



RELATIONSHIP BETWEEN RECONSTRUCTION AND SUSTAINABILITY WITH EXAMPLES

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ABSTRACT

Within the scope of immovable cultural heritage, monumental buildings or protected areas are universal for societies. Historical buildings may have been completely or partially destroyed over time, and sometimes, in special cases, these structures may need to be rebuilt in accordance with their original form for sustainability. Recreating them in accordance with the original is called reconstruction. Even if the reconstructed cultural heritage does not have the original material and workmanship characteristics of the period in which it was built, it may be deemed necessary for historical continuity. It is essential that technical data photographs, building surveys and similar documents to enable renewal must be available so that reconstruction could take place. It is useful to carefully reserve and keep the protected pieces of demolished building/buildings such as doors, windows, ceiling decorations, moldings etc., and use all secured pieces in recent constructions since the same would strengthen the relations of reconstruction with the historical structure. In this study, reconstruction and sustainability concepts will be analyzed through samples. It is not suitable to perform reconstruction for any constructions. Although the execution of rebuilding any monument bears no meaning historically, it may serve for protection in terms of maintaining a construction technique, keeping the traditions alive it further serves for cultural sustainability concept in this context.

Keywords: Conservation, cultural heritage, sustainability, reconstruction, restoration

ÖRNEKLERLE REKONSTRÜKSİYON VE SÜRDÜRÜLEBİLİRLİK İLİŞKİSİ

ÖZET

Taşınmaz kültür mirası kapsamında anıtsal yapılar ya da sit alanları toplumlar için evrenseldir. Zaman içinde tarihi yapılar tümüyle veya kısmen yok olmuş olabilir, bazen özel durumlarda sürdürülebilirliği için bu yapıların yeniden aslına uygun olarak inşa edilmesi gerekebilir. Aslına uygun olarak yeniden canlandırılmalarına rekonstrüksiyon denir. Rekonstrüksiyonu gerçekleştiren kültür mirası, yapıldığı dönemin özgün malzeme ve işçilik özelliklerine sahip olmasa da tarihsel süreklilik açısından gerekli bulunabilir. Rekonstrüksiyonun gerçekleştirilmesi için yeniden yapıyı olanaklı kılacak teknik verilerin, fotoğraf, rölye ve benzeri belgelerin var olması gerekmektedir. Yıkılan yapıya/yapılara ait korunmuş parçaların, kapı, pencere, tavan bezemesi, silmeler vb. özenle ayrılarak saklanması sağlanabilen tüm özgün parçaların yeni yapılarda kullanılması rekonstrüksiyonun tarihi yapıyla ilişkilerini güçlendireceğinden yararlıdır. Çalışmada rekonstrüksiyon ile sürdürülebilirlik kavramı örnekler ile irdelenecektir. Her yapının rekonstrüksiyonunun yapılması uygun değildir. Bir anıtın aynısını yeniden inşa etme uygulaması tarihi açıdan anlam taşıyorsa da bir yapıyı tekniği sürdürme, geleneği yaşatma bakımından korumaya yönelik olabilmektedir, bu bağlamda kültürel sürdürülebilirlik kavramına da hizmet etmektedir.

Anahtar Kelimeler: Rekonstrüksiyon, koruma, sürdürülebilirlik, restorasyon, kültürel miras

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1. INTRODUCTION

Architecture plays an important role in conveying especially the cultural history of societies. In some cases, it may be inevitable to carry out reconstruction. It may be essential to reconstruct the buildings, which are a significant part of silhouette of a city and that are the item of a historical composition. One of the principles of architectural reconstruction is cultural sustainability.

It is useful to carefully reserve and keep the protected pieces of demolished building(s) such as doors, windows, ceiling decorations, moldings etc., and use all secured pieces in recent constructions since the same would strengthen the relations of reconstruction with the historical structure (Ahunbay, 2019a).

The procedure to be followed in reconstruction may vary depending on the existence of findings regarding the building(s), completely destroyed or vanished. In general, these findings consist of old photographs, drawings, documents, graphical documents, traces of foundations, as well as samples of other constructions built in the same style and period.

Any drawings created from all these data constitute survey stage and map sections of historical texture analysis are prepared upon determination of chronological order of different construction phases thereby working on the drawings once the building surveys have been completed. Following the same it is proceeded with studies for restitution. As a project, if restitution project is approved by Cultural Property Preservation Boards, restoration projects are drawn, and reconstruction may be performed upon approval of the same.

Preservation may be expressed as securing the assets against dangers. With preservation following actions are intended such as maintaining the cultural heritage and transferring the same to future generations as well as protecting features, which have the value of historical documents against undesired changes, maintaining historical environment, raising historical awareness etc.

Accordingly, reconstruction method, as a means of intervention, may be identified as rebuilding a construction or group of construction in its original form that has a place in memory as a cultural asset required to be protected because the same has been lost for whatever reason (ICOMOS Türkiye, 2013).

In the Operational Guidelines for Convention on World Heritage, it is emphasized that reconstruction technique must be applied as a protection method because of natural diseases, wars and other devastating actions encountered based on the authenticity of cultural assets, which are required to be preserved (UNESCO, 2008).

Following this stage, it is proceeded with reconstruction phase in accordance with the rules of reconstruction. Current foundation traces of the structure light the way for **reconstruction** and original pieces survived until today have an impact on the intended success of reconstruction.

Although the construction brought back to life thanks to reconstruction bears no historical characteristics, it bears importance in that it carries the texture and traces into future.

2. MATERIAL AND METHOD

During the reconstruction process, it is of great importance to preserve the original characteristics and originality of the historical building as much as possible. This requires the use of original materials, preservation of the architectural details of the building and good analysis of its structural features. Carrying out the reconstruction in a way that reflects the historical value of the building complies with the principle of cultural sustainability. A detailed research and documentation study should be carried out before reconstruction projects. Comprehensive research should be conducted on the history of the historical building, its architectural features, its original state and its changes, and this information should be documented accurately. These studies base the decision-making process in the reconstruction process on scientific data and enable the building to be restored as close as possible to its original state (Bilgiç, 2023).

In this study, reconstruction examples from different historical environments and different periods have been examined. The study, supported by before and after reconstruction photographs, was interpreted in terms of a critical approach to the reconstruction within the framework of sustainability.

Based on these principles, reconstruction examples were discussed with criteria that vary from different aspects such as location, plan scheme, facade layout, ornamentation features, construction technique, building material, function, and originality.

3. RECONSTRUCTION SAMPLES

In some cases, it may be inevitable to carry out reconstruction. It may be essential to reconstruct the buildings, which are a significant part of silhouette of a city and that are the item of a historical composition. It is essential that technical data photographs, building surveys and similar graphical documents to enable renewal must be available so that reconstruction could take place. It is useful to carefully reserve and keep the protected pieces of demolished building(s) such as doors, windows, ceiling decorations, moldings etc., and use all secured pieces in recent constructions since the same would strengthen the relations of reconstruction with the historical structure.

Although the execution of rebuilding any monument bears no meaning historically, it may serve for protection in terms of maintaining a construction technique, keeping the traditions alive. And the practices to build replica of a current construction in another place may only take place in special cases. The concept of sustainability is applicable in these special cases with reconstruction. Some of the exterminated constructions, which are cultural assets are recovered again through reconstruction and brought into life as original or by giving a new function.

3.1 Yalova Thermal Hotel

Yalova Thermal Hotel is considered by Eldem as "the first product of the National Architecture movement". Yalova Thermal Hotel is the first important design that Tanyeli claims to have successfully combined modernism and tradition in Türkiye (Tanyeli 2001). Thermal Grand Hotel was opened for use on January 22, 1938. Atatürk also became the hotel's first customer. The building was demolished in 1983 because it was too corroded to repair. This destruction, the reasons of which the people of Yalova question and seek answers to almost every year on September 12, has a different meaning not only because it is a structure of Sedat Hakkı Eldem, one of the most important names of the Turkish architecture scene, but also because it is seen as "Atatürk's legacy" sits on the path of discussion (Mimarizm, 2023). 30 years after the demolition of the building, it was reconstructed in accordance with its original form within the scope of first-class antiquities restoration with the support of Gazi University (Fig.1a, b).

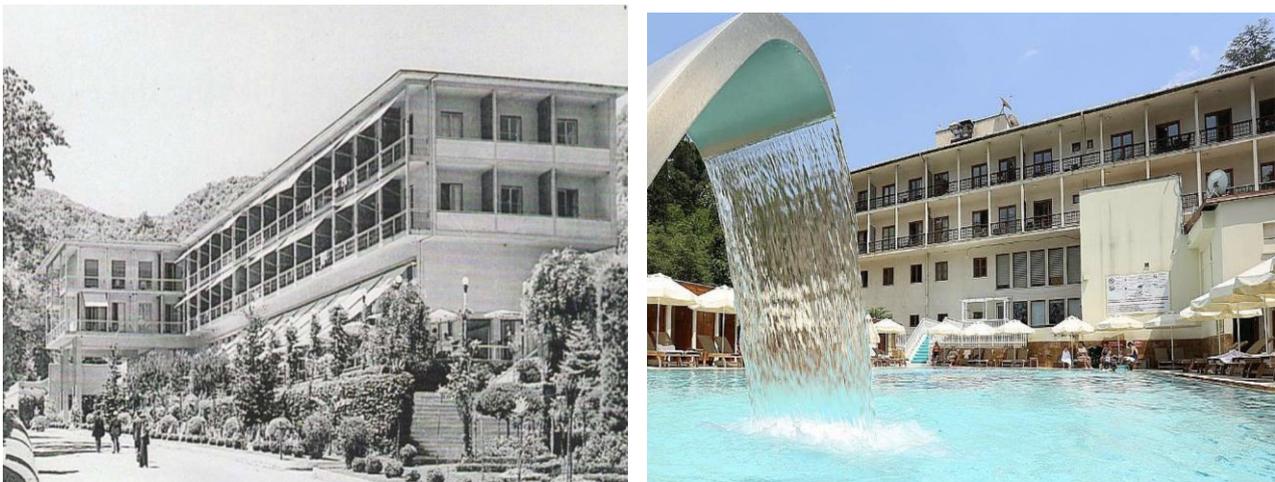


Figure 1(a, b). Yalova Thermal Hotel, 1934-1937 (Tanju&Tanyeli, 2009) before and after Reconstruction (Yalovathermal, 2023)

3.2 Tunisian Hayrettin Pasha Mansion

The mansion, thought to have been built in the 18th or 19th century, burned down in 1912 and became unusable. The building, which opened as a veterinary school in 1900, was abandoned after a fire. In a photograph dated 1937, the condition of the mansion after the fire was determined. A mixed system of masonry and timber was also constructed. It consists of a basement and two normal floors. From old photographs, Geo-radar scanning and archive documents, the Mansion's bath, stove, spirit level and cistern were identified and reconstructed (Fig.2a, b) (Tok, 2017).



Figure 2(a, b). Tunisian Hayrettin Pasha Mansion before and after Reconstruction (Tok, 2017)

3.3 Kasap Halil Mosque

Built by chief butcher, Kasap Halil in 1547 upon request by Süleyman the Magnificent, the Mosque of Kasap Halil disappeared due to a fire, which took place in 1915 (Kabaoğlu,2013). The premises of the mosque, which is an area surrounded by shanty houses until 2006 was cleared of shanty houses because of the studies by Metropolitan Municipality and surveys and excavations were performed under the supervision of Directorate of Archaeological Museums in accordance with the decision by Istanbul Regional Board of Preservation No. IV as well as the application, made by General Directorate for Foundations in 2008. As a result of the excavations, it was observed that minaret base, main walls, and some parts of the foundations as well as the sections in Cevdet Pasha Street remained in the neighboring parcel. Building surveys were prepared following the studies (Fig. 3a, b).



Figure 3(a, b). Visuals of Kasap Halil Mosque (Kabaoğlu, 2013) before and after Reconstruction (Tarım, 2023)

Because old photographs and drawings of Kasap Halil Mosque are not available, several works such as Davut Aga Mosque, Bostan Mosque, built in the Period of Süleyman the Magnificent, were analyzed and these works were taken as an example in the construction of architectural items such as gabarite, minaret and arch.

As sufficient data and documents are not available for the reconstruction of Kasap Halil Mosque, the projects, reviewed by Regional Directorate of Preservation, were not considered to be sufficient; however, it was found acceptable to build a new mosque if ruins are preserved.

3.4 Coventry Cathedral

The issue of how to evaluate Coventry Cathedral, only the external walls of which survived during World War II, resulted in so many discussions. As a result, it was decided that the cathedral should remain in the form of ruin, which was damaged in the war and that a church should be built near it. In this respect, slightly damaged bell tower was restored and red holystone main walls were only consolidated without a roof being unprotected. As part of the project, carried into effect because of a national competition, a new church was built in the direction of northern transept axis. Red holystones were applied on the concrete framework in the recently built church (Fig.4a, b) (Fitch,1990).



Figure 4(a, b). Visuals of Coventry Cathedral before and after Reconstruction (Fitch,1990)

3.5 Venice San Marco Bell Tower

Old photographs were utilized in restoration Venice San Marco Bell Tower, which collapsed due to material fatigue. One of the landmarks of Venice, reconstruction of this monument was an issue that doesn't give rise to a discussion in terms of integration of San Marco square and its immediate vicinity (Fig.5a, b) (Ahunbay, 2019a).



Figure 5(a, b). Venice San Marco Square before (Ahunbay,2019a) and after Reconstruction (Tarım, 2019)

3.6 Pera Museum

Pera Museum is a private museum established by the Foundation of Suna and Inan Kiraç on 8 June 2005. The building of Bristol Hotel, designed in 1893 by Architect Archille Manoussos was started to be used as a museum by preserving its front facade following the reconstruction process (Fig.6 a, b).

Bristol Hotel falls out of use over time. It was purchased by Eskişehir Bank in 1980 and was demolished, preserving only its façade. It is rebuilt as Esbank Headquarters Building (Arkiv, 2023). Since it was rebuilt by preserving only the front façade, it was evaluated within the scope of reconstruction.



Figure 6(a, b). Visuals of Pera Museum (Pera Müzesi,2005) before and after Reconstruction (Tarm, 2023)

3.7 Historical Centre of Warsaw

That the significant monuments, which bear the value of a landmark for the city and the country, were lost due to wars, earthquakes and similar disasters prepare a suitable ground for reconstruction. For instance, the monuments and the elements of urban texture, which are the irreplaceable parts of historical centers in **Warsaw (Poland)** and Münster (Germany), damaged during World War II were reconstructed or repaired as if they were rebuilt (Fig.7a, b, c) (Ahunbay,2019a).



Figure 7(a, b, c). View from Historical Centre of Warsaw, Street View of Historical Centre of Warsaw (Tarm, 2023)

3.8 Shinto Shrine

Although the execution of rebuilding the replica of a monument bears no meaning historically, it may serve for protection in terms of maintaining a construction technique and keeping the traditions alive.

Wooden architectural elements of **Shinto Shrine** in Japan have been treated and made with the same details in every twenty years since the first day of its construction up to now.

With this method, it was ensured that original shape and construction techniques of this shrine, which was made of Cypress that is not long lasting in humid climate of Japan, reach the present day. If this process wasn't repeated, it is probably that even no information regarding this shrine and its details have reached the present day (Fig.8a, b).



Figure 8(a, b). Shinto Shrine, Japan (Britannica, 2023, October 18)

3.9 Mostar Bridge

Mostar Bridge was built over the Neretva River in 1566 by Mimar Hayrettin, a student of Mimar Sinan. However, it was deliberately and consciously destroyed during the civil war on November 9, 1993. The demolition of the bridge received great criticism because it prevented public transportation. Although a temporary bridge was built for transportation, the demolition of such an important structure was not welcomed and its reconstruction was completed in 2004 (Karadayı, 2022).

In the restoration work of the building, surveys made before the war were primarily used. The stones in the river were removed and numbered, and the remaining feet were reconstructed with their size and shape (Fig.9a, b, c, d) (Ahunbay,2019b).



Figure 9(a, b, c, d). Reconstruction of Mostar Bridge (1781-1993-2003, 2021) (Forum/mimarlık, 2023, October 15) (Karadayı, 2022).

3.10 The House in Which Atatürk Was Born

When considered in that aspect, such a reconstruction seems to be a means of reflecting the old technology. Moreover, the practices to build replica of a current construction in another place may only take place in special cases.

For instance, the replica of the house in which Atatürk was born, was carried out in Ankara in 1988 during the celebrations of hundredth year of birth. This museum building is a model that makes it accessible and that helps to visualize a special construction, original of which is outside our borders and that we all dignify it as a nation due to its relation with Atatürk (Fig.10a, b).



Figure 10(a, b). The house in Thessalonica in which Atatürk was born (Çekirdekgezi,2023, October 18), The Reconstructed house in Ankara in which Atatürk was born (AnkaraNet, 2023, October 18)

4. ASSESSMENT OF SAMPLES

Cultural heritage represents the source of cultural identity and non-renewable human assets. This consciousness, which started with the reconstruction of the city walls of Carcassonne during the reign of Viollet Le Duc, who pioneered the concept of conservation in Europe, has evolved over time and changed direction by making many developments until today, although the reasons have changed (Fig.11a, b).

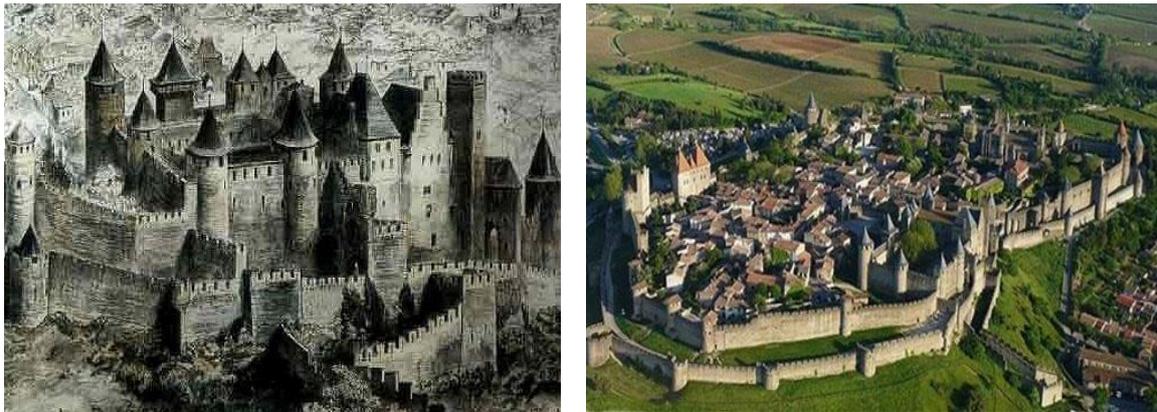


Figure 11(a, b). Carcassonne / France – After Reconstruction (Catharcastles, 2023, October 15).

European cities, which have rich examples of historical urban environments created by civil structures, date back to World War II. It suffered massive destruction during World War II. Post-war restructuring of cities was a rapid transformation that abruptly interrupted historical continuity. This rapid restructuring of cities caused serious reactions and caused the understanding of conservation to gain a new dimension. As a result of these reactions, it was accepted that civilian structures were also cultural assets worth protecting (ISMEP, 2014).

Restoration studies are sometimes performed inexactly and the same reaches up to reconstruction aspect. For instance, Atik Valide Mosque, located in Üsküdar District of Istanbul Province in Türkiye was built by Sinan the Architect between 1570-1579 upon request of Nurbânû Sultan, the wife of Selim II and the mother of Murad III. The hospital (Darüşşifa in Ottoman Turkish) within the mosque was used in line with its original purpose until the end of XVII. century. Acquired several functions thereafter, the hospital lost its authenticity within years due to improper use and neglect. Registered as a first degree construction, the building came in for serious criticism as it lost the phenomenon of courtyard and authenticity due to the fact that power-operated doors were installed for exit to courtyard while the front part of porticos facing the courtyard of the hospital was closed completely with glass during the restoration studies, initiated therewith once it was transferred to University of Fatih Sultan Mehmet affiliated to Prime Minister's General Directorate for Foundations in 2010 (Hattap, 2018).

Reconstruction of historical buildings should be carried out in accordance with the principle of cultural sustainability. Preservation of original characteristics, participation of the local community, environmental sustainability, education and awareness activities, regular maintenance and a multidisciplinary approach play an important role in this process. Taking these suggestions into consideration ensures success in preserving historical buildings and transferring them to future generations and supports the sustainability of our cultural heritage (Bilgiç, 2023).

The examples examined in this section have shown us once again that the main theme of the reasons for the Reconstruction is to transfer the sustainability of a common culture and social memory to future generations and to ensure unity and integrity.

5. DISCUSSION AND CONCLUSION

Reconstruction is the rebuilding of a destroyed, vanished, or devastated monument or site based on the available documents, however that is accepted only in special circumstances. Recently constructed building does not have the historical texture, special material, and workmanship of the monument, for which it was reconstructed. However, as it can be understood from the given example, sometimes disappeared cultural assets have a very big value for the country or city where it is located and they are required to be revived again, or as in the example of Atatürk's house, rebuilding the house in the capital city – today in the lands of another country and that is the birthplace - of a statesman, who is the founder of, and is of great importance for the country, i.e., the reconstruction of such house is also very important morally. And in the sample of San Marco's clock tower, revival of a cultural asset, which became the landmark of the city, makes sense a lot in terms of sustainability.

Many historical monuments that were partially or destroyed in some European cities during the Second World War were reconstructed and brought into the city memory. In some ongoing wars today, many cultural assets are again at risk, or the devastating earthquakes that occur intermittently in our country and in many parts of the world leave enough damage to erase the city's memory, and many cultural assets are destroyed. Historical buildings, which were previously documented by taking surveys and using photographs and similar methods, will be brought back to the society over time by the reconstruction method.

As can be seen in all these samples, if some cultural assets disappeared or just about to disappear due to several reasons, it is a liability against future generations to include the same in life again through reconstruction.

As a result, Reconstruction; It produces positive results in terms of preserving urban memory, ensuring cultural sustainability, improving the physical conditions of buildings, ensuring the integrity of the urban fabric in its location, increasing tourism potential and continuity of function.

On the other hand, Reconstruction; It has negative consequences due to reasons such as deterioration of the originality of historical buildings, damage to structures with real document value, loss of historical document value, misinterpretation of traces of the past, failure to preserve qualified period additions, and failure to reflect the spirit of the period in which it was built.

For this reason, it is of great importance to carefully analyze the positive and negative consequences of reconstruction and make the right decision about whether to Reconstruct that historical work.

Author Contribution Declaration

A. Idea and editing	B. Literature Review	C. Writing
D. Data Collection	E. Analysis	F. Critical Review

Emine Sibel HATTAP: **A, B, C, D, E, F**

Aysel TARIM: **A, B, C, D, E, F**

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