



URBANISATION IN THE 21ST CENTURY: THE ROLE OF DESIGN IN REVIVING ARCHITECTURAL STYLES AND PROTECTING CULTURAL HERITAGE

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ABSTRACT

Purpose: The study examines architectural styles' impact on preserving cultural heritage.

Design/Methodology/Approach: The research is based on a qualitative paradigm, using content analysis as a basic tool. The examples included eight sites: the Louvre, the Central Library of Liverpool, the Basilica of Santa Maria Maggiore, the Monastery of Saint Francis, the German Military History Museum, the Antwerp Port Authority Building, and the Royal Ontario Museum. The findings obtained in the content analysis were then processed using the synthesis, comparison, and generalisation methods.

Research Limitation: The research's limitation is the frame of Western cultural heritage, which does not cover regions of the Middle East and Asia.

Finding: The study identified the adaptive reuse of architectural styles. Design in preserving cultural heritage was recognised as the main challenge of urbanisation in the 21st century.

Social Implication: The findings contribute to strengthening the cultural identity of nations, as well as to sustainable urbanism

Practical Implication: The findings allow architects to broaden the arsenal of solutions applied both for preserving cultural heritage and designing city plans

Originality/ Value: The study's relevance concerns preserving cultural monuments currently receiving considerable attention.

Keywords: *Architectural. building. cultural heritage. deconstructivism. design*

INTRODUCTION

Today, more and more public attention is paid to the issue of urbanisation, which is directly related to the fact that cities are developing quite actively, and citizens' lifestyles are undergoing various changes. Accordingly, modern urbanism is seen as a comprehensive discipline that deals with the study of urban planning and the identification of design features of the surrounding areas. At the same time, urbanism considers the population's well-being and the residents' ability to access infrastructure, educational and healthcare facilities, and jobs. All this requires unity, integrity, and harmony. At the same time, the growth in the number of cities

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and the expansion of their area means that there is a growing need to use not only above-ground but also underground space (Byrkovych et al., 2023).

At the same time, adequately planned urbanisation allows for building a city plan so that transport interchanges are accessible to citizens, and pedestrian crossings and rapid transport should also be within walking distance. However, as part of urbanisation, urbanism also considers that everything should look modern. Moreover, in this aspect, the issue of preserving cultural monuments that belong to national values in such a way that they retain their identity while acquiring a modern look arises.

Given the widespread need for a new aesthetic, the deconstructivist movement has emerged, now less than 100 years old. The peculiarities of this trend are that buildings are given an aesthetic appearance, mainly if they are buildings of cultural and industrial significance. In addition, different forms are combined, and elements of cubism and futurism can be seen. At the same time, the original appearance of the building, its design, and its decoration are preserved, which allows us to talk about a combination of the past and the present. This trend considers urbanisation and different architectural styles (Diachok et al., 2020; Kolodrubaska et al., 2022).

It should be noted that deconstructivism is a style that helps preserve cultural monuments' value. At the same time, the preservation of cultural monuments means that a set of measures is taken to preserve the sustainable appearance of a cultural monument. This includes reconstruction, restoration, and overhaul. However, the preservation of cultural monuments largely depends on the economic value of a particular building. If the state and the community see the building as having the potential to attract tourists, it will be invested heavily and retain its unique appearance. At the same time, the building is also being modernised to make it interesting for visitors and meet modern architectural requirements. While deconstructivism recently became a subject of studies and practical implications, there is still a lack of research allowing comprehension of how design in reviving architectural styles can revitalise cultural practices to change and alter perceptions, generate and disseminate knowledge, and create new value.

LITERATURE REVIEW

National researchers such as Boiko (2022), Tarangul (2024), Valevskyi and Lytvynenko (2022), and Vecherskyi (2022) have considered the issues of adaptive repetition of architectural styles and the role of design in the preservation of cultural heritage as the main challenges of urbanisation in the twenty-first century. They emphasise that preserving cultural heritage is essential for any state, especially our country at war. At the same time, design and architectural styles should form a national identity and inspire admiration among citizens.



Tarangul (2024) argued that architecture is of sacred importance to the nation, as it is a material reproduction of its history, traditions, and mentality. Therefore, an effective system of interaction between scientific, historical, cultural, and governmental institutions should be created on how to create such buildings and decorate them with the help of modern architectural styles and design so that they contribute to the formation of citizens' vision of their culture and history. At the same time, they should look harmonious against the background of modern urban architecture and fit into a single image of the city. The researcher emphasises that this is difficult at the present stage due to the military operations, but there are successful examples of solving such problems in our country.

In addition, based on the analysis of articles by such foreign researchers as Ball (2014), Bruno et al. (2021), Cinquepalmi (2023), Foster (2020, 2021), Jones (2018), Kyriaz (2019), Matlay (2024), Tarangul (2024), Tomšič (2017), Turskis (2017), and Wild (2018), it was determined that modern architects are trying to both preserve the identity and give buildings a modern look.

At the same time, researchers Ball (2014), Cinquepalmi (2023), and Wild (2018) drew attention to urban trends in modern cities such as Rome and Paris. They note that many buildings in Italy and France combine classical style and futuristic ideas, which allows them to preserve their identity and give them a modern look.

The paper aims to consider examples of adaptive repetition of architectural styles and determine the role of design in preserving cultural heritage as the main challenge of urbanisation in the twenty-first century. The work addresses the need to modernise and redesign several cultural monuments. Their identity should be preserved, and their modernisation should align with aspects of urbanisation.

METHODOLOGY

The research is based on a qualitative paradigm, using content analysis as a basic tool. Eight sites were included in the sample: the Louvre, the Central Library of Liverpool, the Basilica of Santa Maria Maggiore, the Monastery of Saint Francis, the German Military History Museum, the Antwerp Port Authority Building, and the Royal Ontario Museum.

The synthesis, comparison, and generalisation methods then processed the findings obtained in the content analysis. In particular, the synthesis method was used to reflect the degree of development of this issue in the scientific literature. The method of comparison was used to compare the experience of different countries in preserving cultural heritage through adaptive architecture and design renovation. The method of generalisation was used to summarise the results of the study.



RESULTS

At the present stage, cultural heritage is receiving considerable attention worldwide. This can be directly explained by the fact that cultural monuments preserve the history and traditions of a nation, serve as an example for future generations of the way of life in the past, and can form a positive impression of the nation's cultural level. In particular, if such cultural monuments are archives, museums, and libraries, they are of particular importance, as their buildings are already cultural monuments and their activities have been actively connected with cultural heritage. As a result, a national identity is formed, which is part of national security (Boiko, 2022).

It is also worth noting that preserving cultural monuments involves keeping a historic building in good condition and considering the specifics of architectural styles and design inherent in modern times. Thus, it is necessary to modernise a building to carry a historical and cultural load while looking harmonious with urban development. After all, modern buildings combine different architectural styles, but this is precisely what reflects the city's atmosphere (Vecherskyi, 2022).

In Ukraine, the modernisation of historical and culturally significant buildings is driven by the fact that in times of war, national identity is essential for attracting foreign investment. At the same time, architecture is the sphere that reflects the history and culture of the nation. At the same time, it indicates modernity and European orientation. Therefore, we have chosen to analyse those foreign examples that combine identity and a modern architectural vision. In addition, it would be expedient to do so in our country since architecture is an indicator of the civilisation of a state.

Accordingly, it would be advisable for Ukraine to consider the experience of foreign countries in adapting architectural styles and updating the design of cultural monuments (Valevskyi & Lytvynenko, 2022). Thus, we can define the United Kingdom's experience as valuable for our country. For example, the Central Library of Liverpool is a monument from the XIXth century and a UNESCO World Heritage Site.

The building retains the appearance of the 1800s style of architecture, characterised by large columns and a granite walkway, but it also has modern additions. For example, steel and glass elements were added to the building to make it modern and harmonious with modern architecture. At the same time, the building was modernised to match the architectural ensemble of the street on which it is located (Cinquelpalmi, 2023).

One example of innovation is the glass dome. It fits the building's architectural style and adds modernity, elegance, and a certain severity to its appearance. The dome also allows the building to be illuminated, adding visual space.



In recent years, the library has undergone several renovations, which have helped shape passers-by's perception of it as a bright, modern space. In front of the building, the “Central Library” inscription was installed on a granite plaque, allowing us to combine the present with the past. At the same time, five building floors remained, but an atrium was added inside, and a cruciform staircase was placed (Foster, 2020).

The urbanisation processes of the 21st century could not but affect the interior design of the building. Thus, the building's premises were preserved in their original form due to the desire to preserve the library's history. At the same time, the library's archives were equipped with a climate control system to ensure the safety of important documents and to make it comfortable for library staff to work in. At the same time, concrete elements were added to the building to create a harmonious appearance of the building from the outside and inside. The library's valuable exhibits were placed under bulletproof glass (Shum, 2023).

Implementing this example in Ukraine is essential because many libraries and other cultural buildings in our country could be modernised and expanded to a broader range of visitors using new architectural styles. In addition, modern libraries in Ukraine do not consider urban aspects. See Figure 1 for a photo of the Central Library of Liverpool building.

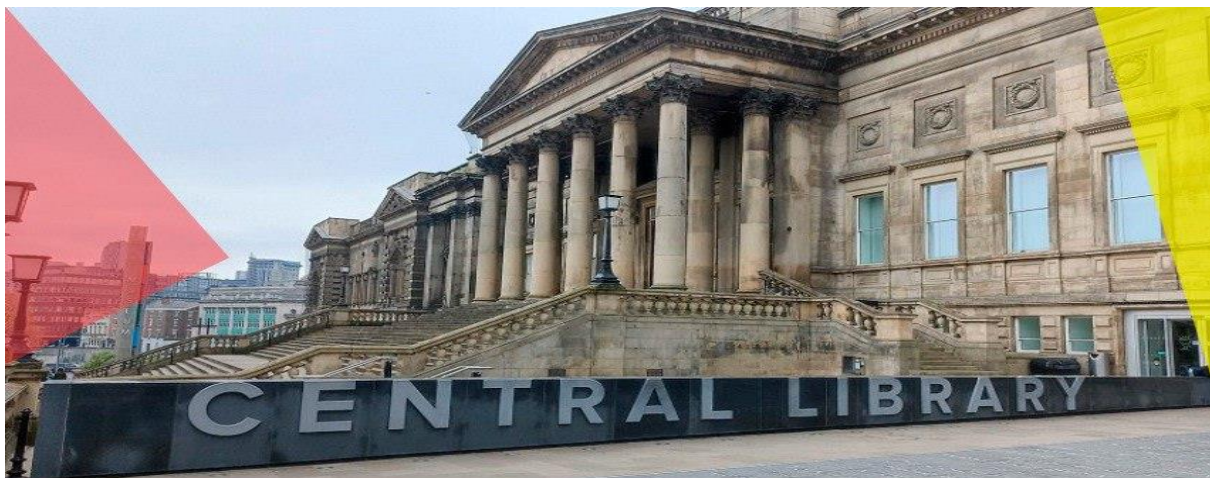


Figure 1: The Central Library of Liverpool

It is also worth highlighting the experience of Italy (Ball, 2014). Thus, the Basilica of Santa Maria Maggiore is a cultural monument from the fifth century in Rome. The church played an essential role in the history of ancient Italy, as it served not only as a temple but also as a place for storing cultural and religious relics, a monastery, and a museum. The basilica combines different architectural styles, which can be explained by the presence of 6 chapels, which were decorated by different architects, as well as the different purposes of the church. The exterior elements are large columns, granite walls, and marble tiles at the entrance (Sights of Italy. Rome. Basilica of Santa Maria Maggiore).



Inside, the building has retained its historic appearance. However, the chapels were complemented by marble stairs and floors, statues and white elements, and clean plaster. To expand the space and give the premises a modern look, the moulding and carving elements were removed from the walls, which were massive and burdened the visual perception of information. The interior was already decorated in cool colours, which could have made visitors feel anxious and depressed. In addition, all dome elements were removed from the inside, forming a smooth surface (Foster, 2021).

In addition, there is an open area inside the building where the archaeological excavations of the ancient building are preserved. Again, this corresponds to the relationship between modern design and the past, as the visitor can see the ancient remains of the church, which is convinced of its historical significance. While comparing it with the design at the current stage, they see significant differences.

The building is also illuminated, making it look modern and elegant. Later, the church's underground space was also added, which fits in with the current urbanisation trend of using underground space. A series of staircases lead to the underground space, which is decorated with marble (Wild, 2018).

Buildings in Ukraine can also have an appropriate subculture, and the design inside can be preserved by combining the modern with the past. As demonstrated in Figure 2, this is an excellent example of preserving a museum building and attracting new visitors.



Figure 2: The Basilica of Santa Maria Maggiore



France's experience in preserving cultural monuments is valuable due to the Louvre Museum. Thus, the Louvre combined several architectural styles, including Baroque, Renaissance, and Classicism. The palace houses the museum and is square, containing underground buildings and sculptures. At the same time, the building is complemented by lighting, which makes it look modern. This is shown in Figure 3.



Figure 3: The Louvre

In addition, in front of the palace is the Louvre Glass Pyramid, an architectural attempt to recreate Paris's historical axes; in particular, smaller pyramids are in front of triumphal arches throughout Paris. This creates a unified idea of Paris's long history and essence in each cultural monument (Mafi, 2020).

Three small pyramids serve as light reflectors near the pyramid in front of the palace. The glass pyramid looks modern and adds to the building's appeal. At the same time, the pyramids serve as a glass dome that allows light to enter the underground hall, which houses the ticket offices and three wings of the museum. Fountains were also added around the large pyramid (Turskis, 2017).

Metal halide lamps are located inside the pyramids. They have a significant luminous efficiency and create a “cold” light. Due to the well-thought-out lighting, the pyramids look modern and do not outshine the museum's lighting. All this creates a coherent whole by combining the past and the present (Jones, 2018).

History and culture are also remembered in Belgium. In particular, one of the country's most famous cultural landmarks is the Port of Antwerp. The building, constructed in the nineteenth century, was known to be a landmark for the city since it was strategically important, as it housed the Port Authority and the Fire Department. The building has three floors and was built



in the classical style of stone and granite elements. Despite its nondescript appearance, it is of great value to the Belgians, symbolising almost 200 years of prosperity in the maritime industry. At the same time, the building was modernised (Kyriaz, 2019). The Antwerp Port Authority is shown in Figure 4.



Figure 4: The Antwerp Port Authority Building

Thus, the architects whom the City of Antwerp commissioned to preserve the historic building in its original form paid much attention to modernising the building and adding new elements to it to meet the new view of architecture and preserve its design. Accordingly, the façade was reconstructed, and a modern structure was added on top, which was because the architects wanted to preserve the historic façade and leave space for viewing other historic buildings of the port (Tomšič, 2017). The Antwerp Port Authority is shown in Figure 4. The building of the Antwerp Port Authority.

The roof features a glass structure that resembles a ship launching. The use of glass makes the building look modern, and the glass segments reflect the colour of the sky, reminiscent of the water reflected on the ship. It is worth noting that inside the glass structure is a hidden fourth floor of the building, where representatives of the port administration also work. Since some segments are opaque, they create a comfortable working environment, while the transparent segments serve as panoramic windows and expand the space (Port of Antwerp-Bruge).



Canada also cares about cultural monuments. Toronto is home to the Royal Ontario Museum, founded in the late 19th century. The building housed a variety of valuable exhibits, including dinosaur bones, and the four-storey building itself was built of stone and decorated with stone inside. At the same time, at the beginning of the 21st century, the question arose of reconstructing the building, but it was to remain in the classical style as it was built, with new elements added.

Accordingly, the architects decided to complete the main entrance, effectively connecting the new building with the old one. The entrance was named “Crystal”. It looks like a decagon consisting of glass elements. At the same time, the entrance and the upper floors above it do not have completely transparent walls, as the walls are made of a combination of glass and aluminium alloy, supported by steel structures. The roof of the building is also entirely glass. Thus, the combination of glass, stone, and metal makes the building look futuristic while the original remains intact (Bruno et al., 2021).

The interior design of the building has not undergone any significant changes, but a large atrium has been built, which conditionally expands the space and lengthens the walls. In addition, part of the entrance is made entirely of transparent glass, which allows for seeing what is happening outside. A multi-level staircase connects different building wings with observation decks (Matlay, 2024).

At the same time, the historic wooden beams that reinforce the upper floors were left in the building. They were reconstructed and reinforced with granite slabs, and the ceiling between the floors was supplemented with new lighting. Thus, the building has been preserved in its original appearance and complemented by modern design elements. At the same time, the combination of classical and futuristic styles allows us to say that the building is now characterised by the “deconstructivism” style (ROM). This is demonstrated in Figure 5.

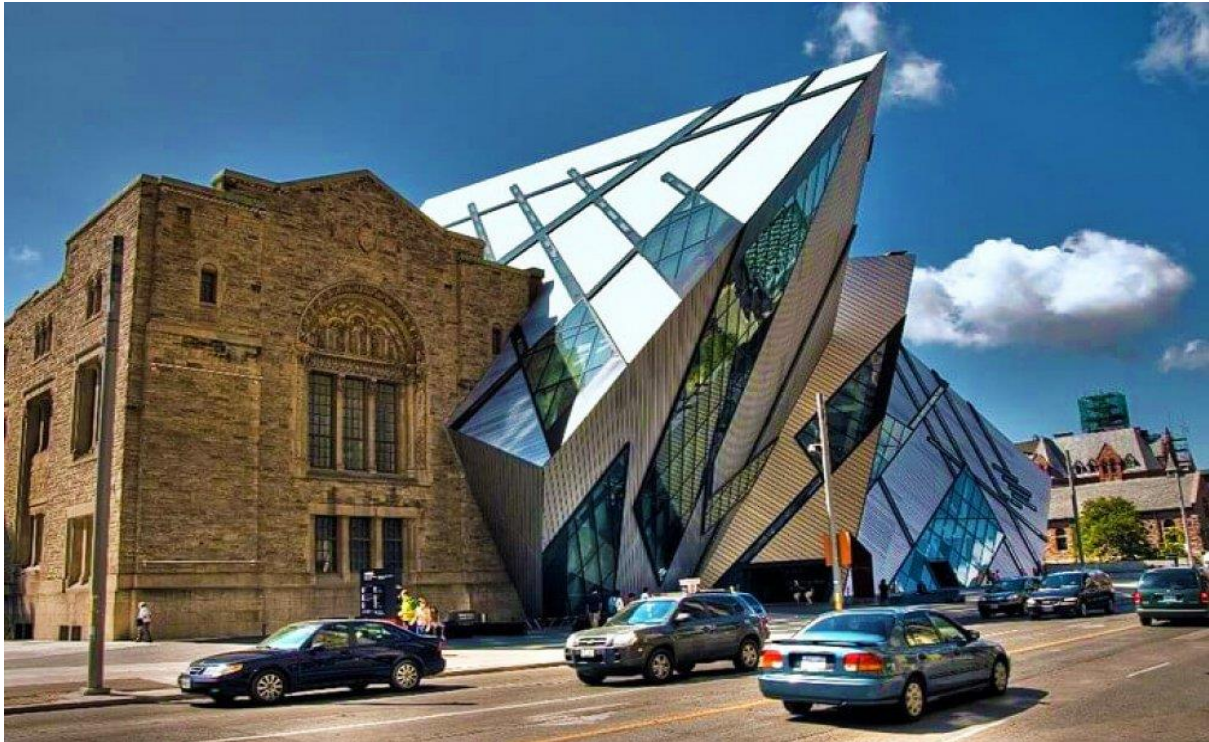


Figure 5: The Royal Ontario Museum

In Germany, the preservation of cultural heritage is achieved through reproducing concepts in architecture and design that are responsible for the concept of war and peace. For example, the Military History Museum of Germany was built in the late 19th century. It initially served as a garrison for German soldiers and later was used as commercial premises; only later was the building used as a museum. The building has five floors and was constructed in the Classicist style, built of stone with large columns and arches (Oliynyk & Chyzhevskii, 2024). The building is shown in Figure 6.

At the same time, the reconstruction of the building was aimed at restoring the original historical appearance and adding an element that would correspond to the museum's theme. That is why a wedge-shaped extension was added to the building as if it were cutting the façade into two. This symbolises that war will always find you and divide your life into parts. In addition, the tip of the wedge is directed to where the first bombs were dropped, and its area is equal to the territory destroyed by these bombs. The original decoration was preserved inside, but observation decks were added, and hinged bridges were built. The building is now classified as a deconstructivist building (Militärhistorisches Museum der Bundeswehr).



Figure 6: The German Military History Museum

Spain is also attentive to the preservation of cultural monuments. An example is the Monastery of St Francis, a cultural heritage of the 18th century. In particular, the monastery is a large stone building imaginatively divided into four floors with small round and rectangular windows. Accordingly, the building should remain in the architect's original vision and include new elements. Therefore, the walls were reinforced, and the light still enters through the transparent roof (Pawłowska, 2023).

Inside, the monastery is familiar, but the architects added vertical access. The stairs were built in a circle, with ramps and viewing platforms. At the same time, the stone walls and original wooden beams were left, and lighting was added to the ceiling, which seemed to be hanging (Closes, 2011). This is demonstrated in Figure 7.



Figure 7: The Monastery of Saint Francis

On the second floor, a glass entrance, reached by a stone staircase, was added to the building. The transparent entrance makes the monastery look modern and futuristic. On the back wall of the building, a metal box was added to house the monastery's technical equipment and stone blocks were added to the walls to strengthen them.

After analysing foreign experiences, it is advisable to use adaptive architecture to preserve cultural monuments in Ukraine. In particular, ethnic elements can be added to the design of buildings, glass and wood can be used, and signs made of stone and granite elements can be created. Using the example of houses in modern residential complexes that successfully combine different architectural styles and look aesthetically pleasing, it is possible to combine the original architecture of cultural monuments and modernise it. For example, these can be superstructures or completed elements using the latest materials.

The design can remain original, but it is advisable to add modern elements. These could include lighting, wooden and glass elements, and modern décor features. This way, visitors can be attracted while simultaneously ensuring the economic value of the sites.

In addition, such buildings can be multifunctional. Despite the direct purpose of a cultural monument, they can be photo and video zones, premises for creative and professional activities, and perform educational and scientific functions. Accordingly, a combination of the past and the present is essential to enhance the functionality of such buildings.



CONCLUSION

Thus, the article provided examples of the adaptive reuse of architectural styles and highlighted the role of design in preserving cultural heritage as the main challenge of urbanisation in the 21st century. It also discussed the significance of modernising cultural landmarks at the present stage. Accordingly, we reached the following conclusions in the paper.

The importance of preserving cultural heritage was described. It was established that cultural heritage is crucial for preserving each nation's history and traditions. As a result, cultural heritage is essential, so it is necessary to define the required steps for its preservation in the modern world.

The essence of preserving cultural landmarks was determined. Cultural landmarks require constant maintenance, including reconstruction. In the modern era, it is essential to preserve not only the historical appearance but also the functionality of buildings. Accordingly, they should have an updated look that harmonises with the appearance of the street and the surrounding environment. At the same time, urbanisation is not simply a change in the interior and exterior of buildings but thoughtful transformations that preserve cultural heritage.

Foreign experience in adaptive architecture and design concerning the preservation of cultural heritage was characterised. Studying the sites of cultural landmarks in the UK, Spain, Germany, Belgium, France, and Italy established that adaptive architecture involves conserving cultural heritage when the original building is maintained, but new modern elements are counted. In particular, these are glass, wood, and metal. As for design, the interior of the buildings remains original, but modern elements such as lighting, staircases, and observation decks are added.

Opportunities for using foreign experience to restore cultural landmarks in Ukraine were proposed. Foreign experience may indicate that Ukraine's cultural landmarks can also be restored, including by reconstructing buildings with the addition of modern elements. These could include panoramic windows, glass roofs, and observation decks. The interior decoration can also be preserved by adding new elements illuminating the spaces and providing visitors convenient access, such as ramps and stairs. This attests to the importance of adaptive architecture and design in preserving cultural heritage.

The practical and social implications of the study lie in demonstrating (based on specific examples) how deconstructivism can help to preserve architectural monuments as cultural heritage, simultaneously contributing to sustainable urbanism, enhancing the overall well-being of both people and place, preventing weakening local community bonds and urban identity and undermining societal values. The study contributes to the knowledge arsenal of urban study, architecture, and the sociology of culture and national identity.



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