

## Sequential approach of the re-using the historical military barrack in the Old Mardin Heritage in Turkey

### Abordagem sequencial da reutilização da caserna militar histórica no Património do Antigo Mardin, na Turquia

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#### **Abstract**

The architectural features of the military barrack building in the Old Town Square of Mardin were examined in order to evaluate the compatibility of the interventions and annexes with regard to contemporary conservation principles. The method of the study is based on determining the changing mass and function relationships in the historical structure by tracing technique for sequential time periods. Considering the transformation of the building from the barrack to the tax office, it was seen that the required changes damaged the original condition of the building. This situation was tried to be minimized in transformation from tax office to museum, and interventions were made according to the original condition of the building. As a result, it was concluded that instead of changing the mass scale or shape of the structure, the contemporary additions or interventions should be completely proportional to the structure, and contribute to the sense of historical pattern.

#### **KEYWORDS**

Historical building Conservation Contemporary addition Adaptive reuse Mardin old heritage

#### Resumo

As características arquitetónicas do edifício do quartel militar na Praça da Cidade Velha de Mardin foram analisadas com o intuito de avaliar a compatibilidade das intervenções e acréscimos, com os princípios de conservação contemporâneos. O método do estudo baseiase na determinação da relação entre a alteração da massa e a sua função na estrutura histórica, através do rastreamento ao longo dos diferentes dos períodos de intervenção. Considerando a transformação do edifício, de quartel para repartição de finanças, verificou-se que as alterações necessárias danificaram o estado de conservação inicial do edifício. Tentou-se minimizar esta situação transformando o edifício de repartição de finanças num museu, sendo as intervenções realizadas de acordo com o estado de conservação do edifício. Como resultado, concluiu-se que, em vez de se alterar a escala de massa ou a forma da estrutura, os acréscimos ou intervenções contemporâneas deveriam ser completamente proporcionais à estrutura, e contribuir para o sentido de padrão histórico.

#### PALAVRAS-CHAVE

Edifício histórico Conservação Acréscimo contemporâneo Reutilização adaptativa Património de Mardin



#### Introduction

Cultural heritage, which reveals many important developments and the history of civilizations, provides a connection between what happened in the past and what might happen in the future. These can be considered as documents and symbols reflecting the urban and architectural style of the period along with economic, social, and cultural accumulation of human civilizations [1].

Specific cultural heritage samples in the city of Mardin, which is the region under consideration in the study, are dated to the twelfth century, Artuklu period, and the midnineteenth and twentieth centuries, Ottoman period (Figure 1). Monumental architectural examples such as Mardin Ulu Mosque and Zinciriye Madrasa have survived from the Artuklu period to present day. However, civil architecture examples in Mardin from this period are not usually available because users did not have the economic resources for restoration [2].

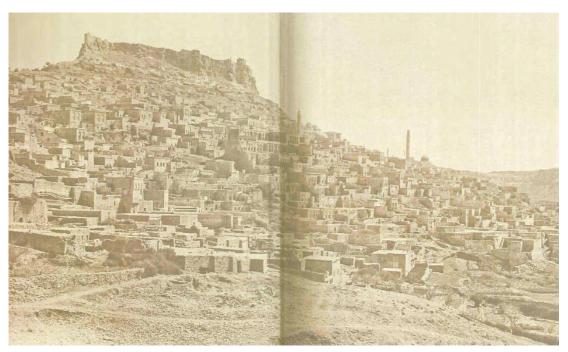


Figure 1. Specific cultural heritage in the city of Mardin (2010), photograph by Doğan Bekin.

The eighteenth and nineteenth centuries were a period of time when many economic, social, military, architectural, etc. changes emerged in a short time in other parts of the world, especially European countries, and Ottoman Empire. Since the new changes also changed the management and lifestyle, it also changed the type of building that centered the religious and palace architecture [3].

During the reorganization of the army of the Ottoman Empire in the Second Mahmut period, the Janissary Army was removed, and new armies started to be established. With this situation, barrack buildings were planned to be constructed in the strategic locations of the cities. In the city of İstanbul, Taşkışla, Davutpaşa and Kuleli barracks are the examples of these buildings. When we evaluate the current function of these barracks, it is seen that these historical buildings were not left empty due to their strategic positions, but they have been reused and brought into society with different functions such as Istanbul Technical University (ITU) Faculty of Architecture in Taşkışla, Yıldız Technical University (YTU) campus in Davutpaşa and Kuleli museum. The military barrack in Mardin was built towards the end of the nineteenth century in the Government Square, which is located at the most important point of the historical city heritage. The barrack building is surrounded by the Government House, the city hall and the Mardin government structures that make this square important. Although in



some sources the year 1889 has been related to the construction of the barrack building, the exact construction date is not known since the inscription of the building has not reached till today [4].

The question of the research is whether the transformation of the historical military barrack is compatible with its original state over the years. The detailed examination of the functional and mass change of Mardin's old historical military barrack, whose characteristics have been revealed since the Ottoman times is an archive and can be seen as a contribution to the architectural conservation discipline. The historical military barrack was used as a Gendarmerie Command for military purposes under the Ministry of National Defence until 1991. However, it was converted into the Mardin Tax Office between 1991 and 2003, today it is re-used as the Mardin Sabancı City Museum [5]. Mardin barrack building, which provided important functions for its period, is a building that conveys information about the formation of the barracks that emerged as a result of military construction and today contains many traditional Mardin architectural elements. This makes it worth examining: the original state of the building, its restoration and re-use processes. The building has a history of approximately 150 years with appearance in the historical Mardin silhouette. In this study, the first function of the building, along with the restorations and interventions during the different periods, and the process of the transformation of the building into the Mardin Sabancı City Museum will be analyzed. The obtained data from the literature and local government archive are deciphered according to the periods. Then, from this transformation example, an evaluation will be made to create a source of information that can be used during the restoration of historical buildings to Mardin historical building stock.

#### Literature of Adaptive Reuse

In the Venice Charter issued in 1964, it was proposed that historical monuments should be reused and preserved since these monuments are assumed as a historical document. Especially, Article 5 of the Charter describes the re-using process and the limits of it. In the 5<sup>th</sup> Article of the Venice Charter it is stated that: "The conservation of monuments is always facilitated by making use of them for some socially useful purpose. Such use is therefore desirable but it must not change the lay-out or decoration of the building. It is within these limits only that modifications demanded by a change of function should be envisaged and may be permitted." [6]. The re-using of cultural heritage with a goal that is consistent with building characteristics and focusing on user needs appears to be the most effective approach for a self-financing and sustainable form of conservation [7].

Numerous factors should be considered for the most suitable solution among the different reuse suggestions. A sustainable reuse proposal should transfer the value of historical buildings to future generations, enrich the local culture and raise the economic level of the society [8]. When evaluating the success of an adaptable reuse project; it is expected to offer a physical benefit to the building, and economic and socio-cultural benefits to the users [9]. Thus, when the adaptation of the existing building is successful according to these criteria, the continuity of the new function will be ensured, and the inclusion level of new users may also increase.

Socio-cultural aspects involve the effects of transformation to the local area [10-14], the scale of man-building [14-19], social and cultural activities related to architectural heritage [12-13, 19-26] and relationship with neighbouring structures [9, 14, 20, 22]. Economic aspects consist of impact on cultural tourism [12, 18, 24- 28], impact on property values [11, 16, 18, 24-26, 28-29], use of adequate natural ventilation and required insulation and shading [10-11, 13, 21, 30-32]. Physical aspects include criteria such as the suitability of the existing historical building to the new function [6, 10, 16, 33-35], the size and height of the spaces [6, 20, 36-37], maintaining material durability [15, 36, 38-39], techniques used and flexibility/convertibility [35, 37, 40-45].



Reusing an existing building instead of construction a new building, reduces material use, transportation cost, energy consumption, and environmental pollution. Thus, a significant contribution can be made to low carbon consumption and sustainability in nature [33, 46]. One of the architectural preservation concerns is the adaptation of historic buildings to today's changing needs. Since historical buildings were constructed with the conditions and techniques of the past, adaptation processes require various levels of intervention. Although it is vital to keep the interventions to a minimum in order not to diminish the value of the historical building, the degree of intervention may increase according to the restoration status [47-49]. Pearson and Sullivan have two approaches about adaptive reuse; these are 'compatible reuse' and 'the most appropriate reuse'. Compatible reuse is an approach that does not damage a structure but negatively affects its cultural importance. On the other hand, the most appropriate reuse is not only compatible use, but also strengthens and maximizes the understanding of cultural importance [50].

#### Description of the studied area

Many innovations were made in the Ottoman administration system during the reign of II.Abdulhamid. One of these innovations is the assembly of the state bureaucracy in a single structure. As a result of the new situation, buildings such as government mansions, military barracks, bank buildings, and state hospitals emerged. One of the examples of this situation is the formation of the "Mardin Government Square" in the Artuklu District of Mardin, where there are buildings such as schools, government buildings, court-houses, and hospitals (Figure 2).

Mardin historical barrack building is the first historical building restored in the twenty-first century. After the restoration of this building, the former government mansion in the Historic Government Square was restored in 2011, becoming the Faculty of Architecture of Mardin Artuklu University. Furthermore, the governor mansion in the square was also restored to be used for the same function. In addition, non-original reinforced concrete buildings were demolished. In this context, the restoration of the historical barrack building is the first important step in taking the square into its current form.

The old military barrack in the center of the most important Square in Mardin was built at the request of Haci Hasan Pasha, the governor of Diyarbakir, as a result of changes in the state bureaucracy. Although there is no clear information about its architect, some sources mentioned the names of the Armenian Architects Lole and Cebran Hekimyan who had many works at that period in Mardin [4].

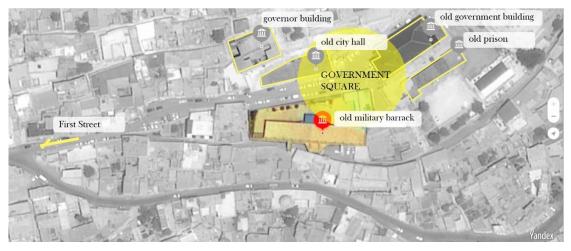


Figure 2. The Government Square, the historical military barrack, and the surrounding buildings.



## Transformation from nineteenth century Military Barrack to twenty-first century Museum City

Historical buildings were built according to the needs and function of the time they were built. Therefore, the existing historical buildings may not be able to respond to today's user requests. This situation turns into the existing historical buildings becoming dysfunctional and demolished because they are not used. Therefore, the historical buildings need to be reused for alternative new activities in compatible with their characters. This benefits the users and the proper maintenance of the building area. It is also a long-term sustainable conservation option as it helps to maintain a sense of place [51]. In addition, repair and strengthening of the historic building and new additions that do not damage the original character of the building and its texture can also be done when necessary [52]. While the building is used as a result of restoration, it is also prevented from damage over time. In this way, it is possible that the building itself can transfer information to the next generations [53].

The method of the study is based on determining the changing mass and function relationships in the historical structure by tracing technique for sequential time periods. The detailed examination of the functional and mass change of Mardin's old historical military barrack, whose characteristics have been revealed since the Ottoman times is an archive and can be seen as a contribution to the architectural conservation discipline.

#### Original function - military barrack

The most important development in military structuring in the Ottoman State was abolition of the Janissary Army, founded in 1363, in 1826 during the II. Mahmud [54]. The change of the system that had existed for centuries emerged from the need for some buildings where soldiers could be sheltered and trained for a regular and disciplined army. With these kinds of buildings, a new building type has emerged in Turkish architecture: military barracks, generally they have space solutions with a rectangular plan, lined around a long corridor, with rooms facing the outside. It is observed that the same number and size of windows are arranged so that the symmetry does not deteriorate on the facades [55]. In the scope of the study, the historical barrack reflects the generalized characteristics of the barracks. In its original state, L type form has a rectangular plan, a two-story main building, and a one-story storage building. It is a completely masonry building from Mardin stone, with a flat roof, and a portico main entrance (Table 1).

It can be seen that the rectangular main structure extends the east and west directions. There are two entrance doors: the door in the north provides access to the upper floor of the two-story main building and the door in the south provides access to the lower floor used as a barn

In the ornamentation surrounding the north gate, a grape-panicle figure is used, which is grown in the region, and is also featured in other historical buildings. There are two stairs designed symmetrically to the left and right of the door, providing access to the lower floor (Figure 3).

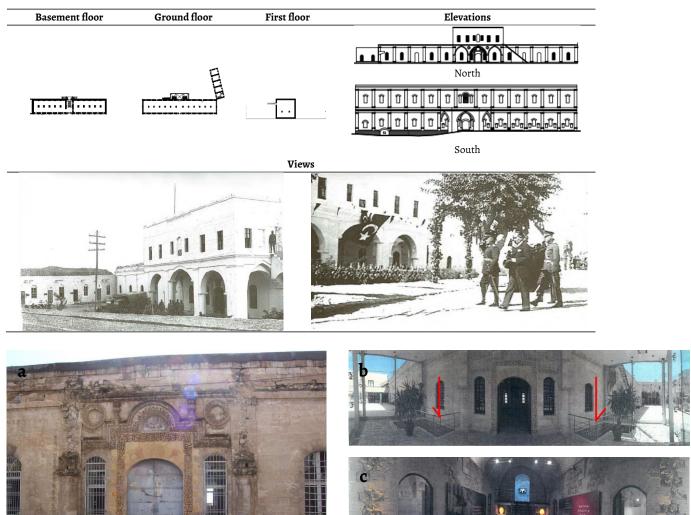
The door provides access to the main room, in the middle of which 14 pillars (made with wall knitting technique) are located. The space, which is divided into two longitudinal sections with the pillars in the middle, is lightened by symmetrical arched windows on the south and north facades. Cross-vaulted ceiling structure supported by pointed arches over 14 pillars constitutes the internal structure of the military barrack. In its original state, this floor was used as administration and dormitory.

The door at the lower floor on the south facade of the building provides the entrance to the barn part of the military barrack, as it is evident from the horse feeders. At the lower floor, there is a large space with two rows of pillars and a pointed arch in the middle. In the east-west direction of this space, there are large spaces in rectangular form covered with vaults.



Approximately 20 years after its construction, four buttresses were added to the south facade, which is symmetrical with the entrance door of this floor due to landslide (Figure 4) [4].

**Table 1.** Northern views of the historical military barrack and drawings showing the military use of the building, photographs by Doğan Bekin and drawings by Şanlıurfa Regional Board of Conservation of Cultural Heritage.



**Figure 3.** *a*) Ornaments surrounding the northern front entrance gate of the historical military barrack (2004), photograph by Murat Çağlayan and two stairs symmetrically placed next to the entrance door: *b*) outside and *c*) inside (2009), photograph by Şanlıurfa Regional Board of Conservation of Cultural Heritage.



Figure 4. Today's views of the 4 buttresses added, photographs 2020 by İzzettin Kutlu.

After the regime change, the building was used with its original function as the Gendarmerie Command and preserved with the decision numbered 1425 of the central district



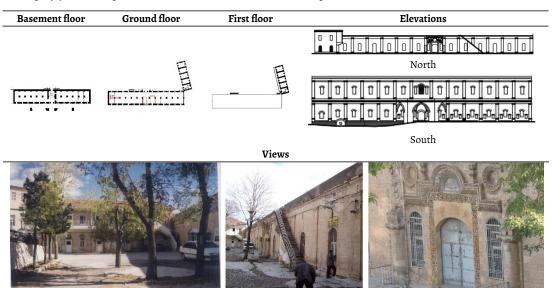
of Mardin Artuklu, dated 31.05.1985. It was emptied in 1991 after being used for military purposes.

#### Second function - Mardin Tax Office

With the declaration of the establishment of Tax Offices published in the Official Gazette on December 24, 1994 in Turkey; the need for a building emerged for this institution. As the state administrative system expanded, new buildings were constructed, and the existing historical structures were re-used for these public institutions.

The historic military barrack structure, vacated in 1991, remained dysfunctional for three years. Then, instead of building a new structure for the Tax Office, the building was deemed appropriate for this function. The building was converted in 1994 to accommodate the new conditions (Table 2). With this transformation, the historic structure was reused and prevented from being destroyed by time.

**Table 2.** Northern views of the old military barrack used as the Mardin Tax Office and drawings showing the tax office status of the building, photographs and drawings by Şanlıurfa Regional Board of Conservation of Cultural Heritage.



Some repairs and additions were made during the transformation process. During the roof repair, rainwater flowed to the ground due to the closure or deterioration of rain water, and some façade walls were deformed. Because of the increasing humidity, deteriorations occurred in the stones and mortars at ground level, and some rubble stone joints were completely damaged. Moisture from the ground also caused deterioration in the plasters on the inner surfaces of the ground level [56].

In the large space on the lower floor of the main building; some horse mangers were closed, and additional walls were built between some pillars in the east section to create small spaces for the need. The last place in the east side was used as the central heating room. In this period, the interiors were completely plastered and whitewashed. The toilets and sinks were made by adding partition walls in the west direction to the ground floor.

The entrance with the portico used in the original form of the barracks and the first floor supported by these portico columns were demolished. Although it is not known exactly when it collapsed, it is estimated that it collapsed with the damage caused by time-related distortions. The demolition of these spaces has caused the military barrack, which is one of the most important places of the traditional Mardin structures, not to have a portico feature until today. There is no trace of the building on the first floor, supported by the collapsed portico columns. Following the demolition, no floor has been added to the structure again. The building was used



as a two-story basement and ground floor. In short, these places could not be used during the converted period as the Tax Office.

In addition, a balcony floor with the same plan was added to the structure, which was originally used as a single storey storage with five separate rooms. Access to this floor was provided by a staircase created from the outside. This building was used as the Tax Office lodging [56]. Additional spaces were built in accordance with the tax office's needs by building walls against the ground floor entrance door in the north direction. After these interventions, the building, which was used as the Tax Office for 10 years, was evacuated in 2004 with a move decision.

#### Current function - Mardin Sabancı City Museum and Art Gallery

In 2000, the importance of the historic building was emphasized, and the need for its repair was stated through initiatives led by the Foundation for the Preservation and Promotion of Environmental and Cultural Values (ÇEKÜL). In this regard, an interview was held with Sakip Sabanci, the famous and successful businessman of the period, and Istanbul Governor Muammer Güler, who was born in Mardin. After the death of Sakip Sabanci in 2004, the Sabanci Foundation and Sabanci Family saw this project as the testament of Sakip Sabanci, and on 28 March 2006, between the Governor of Mardin Governor Mehmet Kılıçlar and Sabanci Foundation Board of Trustees Güler Sabanci "Sakip Sabanci Mardin City Museum and Dilek Sabanci Art Gallery Protocol" was signed [57]. Since; the building was not used until the restoration, time-dependent deterioration occurred in the building (Figure 5).







Figure 5. Views showing the status of the building, which remained empty, photographs by Şanlıurfa Regional Board of Conservation of Cultural Heritage.

Two-storey main building (old barrack); was planned as the museum and the art gallery (Table 3). The old storage building was demolished, and a new reinforced concrete structure was built on the similar borders for the management and service departments. As the design principle in the architectural project report prepared for the museum; it was stead that:

"The idea of creating a space where the cultural accumulation of the city is evaluated by refunctioning a selected historical structure is determined as a goal in the cities related to the Union of Historical Cities. Within the traditional urban texture of Mardin, Mardin City Museum is beyond a building dimension that will create the memory of the city. The building will also constitute of an educational-cultural environment among the traditional structures that will function in different purposes." [58].

Based on this principle, the reinforced concrete elements added in the process used in the Tax Office were removed.

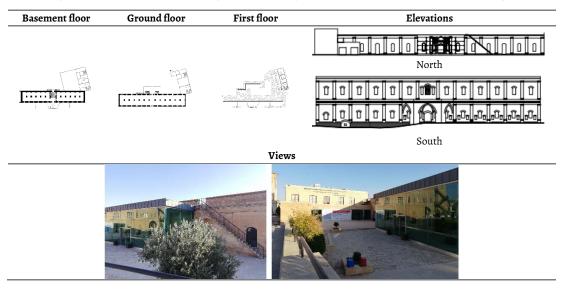
During the Tax Office period, it was observed that the old storage building was enlarged with unqualified columns and beams and that they had cracked carriers and posed a danger to the environment. It was determined that its structure could not remain intact by removing its unoriginal interventions. As a result of these evaluations, the original storage buildings were demolished. Instead of the original storage building; the reinforced concrete two-storey structure was added with reference to the ground and first floor plan traces of the original storage (Figure 6). The basement floor was designed for the spaces allocated to the museum's heating-ventilation center, service, toilets, and warehouses. In addition to service spaces, interior space arrangements were made for services such as workshops and seminar hall, sales



unit for evaluating the products, security, and warehouse access spaces. On the top floor, open offices, executive rooms, and meeting rooms were designed.

The entrance hall with steel-glass construction which refers to the portico in the original barrack was added to the museum in front of the monumental gate on the north facade (Figure 7). From this place, which has an entrance hall and a front window, you can go up the stairs to the lower floor Furthermore, it has protected the traces of the old porticoes and monumental gate in their current forms.

**Table 3.** Northern views of the old military barrack used as the Mardin Sabancı City and Art Gallery and drawings showing the museum status of the building (2020), photographs by İzzettin Kutlu and drawings by Şanlıurfa Regional Board of Conservation of Cultural Heritage.





**Figure 6.** *a*) Demolished old storage and *b*) new contemporary addition building views, photographs by Şanlıurfa Regional Board of Conservation of Cultural Heritage.



**Figure 7.** *a*) Representation of the first floor and portico of the building in its original state, *b*) The glass-steel construction entrance hall with glass-steel construction referring to the portico of the northern entrance door (2020), photographs produced İzzettin Kutlu.



During the process of transforming the museum, all the plasters and whitewashes that were not original in the building were removed, and natural stone texture was revealed (Figure 8).



**Figure 8.** *a, b)* Interior view of the building used as a museum (2020), photographs by İzzettin Kutlu and *c, d*) interior view of the building used as Tax Office (2000s), photographs by Murat Çağlayan.

The ground floor of the two-story main building is used as an exhibition of the city museum. Permanent exhibitions of the city museum are located in this place. While determining the design for the exhibition, it has not been found appropriate to pass the installations required for heating-air-conditioning-ventilation in the space through the vaults in order to preserve the architectural character of the interior. The layout consisting of modular air conditioning units (VRV System) placed between the display elements has been evaluated as a suitable solution for this structure. It has been planned to heat the interior of the building covered with high vaults with floor heating system homogeneously. The museum has an art gallery downstairs. From the platform where two symmetrical stone stairs reach from the entrance hall in the north, a new steel staircase provides access to the central hall of the art gallery. The lighting system in the museum and art gallery was planned by considering the building to be an old building. In this context, the lighting of the spaces and units was provided by spot lighting elements on the tensioning system which runs along the display axles of the Museum and Art Gallery and is hung by steel racks on the stone arches between the units [58].

## Chronological order and evaluation of historical military barrack transformation

The importance of the conservation movement is that old buildings can be recycled and adapted to different uses than they were originally designed for different uses than they were originally designed for. This article provides an assessment of the interventions by identifying the reuse of a historic building that reflects the cultural and construction characteristics of its region over periods. Considering the general structural character of the historical military barracks, it can be seen that its current form has been formed by a development process that includes different chronological processes (Figure 9). It cannot be ignored that the targeted chronological evaluation will provide a more comfortable understanding of the processes in which different attitudes are displayed.

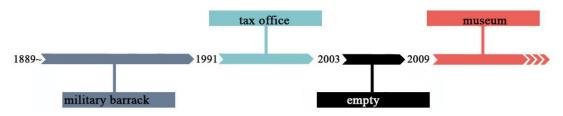
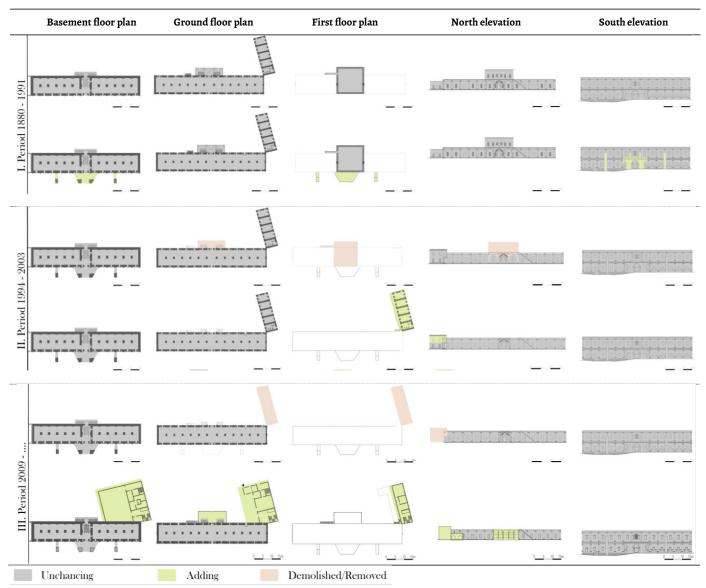


Figure 9. Chronological change of military barracks.



The interventions were divided into 3 periods. Considering the transformation of the building from the barrack to the tax office, it was seen that the changes required by the new function damaged the original condition of the building. This situation was tried to be minimized in transformation from tax office to museum, and the interventions were made according to the original condition of the building. All these interventions are chronologically shown on the plan and facades (Table 4).

**Table 4.** Chronological order of the mass change of the building in periods.



The museum is used in a competent function intertwined with the user, combining both its own existence as a cultural asset and the exhibition and art gallery with the past and the future. The barrack, which has been transformed to a museum without deteriorating its architectural integrity, is used in the city's culture and art activities. As the City Museum, it has created a focal point fed by touristic sightseeing routes. This will also spread the respectful restoration approach.

While the decision was made to turn the barracks building into a museum, it was also decided to add a new one to the old warehouse building and to build a new entrance hall instead of the old Portico section. The new additions were designed using a respectful approach to the value of the original building while adapting to contemporary conditions by efficiently increasing the museum's potential, economic gain, and service spaces (Figure 10). Therefore,



the ratio between the size of the historic main building and the new annexes has been carefully considered.







Figure 10. Chronological views of the North facade of the building that has undergone the most change a) 1900s, b) 2004, and c) 2019.

This result is directly related to the compatibility of changing the function of any historical building. Since the re-using building requires more space and different spatial qualities, the transformation must be solved with a different addition from the old structure. In this case, the designer should prevent the planned new addition building from competing with the historic building.

In the building, the additional entrance hall was made using a transparent material instead of the old portico, which increased the emphasis of the existing main entrance door, and a reference was made to the portico in its original state. Additionally, it is more effective to refer to a historical building with a different technique than to imitate a destroyed historical building.

Considering the architectural language of the old military barracks interventions, the restoration approach has been to use some features of the historical building and design it in a contemporary way. Examples of this situation are the reinforced concrete annex building, which refers to the dimensions of the original storage but without the use of local ornamentation, and the entrance hall with glass-steel construction in the north facade. However, the basement floor application, which was designed as workshops and study halls, exceeding the boundaries of the project in its original state, becomes very close to the two-storey main barracks building on the ground. Since this mass change will change the existing strength values of the structure, it has brought new static solutions and application details. The intervention is considered to be challenging for the architecture and engineering discipline.

The style of the building has been evaluated with a different understanding in every period, separating it from the main building. Today's materials were also used for new architectural elements such as windows and doors, but they were chosen at identical ratios with the information obtained from the original inventory of the historical military barrack.

Moreover, new additions were considered recyclable and were not anchored to the historical building. When the interventions are abolished, the original state of the historic building can be obtained. It can be concluded from the interventions that architects' approach to new additions tends to adapt through similarity, and that architects tend to use differences in materials and techniques to make the new addition distinctive.

When "compatible re-use and the most appropriate re-use" criteria of Pearson and Sullivan are taken as reference; the transformation of the building as a public building after its use for military purposes caused damage to the original features of the building, and it was not found suitable for both criteria [50]. However, interventions that reduce these losses and reference the original situation were applied during the conversion from the tax office to the museum. When this situation is evaluated in periods, there is no harmony between the building and the transformed function in the reuse of the building during the transition from the first period to the second period of the historical military barrack. That is because while public buildings are structures that have certain standards and need to accommodate a large number of small spaces, military barracks are structures consisting of large areas such as dormitories and



stables. In the transition from the second period to the third period, all non-specific interventions to be used as the Tax Office have been removed. Plasters and whitewashes covering the original stone texture were removed. Large-scale spaces in the military barrack have been converted into harmonious original dimensions as an exhibition and art gallery within the museum building. This situation shows that the transformation process as a museum fulfils "the most appropriate re-use" criteria and is not only a compatible reuse, but also complements the sense of cultural importance and historical heritage.

#### Conclusion

This evaluation method includes many historical buildings to all historical buildings of the city of Mardin. It can provide an approach and example for architects to design and evaluate contemporary additions. In addition, the method in which the mass changes of the building are analyzed by sorting chronologically is presented as a method proposal for the pre-analysis to local governments to evaluate the certain projects of cultural assets.

The detailed examination of the functional and mass change of Mardin's old historical military barrack, whose characteristics have been revealed since the Ottoman times, is an archive and can be seen as a contribution to the architectural conservation discipline. In this context, the historical values of a building as a cultural product of the past should be clearly defined and a new addition should carry the identity of its period while maintaining the integrity of the original structure. Therefore, a new contemporary annex must be distinguishable from the old one; the historical building should also be preserved and proportionate.

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#### REFERENCES

- 1. Ahunbay, Z., Tarihi çevre koruma ve restorasyon, Yem Publishing, Istanbul (1999).
- 2. Kutlu, İ., Mardin ili Midyat ilçesi İsmail Miroğlu Konutu restorasyon önerisi, Master dissertation, Institute of Science Gazi University, Ankara (2019).
- 3. Ertuğrul, A. 'XIX. Yüzyılda Osmanlı'da Ortaya Çıkan Farklı Yapı Tipleri (Different Types of Buildings Emerging in the 19th Century Ottoman Empire)'. *Türkiye Araştırmaları Literatür Dergisi*, **13** (2009) 293-312.
- 4. Olgaç, F., 'Culture and Tourism Association Mardin', Artuklu University Publishing, Mardin (2002).
- 5. Bekin, D., Tarihin Işığında Mardin, Governorship Culture Series, Genpa Publishing, Ankara (2010).
- 6. ICOMOS., 'Venice Charter', (1964), https://www.icomos.org/charters/venice\_e.pdf (accessed 2019-12-29).
- 7. Steinberg, F., 'Conservation and rehabilitation of urban heritage in developing countries', *Habitat International* **20**(3) (1996) 463-475, https://doi.org/10.1016/0197-3975(96)00012-4.
- 8. Yıldırım, M., 'Assessment of the decision-making process for re-use of a historical asset: The example of Diyarbakir Hasan Pasha Khan, Turkey', *Journal of cultural heritage* 13(4) (2012) 379-388, https://doi.org/10.1016/j.culher.2012.01.018.
- 9. Misirlisoy, D.; Günçe, K., 'A critical look to the adaptive reuse of traditional urban houses in the Walled City of Nicosia', *Journal of Architectural Conservation* **22**(2) (2016) 149-166, https://doi.org/10.1080/13556207.2016.1248095.
- 10. Davison, N.; Gibb, A. G.; Austin, S. A.; Goodier, C. I., 'The multispace adaptable building concept and its extension into mass customization', *Proceedings of the Joint CIB, IASS International Conference on Adaptability in Design and Construction*, Eindhoven University of Technology, 3<sup>rd</sup>-5<sup>th</sup> July (2006).
- 11. Dyson, K.; Matthews, J.; Love, P., 'Critical success factors of adapting heritage buildings: an exploratory study', *Built Environment Project and Asset Management* 6(1) (2016) 44-57, https://doi.org/10.1108/BEPAM-01-2015-0002.
- 12. Langston, C.; Shen, L. Y., 'Application of the adaptive reuse potential model in Hong Kong: a case study of Lui Seng Chun', *International Journal of Strategic Property Management* 11(4) (2007) 193-207.
- 13. Ball, R., 'Developers, regeneration and sustainability issues in the reuse of vacant industrial buildings', *Building Research & Information* **27**(3) (1999) 140-148, https://doi.org/10.1080/096132199369480.
- 14. Worthing, D.; Bond, S., Managing built heritage: The role of cultural significance, John Wiley & Sons, New York (2008).



- 15. Grammenos, F.; Russell, P., 'Building adaptability: a view from the future', in 2th CSTB *Buildings and the environment International conference*, Centre Scientifique et Technique du Bâtiment Publication, Paris, (1997) 19-26, https://side.developpement-durable.gouv.fr/Default/doc/SYRACUSE/30908/buildings-and-the-environmental-management-environmental-strategies-vol-2-cstb-building-a (accessed 2022-05-16).
- 16. ICOMOS, 'Burra Charter, The Charter for Places of Cultural Significance' (1999), https://australia.icomos.org/wp-content/uploads/BURRA\_CHARTER.pdf (accessed 2020-08-18)
- 17. UNESCO, Convention for safeguarding of the Intangible Cultural Heritage, Paris (2003) http://www.unesco.org/culture/ich/en/convention (accessed 2020-8-20).
- 18. Aydın, D.; Okuyucu, Ş. E., 'Yeniden Kullanıma Adaptasyon ve Sosyokültürel Sürdürülebilirlik Bağlamında Afyonkarahisar Millet Hamamının Değerlendirilmesi', *Megaron* **4**(1) (2009) 35-44.
- 19. Campbell, C., 'Is your building a candidate for adaptive reuse?', Journal of Property Management 61(1) (1996) 26-30.
- 20. Wang, H. J.; Zeng, Z. T., 'A multi-objective decision-making process for reuse selection of historic buildings', *Expert Systems with Applications* 37(2) (2010) 1241-1249, https://doi.org/10.1016/j.eswa.2009.06.034.
- 21. Wilson, A.; Ward, A., 'Design for adaptation: living in a climate changing world', (2009), https://www.buildinggreen.com/feature/design-adaptation-living-climate-changing-world (accessed 2020-08-18).
- 22. Günçe, K.; Mısırlısoy, D., 'Questioning the adaptive reuse of industrial heritage and its interventions in the context of sustainability', *Sociology* **5**(9) (2015) 718-727, https://doi.org/10.17265/2159-5526/2015.09.004.
- 23. Shipley, R.; Utz, S.; Parsons, M., 'Does adaptive reuse pay? A study of the business of building renovation in Ontario, Canada', International Journal of Heritage Studies 12(6) (2006) 505-520, https://doi.org/10.1080/13527250600940181.
- 24. Bullen, P. A.; Love, P., 'Adaptive reuse of heritage buildings' *Structural survey* **29**(5) (2011) 411-421, https://doi.org/10.1108/02630801111182439.
- 25. Bullen, P.; Love, P., 'Factors influencing the adaptive re-use of buildings', *Journal of Engineering Design and Technology* **9**(1) (2011) 32-46, https://doi.org/10.1108/17260531111121459.
- 26. Bullen, P.; Love, P., 'A new future for the past: a model for adaptive reuse decision-making' *Built Environment Project and Asset Management* 1(1) (2011) 32-44, https://doi.org/10.1108/20441241111143768.
- 27. Langston, C.; Wong, F. K.; Hui, E. C.; Shen, L. Y., 'Strategic assessment of building adaptive reuse opportunities in Hong Kong', Building and environment 43(10) (2008) 1709-1718, https://doi.org/10.1016/j.buildenv.2007.10.017.
- 28. Love, P.; Bullen, P. A., 'Toward the sustainable adaptation of existing facilities', *Facilities* **27**(9/10) (2009) 357-367, https://doi.org/10.1108/02632770910969603.
- 29. Wilkinson, S. J.; James, K.; Reed, R., 'Using building adaptation to deliver sustainability in Australia', *Structural survey* **27**(1) (2009) 46-61, https://doi.org/10.1108/02630800910941683.
- 30. Holborrow, W., 'Cutting down on carbon from the public sector estate', Conservation Bulletin 57(2008) 26-29.
- 31. Park, S. C., 'Sustainable design and historic preservation' Cultural resource management 21(2) (1998) 13-16.
- 32. Shaw, R.; Colley, M.; Connell, R., Climate change adaptation by design: a guide for sustainable communities, Town and Country Planning Association, London (2007).
- 33. Bullen, P. A., 'Adaptive reuse and sustainability of commercial buildings', *Facilities* **25**(1/2) (2007) 20-31, https://doi.org/10.1108/02632770710716911.
- 34. Douglas, J., Building adaptation. Routledge, Abingdon (2006).
- 35. Horváth, T., 'Necessity of modernization of modern buildings', in TG66-Special Track 18th CIB World Building Congress, ed. Barrett, P., Amaratunga, D., Haigh, R. Keraminiyage, K., Pathirage, C. CIB Publication 355, Rotterdam (2010) 204-216.
- 36. Ribera, F.; Nesticò, A.; Cucco, P.; Maselli, G., 'A multicriteria approach to identify the Highest and Best Use for historical buildings', *Journal of cultural heritage* **41** (2020) 166-177, https://doi.org/10.1016/j.culher.2019.06.004.
- 37. Kincaid, D., 'Adaptability potentials for buildings and infrastructure in sustainable cities', *Facilities* **18**(3/4) (2000) 155-161, https://doi.org/10.1108/02632770010315724.
- 38. Osbourne, D., Introduction to building Mitchell's building series, Batsford Academic and Educational, London (1985).
- 39. Prowler, D.; Vierra, S., 'Whole building design', in *Whole Building Design Guide*. National Institute of Building Sciences, Washington (2008), https://www.wbdg.org/resources/whole-building-design/ (accessed 2022-05-16).
- 40. Arge, K., 'Adaptable office buildings: theory and practice', Facilities 23(3/4) (2005) 119-127, https://doi.org/10.1108/02632770510578494.
- 41. Graham, P., 'Design for adaptability—an introduction to the principles and basic strategies', Environment Design Guide, Gen66 (2005) 1-9.
- 42. Nakib, F., 'Toward an adaptable architecture guidelines to integrate adaptability in building', in *Building a Better World: CIB World Congress*, ed. Barrett, P., Amaratunga, D., Haigh, R. Keraminiyage, K., Pathirage, C. CIB Publication 355, Salford (2010), https://www.irbnet.de/daten/iconda/CIB18882.pdf (accessed 2022-05-16).
- 43. Vakili-Ardebili, A., 'Complexity of value creation in sustainable building design (SBD)', Journal of Green Building 2(4) (2007) 171-181, https://doi.org/10.3992/jgb.2.4.171.
- 44. Scott, F., On altering architecture, Routledge, London (2007).
- 45. Li, Y.; Zhao, L.; Huang, J.; Law, A., 'Research frameworks, methodologies, and assessment methods concerning the adaptive reuse of architectural heritage: a review', *Built Heritage* 5(1) (2021) 1-19, https://doi.org/10.1186/s43238-021-00025-x.
- 46. Liliane, W., Adaptive reuse: extending the lives of buildings, Birkhauser, Berlin (2017).



- 47. Yüceer, H.; İpekoğlu, B., 'An architectural assessment method for new exterior additions to historic buildings', *Journal of Cultural Heritage* 13(4) (2012) 419-425. https://doi.org/10.1016/j.culher.2011.12.002.
- 48. Plevoets, B.; Van Cleempoel, K., Adaptive reuse of the built heritage: Concepts and cases of an emerging discipline. Routledge, London (2019).
- 49. Stone, S., UnDoing Buildings: Adaptive Reuse and Cultural Memory, Routledge, London (2019). https://doi.org/10.4324/9781315397221.
- 50. Pearson, M.; Sullivan. S., Looking after heritage places, Melbourne University Publishing, Melbourne (2013).
- 51. Fuentes, J. M., 'Methodological bases for documenting and reusing vernacular farm architecture', *Journal of Cultural Heritage* 11(2) (2010) 119-129, https://doi.org/10.1016/j.culher.2009.03.004.
- 52. Sekula, G., 'Design Guidelines for St. Joseph, Missouri Historic Districts', St. Joseph Landmark Comission (2001) 70-72 https://www.stjoemo.info/957/Design-Guidelines-PDF (accessed 2020-12-26).
- 53. Stevens. S. K., 'News and Comment', *Pennsylvania Historical Comission: A Journal of Mid-Atlantic Studies* (1941) https://journals.psu.edu/phj/article/download/21321/21090 (accessed 2020-12-26).
- 54. Beydilli, K. 'Yeniçeri', TDV Islamic Encyclopedia (2013). http://openaccess.29mayis.edu.tr:8080/xmlui/bitstream/handle/29mayis/835/2013\_43\_BEYDILLIK3.pdf?sequence=1 (accessed 2020-01-21).
- 55. Doğdu, Z. 'Kışla mimarisi', Türkler 12 (2002) 178-189.
- 56. Duyan, F.; İletmiş, A., 'Vergi Dairesi Restorasyon ve Çevresel İyileştirme Projesi Mimari Açıklama Raporu (Tax Office Restoration and Environmental Improvement Project Architectural Report)', Şanlıurfa Regional Board of Conservation of Cultural Heritage (2004).
- 57. 'Sakıp Sabancı Mardin City Museum and Dilek Sabancı Art Gallery', www.sakipsabancimardinkentmuzesi.org (accessed 2020-01-21).
- 58. Keskin, M., 'Sakıp Sabancı Mardin Kent Müzesi/Dilek Sabancı Sanat Galerisi Mimari Proje Raporu (Sakıp Sabancı Mardin City Museum / Dilek Sabancı Art Gallery Architectural Project Report)', Şanlıurfa Regional Board of Conservation of Cultural Heritage (2009).

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