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Sustainable Conservation of Architectural Heritage. A Case Study of Negova Castle, Slovenia

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Abstract

A more focused and inclusive approach to the conservation of architectural heritage can make a positive cultural, economic and social contribution to the well-being of our society. Architectural heritage has been recognized as a crucial component of sustainable built environment and approaches to conservation of architectural heritage are evolving. The case study of Negova Castle examines the effects of a traditional, object-based approach to conservation of the architectural heritage compared to a reconfigured sustainable approach which supports the importance of sustainable development. Since 2006, the Negova Castle Complex has gone through a thorough restoration process and in 2012 restored buildings were open to the public; the restoration followed traditional object-based conservation practices. The buildings were restored as monuments of the past with little consideration of current social and economic norms. The main building, a 15th century castle, was left untouched due to the lack of financing. The aim of this paper is to provide a brief analysis of the current situation of Negova Castle, to challenge the traditional object-based approach and its criteria for the evaluation of heritage authenticity which was applied to the restored buildings and, subsequently, to identify holistic, sustainable approaches with adaptive reuse strategies suitable for the 15th century castle. By analyzing the Negova Castle project, it becomes evident that it is very hard to protect, preserve and manage the site's architectural heritage for the future without understanding and properly balancing its contemporary and sustained values and without meeting the current social needs. The goal of this study is to propose an approach that addresses the architectural integrity of the Old Castle and to reduce interventions in its fabric while contributing to the greater integration of architectural heritage owners and other stakeholders into the sustainable conservation process and management of the Negova Castle Complex.

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Keywords

Conservation Strategies; Sustainable Conservation; Reuse

1. Introduction

The Negova Castle Complex is a fine example of fortified castle architecture, one of the largest ensembles that remain in Slovenia. Historical, aesthetic, structural and other characteristics are reflected in its design and architectural elements, and thus create an impressive monument, listed as a Monument of National Importance from 1999.

The Castle Complex, created during a sequence of phased building projects between the 14th and 17th century,

consists of the Old Castle, the new residence, and an outbuilding; all 3 buildings are protected by outer curtain walls and defense towers. The Complex was first mentioned in the 15th century (1425) as a fort, built and remodeled gradually, and was substantially enlarged in the first half of the 17th century (1612), when the owner at that time, the Trautmannsdorf family, spared no expense on modernizing the fortification and creating a new residence located just before the Old Castle. After the second world war, the whole estate was confiscated and the Complex became the property of the Yugoslavian State through nationalization.



Figure 1. Negova Castle Complex, restored, reconstructed New Castle



Figure 2. Negova Castle Complex, south-west view

Decades of neglect in the 20th century contributed to the massive loss of structure, the new residence, outer curtain walls and towers were particularly damaged, even partially destroyed. Today the Old Castle and northern tower exhibit evidence of severe damage; the new residence, outbuilding, curtain walls and other towers were restored and reconstructed between 2006 and 2009. The preservation approach (reconstruction) was quite extreme and focused mainly on the historical significance of the Complex. The concept to reconstruct the complex to its “original” state, was based on archive documentation but also on uncontested assumptions. The intervention was justified solely by historical values which were assigned to the Complex.

The Old Castle —the nucleus of the Negova Castle Complex —escaped the radical, invasive approach applied in the case of new residence, outbuilding and walls. The research of the Old Castle, done during conservation planning, includes analysis of the components, material, surface decay, visible structural damage and the evaluation of the building evolution through archive research and visual inspection.

The building’s evolution contributed to the complexity of the structure due to the links between old and new components and spaces. The sequence of recent interventions into the structure is a key point for evaluation of the current state of the building and for determining constraints for possible actions for strengthening reuse of the building. This is best presented as a conservation approach which considers our contemporary needs and sustainable goals and balances with different values attached to the monument. Recent evidence gathered and an understanding of past preservation strategies allow us to take a more reflective and positive approach to create a more appropriate heritage strategy in the case of the Old Castle and to challenge established conservation principles in Slovenia that continue to be applied in the Negova Castle Complex.

2. The Evolution of the Old Castle

Situated near Gornja Radgona, in Negova village, on the edge of a steep hill above the valley, the Negova Old Castle has a rich historical significance. Having played a defensive role in the 15th century, the castle took a residential role in the 17th century.

The rectangular two storey building is built around the uneven inner courtyard and covers the area of 1028 m². The layout is composed of four wings, the main entrance is located on the south-east wing, while the Renaissance arcade gallery runs along the inner walls of north-west and north-east wings.



Figure 3. South-west wing



Figure 4. Courtyard, north-west wing, behind the Renaissance arcade gallery is the oldest preserved part

The built history of the castle is not well-known. An archive document from 1425, mentions the castle for the first time as a fort (Vest Negau). Judging by the preserved architectural and structural elements, the construction of the castle likely began in 14th century.

The oldest part of the castle is identifiable in the north part of today's castle and comprise of the first keep that served as a residence for a local noble family and original high curtain walls, today integrated into the wings. A high square watchtower was soon attached to the original structure. Preserved fragments of the original wall and two consoles found in the attic suggest that the original castle was more than two storeys high. The recent survey has also revealed features of the original main entrance at the north-west side of the structure.



Figure 5. South-east wing, second keep



Figure 6. Courtyard, south-east wing

The castle was soon widened and reinforced. Our survey provided clear evidence that the chapel, located on the north-west side of the castle, was built as a partially independent building soon after the erection of original nucleus. The preserved architectural elements, cross ribbed vault, three-sided window and stone portal with stone staircase, place the chapel in the late 14th or early 15th century. The remains of the original supporting wall and the unhindered connection of the chapel to the wall can demonstrate that the original, older wall was removed for the construction of the chapel. Recent restoration work also discovered original paint on the ribs. During the modification work in 16th century, the chapel was oriented towards west, gallery was added on north-east side and wall paintings were created.



Figure 7. Chapel



Figure 8. Remains of the original supporting wall



Figure 9. Entrance to the Chapel

Other alterations included the construction of a second keep, a kitchen area with the fireplace, and a storeroom with a well. The second keep (bergfried or towered gatehouse) on the south-east side of the castle reached the second floor and partially leaned against the curtain walls. The original entrance to the keep is still visible today over the Renaissance portal.

In 1480, the region (Styria) became involved in serious armed conflicts with Hungarian and Turkish invaders. As a result, over the next two centuries, the castle went through massive fortification and extension building phases (new residential wing on north-east side, lifting bridge). Visible loopholes at multiple levels, which are still preserved today in the walls of the south-west and south-east wings, confirm that the castle was strongly fortified and expanded between the 14th and 16th century.

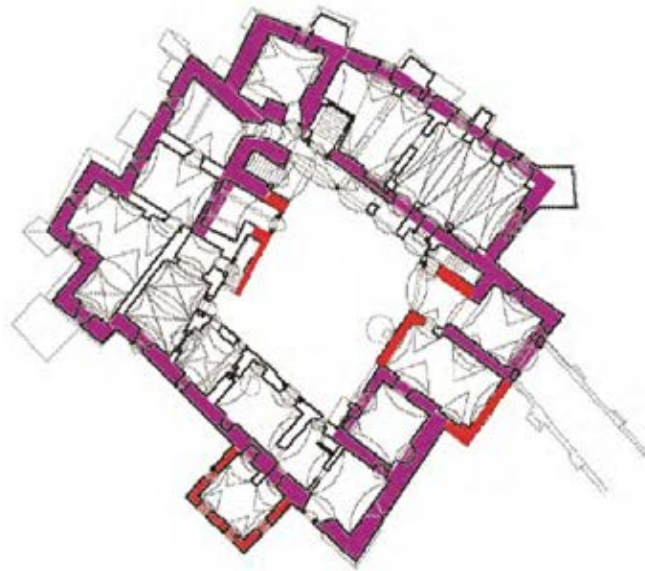


Figure 10. Ground floor, building phases (Gothic (violet), Renaissance (red))

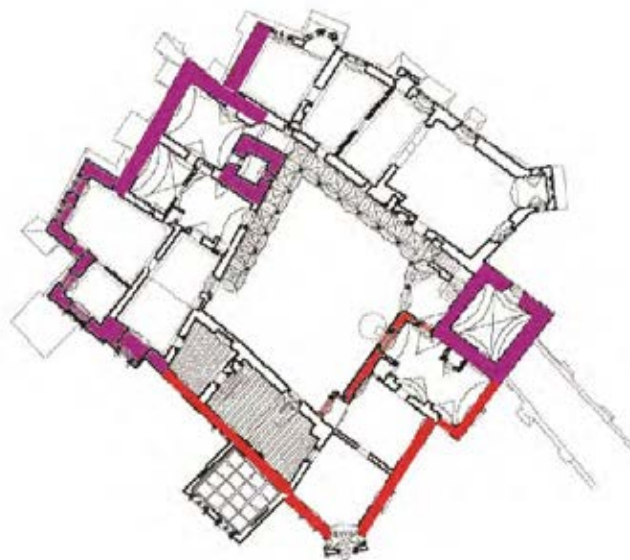


Figure 11. First floor, building phases (Gothic (violet), Renaissance (red))

By the beginning of 17th century the castle was adapted to its new function of residence but already in 19th century the estate with the castle in Negova, managed by stewards, served only as a landmark.



Figure 12. Vischer GM. Topographia ducatus Stiriae. Graz. 1681.



Figure 13. Kaiser JF. Lithographirte Ansichten der Steyermärkischen Städte, Märkte und Schlösser, Graz 1824-1833.

The Castle Complex stayed in the hands of the Trautmannsdorf family until 1945. After the World War II the Castle Complex was requisitioned and now is owned by the Ministry of Culture Republic of Slovenia.

3. The analysis of the building and causes of structural and material decay

Today the Old Castle still retains most of its original architectural features intact. From the 18th century, only minor modifications were made to adapt the existing building to new uses.

The historical sequence of architectural styles (Gothic, Renaissance) creates a monument in which the course of the building development from the fortification concept, the castle with a defensive function to the residence of the noblemen, is clearly recognized. The physical integrity of the Old Castle is well preserved, and the authenticity is recognized particularly in its form & design and material & substance.

Since 1991, the Institute for the Protection of Cultural Heritage of Slovenia, Regional Office Maribor, carried out interventions, such as restoration of wall paintings in the chapel, restoration of roof tiles on south-east wing, consolidation of Renaissance loggia on south-west wing, with the intent to prevent rapid loss of substance.

Having undergone many decades of neglect and weather erosion, the main structure of the castle is damaged and is deteriorating at an accelerating rate. The main reason for damage is lack of proper maintenance and recent destructive research methods which have exposed structural elements and contributed to the loss of material.

For the purpose of the future strategy the overall condition of the castle can be described as follows:

Table 1. Decay and damage

Causes of Decay and Damage	Summary description
<p>Man-made causes</p>	<p>Lack of proper maintenance Poorly performed and even lack of maintenance work contributed to the loss of original building structure, material and affected overall condition and performance of the building.</p> <p>Damage by vibration Recent restoration, reconstruction work on new residence resulted in damage on old castle. The vertical cracks occurred due to the ground-transmitted traffic vibration from heavy vehicles used during the work on residence and also due to vibration from pile driving.</p> <p>Destructive survey methods Heritage experts, to better understand the history and structure of the building, neglected preventive conservation and open parts of the structure, thus exposing the structure and material for decay. This led to the appearance of the vertical cracks and loss of historic materials. contributed to the static stability and loss of material.</p>
<p>Climatic causes</p>	<p>The seasonal temperatures, sun, wind, rain, moisture, frost and snow falling directly onto different parts of the building are causing decay of the structure, material, leading to the loss of cohesion between layers and later to the loss of material. The whole building (exterior, interior) is exposed to the climatic causes.</p>
<p>Botanical causes</p>	<p>Ivy and other climbing plants are present on north side of the castle. by Accumulation of moisture and roots leads to displace of the bonding material and to the loss of material. During the research the tree was growing through the roof.</p>
<p>Biological causes</p>	<p>The castle complex has been poorly maintained in the last ten years, which is also reflected by the increased biological and microbiological growth. Bacteria, lichens, mosses are present inside of the building, rooms on first floor are particularly damaged, and on the inner facades.</p>

Table 2. Summarised risks, category and recommendations

Area	Risk	Damage category	Recommendations
Roof	Timber is damaged, and roof tiles are broken on some parts, eaves and gutters were not maintain properly in the past, some gutters were replaced last year but are not designed properly. Damage is visible in the form of loss of material, breaking, staining and biological growth is present. The roof on south east side was renovated during the reconstruction of the new residence, bridge.	Very severe damage	Preservation measures are necessary and urgent.
Windows, doors	There is no whole window in the building. Window frames are damaged, only partly preserved and glazing is missing. Original wooden doors and gates are showing the effects of weathering. Some doors were removed. Interior of the building is very vulnerable because of exposure to the rain, wind, snow, frost, and is fully open to vandalism.	Very severe damage	Preservation measures are necessary and urgent.
Walls	Vertical cracks are appearing in the area where recent conservation interventions and destructive research occurred.	Severe damage	Preservation measures are necessary
Floors	Recent removal of floor surfaces due to destructive research methods. Structure is still exposed and there is rapid loss of material and damage.	Very severe damage	Preservation measures are necessary and urgent.
Wall paintings	The rapid loss of still existing wall paintings and fragments is mainly due to the unprotected openings and weather influences.	Severe damage	Preservation measures are necessary



Figure 14. Man-made cause, destructive research method, removal of floor surfaces, vertical cracks



Figure 15. Man-made cause, destructive research method, removal of floor surfaces since 2006



Figure 16. Man-made cause, destructive research method, recent (2017) opening of historic doors and windows



Figure 17. Man-made cause, destructive research method, recent opening of historic doors and windows



Figure 18. Man-made cause, destructive research method



Figure 19. Botanical cause of decay



Figure 20. Stone elements (spolias) exposed to weathering



Figure 21. Collapse of the Renaissance wooden ceiling due to lack of maintenance



Figure 22. Biological cause, damaged roof, lack of maintenance

4. Heritage Approach

The past approaches in the preservation of castle heritage in Slovenia have been challenged with new purpose and use; many adjustments, extensive destructive methods of research and irreversible interventions lead to the change of historical structure and loss of historical material.

The preservation approach in the case of Negova Castle Complex was based primarily on historical value. Buildings were reconstructed to regain completeness and coherence of form, creating a monument that defines one moment in the history of the complex. The Old Castle was not a part of these discussions and has been left untouched with only minor interventions.



Figure 23. View on the rebuild part of Castle Complex

In the last decades, the scope of understanding —and influence of —cultural heritage has expanded widely. The expansion was driven by economic and social changes, which also influenced the diversification of meaning and value which are today attributed to heritage. Meanings and values greatly influence the identification of heritage and our decisions on what and how to preserve. While in 1964 the Venice Charter emphasized material significance (for historical, archaeological or aesthetic value), Burra's paper from 1999 recognizes that in heritage, meaning and value appear in materials themselves, in meanings created by people through use and are strongly related to the location from which they derive.

We often stress the importance of preserving architectural heritage for our and future generations, but the methods still used in practice today often do not consider the contemporary needs and priorities. In the case of Negova Castle Complex, the preservation of built heritage was influenced by heritage experts who identified the heritage, its values and priorities and made the decision what and how to preserve and conserve without accommodation for contemporary goals and expectations. Heritage experts prioritized the method of preservation without properly questioning the societal meaning; asking who benefits from heritage and also who pays for maintenance, protection and sustainability of the Negova Castle Complex.

As Stubbs (Stubbs, 2013) points out, heritage experts and stakeholders are often under pressure to act before receiving adequate technical information and financial support. In the case of restoration and reconstruction of



Figure 24. Rebuild interior of the new residence

the Negova Castle Complex, experts have not been able to take into consideration other aspects in their decision-making. The project represented significant investment in time and effort without reflecting on all financial costs, public participation and cross disciplinary dialog.

The complex is not fully appreciated due to the high costs of protection & maintenance and because of an assumed purpose of the building forced solely through heritage experts.

Cassar (Cassar, 2008) points out that when new theories and techniques for heritage conservation are developed, experts in heritage must recognize and accept the changes. The approach towards the built heritage must become more open and transparent, using horizontal dimensions of decision structure.

The Old Castle represents a long history of political and cultural clash between "two worlds" - the western and the eastern - in this area. The building structure, well-preserved architectural (Gothic, Renaissance) elements and decorative elements (including wall paintings) show an exceptional example of the Central European castle, which left a strong mark in the history of this area. The historical sequence of architectural styles creates a monument in which we can recognize the course of the building's development and changes in function and purpose.

We have an opportunity to apply a different approach to achieve contemporary needs and sustainable goals of our society and still properly introduce past to present without altering the reception of the castle's cultural meaning; through a more flexible approach based on conservation and sustainability, properly balanced between restoration of features, conservation of architecture and considering values and priorities of the wider public. However, the Old Castle is isolated from the rest of the complex; it is closed to the public and can be reached only through the main gates of the new residence.

By analyzing and applying restoration and conservation knowledge on the preserved structures on the site, there is the chance to revive original heritage craft skills and techniques; to better understand relevant management and

organizational needs; to recognize the effectiveness of traditional practices of conservation and restoration and thereby preserving authentic cultural values of the monument. Workmanship, tools and building techniques could represent as closely as possible the reality of past construction. The site would be a place of learning, focusing on skills and knowledge involved in restoration. It would represent the gradual, long-lasting course, executed under the supervision of a truly interdisciplinary team of experts (heritage professionals, craftsmen), where a visitor or student could also, with guidance, discover, examine and experience architecture and the restoration process firsthand. Heritage professionals, students and craftsmen could gain new experiences in the practicalities of renovation that could consequently lead towards completed renovation of the whole castle complex.

By recording and recreating Old Caste with the use of modern technology the technology behind the construction and historical development is better understood. Knowledge can be managed and shared better and the information acquired through archival analysis, damage survey and diagnostic investigation can be reused.

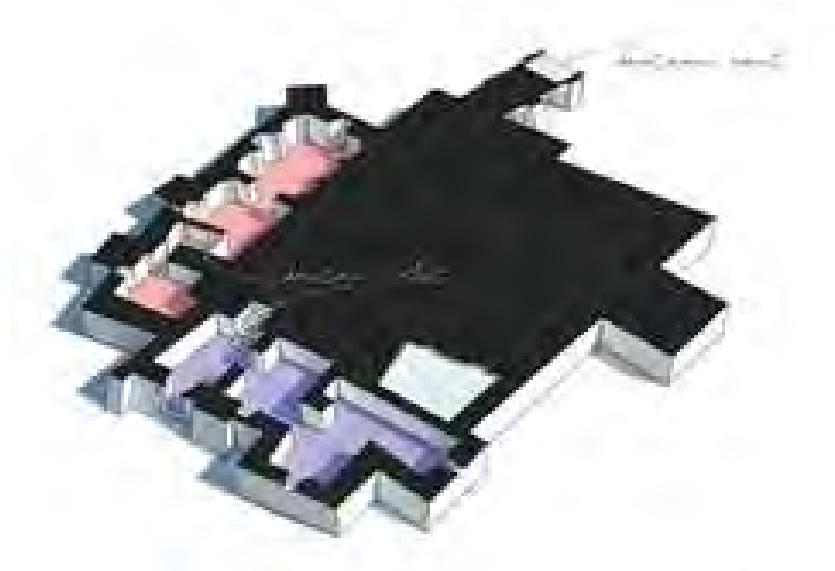


Figure 25. Cellar, usage of the space, 3D model, Klajder J, Dojčinovič M.



Figure 26. Ground floor, usage of the space, 3D model, Klajder J, Dojčinovič M.

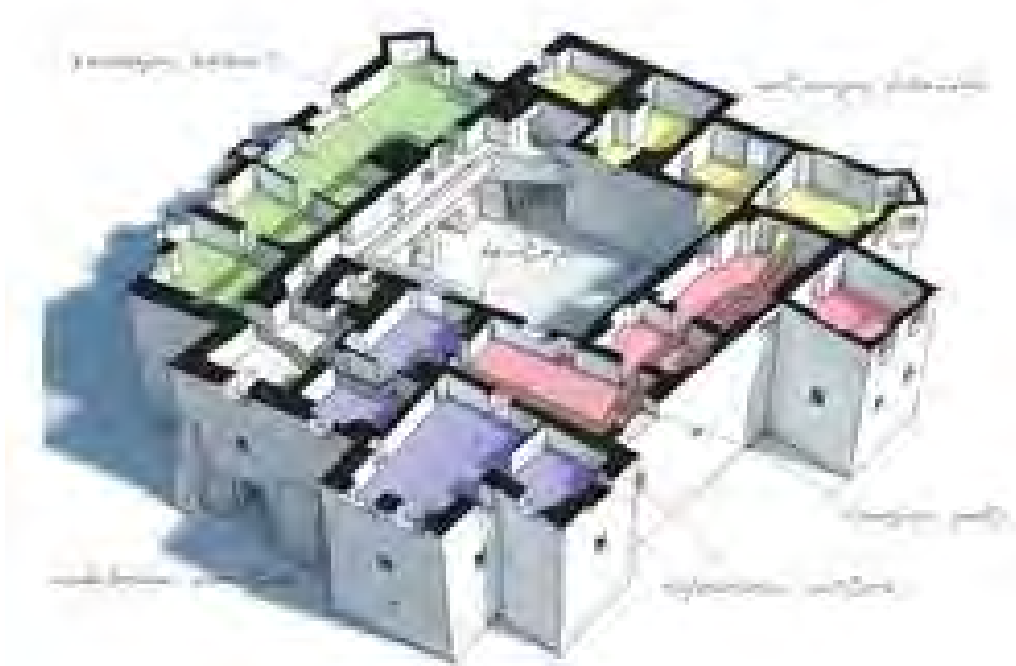


Figure 27. First floor, usage of the space, 3D model, Klajder J, Dojčinovič M.



Figure 28. Proposed path through the Old Castle, 3D model, Klajder J, Dojčinovič M.

The project could inspire interest and respect for architectural heritage and restoration techniques, it could improve the public consciousness of meanings and values that heritage has today and can have for our future, it could raise public awareness of the sensitive processes of reconstruction and conservation of historic buildings.

With the broadening of values and active participation of experts, students, community and visitors it is still important to respect the character and appearance of the original monument when setting up another purpose in the site, to preserve the original ingredients and material of the monument, and to preserve and present all elements of developmental construction phases.

With a corrected approach to the renovation and conservation of the Old Castle, we can greatly contribute to the future of the heritage, and as such we pass it on to the next generations.

5. Conclusion

Past interventions, changes, and adaptations that have occurred over time in the Old Castle allow us to understand the history of architecture and construction. The building has been successfully transformed from fortress to residence, responding to the demands and needs of inhabitants. With the approach that we recommend we could manage the continuity of the monument through finding a balance between restoration and sensitive alterations.

As Harvey (Harvey, 2012) writes, we must be aware that the heritage is not a thing and does not exist by itself. Heritage is a process where people use the past. (Harvey, 2012). Heritage is not only a specific category of products, objects, areas, historical events or persons, but a process, outcome and consumer experience. Heritage is shaped in the present to serve today's needs. (Ashworth, 2014)

Jones argues that we "need to shift our approach to conserving cultural heritage away from the current emphasis on the material fossilization of heritage as "product", towards a focus on heritage as "process". (Holtorf, 2015) We need to enable our built heritage to grow, to change and also to renovate but these processes must be integral with the meanings and values that this heritage is transmitting in today's time and in our environment. Sustainability begins with preservation. With the appropriate use of architectural heritage, we can reach the economic, social, environmental and cultural dimensions of sustainable development. With a proper and more inclusive approach to protection, heritage can be a stronger asset that offers greater opportunities.

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