient cantonal archaeologists, representatives of the site and museum, tourism partners, the mayor and representatives of the municipality as well as interested amateurs; all important or respected people on a local or regional level. The association thus forms the link between the people responsible for the site, the authorities (cantonal and communal), economical partners including tourism, and the local community. The committee members use their know-how and their network to 'get things done'.

The particularity of Pro Aventico consists in the partnership it developed with other similar associations, such as Pro Vistiliaco, Gletterens, Pro Vallon, Pro Lousanna or the Association of Friends of the museums of Nyon, which have common interests or are situated in the same region. This encourages common projects and finally a larger participation of the members. Also, the *modus vivendi* of Pro Aventico shows strong binding of its members to the site and the museum through its 'Club des bénévoles'. These volunteers help out with different activities, sometimes with their families. The feeling of belonging is indeed important for the association and different possibilities of sharing experiences and important moments amongst members are offered. It is also possible for volunteers to participate in work done for other partner associations, allowing them to share their talents in other contexts, liberating themselves from the typically very closed up organizational form linked to this kind of association.

The association helped finance the modernization of the exhibition, organized for the 180th anniversary of the museum, with the acquisition of interactive digital media and an interactive model showing the entire site of *Aventicum*. Pro Aventico also regularly releases publications: The *Bulletin Pro Aventico*, whose first number goes back to 1887, includes scientific reports. *Aventicum* or *Nouvelles de l'Association Pro Aventico* exists since 1977 and answers the need of a larger public, promoting the activities of the association while presenting general archaeological themes in relation with the site and the Roman period in general.

The management of the museum and site of *Aventicum* would be unimaginable without Pro Aventico, which takes over a major part of the work of disseminating the knowledge amongst the local population and developing a network amongst similar institutions. Its way of working integrates all kinds of members, old and young, who wish to spend time organizing and participating in activities around Roman Avenches.



Figure 2. The new exhibition in the Museum of Aventicum (Avenches). © Pro Aventico

Pro Fenis Hasenburg

Many archaeological sites and, more specifically, ruins (Roman, medieval, or even dating to the 19th century) may be found in the mountainous landscapes of Switzerland. They are mostly owned today by the municipalities in which they are found, but are officially under the responsibility of the cantonal heritage offices. These offices cannot physically take care of all the ruins in their territory. Therefore, most are left as they are, and only minimum interventions are provided. Nevertheless, the local communities have a close relationship to these monuments and often would like to renovate and use them for social activities. Citizens, therefore, use the creation of associations to show their interest and to develop plans for the restoration and presentation of the sites. In the canton of Bern, there are circa 200 castles and 40 ruins. Of these ruins, about half have been renovated thanks to these local associations. Pro Fenis Hasenburg, created in 2017, is the last born of a series in that canton, following Verein Burg Mannenberg, Weissenburgbad, Pro Ruine Jagdburg, to name but a few.

The objective of the association is to renovate the pathways leading to the ruins of the 14th century feudal mound of Burg Fenis and the Early Iron Age tumuli in the forest of Shaltenrain, near Ins, and promote research on these famous landmarks in the landscape, but scientifically little-known sites. Pro Fenis Hasenburg counts about 80 members after only one year of existence, mostly members of the local

Figure 3. Visitors using the stairs leading to the medieval ruins in Fenis-Hasenburg.
© ArchaeoConcept



community. The committee includes local amateur historians and archaeologists, and has a good network amongst financing and political institutions. It is managed on a volunteer basis. The association has gained acceptance by the cantonal archaeological service, which has offered help for the concept and the work to be done on-site as well as with funding possibilities through the cantonal lottery. An important part of the work, which led to the development of a restoration concept, was facilitated through an active regional promotion, including information week-ends and guided tours, bringing together potential financial and building partners. In less than a year, financing is secured and a plan is effective for the future work on the site.

Thus, Pro Fenis Hasenburg ensures community engagement and participation, not only at the general assembly, but also when it comes to activities such as cleaning paths, helping out with the building and preparing the site for visitors, developing

the website and other information material, guide training, and so on. The association guarantees the link between the population, the local politicians and the cantonal institutions. This is finally a win-win solution for all partners, amateur and professional, since research will be then possible and a further site will be accessible for both the local population and tourists visiting the region. However, to keep the enthusiasm of the local population, it will be necessary for the association to have an exciting programme and, especially, initiate young people from the schools and scouting associations, so that the site stays in the hearts of the visitors and the inhabitants, who will therefore find new ways to ensure the continuity of remembrance of this special place.

Historische Vereinigung Seetal und Umgebung

The protection of the archaeological and historical landscape over the borders of two different cantons, Aargau and Baselland, is the main objective of the Historical Association for Seetal and its surroundings (<https://www.hvseetal.ch/>), with its 500 members. Its particularity is that it unites the population of the Seetal, independently of the cantonal affiliation. The aims of this association, created in 1922, are to develop

Figure 4. Presenting the association during an archaeological week-end in Sarmenstorf (AG).

© ArchaeoConcept



the conscience of the local Seetal population to historical and archaeological questions and give a better understanding of the historical landscape of the region. Before the existence of the cantonal archaeological services in the 1940s, active members of the association excavated archaeological sites and renovated medieval ruins. Today, the association mainly organises excursions and events uniting the local museums, the cantonal archaeological services as well as local companies. In 2004, the association saved a 17th century wooden storage-house from destruction and helped bring back a 16th century glass disc of a local society to the municipality. The association has a very strong affinity with the region, and important contacts with the cantonal archaeological services of both Aargau and Baselland. This is particularly important considering the federal character of Swiss archaeology and the administrative differences between the neighbouring cantons. The association, thus, may serve as a good example of intercantonal cooperation.

ArchaeoTourism

Finally, there are a number of associations that are dedicated to particular themes. ArchaeoTourism is an association created in 2012 as a mean to develop relations between the archaeologists and tourism specialists. It regularly organises conferences on themes linking both sectors and publishes the results. It also organises national

Figure 5. Discussing the future of archaeology and tourism during the 2012 conference.

© ArchaeoConcept



projects promoting tourism such as www.site-of-the-month.ch. This original association covers areas that the cantonal archaeological services cannot or do not want to develop themselves, although most activities are supported by them selectively. The conferences are backed by the Federal Office of Culture and the site-of-the-month project by the Federal Office of Economy. The association, thus, assists the archaeological services in the promotion of the archaeological sites that are open to the public on a national scale, which they are not able to do due to the cantonal autonomy.

Through these examples, which could be complimented by many more, it is possible to observe the diversity of possibilities and approaches offered by the different types of archaeological associations and societies existing in Switzerland.

Conclusions

For an association, the purpose of service is more important than profit. For archaeological associations, this includes the protection, conservation, enhancement and presentation of archaeological sites, or the defense of the interests of the archaeological heritage and the profession. They mobilise both interested citizens and specialists to ensure a long-term interest in archaeology, for the protection of sites through a regular activity of dissemination of knowledge at different levels.

Most of the work is voluntary, and without this commitment, it would be difficult for state institutions to ensure sustainable heritage conservation, which depends largely on the support of the local population and understanding of policies. Finally, located between the private economy and public institutions, associations help to find public funding where government institutions cannot. However, this form of private-public collaboration, which is a specificity of Switzerland, is threatened and must be encouraged. Together, we must find solutions to ensure the survival of these organizations, which are so vital for the protection and dissemination of knowledge for all related to archaeological sites and monuments under the responsibility of the cantons as representatives of the Swiss State.

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An Overview of the Changing Policies on the Protection and Management of Archaeological Sites in Turkey

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Abstract: The earliest legislation in Turkey on the protection of antiquities was devised by the Ottomans, the forerunner of modern Turkey, issued on 1869 specifically for the protection of archaeological sites and to regulate archaeological excavations that were taking pace in distinct parts of the Empire. The Ottoman antiquities law continued to be in force after the foundation of the Turkish republic, to be revised as late as 1973 to concord with approaches that took place in Europe. Actually, the main concern of the legislation was to establish a rigid control over archaeological excavations, discouraging new projects, thus hindering the availability of new data on cultural history. It was only by late 1990s that the government decided on a new policy to ameliorate tourism by stimulating new touristic itineraries alongside the conventional ones based on coastal areas and selected ancient ruins, such as Ephesus and Pergamon. This new approach opened up new trajectories, a concern on cultural assets, among them archaeological sites that had been overlooked. Meanwhile, priority was given to enrich Turkey's place in UNESCO World Heritage List by proposing archaeological sites that can readily fulfill UNESCO's requirements. Thus, currently 13 out of 18 World Heritage Sites of Turkey are archaeological.

Even though tourism is presently considered as the prime indices of economic development and cultural heritage as a matter of national pride, the viability of government policies on archaeological heritage is rather questionable. This is mainly due to inconsistencies and bureaucratic obstacles (red tape). The system has additional weakness, such as a shortage of experts in museology and conservation and inadequate tenders, resulting in a lack of consultation with experts and inappropriate architectural restorations. This paper will present an overview assessing the government's implementations in conserving and managing archaeological sites in relation to the Valletta and Faro conventions. The other two components of

the subject, namely the behavior of archaeologists and public opinion, will also be discussed.

A brief survey on the protection of archaeological sites in Turkey

Ottoman Era (19th century): initial efforts in archaeology and museology

The first efforts that the state in Turkey made for the protection of archaeological areas were the legal regulations launched in the mid-19th century. In the period of the Ottoman Empire, the Middle Eastern regions that were a part of the Ottoman territory, including Egypt, the Aegean Coast and the Mediterranean region, had been home to so many glamorous and high profile archaeological settlements, becoming an attraction for the European archaeologists at the time, thus urging them to request permission to conduct excavations in the field. Initially, legal regulations were issued specific to the demand being made. In 1869, the first general legal regulation was made to manage the permissions. Modern conservation experts refer to this regulation as the first 'protection law' issued by the Ottoman State, focusing on permissions to carry out excavations, their management and control (Eres & Yalman 2013).

According to this law, the owner of the land on which the excavations were conducted was the actual owner of the relics discovered during the operations. Although it was illegal to take the relics abroad, they could be bought and sold within domestic borders and the state held the principal right to buy them. However, with the special permission given by the Sultan, it was also possible to export the archaeological relics in particular cases (Eres & Yalman 2013; Karaduman 2004). A second law, enacted in 1874, had a more extensive outlook and listed the antiquities item by item with their qualities in detail. The most remarkable feature of this new law was that the relics discovered during excavations were divided among the state, the landowner and the manager of the excavation, giving one third to each party. Due to the fact that all the archaeologists working at the archaeological areas were from Europe at the time, this law made it possible to legally export the antiquities into Europe, and was therefore revised in 1884 with a third law passed that completely banning the export of antiquities abroad except for special permissions given by the Sultan.

These three initial laws passed by the Ottoman state identified only the archaeological remains as 'antiquities' and developed strategies for protection of these relics (Çal 1990; Madran 2002; Bahrani et. al. 2011). Another law enacted in 1906 classified the pre-Ottoman and Ottoman monuments and the splendid residential buildings belonging to the period as antiquities as well. This fourth law, which by the standards of its time, may be described as comprehensive, was utilized as the protection law as recently as 1973 (ibid.).

In the mid-19th century, an important decision taken in the field of Antiquities regulations, was the appointment of Osman Hamdi Bey as the director of Istanbul Archaeology Museum in 1881. Osman Hamdi Bey was one of the prominent figures of the era. His truly versatile profile as an artist and archaeologist was recognized and respected in the world of arts and sciences. He worked hard for enriching the Ottoman imperial museum with an expanded collection of antiquities, and launched the first

Ottoman excavations (Shaw 2003; Eldem 2010; Özdoğan 2019). On the one hand, the museum conveyed demands to far corners of the empire to send their antiquities to the Istanbul Archaeology Museum, while on the other, new archaeological excavations were organized, such as those at Mount Nemrut (1883) in South Eastern Anatolia, Sayda (1887) in today's Lebanon, and Lagina (1891) on the Aegean coast (Bahrani et al. 2011; Özdoğan 2019).

The initial efforts by the Ottoman state mentioned above are limited to the protection and the possible exhibition of 'archaeological antiquities', rather than the 'archaeological sites' as a whole. In those times, the formation of Imperial museums for the purpose of exhibiting antiquities imported from different parts of the empire was considered a necessity due to the process of Westernization, or, in other words, modernization. In this sense, it might be difficult to claim that the Ottoman state had a serious concern about exhibiting/presenting the antiquities to the attention of its own society. That said, an interesting point worth emphasising is that, the 2nd Antiquities Regulation of 1874 included an item specifying that a special state officer would be appointed at some temples, which were defined as having 'perfect qualities'. Although this item was not frequently practiced, it reflects an awareness for protection *in situ*. If we consider the fact that the 2nd Antiquities Regulation was prepared by the Museum Director Dr. Anton Phillipp Dethier, this approach may be interpreted as a result of his sensitivity.

Early Republican Period (1923-1938): archaeology playing a fundamental role in the cultural policies of the State

Founded in 1923, the Turkish Republic emphasized the importance of archaeology in order to better define the modern identity of the new state, differentiating it from the Empire of the past (Özdoğan 1998; 2019; Eres 2016). In Turkey, in addition to the new regulations made in the legal, institutional and economic life, all of which bear the quality of being a revolution on its own, education and culture also went through a reform, because they were determined as the key elements for the sustainability of the new regime. In this sense, it may be stated that a 'cultural revolution' was also targeted during the formation of the Republican structure, and it has been underlined during the modernization process of the society as a whole. In addition to the development of the Turkish language, there was renewed focus on the development of archaeology. Thanks to this approach, which was strengthened by Atatürk's personal interest in archaeology, French archaeologists were allowed to excavate in the ancient city of Teos in 1923. During this era, the foundation of foreign archaeological institutions was allowed. Permissions were given for many archaeological excavations led by foreign teams. Moreover, Turkish researchers were also urged to launch excavations in many different parts of Turkey.

In all these reformative processes, the main objective was to reveal various periods and different cultures, and demonstrate the significant role Anatolia plays in the formation of cultural history by the use of scientific data. In terms of historiography in Turkish Republic, the presence and roots of the nation have both been defined with direct reference to the history of the Anatolian land. Instead of establishing a romantic

cultural context for Central Asia, the history of Anatolia was adopted as a common past.

During the first years of the Republic, archaeological excavations were encouraged and organized with the aim of discovering the Hittite, Urartian, Hellenistic, Roman and Byzantium times (Özdoğan 2019). In 1934, Atatürk visited and was highly impressed by the Pergamon Asklepion ruins and asked the officers to turn it into a museum. The open-air museum was opened in 1936, constituting the first example of the archaeological site-based museums in Turkey.

Another intriguing and pioneering project of the time was the urban archaeology work carried out in the aftermath of the selection of the city of Ankara, located in the mid-Anatolian region, as the capital city of the newly-founded nation-state, instead of the former capital of the Empire, Istanbul. The new capital was founded on the southern part of the historic city of Ankara, which was originally situated on the outskirts of a hilltop castle, was being planned according to modern principles of urbanization. Meanwhile, excavations were also being conducted on tumulus structures and Roman archeological sites in the region. In the aftermath of these rescue excavations, which

Figure 1. Roman baths excavated in 1930s on the main street in the modern part of Ankara and turned into an open-air museum. (Photo: 2019, Zeynep Eres)



opened up new horizons at that time, newly discovered Roman baths were taken into protection and excluded from lands being opened to development. These baths were subsequently exhibited as an open-air museum (Figure 1).

The Early Republican era is the time when the initial efforts and applications in the fields of archaeology, urban archaeology, their protection and exhibition to the public were defined as planned governmental policy. To put this period in a nutshell, this was the time when scientific research gained significance, whereby the rooted cultural history of the country was emphasized and verified through archaeological excavations. In this period, both national and non-national researchers were encouraged to launch and develop scientific projects. However, due to the nationwide and global economic recession of the time (the Great Depression) and a paucity of skilled professionals, there was a discrepancy between the archaeological conservation aims and what was actually achieved, in terms of both quality and quantity.

Cold War period following World War II: a stagnant period in archaeology and conservation

Shortly after Atatürk's death, World War II began. Although Turkey resisted involvement, the country also suffered due to worldwide economic crisis and shortage of resources. In the bipolar world system that followed the war, Turkey furthered the ties with the USA in the 1950s. The country's economy developed in the context of strong ties and dependence on foreign resources, while the archaeology in the country exhibited a more introverted attitude towards current world news. Though a small number of national and foreign excavations were carried out, neither the archaeologists nor the relevant ministry (General Directorate of Antiquities and Museums of the Ministry of National Education) developed a vision or policy in terms of protecting, exhibiting and presenting these areas to the public (Özdoğan 2008; 2019; Eres 2016; Eres & Özdoğan 2018).

Perhaps the most remarkable project of the time was the work of protection and restoration that took place in the 1950s on foot of the Karatepe-Aslantaş excavations in the Adana Region. Through a series of work carried out by the head of the excavation, Halet Çambel, in cooperation with Central Institute of Restoration in Rome managed by Cesare Brandi, the results achieved were rather innovative by international standards (Eres & Özdoğan 2012; 2016; Eres 2016). Fragmented pieces of the stonework, bearing inscriptions and ornamentation, were brought back together and restored *in situ*. This was made possible by the construction of a protective roof, which was one of the first examples of its kind throughout the world. (Figures 2 and 3) (Schmidt 1988). In addition to implementations aimed at protection and exhibition of archaeological remains *in situ*, there were significant and pioneering efforts to create public awareness in the local communities. This was achieved by providing the neighboring villages with primary education and economic support by developing projects for raising the villagers' living standards, thus enabling the village communities to adopt sustainable models for conservation.

At that time, the archaeological site at Karatepe-Aslantaş was situated in a remote area, completely off the beaten track and away from tourist attractions. In this context, it is



Figure 2. After the excavations in the late 1950s, the orthostats were preserved *in situ* at Karatepe-Aslantaş. (Photo: 2015, Zeynep Eres)

noteworthy that the focus was on societal benefits and not on tourism. Furthermore, during the 1970s anastylosis works gradually began at ancient archaeological sites along Turkey's Aegean and Mediterranean coasts (Schmidt 1993). The anastylosis of the Library of Ephesus Celsus arguably reflects the most outstanding example in the archaeological history of Turkey, leaving a memorable mark on society's relationship with archaeology (Figure 4). On the other hand, the re-erection of Sardes gymnasium in late 1960s, with a harsh intervention in the form of a reconstruction, has been widely criticized (Figures 5 and 6). In summary, during this period, archaeologists as the directors of the excavations carried out anastylosis or reconstructions at many archaeological sites, which led to selected monuments to stand out among the ancient ruins. It may be incorrect to state that anastylosis of certain monuments only aimed at exhibiting selected monuments to the general public. These projects also provided archaeologists with opportunities for experimental processes through which they gained experiences, developed new perspectives and broadened their horizons. However, during this period, there was no approach to develop conservation and exhibition strategies for an archaeological site as a whole unit. However, in areas such as Ephesus, which have been excavated for more than a century and where the magnificent marble roads in the city were exposed, these roads were considered as



Figure 3. The roof was built between 1957–1961 to protect the Karatepe-Aslantaş orthostats *in situ*. (Photo: 2015, Zeynep Eres)

self-excursion routes. Another remarkable implementation from this period are the Roman baths that were discovered during archaeological excavations at the ancient site of Side. The walls of this structure were covered with a reinforced concrete vault and, thus, the bath was turned into a museum (Atik 2011) (Figure 7). There is no doubt that this operation may be considered a harsh intervention of restorative work.

This period may be generally defined as a time when some conservation and exhibition projects were initiated by the valuable efforts of archaeologists themselves. However, the actual governmental institution that has responsibility for such protective measures, namely the General Directorate of Antiquities and Museums, focused its energy and motivation towards more legal and executive regulations. An important step taken in this period was the introduction of the concept of ‘registration of antiquities’, with a special law enacted in 1973. The historic monuments, ancient ruins and archaeological sites that were indirectly protected at the time, were now to be protected under this new legislation.

However, the system, which bears no field organization and only tries to maintain protective efforts by allocating human resources that consist solely of museum



Figure 4. The facade of Celsus Library in Ephesus was erected in the 1970s with anastylosis technique. (Photo: 1990, Mehmet Özdoğan)

officers, could not play a sufficient role in the protection of heritage. The exhibition of archaeological sites and their presentation to the public were also regarded as having secondary importance compared to the larger umbrella of tourism, which began to grow in 1970s. In this period, issues such as community and cultural heritage, or the creation of public awareness, were not on the agenda of the governmental institutions responsible for the protection of archaeological heritage.

*Period of globalization (from the 1980s to the present):
efforts to harmonize with the world in the field of archaeology and conservation*

The 1980 *coup d'état* in Turkey has led to rooted changes in the governmental and societal structure of the country. In a very short time, Turkey adopted a rather neoliberal economic system, in which global capital gained utmost importance. With this radical change, everything began to evolve in a different manner and pace. The renewal of all forms of infrastructure in Turkey, with support granted by foreign countries, the foreign intervention and cooperation in the foundation of technical systems in the fields of banking, stock market and economy, the rapid growth in the construction sector changed both the economic system and the general appearance of the country as a whole. This period may well be described as a highly innovative period, which has raised living standards with the construction of highways, bridges, dams and the increasing urbanization. However, it was also a time when historic environments and all types of cultural heritage were largely destroyed.



Figure 5. Gymnasium of Sardes was reconstructed in the 1960s. (Photo: 2013, Zeynep Eres)

On the one hand, a new protection law entitled ‘the Protection Law of Cultural and Natural Heritage’ was issued in 1983, in alignment with similar laws in other parts of the world. On the other hand, an intensive development plan was launched, which eventually led to the destruction of cultural heritage across the country. This law was based on protecting the ‘registered’ cultural heritage only. However, since the Ministry of Culture and Tourism has not registered all the cultural monuments across Turkey, many historic buildings and settlements had no legal protection (Eres & Yalman 2013; Eres & Özdoğan 2018).

All in all, the total effect of this era on archaeological sites was destructive, as well. Turkey is situated on a land that spreads across 800 thousand square meters and both Anatolian side and Thracian side embody many archaeological sites of various types. Large ancient ruins, prehistoric mounds, tumuli, flat (single-layered) settlements and caves require a wide range of protective measures. Mound settlements in particular, with diameters of 2km and heights of 50m, bear millennia of archaeological-rich urban formation layers, dating back to early periods (Figure 8).

In rural areas, while many large-scale constructions such as highways and dams were being carried out (Özdoğan 2013), the unregistered archaeological sites in the region



Figure 6. A detail from Sardes Gymnasium; most of the masonry and marble coverings were made with new material. (Photo: 2013, Zeynep Eres)

were flooded with water or were made available to construction. In addition, the urban areas were similarly being opened to construction without enough investigation whether there were any archaeological ruins underground; the urban areas were uncontrollably damaged by constructions despite the historical ruins and mounds, which eventually led to a high degree of damage given to the archaeological layers that existed below the ground (ibid.).

The 1990s was a period when European Council and ICOMOS began to prepare specialized charters to protect different types of cultural heritage. In terms of archaeology, the ICOMOS charter for the Protection and Management of the Archaeological Heritage, launched in 1990, forms the basis of the text of the European Convention on the Protection of the Archaeological Heritage (Valletta, 1992). Other important steps taken on the way to protect archaeological heritage are the ICOMOS International Cultural Tourism Charter: Managing at Places of Heritage Significance in 1999 and the Cultural Routes Programme of the Council of Europe in 1987 (Eres & Özdoğan 2018).



Figure 7. Roman bath was converted into a museum in the ancient city of Side.
(Photo: 2004, Zeynep Eres)

In terms of archaeology, Turkey has included the Valletta Convention into her legal system, having signed it in 1999, which bears ultimate importance due to its having legal binding force. Nevertheless, the legal rules may not always be put to practice, and not everyone goes by the book. For a long time, Turkey has only carried out archaeological research within public projects funded by international investment communities or the World Bank, due to the demands made by these investors or funders. For instance, the dam projects of the Euphrates river along the Turkish border, natural gas projects that extend to all corners of Anatolia and the subway projects in Istanbul, were instances where such regulations were put into practice and archaeological excavations were held beforehand (Özdoğan 2013; Karul 2013). However, all across the country, many other infrastructural projects were permitted and implemented without any detailed investigation of the archaeological heritage. That is why we are not completely aware of how many archaeological monuments or deposits were destroyed.

Extensive archaeological excavations were held in advance of the developments, having been encouraged and even recommended by the international system in many instances, including the subway construction in the downtown area of Istanbul. These efforts have made it possible to reach new archaeological findings that would change both the urban and regional history. In many districts of Istanbul (Üsküdar, Sirkeci, Cağaloğlu, Yenikapı, Beşiktaş, Haydarpaşa, etc.) rescue excavations have revealed extensive archaeological areas of thousands of square meters and up to 20



Figure 8. The Samsat mound submerged under the Atatürk Dam Lake in Southeast Anatolia. The mound consists of an archaeological deposit about 52m thick and covers all periods from the Neolithic period to Middle Ages. (Photo: 1977, Mehmet Özdoğan)

to 30m in depth (Karamani 2007; Kocabaş 2010; Başgelen 2016). These excavations in Turkey, within the framework of the Valletta Convention, are successful operations. Nevertheless, such efforts are still not sufficient in terms of achieving the right kind of exhibition and presentation of these findings to the public. The display of cultural assets unearthed by rescue excavations in urban areas and their presentation to the public is still at a preliminary stage in Turkey. On the other hand, during the last decade, the attempts to exhibit and present archaeological sites have dramatically increased, and many projects have been developed. The study presented in this article particularly deals with the conservation and presentation projects of archaeological sites located in rural areas and the changes in the attitude of both the states and archaeologists in present day Turkey, in terms of conservation of archaeological sites and their presentation to the public, in addition to societal expectations.

Preservation and presentation of archaeological sites: the approach of archaeologists

The above-mentioned survey of the protection of archaeological heritage in Turkey has clearly indicated that the processes in this field are mainly dominated by decisions taken by the State. The central government has a voice in all archaeological sites, accompanied by heavy bureaucratic regulations posed by the governmental institutions, including the regulation of excavations and auditing the sites. The second authority holding power in the archaeological sites is made up of excavation directors.

The Protection of Cultural Properties Laws enacted in 1973, and amended in 1983, largely covered the regulation of excavations and, with the special permission granted by the Board of Ministers, archaeologists who received permissions were given the official title 'excavation director'. With this entitlement, the directors held the right to manage excavations, protect the sites in the way they would like to, and issue scientific publications. In practice, until the early 2000s, archaeologists undertook excavation, research and conservation projects in the context of their own approach. The above-mentioned examples at Karatepe-Aslantaş, Hattusha, Çayönü and Side, were developed by the individual efforts of sensitive archaeologists who were responsible for the excavations. Between the 1950s and early 1990s, the regulations issued by Ministry of Culture primarily covered the restoration of monumental buildings and the protection bureaucracy of historic urban settlements. What is actually expected from the 'Protection of Cultural Property Boards', which have been formed by the Ministry, is the registration of cultural properties and historic urban settlements, in order to protect them under the law. The Protection of Cultural Property Boards are also supposed to grant the permissions to restoration projects of monumental buildings and to regulate the city development plans of urban conservation areas. Thus, until

Figure 9. In Hattusha architectural remains from different periods were excavated. In the late 1970s, the remains were covered with soil and models of the structures dated Hittite Great Empire period were constructed above the original remains. (Photo: 2012, Zeynep Eres)





Figure 10. The remains of the structures exposed in the Neolithic settlement of Çayönü in Southeast Anatolia were covered with soil and full scale copies were modeled on them. In the archaeological site, building remains from different cultural layers are exhibited. (Photo: 1991, Mehmet Özdoğan)

the 2000s, there were practices that were handled only by archaeologists who were sensitive to issues such as conservation, exhibition and presentation to the public, and were mostly independent of the bureaucracy of the Protection of Cultural Property Board.

The Council of Europe Framework Convention on the Value of Cultural Heritage for Society (2005 Faro Convention) and ICOMOS Charter on the Interpretation and Presentation of Cultural Heritage Sites (2008) are two international regulations that essentially cover the issues of protection and exhibition of cultural heritage to the general public. In terms of archaeological heritage, this issue was addressed in many different types of regulations since the 'UNESCO Recommendation on International Principles Applicable to Archaeological Excavations' (1956), and it was only since 2000 that new regulations formed the main framework to provide the appropriate protection for archaeological heritage. In fact, in the 1950s in Turkey, the approach developed by Halet Çambel was a good example that illustrated a multi-dimensional and holistic attitude towards protection, and might be listed as a pioneer effort in terms of its early date. However, it took a long time for Turkish archaeologists and state officials to take this approach as a model, for both the domestic and foreign excavations. For a very long time, Karatepe-Aslantaş open air museum was regarded



Figure 11. In Aşağı Pınar the architectural remains were covered with soil. Because the modern village architecture is similar to archaeological remains, three buildings were brought to Aşağı Pınar for presenting prehistoric daily life to the visitors. (Photo: 2010, Aşağı Pınar Archive, Mehmet Özdoğan)

solely as an individual pastime activity stemmed from a single archaeologist. However, Peter Neve was impressed and he launched a project to protect and exhibit the Hittite city of Hattushas in the late 1970s (Figure 9) (Neve 1998). Thanks to these efforts, this site was included on the World Heritage List in 1985. Subsequently, Mehmet Özdoğan, student of Çambel, developed a protection and exhibition model in the early 1990s at Çayönü, in southeastern Anatolia, and in late 1990s at Aşağı Pınar and Kanlıgeçit in Eastern Thrace (Figures 10–13) (Özdoğan 1999; 2006; Eres 2016). As a matter of fact, in the 2000s, archaeologists coming from different schools of education started to develop conservation and exhibition projects in different parts of the country. The approach to preserving the archaeological sites and their proper exhibition to the public eventually became widespread in different regions of the country, launched by various scientists and experts.

An important point to emphasize is that the conservation work maintained in proto-historic or prehistoric sites in Turkey (mentioned above) and the work implemented at the ancient sites belonging to Hellenistic-Roman culture bear significant differences (Eres & Özdoğan 2018). In the multi-layered archaeological sites, most of which are in the form of mounds, and in the sites that show no indication of bearing an ancient ruin on the ground, archaeological deposits are uncovered during excavations. It is very difficult to preserve the architectural remains in such archaeological areas, where



Figure 12. Inside the exhibition hall, converted from a granary, full scale models of the Aşağı Pınar houses are exhibited. (Photo: 2015, Aşağı Pınar Archive, Mehmet Özdoğan)

we may find multi-layered forms of stone, adobe or wattle-and-daub architecture (Figure 14). What is more difficult is to ensure that the visitor can correctly perceive the archaeological site. Therefore, the experts working on such archaeological sites try to find solutions specific to the site they are working on, by taking its opportunities and weaknesses into consideration. *In situ* presentation of architectural remains under a protective roof; the sealing of the remains under soil and the construction of their models on top; the presentation of a single period or selected periods for the multi-layered archaeological sites, reconstructions created within or near the site, are just some of the methods used to achieve this (Özdoğan & Eres 2012; Eres 2016).

On the other hand, when we consider ancient sites where Hellenistic-Roman cultural heritage has been discovered, the situation is rather different. First of all, these sites embody ruins that are on the ground and *in situ*. At the archaeological sites where archaeologists run the excavations, ruins made of marble or other types of stone are revealed and these types of ruins may well be preserved in outdoor conditions with ease. They do not require any type of special project development. At these sites, what is especially challenging for archaeologists is the display of ceiling mosaics and wall frescos, which are both difficult to preserve in outdoor conditions. Archaeologists who desired to create a more comprehensible and visual space for the visitors, opted for techniques such as anastylosis, just as they have always done since the beginning of 1800s (Schmidt 1993; Jokilehto 2002). These types of work have been gradually initiated



Figure 13. Kanlıgeçit Early Bronze Age settlement is only 300m away from Aşağı Pınar. The building remains were covered with soil and full scale models of the remains were constructed exactly above the original remains. (Photo: 2012, Kanlıgeçit Archive, Mehmet Özdoğan)

by excavation directors since the 1960s during the excavations along the Aegean and Mediterranean coasts of Turkey (Eres 2016).

The 5-year tourism development plan (1973–77) introduced the creation of mass tourism inside the country, which was identified as one of the biggest sources of GNP. That is why, in the aftermath of 1980, when the country became influenced by a more neoliberal economy and global system, mass tourism also became oriented towards beach holidays. Along the Aegean and Mediterranean Coast, which has always been the main center for beach tourism, Celsius Library of Ephesus and other column rows situated along royal roads at ancient sites were presented to tourists as the ‘cultural sauce’ of their seaside holiday (Eres & Özdoğan 2018).

Until the beginning of 2000s, the beach-oriented emphasis of mass tourism led to tourism authorities to believe that the erection of ancient buildings by using anastylosis was sufficient for the presentation of archaeological ruins to the tourists and the general public; and this implementation was usually initiated by the directors of excavations. The royal marble roads usually paved the way for the tourists inside the ruins, and the rows of columns and temple façades were considered an adequate reflection of the glamor of ancient Hellenistic-Roman times. In the archaeological sites, there was no holistic approach to preserve and exhibit the ancient city as a whole. In

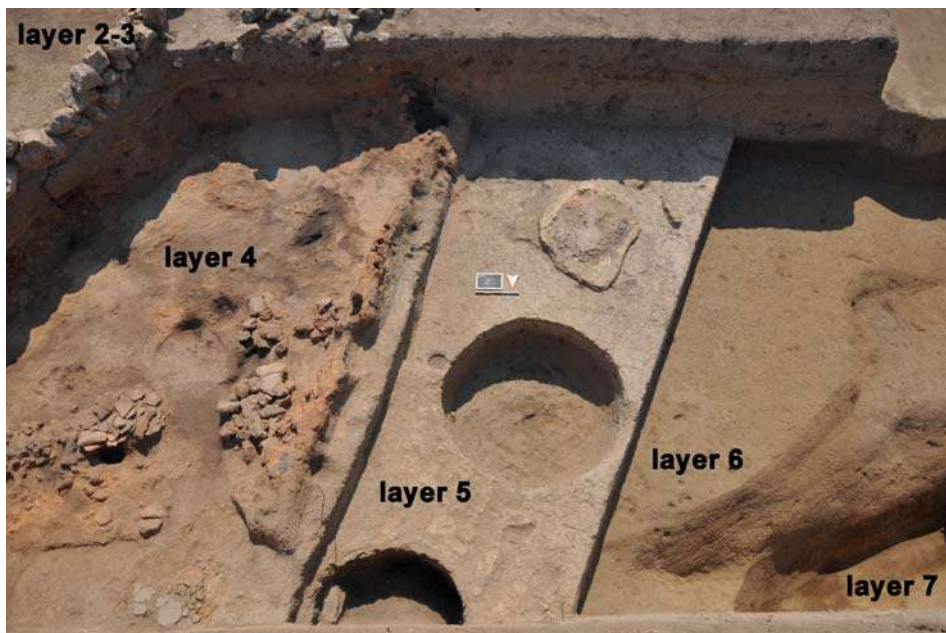


Figure 14. Seven cultural layers were found in Aşağı Pınar's 3 m thick archaeological deposit.
(Photo: 2011, Aşağı Pınar Archive, Mehmet Özdoğan)

this sense, the model developed by the Sagalassos excavation team in the early 1990s and the modern approach that they adopted led to a rather elaborate implementation of anastylosis specific to this site (Waelkens et. al. 2006; <http://www.sagalassos.be>).

Preservation and presentation of archaeological sites: the approach of the State

Rooted changes that took place in the State's approach to the preservation and presentation of archaeological sites in Turkey began since 2000. As we have seen, prior to that, the main concern of the State was to regulate archaeological excavations and to make the necessary legal and executive arrangements in order to prevent the illegal exportation of archaeological objects. However, as the new millennium began, at the beginning of the year 2000, the Ministry of Culture and Tourism added the restoration of archaeological heritage to its official program, and within a very short time, they began to allocate funds for the restoration of archaeological heritage by assigning the appropriate contractors, using the method of bidding. This was the first time that, independent of the directors of excavations, the Ministry of Culture and Tourism developed restoration works at archaeological sites. In those types of restoration projects, the excavation directors were sometimes consulted during the restoration work. However, the decisions regarding what type of intervention would be made at a given site was now taken by the Ministry of Culture and Tourism.

This change in the State's approach basically derived from the need and desire to open up new areas for the tourism in Turkey, and to integrate the concept of cultural tourism into seaside tourism, which had become one of the essential forces of the Turkish economy. The general opinion was that the more they applied techniques to re-erect monuments through the method of anastylosis, the more the sites would become attractive for tourists. In 2004, new legal regulations made it possible to fund the preservation of cultural heritage through nationwide real-estate profits, which relieved the difficulty in funding and budgeting of such projects. In 2010, further legal regulation made it obligatory to get an approval from the Protection of Cultural Property Board for the initiation of any kind of architectural projects that involved restoration work at certain archaeological sites. As a result, there was a transformation in the processes, whereby the architects who won the bid to run projects now formed teams of construction engineers, material experts, etc., and managed the projects by special permissions from the State. Although this approach may seem to be more professional, due to the fact that there was not enough architects in the country proficient to run conservation projects, resulted in projects being managed in an unskillful way and in a 'doing the best we can' type of approach.

Figure 15. The re-erection of a temple in the ancient city of Laodicea. (Photo: 2013, Zeynep Eres)





Figure 16. A detail from the temple implementation in Laodicea: A single row of original stone is visible on the ground, the upper part of the wall was built completely with new stones. (Photo: 2013, Zeynep Eres)

In the conservation projects defined by the Ministry of Culture and Tourism, numerous technical experts from a variety of disciplines play a role in a given project, which may be based on detailed technical analyses (related to material, deterioration, etc.). Although a number of these projects pose technical problems, some of them prove to have applied dignified and qualified restoration work. However, in terms of the archaeological conservation practices of the Ministry, the main issue to be discussed is the theoretical dimension of the project. The erection of a monumental ruin in any archeological site by the use of a reconstruction technique that exceeds the rules of anastylosis and leads to controversies does not meet the archeological principles listed in the Venice Regulations. The monumental structures that were completed with no holistic approach but by making 'prediction' ultimately create an artificial aspect to the archaeological site. In the last few years, the State, as well as some academics,



Figure 17. A detail from the bouleuterion in Patara ancient city. All the stairs were reintegrated with new material for using the building for social activities and unfortunately, the authenticity of the building is totally lost. (Photo: 2015, Merve Arslan Çinko)

prefer to re-erect the archaeological buildings even though they do not have enough pieces of the structure for a proper anastylosis (Figures 15, 16 and 17).

In any type of archaeological settlement, the development of a holistic project that covers the entire site, planning for preservation and presentation should become short, middle and long term goals. The conservation work should be gradually developed by taking the unique features of each piece into consideration. More importantly, the excavation work at an archaeological area is done with the ultimate purpose of emphasizing the importance, meaning and value of that settlement in cultural history, achieving new findings and revealing new types of information. The main incentive of initiating such work should be, above all, scientific. Planning excavations only for the purpose of presenting beautiful and attractive monuments to the public purely for economic reasons would not be a right step to take. In this sense, in some excavations managed by the Ministry of Culture and Tourism, all the projects to open up new archaeological ruins in order to make the site more 'visible' and attractive to more visitors, will ultimately become problematic in the long-term. Although the visitors have usually left the site with good impressions, the site will also have serious



Figure 18. Yesemek archaeological site was a sculpture workshop in the Late Hittite period. As it is an authentic and unique site, the professional heritage managers advised to the local municipality to suggest this archaeological site to the UNESCO World Heritage List. Today the municipality supports all the archaeological researches in the site. Besides researches, an international symposium series on Yesemek has started as well

preservation problems in the medium-term. In conclusion, the anastylosis projects that are based on intensive excavations and reconstructions aimed at increasing tourist demand by creating aesthetic impressions will culminate in various problems that require the attention and decision-making of the experts as new issues arise in the future.

That said, when we consider the applications of the Ministry of Culture and Tourism, especially since 2010, it may be noted that the expropriation of large ancient ruins and their removal from private property has been a positive step taken towards the creation of a more reasonable protection plan. In this way, the burden is lifted from individuals who possess a property or land within the borders of an archaeological site, and the tension between the State and the local community is eliminated. From this point onwards, the government has begun to give more importance to large-scale planning, and projects are prepared with the title 'Landscaping Plans', covering the archaeological site as a whole. A tourist route is being designed in every detail and the tourist information centers at the entrance to the sites provide all the information a visitor needs. At larger historic sites, plans are being made to establish a museum at or near the site, so that the site is directly exhibited. Although these exhibition and

protection processes still pose a range of problems, it is highly significant that the Ministry of Culture and Tourism has been making versatile efforts with the objective of protecting, exhibiting and presenting archaeological and heritage areas (Eres 2016).

There is no doubt that, in order to avoid irreversible damages that may occur in the archaeological sites, international regulations should be considered and an independent auditing system should be followed, inspected and reported by international experts in the field – perhaps with an infrastructure based on NGOs. Interestingly, such a system gradually began to form through the media. In recent years, media coverage has been highly effective in highlighting the incorrect and unqualified restorative works. Therefore, when a controversial restoration attracts media attention, those responsible for the project have even tried to organize scientific symposiums in order to explain their objectives.

As for the Ministry of Culture and Tourism, an important change that they have undergone in terms of archaeological heritage is participation within UNESCO's World Heritage List. Having already signed the convention in 1983, Turkey has begun to take part in the World Heritage List with various elements of cultural heritage since 1985. In those years when the government was reluctant to engage in detailed protective measures, such as having a site management plan, Turkey succeeded in making her archaeological work become part of the List. Between 1985 and 1998, five out of nine sites are defined as archaeological areas, all of which were reported to have been excavated by foreign teams.* As a common feature of these archaeological sites is that their outstanding universal value in cultural history on an international scale is no small part a result of long-term excavations, research and publication. The introduction of site management into Turkey's legal system and the increase in necessary staff have taken a long time. In 2005, however, the required regulations were adopted to make site management obligatory for the archaeological sites. Nevertheless, the low number of proficient experts has prevented the consistent implementation of these processes in all regions of the country.

Since 2010, the Ministry of Culture and Tourism has regarded the integration of national cultural heritage into the World Heritage List as a matter of prestige, also viewing the profit made in this respect as an important source for the national income. Today, eleven out of eighteen World Heritage Sites in Turkey comprise archaeological sites.

Conclusion

All the efforts paid by different agents for the improved interpretation, exhibition and presentation of archaeological sites are undoubtedly precious for the protection of historic heritage in the long run. The protection of a certain archaeological site cannot be maintained only with the legal and executive authority of the state. In today's

* Archaeological sites included in the World Heritage List during this period: Hattusha, Mount Nemrut, Hierapolis, Xanthos and Letoon, Troia. In addition, 'the Göreme National Park and the Rock Sites of Cappadocia' and Historic Areas of Istanbul'. World Heritage Sites also contain archaeological sites.

world, it would be unrealistic to believe that a protection program that does not involve the participation of related vocational organizations, local administrations and a considerable part of the society would eventually be permanent and 'sustainable'. In this sense, the Faro Convention (2005) and ICOMOS Charter on the Interpretation and Presentation of Cultural Heritage Sites (2008) are the international regulations which aim to internalize cultural assets for the community and identify the ethical codes. However, the protection, preservation and presentation of an archaeological site needs to be scientifically informed from the outset.

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