

THE ROLE OF PHOTOGRAPHIC DOCUMENTATION IN THE PROCESS OF CONSERVATION OF DESTROYED ARCHITECTURAL MONUMENTS AND CENTRES OF HISTORIC CITIES

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Abstract

This article deals with the role of photographic documentation in conservation efforts. Using the example of Islamic sites in Libya, historic inn buildings located in Ukraine and Poland, the centres of Polish historic cities destroyed during World War II, and the monuments of Ukraine destroyed during the period of "militant atheism," World War II, and the ongoing Russian-Ukrainian war, it is proven that often photographic documentation of objects becomes the main source of information about destroyed or damaged objects. The purpose of this paper is to analyse the value of photographic documentation for conservation and preservation efforts. The authors point out that it can also be used for eye-tracking studies of visual perception of conservation objects, both by local communities, i.e., nonprofessionals in the field of architecture, as well as perception by architects and conservators.

Keywords: *Photographic documentation; Architectural monuments; Historic city centre; Libya; Poland; Ukraine; Revaluation; Conservation; Eye tracking method*

Introduction

Conservation of architectural monuments is a complex comprehensive process that considers the characteristics of each specific object. In many cases, there are no measurements or drawings of the object, and the only source of reliable conservation or restoration is photographic documentation taken at various times in the object's "life." It is photography or its more advanced form, such as photogrammetry or laser scanning, that makes it possible to reconstruct the original appearance of an object (or objects) before it was destroyed, and it is often based on this that the conservation documentation necessary in the process of revaluation or restoration of a monument is created.

The authors took a rather broad view of the problem, showing the importance of photographic documentation, including archival iconography and photographic inventories for Islamic architecture in Libya, for the reconstruction and revaluation of Polish historical objects

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and the centres of historic cities destroyed during World War II, as well as for the preservation and revaluation of historic inns and the reconstruction of destroyed Orthodox churches and civilian buildings in Ukraine.

For the purposes of this publication, the sources were analysed according to the areas listed below.

- ✓ publications related to the subject of Islamic architecture, its conservation, and restoration - papers Y. Ivashko *et al.* [1-4], R. Kouider [5];
- ✓ General problems of preservation of the historic environment, its degradation and museization - papers L. Pujia [6], P. Spiridon, I. Sandu [7], P. Spiridon *et al.* [8];
- ✓ problems related to the destruction of Orthodox churches in Ukraine and their conservation and restoration - M. Dyomin, Y. Ivashko [9], Y. Ivashko *et al.* [10], M. Orlenko *et al.* [11];
- ✓ problems of environmental influence on the reception of architectural objects; papers D. Chernyshev *et al.* [12], O. Sleptsov *et al.* [13];
- ✓ conservation aspects of revalorization of monuments - papers M. Orlenko, Y. Ivashko [14], L. Luvidi *et al.* [15], M. Furtak *et al.* [16], I. Sandu *et al.* [17];
- ✓ publications related to the subject of war damage and post-war reconstruction - Y. Ivashko *et al.* [18], T. Kozłowski *et al.* [19], A. Nadolny *et al.* [20], A. Pawłowska *et al.* [21, 22];
- ✓ problems of education on the need to protect monuments - research D. Kuśnierz-Krupa *et al.* [23];
- ✓ scientific sources on the types of historical inns were studied separately [24-27];
- ✓ problems of visual perception of historic architecture studied by eye-tracking - works M. Lisińskiej-Kuśnierz i M. Krupy [28, 29].
- ✓ As previously written, the main objective of the research conducted was to analyse the value of photographic documentation for conservation and preservation activities.
- ✓ In the dams of the main objective, specific research tasks were distinguished, which boil down to:
 - ✓ analyse the process of protection and preservation of historic mosques in Libya in the context of proving the importance of photographing these objects;
 - ✓ to analyse the role of historical photographic documentation (and especially historical iconography) in the still ongoing process of revitalising the centres of Polish cities and historic towns degraded during World War II and the communist period;
 - ✓ to determine the importance of photographic documentation in the study of hitherto poorly researched Ukrainian inns and inns, taking into account their typology;
 - ✓ to analyse the problem of how photographic documentation helped restore such important Ukrainian monuments as the St. Mikhail Gold Domed Cathedral and bell tower and the Assumption Cathedral and Dormition Cathedral of the Kyiv-Pechersk Lavra in Kyiv;
 - ✓ an analysis of the importance of photographic documentation under the conditions of the Russian-Ukrainian war and its role in post-war reconstruction.

Materials and Methods

The above research tasks determined the choice of general scientific research methods. Thus, the main methods became the method of historical analysis, field research, comparative analysis, and synthesis.

The method of historical analysis made it possible to analyse the role of photographic documentation in different historical periods and in different countries. The selected buildings and complexes were reviewed and verified in terms of their history (structure and architectural form) and the surviving building documentation, including inventories and photographic documentation.

Field research, including photographic inventories of historic buildings and areas, is very often the basis for the development of a project for the conservation or restoration of monuments. This is especially important when these monuments have no documentation, that is, archival designs, inventories, etc. In the case of the studies in question, field research was carried out on the territory of selected historic complexes and sites in Libya, Ukraine, and Poland.

Last, the method of comparative analysis was applied. The results of research on the use of photographic documentation in the process of revalorization of monuments for selected areas, i.e., Libya, Poland, and Ukraine, were compared.

In this context, attention was also drawn to the fact that it is possible to use photography for an objective quantitative study of the visual perception of restoration implementations (eye-tracking) on the territory of historic cities (Dresden, Cologne).

Considering the above, with the help of the synthesis method, the results of the application of photographic documentation of objects in conservation activities are presented in conclusion.

Results and discussion

In terms of research for the purpose of this paper, the focus is on two aspects, photography as a basis for the recovery and restoration of a separate object and photography as a basis for the restoration of a specific historic cultural landscape, the centre of a historic city. The latter assumes particular importance in the case of post-war reconstruction, when, as a rule, not only individual objects are destroyed but also entire neighbourhoods or city centres. The classic example here is the reconstruction of the old town in Warsaw [18], but also other examples of the revaluation and modernisation of Polish cities, including small ones such as Kazimierz Dolny (Fig. 1).



Fig. 1. Kazimierz Dolny on the Vistula River rebuilt after World War II.

When reconstructing or revitalising a historic building, several issues must be resolved. Even if the building is reconstructed according to the preserved photographic and other documentation, such as historical plans and inventories, it should, according to the authors, fit the existing cultural landscape. The scale of the objects is important here in particular. In Dresden, for example, which was almost destroyed as a result of warfare during World War II, the decision was made to introduce contemporary detail and sometimes architectural form into the urban fabric of the city centre, while retaining historical dimensions, including heights, parcel divisions, and the overall urban layout. Fortunately, documentation of selected buildings, historical plans of the city, and historical photographs from the pre-war period have been preserved. On this basis, a template was developed for objects whose documentation did not survive. The template includes guidelines for form, details, materials, and colour schemes. The reconstruction of Dresden is still in progress (Fig. 2). At the same time, it should be noted that

by many specialists, as well as non-professionals (which was examined using eye tracking), it is considered well prepared and professionally executed [28].

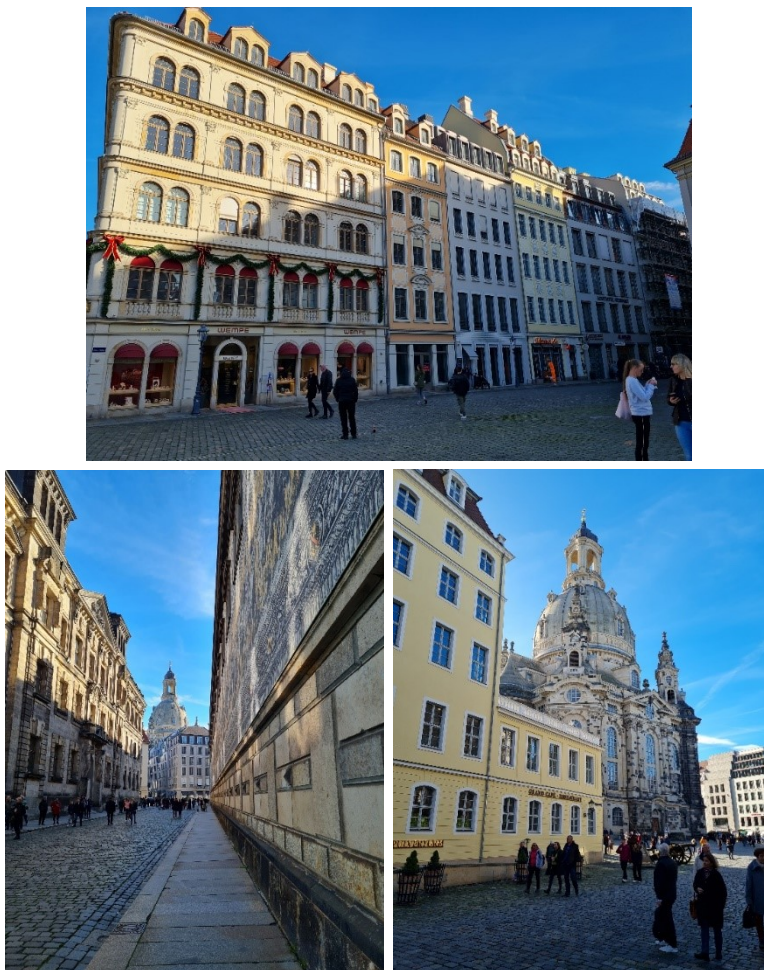


Fig. 2. Dresden. A view of the city centre, being rebuilt and revaluated after World War II war damage

The Role of Photographic Documentation in the Conservation and Restoration of Libya's Historic Mosques

The main problem is that Libya's Islamic architectural heritage is much less well known in the world than the Islamic architecture of Morocco or Turkey. The problem of its dissemination, and consequently its attaching importance to the need to preserve and restore historic mosques, is also exacerbated by the ongoing civil war, because of which a large part of the historic sites in the east of the country remains inaccessible for any field research and maintenance of these objects. In addition, because of the war, some of the historic buildings were damaged or destroyed, so the only basis for their reconstruction or restoration in the absence of technical documentation can be historical iconography, which consists of pre-war photographic documentation and old engravings. Another problem is the negative impact of the war on the country's economy, as the task of restoring individual objects becomes more remote in the future due to the lack of funds.

In such a case, photo-preservation of the site offers the possibility of restoring it to a suitably authentic appearance in the future. Armed hostilities, the de facto partition of the country, and the threat to access to monuments in the east of the country prevent the development of comprehensive measures for the preservation of Islamic heritage in the entire Libyan territory. This has also led to the fact that the historic sites of parts of the territory do not have project documentation and are not mentioned in scientific publications. There is also a lack of specialised conservation and research organisations with experience in conducting such work in areas with specific natural and climatic conditions, as the climate in most of Libya is dry, with high temperatures and limited water resources. Given the peculiarities of local conditions, it is clear that research, restoration, and reconstruction of Islamic heritage on Libyan territory should be carried out in conjunction with the modernisation of transportation, infrastructure, and engineering networks. Despite these difficulties, examples of research on Islamic architecture in Libya since 1969 can be cited, but they were not of a generalising, comprehensive nature. This is because they mainly covered the period of the Fatimid dynasty and buildings dating from that period, including the most famous mosques located in major cities. As a result, many of the lesser-known sites are still unknown to the scientific community. The proof of this situation is the fact that mosques in Libya are not even mentioned in well-known sources devoted to Islamic heritage. In fact, the world learnt more about Libyan mosques only in the mid-1980s, when earlier editions devoted to Islamic architecture were supplemented. This contributed to the emergence of so-called "Islamic tourism," the peculiarity of which is the purposeful visitation of Islamic heritage sites, primarily by pilgrims.

In fact, the Islamic heritage on Libyan territory is very diverse and dates to a considerable period - from the 7th to the 18th centuries. The regional characteristics of mosque construction on Libyan territory are related to the fact that the name of the mosque was given after the name of the tribe that built it a ruler or a saint.

In the case of the Islamic heritage within Libya, it can be said that a certain dominance of the Ottoman-period mosque is the result of numerous wars that led to the destruction of mosques from the early periods (Fig. 3). In addition, Islamic construction was negatively affected by Italian colonisation, which took place between 1912 and 1927. During this period, Italy ruled Libya as "Italian North Africa" - Tripolitania and Cyrenaica. After World War II, from 1947 to 1951, the Libyan territories were owned by Britain. The country did not gain de facto independence until 1951.



Fig. 3. Moulay Muhammad Mosque, Tripoli city, Ottoman period mosque, restored in 1973

Modern warfare in the country has led to the destruction of many historic buildings. This situation is influenced, among other things, by the fact that access to monuments for specialists is virtually impossible in many cases.

The problem of preserving and restoration of Islamic heritage is closely intertwined with other problems, such as, among others, the construction of a new transportation network on historic sites, often without their proper protection and conservation. This situation is aggravated by the weakness of monument protection authorities.

However, in the field of conservation and revalorization of monuments, successes can also be noted. These include restored historical buildings, such as the Assaraiya al-Hamra Palace Museum, residential and public buildings located in the old city of Tripoli.

Several examples of historic mosques destroyed by war can be found throughout Libya. Examples in this regard include the oldest mosque of the early Islamic period, Al-Naqah (573 - 664), located in the southeast part of the old city of Tripoli. During World War II, parts of it were destroyed by bombs.

Similarly, another mosque, Dargot (1561), was damaged during the bombing. Its survey was conducted by the Department of Antiquities and Excavations in 1921, but no comprehensive restoration work was carried out here. This mosque suffered additional damage during World War II; the main building with the prayer hall was particularly damaged at the time, although auxiliary buildings were also partially destroyed.

In 1946-1947, the building was rebuilt, but its original appearance was altered, increasing the number of domes, changing the mishrab and minbar, replacing the ceiling beams, and changing the shape of the minaret from octagonal to cylindrical. The mosque was damaged again during modern warfare, which began in early 2010 and was based on ethnic-tribal, political, economic, and ideological contradictions. The Ahmed Pasha Al-Qarmanli Mosque also suffered damage during this period, having been looted in 2014. This facility has also been rebuilt.

Referring to the above, it should be noted that in the conditions of Libya, war, and civil unrest, photographic documentation of historic buildings and complexes acquires special importance, as it often becomes the only source of information about a historic object in case of damage or destruction.

Photographic documentation on the research and conservation of historic inns in Ukraine and Poland

The problem of research and preservation of historic suburban-type buildings, such as inns, among others, is related to the fact that their simple and often typical architecture was usually not of interest to researchers in the past. For this very reason, for example, in Ukraine, such buildings have not actually been the target of architectural research. Therefore, analyses of their form and functional spatial structure are based mainly on Polish sources [24-27]. This is also related to the common history of the two nations, which means that certain types of building and trends in their location were similar. Therefore, an analysis of the western Ukraine area was performed, considering the most common types of hotel buildings. In the absence of archival documentation of the object, considering the typology, as well as archival photographs, conservatory documentation of restoration or revaluation of selected former inns is prepared (Figs. 4 and 5).

One of the most important suburban-type buildings in the past was inns. They were an important part of the cultural landscape of former cities, towns, and villages. Unfortunately, most of these buildings have not survived. Very general information about their form and structure can be obtained from archival sources, including textual records, historical photographs, and engravings.

It is known from archival descriptions that from the 16th century onwards the traditional inn had the character of a country house with a large guest room. The objects from this period have not survived, as they were mostly wooden.



Fig. 4. Inn in Krzemieniec on Szeroka Street in the first half of the 20th century



Fig. 5. Inn in Krzemieniec on Szeroka Street. Reconstruction based on an archival photograph

The number of inns in each centre depended on its size, current needs, and location. It is known that at the intersection of trade routes, along the main routes, and in larger cities, these facilities may have been several or even dozens.

As mentioned above, because most of the buildings with this function have not been preserved, the main information about their location and form and detail is obtained precisely from photographs and drawings, supplementing the visual information with descriptions from written and printed archival documents if they exist. The locations of the inn building varied. They stood near markets, streets, churches, or in the vicinity of buildings and mixed-residential functions such as mansions, palaces, castles, being, for example, part of a farmstead.

An inn in Kamieniec Podolski can be mentioned as one of the characteristic examples of a 19th century inn located along a postal route. Smaller and larger inns were in every city, town, and beyond. Their functioning in cities, such as Lviv, was regulated by city councils and even royal privileges. O. Kozakova investigated the number of inns in urbanised areas and outside their borders. Her research confirmed the above, as well as the fact that the size of a city or village affected the number of inns operating on its territory. Among the inns she researched

was a 19th-century inn in the town of Starokonstantynów, which she said was located near a castle and was part of a manor.

Since the territories of Western Ukraine and Podolia belonged to Poland, the functional and spatial layout and form of the former inns in these areas were similar. This can be seen by comparing archival photographs of Ukrainian and Polish inns (Figs. 6 and 7).

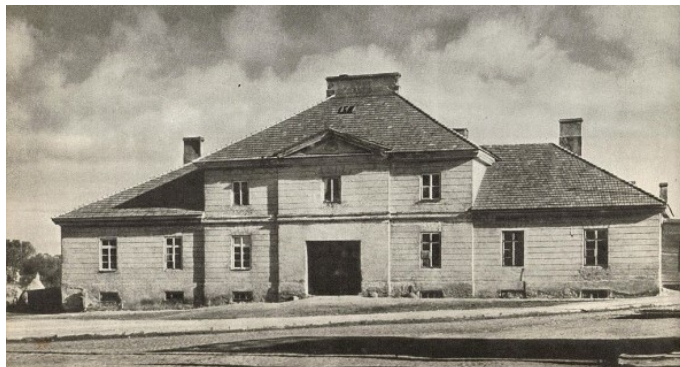


Fig. 6. Inn on Leczynska Street in Lublin from the first half of the 19th century [Photo by T. Chrzanowski, 1964]



Fig. 7. Inn in Slawkow at the beginning of the twentieth century [Photo: Archive FA CUT]

Photographic documentation as a basis for restoration and renovation of Ukrainian monuments destroyed in the twentieth and early twentieth centuries

The photographic documentation of monuments has taken on particular importance during the restoration of prominent sites that were destroyed during the years of "militant" Soviet atheism and World War II. Two unique objects restored by specialists of the Ukrrestavratsiya Corporation, Saint Mikhail Gold Domed Cathedral, and the Dormition Cathedral of the Kiev-Pechersk Lavra in Kiev, were chosen as examples.

Both churches were originally built in the Old Russian period and were later expanded and rebuilt several times. St. Michael's Cathedral was built in 1108-1113, while Assumption Cathedral was built in 1075-1077. St. Michael's Cathedral used marble columns, frescoes, and mosaics with a total area of 3,500 square metres woraz with enamel of 180 shades to decorate it. The complex of the Mykhailo Zolotoverchi Monastery was considered to be the second most important after the Sophia Monastery in the Upper City. It was expanded and rebuilt during the Baroque period. It was kept in good technical condition until 1917. During this period, the

temple was destroyed by shells during the Civil War. The monastery was liquidated in 1922. In 1934-1937, the cathedral, the bell tower, and part of the wall with the Economic Gate were blown up with explosives, as the so-called new Government Centre was planned to be built here (Fig. 8).

When reconstruction began, St. Michael's Cathedral and the bell tower had only foundations. The basis for their reconstruction was archaeological research materials, archival materials, preserved frescoes and mosaics in museums, and archival photographs.



Fig. 8. St. Michail Gold Domed Cathedral after the damage done in 1936-1937
[Photo: Archive „Ukrrestauratsiya” corporation]

Equally tragic was the fate of the first brick building of the Kiev-Pechersk Lavra, the Assumption Cathedral. In 1918, it was damaged by shelling. In 1919, an inventory and photographic documentation of the cathedral was made, and in 1937, its measurements and architectural and archaeological research were carried out. This process was interrupted by World War II. During the occupation of Kiev by the Germans on 3 November 1941, the Assumption Cathedral was blown up, and elements of the church's furnishings were taken to Germany. Only the John the Theologian wing survived, and other parts were in ruins.

In the postwar years, scientific research of the cathedral ruins continued, and an important place among the research methods was occupied by documentation and photographic inventory, which was combined with natural, archaeological and laboratory studies. Since July 1962, the final stage of demolition of the relics, the ruins of the complex, was underway. This stage also included field research and photographic documentation (Fig. 9).

Thus, an important role in the study of the Cathedral of the Assumption of the Blessed Virgin Mary, both in the pre-war and post-war periods, in addition to archaeological research, in situ inspection, and laboratory testing, was played by a photographic inventory. During the reconstruction of the destroyed cathedral, this documentation became one of the essential bases for the architectural and construction project.

The accumulated previous experience in the application of photographic documentation of objects in the stage of developing documentation related to their reconstruction or revalorization becomes the basis for proceeding with the reconstruction of objects destroyed during the Russian-Ukrainian war. It is known that photographic documentation of historical objects and centres of historical cities made during the war will in many cases form the basis for the development of projects for their reconstruction (Figs. 10 and 11).



Fig. 9. Demolition of the ruins of the Cathedral of the Assumption
[Photo: Archive Ukrrestauratsiya Corporation]



Fig. 10. Demolished building in Mikolayev region [Photo by Serhii Belinskyi, 2022]



Fig. 11. Demolished building in Kramatorsk [Photo by Serhii Belinskyi, 2023]

Conclusions

It has been proven that in many cases archival iconography of buildings or building complexes (city centres) is the main and, therefore, a very important source in the process of revaluation and modernisation of monuments.

To confirm the above thesis, the above examples were cited of the problems of reconstruction and revaluation of the architectural heritage of Islam in Libya; the historical inns of Ukraine and Poland; the reconstruction of the centres of Polish cities (including Warsaw, Kazimierz Dolny) and historic buildings destroyed during the years of militant atheism, World War II, and the current Russian-Ukrainian war.

Photography of historic buildings at various stages of their existence is of great importance for the properly conducted process of their revaluation or reconstruction when they are destroyed. It is particularly valuable in the case of those objects and building complexes for which no other documents, i.e. blueprints, inventizations or engravings, have survived.

It is an indisputable source of heritage knowledge. This should be remembered especially now during the ongoing Russian-Ukrainian war. Documenting on an ongoing basis, with the help of a camera, the technical condition of historical objects and spaces, especially those little known and located in smaller cities, towns, or villages, seems to be indispensable. This is because it may be of considerable importance at the stage of post-war reconstruction, as was the case in Warsaw, Dresden, Kazimierz Dolny, or Elblag.

Finally, it should be remembered that photography is one of the bases for studying the perception of architecture using the eye-tracking method with stationary devices. A lot of information can be extracted from the results obtained, such as which element of architecture attracts the attention of the respondents and after what time, which element focusses the attention of the respondents the longest, which elements the person returns to, what is the direction of the order of scanning the space, and whether the onlookers are lost or interested.

By showing the respondents photos of historic buildings before and after revaluation or restoration, one can obtain conclusions that are extremely useful in the future for subsequent conservation efforts. This is even more important because public participation in processes related to the creation of the living environment and the revaluation of this environment is an important element of sustainable development.

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