



Received 09.01.2025 Revised 30.04.2025 Accepted 25.06.2025

UDC 76. 026:741. 1:902(477.8)

DOI: 10.30857/2617-0272.2025.2.4

## Problems of restoration of easel graphics of the late 18<sup>th</sup> to early 20<sup>th</sup> centuries depicting castles of Galicia

**Maksym Oleshchuk\***

Postgraduate Student

National University "Lviv Polytechnic"

79013, 12 Stepan Bandera Str., Lviv, Ukraine

<https://orcid.org/0009-0001-2241-2730>

**Abstract.** The blossoming of typography in Galicia during the late 18<sup>th</sup> and early 20<sup>th</sup> centuries helped popularise engravings depicting castle architecture. A significant portion of these structures are now either lost or ruined, highlighting the urgent need for their professional restoration as a vital component of preserving Ukraine's cultural heritage. The aim of this article was to investigate the challenges and specific characteristics of restoring and conserving late 18<sup>th</sup> to early 20<sup>th</sup>-century engravings featuring Galician castles, as well as to analyse methods for reconstructing lost parts of these architectural objects. The methodology included analysing historical engravings of Galician castles, researching the techniques and materials used in their creation, and reviewing modern restoration and conservation methods. The article provided an in-depth analysis of the engraving restoration process, particularly the reconstruction of lost sections of architectural images. It identified the primary issues restorers face, such as paper degradation, ink fading, and mechanical damage. Considering the article's objective – focusing on the peculiarities of restoring castle engravings from the late 18<sup>th</sup> to early 20<sup>th</sup> century – the conducted research revealed the main problems in preserving and restoring these artworks. The article explored approaches to reconstructing lost fragments of images, with a particular emphasis on working with the architectural details of castles. Special attention was paid to the specific nature of restoring and conserving engravings from the period under investigation, taking into account their creation techniques and the materials used. The importance of this research lies in its ability to offer practical recommendations for restorers, art historians, and historians working with similar graphic materials. The findings will contribute to the development of scientifically sound methodologies for preserving valuable historical images of Galician castle architecture for future generations. Furthermore, the article's content will be beneficial in museum work, archival practice, and in preparing scholarly publications on art and architectural history

**Keywords:** engravings; architectural objects; conservation; cultural heritage; reconstruction; historical significance

### INTRODUCTION

Despite the significant contributions of academics to the study of Galician fortification architecture, paper and engraving restoration, and methods for reconstructing lost image sections, the comprehensive topic of restoring easel graphics depicting 18<sup>th</sup>-19<sup>th</sup> century castles has not yet received adequate attention. This necessitates a deep analysis of the peculiarities of preserving this specific art form, considering its historical, artistic, and architectural value, as well as the considerable number of Galician castle structures, many of

which are in ruins or a state of disrepair. The relevance of this research is defined by several key aspects that underscore its scientific and practical significance in the context of preserving Ukraine's cultural heritage. Primarily, the substantial number of surviving late 18<sup>th</sup> to early 20<sup>th</sup>-century engravings documenting Galician castle architecture serve as invaluable primary sources for historical, architectural, and art-historical research. These graphic works not only capture the aesthetic characteristics of the structures but also reflect their

### Suggested Citation:

Oleshchuk, M. (2025). Problems of restoration of easel graphics of the late 18<sup>th</sup> to early 20<sup>th</sup> centuries depicting castles of Galicia. *Art and Design*, 8(2), 46-53. doi: 10.30857/2617-0272.2025.2.4.

\*Corresponding author



Copyright © The Author(s). This is an open access article distributed under the terms of the Creative Commons Attribution License 4.0 (<https://creativecommons.org/licenses/by/4.0/>)

condition during a specific historical period, which is especially crucial given the numerous destructions and reconstructions these objects have undergone over time.

In this regard, engravings act as a unique visual record of the evolution of architectural forms and urban planning trends in the region. Therefore, as M. Bevz & T. Pinyazhko (2022) highlighted, studying the peculiarities of their restoration and conservation has become particularly relevant, as it ensures the preservation of information about objects that have undergone irreversible changes. Furthermore, the growing interest of the academic community and the public in local history and cultural heritage necessitates in-depth research and popularisation of visual sources, which include engravings. Their proper preservation and restoration will not only enrich academic knowledge but also raise the level of cultural awareness in society, and can also positively influence the development of cultural tourism in the region, as confirmed by studies in the field of historical and cultural heritage preservation. A comprehensive study of the problems of restoring and conserving engravings depicting Galician castles is a timely and necessary step to preserve an important part of Ukraine's cultural heritage.

The challenges of preserving graphic works and architectural heritage in general have attracted the attention of many researchers. Specific aspects of restoration, such as the peculiarities of working with tracing paper, which can be applied during the preparatory stages of engraving restoration, and the problems of acidity in the process of preventive conservation of architectural graphics, were explored by M.O. Borysenko (2021a; 2021b). The work of Galician engravers, although without a direct focus on restoration, was analysed by L. Kupchynska (2022) and M. Bihun *et al.* (2018), which is important for understanding the artistic context of the investigated engravings. The architectural heritage of Galicia, particularly 19<sup>th</sup>-century fortification architecture, in a pan-European context and from the perspective of preservation, was researched by M. Bevz & T. Pinyazhko (2022) and K.-T. Havryliv (2021). Engravings, as visual records of the past, are undoubtedly valuable iconographic sources that can significantly aid in the process of restoring castles and other defensive structures. This is especially relevant in cases where original buildings have suffered significant destruction or have not survived to the present day. In turn, J. Tai (2021) explored the possibility of creating 3D objects based on historical engravings, which opens up new perspectives for virtual reconstructions and provides restorers with a clear understanding of the original appearance of structures, thus serving as an invaluable source for future restoration work. The article by V. Karpov (2023) analysed the formation of the Ukrainian school of monumental painting restoration in the 1950s-1960s, outlining the main approaches,

achievements, and problems of restoring wall paintings, which became defining for the development of national restoration.

These studies, although not always directly dedicated to the restoration of engravings depicting Galician castles, shed light on important aspects related to the preservation of graphics, the study of the region's artistic heritage, and the research of architectural images, which provides important context for investigation. However, as the review of scientific literature indicates, a comprehensive work focusing specifically on the peculiarities of restoring engravings depicting Galician castles from the period under study (late 18<sup>th</sup> – early 20<sup>th</sup> century) is absent. Individual aspects of this topic have been touched upon in research. For example, M.O. Borysenko (2021a) examined the specifics of restoring graphic works based on tracing paper. In turn, L. Kupchynska (2022) analysed the work of Galician engravers, but the issues of restoring their works were not the central aspect of her scientific interest.

A comprehensive study of the problems, challenges, and specific peculiarities arising in the process of restoring and conserving late 18<sup>th</sup> to early 20<sup>th</sup>-century engravings depicting Galician castles includes not only the identification of typical damage caused by time, materials, and storage conditions, but also a deep analysis of the physico-chemical properties of the paper and dyes used during this period, as well as the study of engraving techniques characteristic of the time frame and their influence on modern restoration approaches. Thus, the aim of the study was to form a holistic understanding of the problems of restoring and conserving the investigated engravings, and a comprehensive analysis of existing theoretical and practical methods for restoring graphic works, with the subsequent development of practical recommendations for their effective preservation.

## MATERIALS AND METHODS

The subject of this research is the complex set of problems and specific characteristics associated with the restoration and conservation of late 18<sup>th</sup> to early 20<sup>th</sup>-century engravings depicting Galician castles. The chronological scope of the study is defined by the historical period when this region was part of the Habsburg Monarchy, the Austrian Empire, and Austria-Hungary. This era was characterised by the active development of printing and the creation of a significant number of graphic images that now require preservation.

To achieve the stated goal, a range of scientific research methods were applied. The historical method allowed for an analysis of the historical context in which the engravings were created, and an investigation into the development of printing techniques and materials used in Galicia during the specified period. This helped in understanding potential preservation issues stemming from the specific manufacturing

processes of engravings from that time. The analytical method was used to study existing academic literature, methodological guidelines, and practical experience in the field of graphic art restoration, particularly engravings. It also involved an analysis of the causes of various types of damage typical for paper documents of the period under study. The comparative method was employed to contrast different approaches and methodologies for engraving restoration, assessing their effectiveness and applicability to the specifics of engravings depicting Galician castles, as well as to compare preservation challenges for engravings from this region with similar problems in other European countries. The systemic method enabled the restoration process to be viewed as a holistic system, encompassing the study of the material base, the image, the historical context, and the ethical aspects of cultural heritage preservation. Based on the analysis of literary sources and existing practices, information regarding typical damage to engravings, their conservation and restoration methods, and problems specific to the investigated material was generalised and systematised. During the research, reliance on information websites was limited and primarily used for a general overview of the region's history, the development of printing, and specific aspects of restoration work. Priority was given to the analysis of academic literature, professional publications, materials from scientific conferences, and methodological guides on graphic restoration.

The research was conducted in the following stages: firstly, defining and outlining the scope of problems based on literature analysis and general knowledge of graphic preservation to identify the main challenges in restoring 18<sup>th</sup> to early 20<sup>th</sup>-century engravings. The next step involved analysing the influencing factors that lead to engraving damage (physical, chemical, biological, climatic), with particular attention to the specific materials and engraving techniques of the period under study. Subsequently, an overview of existing restoration methods was carried out, including contemporary and historical approaches to the conservation and restoration of graphic works, assessing their feasibility and potential risks when applied to engravings depicting Galician castles. Special attention was paid to identifying specific problems by analysing the characteristics of engravings depicting Galician castles (execution techniques, materials, historical value) to pinpoint unique issues requiring individual consideration during restoration. The final stage was generalisation and formulation of conclusions, which included systematising the identified problems and peculiarities of restoring the investigated type of engravings, as well as formulating conclusions regarding optimal approaches and the need to adapt existing methodologies.

The analysis was conducted according to the criteria set by L.S. Dziedzeliuk & L. Loda (2010): identifying

typical damage characteristic of engravings from the period under study (mechanical, chemical, biological, etc.); considering the specifics of materials and engraving techniques of the 18<sup>th</sup> to early 20<sup>th</sup> century when assessing preservation problems and selecting restoration methods; evaluating the effectiveness of existing methods and the potential consequences of applying traditional and modern restoration techniques to the material under study; considering ethical aspects, particularly the principles of non-intervention, reversibility, and respect for authenticity when addressing the restoration of lost fragments of castle images; and accounting for the specifics of the depicted objects, i.e., the architectural and historical value of the depicted castles when developing approaches to loss reconstruction. The described methodology ensured the possibility of conducting a comprehensive study of the problems of restoring engravings depicting Galician castles based on the analysis of available sources and practical experience in this field.

## RESULTS AND DISCUSSION

In Lviv, several printing houses operated during this period, including the Lviv Dormition Brotherhood Printing House, the Polish-Latin printing house of the Holy Trinity Brotherhood, and private presses such as those of Jozef Halczewski (1735-1751), Ivan Filipovych (1753-1767, the most influential), and Jan Schlichtyk (1755-1787). Many other printing houses were also established across the region in towns like Rohatyn, Krylos, Uhniv, Uhornyky, and Przemyśl. One of the most influential typographies of the time was the Piller family's typography, founded in 1772. The establishment of this typography in Lviv coincided with the emergence of the Viennese School of Graphics, whose representatives often depicted the architectural landscapes of the city and its surroundings (Korol, 2007; Kupchynska, 2022). This growth in printing significantly boosted the creation of easel graphics. Common subjects included architectural landscapes, nature, palaces, and castles. A large number of engravings depicting Galician castles are held in Ukraine's national collections (primarily within Galicia), and they are in need of restoration and proper storage conditions. These works are unique repositories of information, as many of them show lost architectural elements of castles and changes in the surrounding landscape. The research conducted into the problems and specific characteristics of restoring and conserving late 18<sup>th</sup> to early 20<sup>th</sup>-century engravings featuring Galician castles has revealed key aspects that define the strategies for preserving this valuable historical and cultural material. An analysis of academic literature confirms the existence of various methods for restoring graphic works on paper, each with its own specific applications.

Among the main methods for restoring the paper substrate, relevant to the engravings studied, are

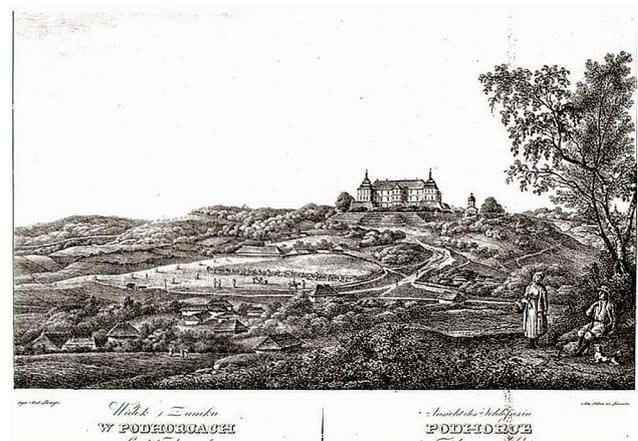
mechanical and wet cleaning, deacidification, paper strengthening, and loss compensation. The preservation of graphic works on paper is a constant focus for academics and practitioners. M.O. Borysenko (2021b) made a significant contribution to understanding the degradation processes of cellulosic materials, with research focusing on the impact of paper's chemical composition on its durability, and the effect of acidity on the image. The conservation and restoration of graphics, including practical aspects of restoration and the development of methodological guidelines, are covered in works by L.S. Dziedzeliuk & L. Loda (2010) and A. Lipińska (2011). The documentation and reconstruction of lost fragments of cultural heritage objects, including graphic works, were studied by M. Stadnik (2019). In the context of paper restoration methods, the work of M.O. Borysenko (2021b) was particularly interesting. The authors provided an overview of key paper conservation and restoration methods, including cleaning, strengthening, and filling losses, with practical recommendations for their application. An important source for understanding pre-restoration research is the methodological advice from L.S. Dziedzeliuk & L. Loda (2010). This authors thoroughly examined the stages and methods of preliminary research, which are critically important for developing an effective strategy for restoring graphic works. They emphasised the need for comprehensive study of the object's physical and chemical condition, identification of materials and execution techniques, and analysis of the causes and nature of damage before any restoration interventions begin. Their methodological advice is directly applicable to the study of engravings depicting Galician castles, helping to determine the optimal approaches to their preservation. The article by P. Matosek & M. Ciechańska (2011) highlighted the restoration process of a unique 18<sup>th</sup>-century fan, focusing on preserving its artistic value and physical integrity. The authors demonstrated how a combination of traditional and modern methods allowed the object to regain its original form and functionality.

The iconography and principles of using Ukraine's architectural heritage in the works of Napoleon Orda were studied by I. Berezina (2007). The work of engravers who depicted Lviv and Galicia, specifically Karl Auer, was analysed by O. Vvedenskyi (2012). P. Sachek & Y. Kravchenko (2014) also studied the work of Napoleon Orda (Fig. 1). The development of printing in Galicia was studied by S. Korol (2007) and N. Ivanyshyn (2011). Certain aspects of the work of artists such as Anthony Lange, who depicted the landscapes of Galicia, were considered by H. Derhachova (1994) (Fig. 2). The catalogue of engravings of the 17<sup>th</sup> to 20<sup>th</sup> centuries from the collections of the Stefanyk Lviv Scientific Library, including the architecture of Lviv, was compiled by S.P. Kostyuk (1989), which is an important source for the identification and study of such graphic works.

The study by K.-T. Havryliv (2021) has demonstrated the importance of historical context and iconographic accuracy in the study of the architectural heritage of Galicia. His approach to analysing visual sources can be useful in assessing the authenticity of castle depictions in engravings and making decisions about the possible restoration of lost details. For example, the engravings of Olesko Castle (Fig. 1) and Pidhirtsi Castle (Fig. 2) depict the landscape and architectural features, and this data can serve as iconographic sources for future restoration work.



**Figure 1.** Olesko at the headwaters of the Styr River, 1870s. Lithograph by Napoleon Orda  
**Source:** Sobieski Castle in Olesko (n.d.)



**Figure 2.** The castle in Pidhirtsi, 1823.  
 Lithograph by Anthony Lange  
**Source:** Castle in Pidhirtsi (n.d.)

Thus, an analysis of the works of leading researchers in the field of restoration and art history has confirmed the complexity and multifaceted nature of the problems of preserving graphic works. Applying the general principles of paper conservation to the specifics of engravings depicting Galician castles requires a deep understanding of their historical, artistic, and material context. The study of the problems of restoration of engravings depicting castles of from the late 18<sup>th</sup> to

early 20<sup>th</sup> centuries revealed that the process of restoring such objects is complex and multi-stage, covering both the restoration of the paper base and the restoration of the image itself. The success of restoration measures directly depends on a preliminary detailed diagnosis of paper damage, since it is the condition of the paper that determines the durability of the image.

According to the methodological recommendations of L.S. Dziedzeliuk & L. Loda (2010), paper damage characteristic of the studied prints is divided into several main types. Mechanical damage, which includes clear lines of breaks, tears, and breakthroughs without blurred boundaries. These damages usually do not change the chemical composition of the paper and can be repaired by restoring the material base. Chemical damage caused by acids, alkalis and salts, which leads to the degradation of pulp and other paper components. Biological damage, including damage by insects and rodents, which is also referred to as mechanical damage, and damage by moulds, which manifests itself in the form of stains, paper loss, general structural destruction, brittleness and fragility of the sheet. Water damage, which can be easily identified by halos, wetting marks, ink smudging and deformation of the paper, and can also cause 'cementing' and sticking of sheets. Fire damage, which has typical signs such as brittleness, paper loss, charring, warping, sooty stains and image damage. General contamination of paper sheets with dust, dirt and fingerprints. Degradation caused by environmental factors, such as extreme temperature fluctuations and light exposure, which can lead to warping, yellowing, loss of paper strength, and damage and fading of the ink layer. Damage caused by polluted air, in particular acid gases (sulphur, nitrogen and carbon oxides), which cause increased brittleness and yellowing of sheet edges, discolouration of paper, reduced mechanical strength, pH changes and ink discolouration.

These destructive factors lead to changes in the paper structure, the destruction of organic matter and the formation of decay products, which often requires urgent restoration measures. In addition to the condition of the paper, an important aspect of print restoration is the preservation of the printing or watercolour ink. Before starting work, it is necessary to carefully examine the strength and moisture resistance of the ink layer. The strength of the ink's bond to the substrate is checked organoleptically and by mechanical impact under a magnifying glass to assess its integrity. The presence of craquelures may indicate a loss of paint elasticity and the risk of shedding, which requires preliminary strengthening of the paint layer or the creation of a protective barrier. In case of loss of brightness and clarity of the image, methods of strengthening and preserving the existing paint layer, as well as tinting lines and parts of the image that have partially or completely lost their colour saturation, are used. Toning with special water-based inks helps to restore the clarity of the image

and make the work look more presentable, and is also reversible if necessary.

Watercolour underpainting of 18<sup>th</sup>-19<sup>th</sup> century engravings (Fig. 3) constitutes a special category of objects of research and preservation due to the specific properties of the materials used. Characteristic of the works of such authors as Anthony Lange, Karl Auer, Napoleon Orda, Vogel, and Josef Swoboda, it is distinguished by a combination of graphic basis and pictorial elements, which expands the information value of the visual source. However, the water-solubility of watercolour pigments makes it necessary to avoid any direct contact with water or a humid environment, which can lead to blurring of colours, loss of contour clarity and colour intensity. It is unacceptable to apply wet cleaning methods or use chemical solvents that can irreversibly damage both the watercolour layer and the paper base. Mechanical impact on the underpainted areas, including friction, is also unacceptable due to the risk of physical loss of pigment. Given the potential sensitivity of watercolours to light radiation, it is necessary to ensure that prints are stored under controlled lighting conditions to prevent fading. The study of such objects should be limited to non-invasive methods of visual analysis and documentation, and conservation measures should mainly concern the stabilisation of the paper base without direct intervention in the watercolour layer.



**Figure 3.** Watercolour underpainting of engravings  
**Note:** a – Ostroh Castle, 1796. Lithography, watercolour by Sigmund Vogel; b – Pidhirtsi Castle, first half of the 19<sup>th</sup> century. Lithograph and watercolour by Karl Auer  
**Source:** Ostroh castle (n.d.), Pidhirtsi Castle (n.d.)

Once the restoration processes for the paper and image of the engravings are complete, they can be conserved for future preservation. If necessary, the image itself undergoes reconstruction, particularly for

easel graphics depicting castle architecture. This type of work is well-suited for restoration due to several factors: the ability to analyse the architecture of surviving structures and compare them with the engraving; the availability of drawings, plans, and works by other regional artists, which allows for inferences about lost image parts; the possibility of analysing the author's style based on their other works; and the capacity to restore some lost elements by directly analysing the image itself, especially in cases of minor damage (such as folds or tears). The reconstruction of lost sections of Galician castle images is unique because of the abundance of iconographic sources and the preservation of a significant portion of the architectural heritage itself. Surviving graphic works, as well as photographic and archival materials, provide a valuable foundation for recreating lost details. Furthermore, castle architecture often features recurring elements (window openings, arches, decorative details), which increases the likelihood of their reconstruction based on preserved image fragments or analogous elements on other parts of the structure.

Among the methods for restoring lost parts of an image, digital reconstruction holds a special place, as explored in the works of M. Stadnik (2023). However, it's worth noting that these studies on digital restoration mainly pertain to illustrative materials and codices, as presented in the aforementioned work. The application of digital technologies to restore lost elements specifically in architectural engravings is a less explored area. M.O. Borysenko's (2021a) research focused on the peculiarities of restoring architectural images executed on tracing paper. In this work, the author meticulously describes the process of analysing the state of preservation and methods for restoring lost fragments on this specific material. Nevertheless, it's important to mention that tracing paper was not a typical base for engravings during the period under study (17<sup>th</sup>-18<sup>th</sup> centuries), when engravings were primarily done on paper. Despite this, the principles of loss analysis and approaches to their restoration described by M.O. Borysenko can be useful in developing restoration strategies for paper-based engravings, especially during the preparation and documentation stages of restoration interventions. In an article, L.P. Zatoka (2009) analysed the main methods for strengthening weakened paper document bases and examined the use of traditional and modern adhesive compositions that meet conservation safety and effectiveness requirements.

Given the absence of established approaches to restoring lost elements specifically on engravings depicting castle architecture, the insights from researchers who studied similar aspects in related fields have become particularly valuable. Thus, the principles of loss analysis and approaches to their reconstruction, described in studies of architectural graphics on tracing paper, can be adapted for application to paper-based engravings. Methods for documenting and

reconstructing lost fragments of objects are also relevant to this research. General principles of digital reconstruction, although primarily researched on illustrative material, can be applied considering the specifics of architectural images. Therefore, integrating existing research in graphic restoration and digital technologies creates a foundation for the effective restoration of lost elements in engravings depicting Galician castles.

Restoring lost parts of architecture in engravings offers distinct advantages compared to reconstructing other types of images. Architectural objects, unlike more dynamic or organic forms, adhere to clear geometric patterns and structural principles. This makes their reconstruction process more controlled and predictable, as existing fragments and knowledge of typical architectural elements allow for a higher probability of reconstructing missing parts. Thus, digital reconstruction opens up significant prospects for recreating lost information in engravings depicting Galician castles, relying on the structural predictability of architectural forms and available iconographic materials, making this process especially valuable for cultural heritage preservation.

It's important to note that the initial stage of work for preserving engravings depicting castles, namely the conservation of the material base (paper) and the stabilisation of the existing image, generally does not differ significantly from the conservation processes for other graphic works. The specific characteristics of restoration manifest precisely at the stage of reconstructing lost parts of the image, where it is essential to consider the architectural features of the object and utilise available iconographic materials for their reconstruction.

## CONCLUSIONS

The research conducted into the problems and specific characteristics of restoring late 18<sup>th</sup> to early 20<sup>th</sup>-century engravings depicting Galician castles has allowed for a systematic understanding of the key aspects in preserving this valuable historical and cultural material. It is established that the restoration process is complex and includes the restoration of both the paper base and the image itself, with the condition of the paper being a determining factor for the further durability of the object. The study describes in detail the classification of paper damage typical of the studied prints, including mechanical, chemical, biological damage, as well as the effects of water, fire, and environmental factors. The importance of preliminary diagnostics to determine effective methods of repairing these damages is emphasised.

The study also revealed the peculiarities of restoring the paint layer of prints, in particular, typographic and often present watercolour inks. The necessity of a thorough determination of the strength and moisture resistance of the paint layer before starting any restoration interventions, especially for water-soluble paint, is emphasised. Methods of strengthening, preservation

and careful tinting of the paint layer to restore image clarity are proposed. Particular attention is paid to the reconstruction of lost parts of the image of castle architecture, which is particularly promising due to the possibility of analysing preserved objects, historical drawings and stylistic features of ancient graphic works. The study describes various reconstruction methods, each of which has its own advantages and limitations. The inclusion of graphic elements in the study made it possible to visualise typical damage, the peculiarities of artistic techniques, including watercolour underpainting, and the potential for reconstructing lost details. The analysis of these images confirmed the significant informative value of engravings as a historical source and demonstrated the specificity of approaches to their restoration, revealing individual features of the

preservation of different samples. Prospects for further research include the development of specialised restoration techniques adapted to the unique features of engravings depicting Galician castles, the study of specific collections, and the introduction of modern technologies for their conservation, restoration, or digital reconstruction.

#### ACKNOWLEDGEMENTS

None.

#### FUNDING

None.

#### CONFLICT OF INTEREST

None.

#### REFERENCES

- [1] Berezina, I. (2007). *Architectural heritage of Ukraine in the works of Napoleon Orda: Iconography and principles of use*. Kamianets-Podilskyi: Axiom.
- [2] Bevz, M., & Pinyazhko, T. (2022). Fortification architecture of Galicia in the middle of the 19 century: General European context, objectives of preservation, and museum. *Fortifications*, 16, 122-134. doi: [10.23939/fortifications2022.16.122](https://doi.org/10.23939/fortifications2022.16.122).
- [3] Bihun, M., et al. (2018). *Atlas of Ukrainian historical cities (Vol. 2)*. In M. Kapral (Ed.). Lviv: Halych.
- [4] Borysenko, M.O. (2021a). *Features of the restoration architectural graphics on tracing paper (based on the example of projects by architect Pavel Alyoshin)*. *Bulletin of the of the National Academy of Management Personnel of Culture and Arts*, 2, 176-181.
- [5] Borysenko, M.O. (2021b). *Acidity and methods of its neutralization in the process of preventive conservation and restoration of architectural graphics*. *Art History Notes*, 39, 43-46.
- [6] Castle in Pidhirtsi. (n.d.). Retrieved from <https://www.wikiart.org/uk/anton-lyang-e/zamok-u-pidgirtsyakh>.
- [7] Derhachova, H. (1994). *A forgotten Lviv landscape by Anthony Lange*. *Notes of the Shevchenko Scientific Society*, 227, 387-392.
- [8] Dzendzeliuk, L.S., & Loda, L. (2010). *Using bibliopogistic research in restoration practice for information preservation*. *Bulletin of Lviv University*, 5, 340-345.
- [9] Havryliv, K.-T. (2021). Castles of Ukraine in the works of 19<sup>th</sup>-century artists. *Fortifications*, 15, 22-27. doi: [10.23939/fortifications2021.15.022](https://doi.org/10.23939/fortifications2021.15.022).
- [10] Ivanyshyn, N. (2011). *On historical dynamics in development of Lviv graphical art: To a problem of formation of imaginative system*. *Ethnographic Notebooks*, 6(102), 1007-1011.
- [11] Karpov, V. (2023). Restoration of monumental painting in Ukraine in the 1950-1960s. Social aspirations and ideological collisions. *Culture and Contemporaneity*, 25(2), 88-94. doi: [10.32461/2226-0285.2.2023.293868](https://doi.org/10.32461/2226-0285.2.2023.293868).
- [12] Korol, S. (2007). *Painting and graphics of romanticism in Galicia: Genre structure and artistic and stylistic features* (Dissertation, Institute of Ethnology, National Academy of Sciences of Ukraine, Lviv, Ukraine).
- [13] Kostyuk, S.P. (1989). *Catalog of engravings of the 17<sup>th</sup>-20<sup>th</sup> centuries from the collections of the V. Stefanyk Lviv scientific library of the academy of sciences of the USSR. Architecture of Lviv*. Kyiv: Scientific Thought.
- [14] Kupchynska, L. (2022). Traditions of the landscape school of the Vienna academy of fine arts in Lviv lithography of the first half of the 19<sup>th</sup> century. *The Ethnology Notebooks*, 6(168), 1377-1385. doi: [10.15407/nz2022.06.1377](https://doi.org/10.15407/nz2022.06.1377).
- [15] Lipińska, A. (2011). *An outline of the problems of conservation of 19<sup>th</sup>-20<sup>th</sup> century prints*. *National Library Conservation Notes*, 14, 168-174.
- [16] Matosek, P., & Ciechańska, M. (2011). *Conservation of an 18<sup>th</sup>-century fan from the collections of the National Museum in Warsaw*. *AICCM National Newsletter*, 141.
- [17] Ostroh castle. (n.d.). *Gallery of Polish painting*. Retrieved from [http://www.pinakoteka.zascianek.pl/Vogel/Images/Widok\\_Ostrogu.jpg](http://www.pinakoteka.zascianek.pl/Vogel/Images/Widok_Ostrogu.jpg).
- [18] Pidhirtsi Castle. (n.d.). *Zhevuski*. Retrieved from <https://surl.li/abvoet>.
- [19] Sachek, P., & Kravchenko, Y. (2014). *Napoleon Orda and Ukraine*. Kyiv: Oranta Art Book.

- [20] Sobieski Castle in Olesko. (n.d.). *Gallery of Polish painting*. Retrieved from [http://www.pinakoteka.zascianek.pl/Orda/Orda\\_Wolyn.htm](http://www.pinakoteka.zascianek.pl/Orda/Orda_Wolyn.htm).
- [21] Stadnik, M. (2023). Reproduction and restoration of Mesoamerican codices: Problems and challenges. *Text And Image: Essential Problems in Art History*, 1(15), 85-99. doi: 10.17721/2519-4801.2023.1.06.
- [22] Tai, J. (2020). Mutual translation between "Painting and landscape" – a case study on the digital preliminary restoration of "Garden image" in the engraving illustrations of ancient books in the Ming and Qing Dynasties. In *3<sup>rd</sup> international conference on energy resources and sustainable development (ICERSD 2020)* (volume 236, pp. 1-7). London: Bloomsbury. doi: 10.1051/e3sconf/202123605030.
- [23] Vvedenskyi, O. (2012). *Lviv and Halychyna in Karl Auer's lithographs*. Lviv: Center of Europe.
- [24] Zatoka, L.P. (2009). *Strengthening paper of documents: Modern technologies and new materials*. *Manuscript and Book Heritage*, 13, 420-448.

## Проблеми реставрації станкової графіки кінця XVIII – початку XX ст. із зображенням замків Галичини

**Максим Олещук**

Аспірант

Національний університет «Львівська політехніка»

79013, вул. Степана Бандери, 12, м. Львів, Україна

<https://orcid.org/0009-0001-2241-2730>

**Анотація.** Розквіт типографії у Галичині наприкінці XVIII – на початку XX століття сприяв популяризації гравюр із зображенням замкової архітектури, значна частина якої нині втрачена або зруйнована, що актуалізує потребу в її фаховій реставрації як складової збереження культурної спадщини України. Метою статті було дослідження проблем і особливостей реставрації та консервації гравюр кінця XVIII – початку XX століття із зображенням замків Галичини, а також аналіз методів відновлення втрачених частин архітектурних об'єктів. Методологія включала аналіз історичних гравюр із замками Галичини, дослідження технік і матеріалів, використаних при створенні цих гравюр, та огляд сучасних методів реставрації і консервації. У статті проведено глибокий аналіз процесу реставрації гравюр, зокрема відновлення втрачених частин зображень архітектурних об'єктів. Визначено основні проблеми, з якими стикаються реставратори, такі як зношування паперу, вицвітання чорнил та механічні пошкодження. Зважаючи на мету статті, присвяченої особливостям реставрації гравюр із зображеннями замків кінця XVIII – початку XX століття, проведене дослідження дозволило виявити основні проблеми збереження та реставрації цих творів. У статті проаналізовано підходи до відновлення втрачених фрагментів зображень, з акцентом на особливостях роботи з архітектурними деталями замків. Особливу увагу приділено специфіці реставрації та консервації гравюр досліджуваного періоду, враховуючи техніки їх створення та матеріали, що використовувалися. Важливість цього дослідження полягала у його здатності надати практичні рекомендації для реставраторів, мистецтвознавців та істориків, які працюють з подібними графічними матеріалами. Отримані результати сприятимуть розробці науково обґрунтованих методик збереження цінних історичних зображень замкової архітектури Галичини для майбутніх поколінь. Крім того, матеріали статті будуть корисними в музейній справі, архівній роботі та при підготовці наукових публікацій з історії мистецтва та архітектури

**Ключові слова:** гравюри; архітектурні об'єкти; консервація; культурна спадщина; відновлення; історична значимість