

ISSN: 2411-801X
e-ISSN: 2786-7374
UDC 71;72

Lviv Polytechnic National University

ARCHITECTURAL STUDIES

International Journal about Architecture

Founded in 2014
Frequency of issue: 4 times a year

Volume 11, No. 2

Lviv – 2025

ISSN: 2411-801X
e-ISSN: 2786-7374
UDC 71;72

Національний університет «Львівська політехніка»

АРХІТЕКТУРНІ ДОСЛІДЖЕННЯ

Міжнародний науковий журнал про архітектуру

Заснований у 2014 році
Випускається 4 рази на рік

Том 11, № 2

Львів – 2025

Year of foundation: 2014

*Recommended for printing and distribution
via the Internet by the Academic Council
of Lviv Polytechnic National University
(Minutes No. 20 of February 25, 2025)*

State Registration:
Media identifier R30-01841
Decision of the National Council of Television
and Radio Broadcasting of Ukraine
No. 1335, Minutes No. 26, dated 09.11.2023.

Journal is included in the List of Scientific Professional Publications of Ukraine
Category “A”. Specialties: 0731 – Architecture and town planning, 0732 – Building and civil engineering
(order of the Ministry of Education and Science of Ukraine No. 349, dated February 24th, 2025).

**Journal is presented in international scientometric databases,
repositories and scientific systems:**
Professional Publications of Ukraine, Crossref, Bielefeld Academic Search Engine (BASE), J-Gate,
Vernadsky National Library of Ukraine (VNLU), Scopus, Directory of Open Access Journals (DOAJ),
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of Serials (ZDB), University of Oslo Library, University of Hull Library, Search Oxford Libraries Online,
European University Institute, Leipzig University Library (UBL), Cambridge University Library,
WorldCat, Open Ukrainian Citation Index (OUCI), Litmaps

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Рік заснування: 2014

*Рекомендовано до друку та поширення
через мережу Інтернет Вченою радою
Національного університету «Львівська політехніка»
(протокол № 20 від 25 лютого 2025 р.)*

Державна реєстрація:
Ідентифікатор медіа R30-01841.
Рішення Національної ради України
з питань телебачення і радіомовлення
№ 1335, протокол № 26 від 09.11.2023 р.

Журнал входить до Переліку наукових фахових видань України
Категорія «А». Спеціальності: G17 (191) – Архітектура та містобудування, G19 (192) – Будівництво та цивільна інженерія (наказ МОН України від 24 лютого 2025 року № 349).

**Журнал представлено у міжнародних наукометричних базах даних,
репозитаріях та пошукових системах:**

Фахові видання України, Crossref, Bielefeld Academic Search Engine (BASE), J-Gate, Національна бібліотека України імені В. І. Вернадського (НБУВ), Scopus, Directory of Open Access Journals (DOAJ), GALE, Polska Bibliografia Naukowa (PBN), Dimensions, UCSB Library, Google Академія, German Union Catalogue of Serials (ZDB), Бібліотека Університету Осло, Бібліотека Університету Халла, Search Oxford Libraries Online, Інститут Європейського університету, Бібліотека Лейпцизького університету (UBL), Бібліотека Кембриджського університету, WorldCat, Open Ukrainian Citation Index (OUCI), Litmaps

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UDC 725.1:72.032.1
DOI: 10.56318/as/2.2025.45

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Origins and development of Moorish architecture in Europe from the Middle Ages to the early 20th century

Abstract. The purpose of this study was to explore the functional, artistic, and compositional characteristics of Moorish architecture in Europe, tracing its origins in Byzantine masonry drawings from medieval Bulgaria. The study examined how the style spread across synagogues, mosques, Catholic churches, and public institutions in countries like Hungary, Romania, Ukraine, Bosnia, and others. The research methodology included a combination of the chronological principle, art historical and design approaches, ontological, axiological, hermeneutical, historical-genetic, comparative, socio-cultural, cross-cultural, formal-stylistic, typological, and art historical analysis methods. Findings of the study were as follows. The few monuments with elements of "embroidered" masonry preserved in the Balkans, particularly in the old part of the Bulgarian Nessebar, have become a valuable source of the formation of Moorish (Spanish-Moorish, Andalusian)

Suggested Citation:

Shkolna, O., Mulkokhainen, V., Sytnyk, I., Zaitseva, V., & Mykhalchuk, V. (2025). Origins and development of Moorish architecture in Europe from the Middle Ages to the early 20th century. *Architectural Studies*, 11(2), 45-59. doi: 10.56318/as/2.2025.45.

Journal homepage: <https://arch-studies.com.ua/en>

Architectural Studies, 11(2), 45-59

Received: 12.08.2024 Revised: 16.03.2025 Accepted: 01.07.2025

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style. This tradition, which originated in the Byzantine-Mediterranean context, later transformed into a recognisable architectural trend. In the 19th and early 20th centuries, the fashion for oriental forms spread across Europe, from the Caucasus to Italy. In different countries, it manifested itself in the architecture of palaces, synagogues, kenesas, theatres, administrative buildings, and sacred buildings. The study proved that the formation of the Moorish (Andalusian) style in European architecture has deeper than previously thought Byzantine-Antique roots, with further flourishing in the 19th and early 20th centuries under the influence of Oriental and Western European styles. The practical significance of these findings lies in providing architects, conservators, and urban planners with an evidence-based framework for the restoration, adaptive reuse, and sensitive integration of Moorish-style elements in European heritage and contemporary architectural projects

Keywords: monumental and decorative art; “embroidered” masonry; Orientalism; composition; environmental design

INTRODUCTION

Moorish architecture has attracted attention, as well as the question of the origins of its origin, sources of style inspiration, its spread within European countries, the specifics of building orders, and their typological (functional) characteristics. However, despite numerous publications on this topic, the essence of the components of the Moorish architecture style in Europe has not been comprehensively understood. The terminology of the Moorish style, as well as the issue of its precise definition in architectural discourse, has been actively discussed in contemporary scholarship. In a series of studies, this style was defined as “neo-Moorish” or as a phenomenon of “Islamised Orientalism”, which showed a complex typology of cultural interpretations depending on geography, chronology, and aesthetics (Al-Fahad, 2023). Particularly noteworthy in this context was the concept of “hybrid identity”, which, as A.O. Ibrahim (2022) showed, was central to shaping the architectural landscape in Sudan, where Moorish forms served as a cultural bridge between Arab and African traditions.

N. Ait-Aoudia Meriem (2025) presented a comprehensive study of the neo-Moorish façades of residential buildings of the 19th-20th centuries, where the author conducted an in-depth architectural and stylistic analysis of the buildings in the Algerian city of Blida. The researcher classified the façade solutions by morphological features, identifying a combination of arcades, colonnades, friezes, and traditional ornamentation. The conclusions emphasised that the style was not a replica of historical forms, but served to preserve cultural identity in the context of colonial modernisation. N. Saldja & Y.S. Youcef (2024), analysing the architecture of the City Hall in Philippeville, emphasised that the neo-Moorish style served an ideological function as an instrument of “architectural diplomacy” of the French colonial authorities. The building’s décor, including domes, panels, and paintings, became an element of “visual politics” that appealed to traditions while asserting the power of the colonisers.

R. Blanco-Guzmán (2023) considered the European interpretations of the style, exploring the decorative paintings of Al-Andalus through the metaphor of “epidermal architecture”, where the façade was interpreted as a “skin” that both protected and visualised the privacy of

the space. This concept echoed the research by F. Zahra & S.B. Shahir (2024), who interpreted Islamic ornamentation as a visualisation of sacred order, infinity, and harmony that formed a space for spiritual attunement. From a geocultural perspective, M.J. Schreffler (2022) analysed the spread of the Mudehar style in Latin America as a result of the colonial rivalry between Spain and Portugal. The researcher emphasised the universality of Moorish forms capable of adaptation in new contexts. A. González & I. Llano (2024) traced the influence of Maghreb music on southern Spain, particularly in the genres of flamenco and ethnomusic, emphasising the interaction of music and architecture as elements of a common cultural space. A.B. Follana (2023) focused on the penetration of Andalusian motifs into the works of composers Debussy, de Falla, and Ravel, emphasising the role of Moorish aesthetics as a source of inspiration in European art. M.W. Dariyadi *et al.* (2022) analysed the modern urban planning of Islamic cities, focusing on the preservation of the sacred and symbolic content of classical elements (domes, arcades, lattices) in new urban realities. A.H. Radwan (2021) demonstrated an analogous approach, considering the mosque not only a sacred but also a social and organisational centre of the Islamic city. In the Ukrainian academic context, O. Shkolna & O. Kovalchuk (2023) studied the influence of Moorish aesthetics on jewellery art, and the previous study by O. Shkolna (2019) considered the architectural elements of the East (mashrabiya, shabbak), which became part of Moorish ornamentation.

Thus, the available research testifies to the multidimensionality of Moorish stylistics, which was manifested in architecture, music, decorative arts, and urbanism, serving as a carrier of cultural memory and postcolonial dialogue in a global context. However, all the studies cited above did not cover the issue of the spread of the Maritime (Spanish-Moorish, Andalusian) style in Eastern, Central, Northern, and Western Europe from the Middle Ages to the early 20th century. The purpose of this study was to identify the locations of the spread of Moorish-style buildings in Europe from the Middle Ages to the early 20th century, as well as to reveal their functional, artistic, figurative, and compositional features.



MATERIALS AND METHODS

The methodology of this study was based on an integrated approach that included historical-genetic, comparative, formal-stylistic, typological, art historical, and hermeneutical methods. The application of the chronological principle helped to determine the key stages of the development of the Moorish style from its origin in the decorative masonry of the Byzantine period in the Balkans (Bulgaria, Croatia) to the spread of this style in the forms of churches, mosques, synagogues, *kenesas*, palaces, and educational institutions in different European countries. Particular attention was paid to architectural monuments in Bulgaria (Nessebar, Belovsk Basilica), Turkey (Mevlana Mausoleum in Konya, Topkapi Palace), Hungary (Pasha Gazi-Kasim Mosque), Ukraine (Karaite *kenesas* in Kyiv and Vilnius), Croatia (Capuchin Church of Our Lady of Lourdes), Bosnia and Herzegovina (Sarajevo City Hall), Lithuania (Vilnius Choral Synagogue), and others. The art historical approach was to identify the key features of architectural solutions characteristic of the Moorish style. The use of elements of “embroidered” masonry, pinnacles, *muqarnas*, openwork perforations, horseshoe and spade arches, as well as the influence of the Manuelino, Plateresco, Mudejar, and Alhambra styles on the decorative decoration were explored. The study analysed how these elements have been preserved and adapted to various architectural structures, including sacred buildings (mosques, synagogues, *kenesas*, churches) and public complexes (palaces, administrative buildings, educational institutions, theatres). The comparative method was employed to compare architectural solutions in different countries. This helped to identify local peculiarities of the Moorish style adaptation and its interpretation in the context of different cultural environments. The hermeneutic approach helped to reveal the significance of architectural forms in the context of social, religious, and cultural aspects of different regions of Europe. Attention was paid to the issues of religious pluralism and the influence of Jewish, Arab, Turkish, Portuguese, Spanish, Georgian, Ottoman, and other traditions on the development of style.

The study was based on numerous scientific publications, architectural reports by A. Chalabi & Y. Lazri (2021), Q.H. Hamamurad & N.M. Jusoh (2023), photographic materials and direct visits to the research sites. The current state of Moorish-style buildings in Europe was also analysed. Particular attention was paid to the issues of their restoration, preservation and adaptation to modern conditions. To assess the current state of the objects, the method of visual architectural monitoring was employed, which included the analysis of photographic records, digital architectural passports, as well as a comparison of historical and modern façade plans. Open access sources were used, including official reports on the condition of cultural heritage sites, materials from architectural conferences, monument catalogues, and online registers such as the European Heritage Label and the architectural archives of the cities of Barcelona, Paris, Granada, and Lisbon. Wherever possible, the method of typological analysis was used to

compare structural elements (arcades, *mashrabiya*s, ornaments, mosaics) according to the criteria of preservation, interpretive transformation, and restoration intervention.

The question of whether the construction of new Moorish-style buildings continues in Europe and how this style is used in modern interior decoration was also considered. The study paid special attention to examples of architectural solutions in European countries, particularly Spain, Portugal, France, Turkey, Ukraine, Lithuania, Bosnia and Herzegovina. The choice of these countries was conditioned by the historical and cultural significance of the Moorish tradition in each of the regions, as well as the presence of characteristic examples of architecture that demonstrate stylistic imitation or reinterpretation of Moorish motifs in different historical periods. The analysis involved the study of new projects, including public and cultural centres, private houses, and religious buildings (mosques, synagogues, *kenesas*) that reproduce or interpret elements of the Moorish style. The application of an integrated approach helped to cover the functional, compositional, artistic, and figurative features of Moorish architecture in Europe, to determine its historical development and to identify modern trends in the use of this style.

RESULTS

The “Moorish (from the outdated name of Morocco “Mauritania”) style” spread in the traditions of masonry of sacred buildings in the lands of ethnic Bulgaria (the Byzantine Empire) from the 11th to the 13th centuries. For example, in the area of Sveti Spas in Bulgaria, there are ruins of the Belov Basilica of the 4th-5th centuries with decorative coloured masonry in some parts of the building, which do not yet have such a rhythmic composition as would be common in Bulgaria in the period of late Byzantium from the time of the Comnenians (Fig. 1). A series of monuments have also been preserved in the Old Town of Nessebar. This feature in decorative techniques indicates possible shared sources of influence and confirms the hypothesis of the circulation of stylistic forms in the Mediterranean region, which was the subject of analytical consideration by R. Blanco-Guzmán (2023), where patterned masonry was presented as the basis for interpreting the façade as a “blanket of space”. In Figure 1, the coloured masonry of the façade of the 4th-5th century Belovski Basilica in Bulgaria shows a combination of ochre brick and light stone in horizontal stripes, creating a decorative effect close to ornamental decoration. Nearby is the entrance to a Roman tomb in Anhialo with an arched portal typical of underground structures of the 2nd-4th centuries. These examples demonstrate the continuity of architectural techniques and decorative forms from antiquity to the early Middle Ages in the region. Other examples include the ruins of ancient baths (6th century), St. Sophia Church (5th-6th centuries), the Basilica of the Virgin Eleusis (Delight) (6th century), St. Stephen’s Church (10th century), the churches of St. John the Baptist (10th-11th centuries), St. Demetrius (10th-11th centuries), St. Stephen



(11th century), St. Paraskeva (13th century), St. Paraskeva (13th century), St. Todor (13th century), St. Archangels Michael and Gabriel (13th century), St. John Alitourgethos

(Unsanctified) (14th century), Christ the Pantocrator (Almighty) (14th century), St. Saviour (Ascension of Christ) (17th century) (Ivashko *et al.*, 2021).



Figure 1. Coloured masonry elements of the Belov Basilica of the 4th-5th centuries AD in Nessebar and the entrance to the ancient Roman tomb nearby in Anhialo of the 2nd-4th centuries AD Bulgaria

Source: Sboryanovo Archaeological Reserve (n.d.)

Using the example of early Byzantine terms of the 6th century, laid down at the beginning of the development of the “city of forty churches in Bulgaria” under Justinian the Great, it is noticeable that the masonry of the walls is already acquiring the nature of “embroidered”, creating a clear rhyme of repetition of ochre stripes in the composition, which gives the image of the building a sense of solemnity of ablutions, which were part of the way of life of the nobility. Therewith, from the 5th to the 6th century (when the fortress walls with “embroidered” masonry were built) and the 6th century (when the public buildings were constructed) in the Old Town of Nessebar, the culture of masonry with coloured “interruptions” became a virtuoso part of the work of masons who alternated tuff masonry with thin reddish plinth of apses, naves, semi-arched spaces, window frames and friezes that emphasised the architectonics. This technique resonates deeply with the “architecture as a bedspread” concept proposed

by R. Blanco-Guzmán (2023), where the façade is viewed as a visual text that interprets space through layers of form, texture, and colour. All this testifies to the wide circulation of aesthetic principles within the Byzantine-Moorish cultural area.

From the Romanesque and Gothic periods to the Renaissance, local craftsmen not only performed the typical Moorish style “metopic-triglyph” decorative types of masonry, but even experimented with a “cross” swastika-meander pattern made of ochre bricks, they added rows of glass elements between the bricks (as in the Spanish Mudéjar style of the 11th and 16th centuries), and created relief ornamental patterns on the façades with coloured bricks (Fig. 2). This applied not only to buildings for liturgical purposes, but also to private houses of local residents, which are still a decoration of the ancient part of the city, which is now under the protection of the United Nations Educational, Scientific and Cultural Organization (UNESCO).

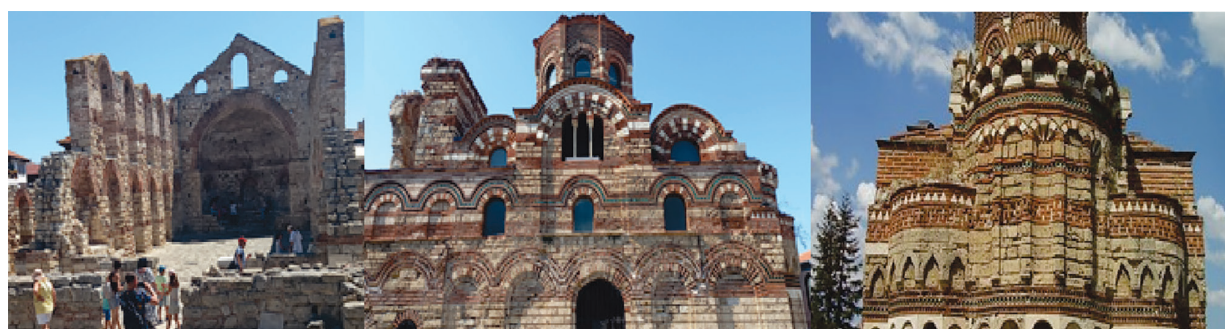


Figure 2. Ruins of the early Byzantine terms of the 6th century, founded under Justinian the Great, and the temple of Christ Pantocrator (2 projections) in Nessebar in the 14th century (Bulgaria)

Source: Sboryanovo Archaeological Reserve (n.d.)

In Figure 2, the architectural heritage of Nessebar is striking in its multilayered stylistic influences, which can be traced back to the 6th and 14th centuries. The left part

of the image shows the ruins of the early Byzantine termini, built during the reign of Emperor Justinian I, where the characteristic massive masonry with preserved fragments



of arched passages and the remains of brick friezes, which served as both structural and decorative elements, is visible. On the right side of the composition, the Church of Christ the Pantocrator is presented in two projections – the front and the side. Particular attention is drawn to the “embroidered” masonry of the façade, where the alternation of red plinth and light stone forms a complex geometric system of rhythms. This not only creates an expressive plastic image of the building but also testifies to the continuity of decorative techniques from early Christian monuments to late medieval examples. Figure 2 illustrates the cross-cutting nature of the ornamental code that was inherent in Byzantine-Balkan architecture and later became part of the formative arsenal of Moorish style.

That is, from the Early Middle Ages of Justinian the Great to the Baroque period, the phenomenon of “embroidered” masonry walls, which had rows of coloured terracotta plinths and appealed to the architectonics and rhythm of the patterns of the walls of buildings made in the Spanish-Moorish style in the Maghreb countries (Algeria, Morocco and Tunisia), was recorded in this region. The local fashion in these lands gave impetus to the development of such traditions of building in the Mediterranean (North Africa). Furthermore, from the Middle Ages and the Early Modern period, elements of such “embroidered” masonry became part of the development of the lands of modern Croatia, which is recorded in the patterns of the walls of churches on the island of Ston (the Church of St. Vlach, 14th century, St. Liberan, 17th century with later interventions, etc.) (Fig. 3).



Figure 3. Church of St Vlach, 14th century, Ston, Croatia
Source: My Croatia (2012)

The Church of St Vlach on the island of Ston (Croatia, 14th century) demonstrates a pronounced use of coloured masonry, typical of late medieval Byzantine and post-Byzantine architecture. The façade of the church features an alternation of light stone blocks with horizontal rows of red plinths, forming a kind of decorative ornament in the style of “stone embroidery”. This not only gives the building visual plasticity but also demonstrates the influence of techniques inherent in Balkan and Asia Minor sacred architecture on the formation of the local Croatian architectural landscape. The use of this technique demonstrates

the profound transregional connections between the Byzantine heritage, Slavic building traditions, and the decorative canon, which later transformed into one of the key aspects of Moorish style. The décor of the ochre brick “partitions” had more ascetic forms, which only emphasised the architecturally significant details of the exteriors and interiors: semicircular elements of framing doorways (portals), wind roses in the Gothic fashion, which served as desjudeports (decorative ornaments above the front door) and light wells, lunettes above pilasters and arcades, columns topped with spires.

The introduction of rhombic masonry, borrowed from the Mudejar style, which was widespread in Spain in the 11th and 16th centuries under the influence of the mixing of Jewish, Christian, and Moorish cultures, was a local know-how, compared to the buildings in Bulgaria, where it was fashionable to decorate the façade with coloured plinths with rows of ceramic (terracotta) bands, Christian and Moorish cultures (a typical example is the tower of the Cathedral of Santa Maria de Mediavilla, a UNESCO World Heritage Site), under the slopes of the ochre tiled roof. At the same time, somewhere in the 16th century, a fashion for decorating arched spaces and windowsills with coloured “interruptions” appeared in the former lands of Byzantium itself. Specifically, on the territory of modern Turkey, in the city of Konya, near the complex of the mausoleum of Celeidin Rumi (Mevlana), the Konya Selimiye Mosque, built by Sultan Selim II between 1558 and 1567 by the architect Mimar Sinan with coloured masonry elements above the arches, has been preserved (Fig. 4).



Figure 4. Mevlana Museum and Mausoleum
in Konya (Turkey), 13th-16th centuries

Notes: coloured masonry elements only on semicircular or rounded elements

Source: photo by the authors of this study

The Mevlana Mausoleum complex (13th-16th centuries) in Konya, Turkey, demonstrates the decorative elements of coloured masonry typical of late Ottoman architecture, concentrated mainly in arched spaces and rounded architectural elements, as exemplified by the Selimiye Mosque, built between 1558 and 1567 by the famous architect Mimar Sinan on the orders of Sultan Selim II. The colourful



accentuation of the arches with alternating red and white stone blocks performs both a decorative and a structural function, emphasising the rhythm of the façade plastic and the arrhythm of the stained-glass lighting. This use of masonry is an aesthetic echo of Byzantine, Seljuk, and Persian influences, which in Ottoman art were synthesised into a new artistic language that later became a source of inspiration for neo-Moorish architects in Europe. Mimar Sinan also designed the Mihrimah Sultan Mosque in Edirne Kapı (western Istanbul) (Fig. 5). Between 1562 and 1565, he built a whole complex of a mosque, madrasa, hammam, turbeh (tomb), fountain, and shopping arcades. The mosque used striped decoration of the vaulted arches with greenish paint according to Moorish traditions in the interior, coloured white and brown “interruptions” of the keeled arched vaults above the fountain, etc.

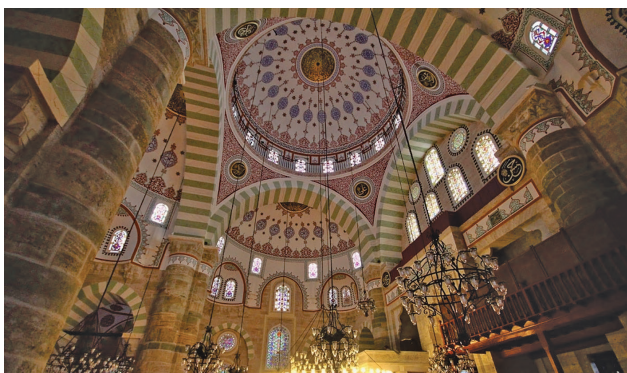


Figure 5. Architect Mimar Sinan. Interior of the mosque of Mihrimah Sultan (daughter of Suleiman the Great and Roksolana) in Edirne Kapı (Istanbul), 1562-1565

Source: photo by the authors of this study

Designed by Mimar Sinan in 1562-1565, the interior of the Mihrimah Sultan Mosque in the Edirne Kapı district of Istanbul embodies a sophisticated style of decorative decoration that combines Ottoman architectural traditions with Moorish motifs. Attention is drawn to the striped elements of the vaults, painted in greenish-ochre shades, which form a clear rhythm around the sub-dome arches. The white and brown keel-shaped arches surrounding the fountain in the courtyard also acquire a special decorative significance. The colour scheme emphasises the vertical and horizontal plasticity of the interior space, referring to the principles of visual “interruption” of the plane inherent in Moorish and Andalusian architecture. The Mihrimah Sultan complex not only illustrates the high level of architectural synthesis of the Ottoman Empire, but also demonstrates how oriental ornament motifs are integrated into sacred architecture in its post-Byzantine interpretation, where, similar to the architecture of the Buddhist dwellings, each element of space acquires a symbolic meaning, representing religious ethics, ideas of prayer and harmony (Alifuddin *et al.*, 2021; Chung, 2025).

Some parts of the Topkapı Palace in Istanbul, the main residence of the Turkish padishahs after the conquest of

Constantinople by the Ottomans, date back to the 15th and 17th centuries. Among others, the decoration of the arched structures with coloured striped masonry of the Sofa-i Humayun terrace stands out, where ochre elements bend in an S-shaped manner, creating the effect of “dancing” wavy lines (built in 1638). Such a compositional solution not only emphasises the architectonic lines of the building but also conveys its playful character in its artistic and figurative sound (Fig. 6). The ensemble of the building includes a gilded gazebo with a dome called Iftar (Iftariye Kosku), intended for fasting in the holy month of Ramadan and contemplation of the Golden Horn Bay.



Figure 6. Sofa-i Humayun Terrace and examples of coloured masonry arches in the Topkapı interior ensemble (Istanbul), late 16th – early 17th century

Source: Topkapı Palace in Istanbul is most actively visited by Ukrainian tourists (2021)

The Sofa-i Humayun Terrace in the Topkapı Palace Complex in Istanbul, dating back to 1638, represents the sophisticated technique of coloured striped masonry, typical of late Ottoman architecture. The S-shaped geometry of the ochre and whitish arched segments is noteworthy, creating the effect of “dancing” lines, giving the architectural space visual dynamics and playful expression. The plastic



solution not only enhances the depth of the interior but also integrates visual ornamentation motifs inherent in the Moorish architectural tradition. The composition is complemented by the gilded dome of the İftariye Kosku gazebo, which accentuates the sacred and domestic function of the ensemble, symbolising the combination of visual luxury and spiritual purpose in the structure of the palace environment.

In the Reception Hall gallery of the complex, an analogous motif is repeated, but with alternating segments with and without the “waving” lines of dark masonry. After being built in the time of Mehmed II, most of the complex was renovated during the reign of Suleiman the Great and later. The wavy lines of alternating masonry, which depart from the traditional methods of figurative imitation of harpsichord and piano keys, are also found in the interiors of individual rooms of the Topkapı, particularly the Hall of Receptions (Audience), built during the reign of Mehmed III in 1595–1603 in the Third Court of the complex (Blanco-Guzmán, 2023).

In the Muslim traditions of the Ottomans, the Parsan Mosque in Konya was built in 1676, where the tradition of introducing the above elements of façade decoration through coloured masonry has been preserved. Mosques in the territories conquered by the Ottomans were built in the same tradition. Specifically, in the city of Pécs in Hungary, there is a typical example of a building of the 16th and 17th centuries with mashrabiya – the Pasha Gazi-Kasim Mosque, later converted into a Christian church, the façade decor of which also includes “striped” completions of keel arches with perforated masonry walls above the windows (Fig. 7).



Figure 7. Architect Kermendi. The Pasha Gazi-Kasim (Jami) Mosque in Pécs, Hungary, later converted into a Christian church, 17th century

Source: photo by the authors of this study

Figure 7 presents one of the most prominent Ottoman buildings in Central Europe, the Pasha Gazi-Kasim (Jami) Mosque in Pécs, Hungary, which was converted into a Christian church after the fall of the Ottoman Empire. This architectural object, built in the 17th century by the architect Körmendi, shows close ties to Moorish and Ottoman styles.

The façade design features perforated mashrabiya above the windows, typical of Muslim architecture, and alternating ochre and light elements in the ends of the keeled arches. During the 17th century, there was a pause in Europe’s fashion for Moorish architecture. This can be explained by the fact that after the triumphant conquest of Palestine, Iranian Azerbaijan, Caucasian Armenia, the Balkans, Algeria, and Tunisia in the 16th century, the Turks for a while united large areas of the Islamic world under their protectorate, and then Moorish (associated with the Maghreb countries) became part of their empire (Auanasova *et al.*, 2025). However, the Turkish-Persian wars continued, draining the country’s economy from 1514–1515 to 1821–1823, which led to the collapse of the Ottoman Empire. These trends became especially evident after the victories of Ukrainian-Polish King Jan III Sobieski over them near Vienna in the late 17th century and the exhausting Russian-Turkish war of 1768–1774, when the Derebey’s rule began, characterised by the weakening of central authority in the Port and the spread of robbery in the interior of the country (Shkolna & Kovalchuk, 2023; Shtohryn & Tretiak, 2024).

Pan-Ottoman conquest narratives ceased to be dominant within the country from that time on, and many European states outside the country, which were experiencing reformist transformations in their religious, socio-political, and economic systems (after the era of the East India campaigns, the era of bourgeois revolutions began), were not particularly fascinated by this exoticism, as Indo-Saracenic and Chinoiserie motifs became fashionable at that time. After the end of the Mannerist, Baroque, and Rococo eras, Moorish art, which in Portugal and Spain was extremely acute in the architecture of Manuelino and Plateresco in the 16th century, was recalled in Europe during the Historicist era, which focused on its elements in the updated elements of the 19th-century synthetic Alhambra style. At this time, the Moorish style became part of traditional oriental themes in the art of academicism, decorative arts and sculpture (Shkolna, 2019). In the late 19th century, the Turkish House and the Italian Secondary School in Rijeka, Croatia, and the Vijećnica City Hall in Sarajevo (Bosnia and Herzegovina) were built (Fig. 8). The public buildings of this Mediterranean region were characterised by the use of not only striped masonry variants, but also elegant oriental mouldings with muqarnas, typically Moorish, borrowed from Manuelino and Plateresco, pinnacles at the end of the roof, the use of openwork mashrabi perforations in the lunettes of the descudeports and horseshoe-shaped rows of arches (Shkolna, 2019).

Figure 8 shows a fragment of the plastic decoration of the Vijećnica City Hall in Sarajevo, a landmark of neo-Moorish architecture in the Balkans designed by Czech architect Karel Parzik in the late 19th century. This object is a vivid example of the adaptation of Moorish decorative forms in the European environment. A typical set of oriental elements was used: pinnacles with a neo-Gothic interpretation, lunettes with openwork ornamentation, perforated inserts in arched passages, and complex mouldings with muqarnas,



which originate from the Muslim traditions of Andalusian and Moroccan architecture. Transitional arches framed by striped masonry, combined with perforations in the form of mashrabiya, create a multi-layered perception of space and an expressive play of light and shadow, typical of the

Moorish style. It is these decorative components, which have shared origins with the forms of Manuelino and Plateresco, that demonstrate the profound syncretism of cultural heritage within the neo-Moorish architectural canon (Shkolna, 2019).



Figure 8. Architect Karel Parzik. Elements of the plastic decor of the Sarajevo City Hall (Bosnia and Herzegovina), made in the Moorish style

Source: Sarajevo City Hall (2008)

At the turn of the 19th and 20th centuries, this style was also used to build the Beit Israel synagogue complex (with a community centre and kosher restaurant) in Brasov (Romania), the choral synagogue in Vilnius, Karaite kenesas in Kyiv and Vilnius, the Goldenberg Hospital in Kropyvnytskyi (Fig. 9), the horseshoe-shaped Moorish Arch on the French Boulevard in Odesa, the Capuchin Church in Rijeka (Croatia), the St Nicholas Cemetery Church in Belgrade (Serbia). Elements of the style are present in the main staircase and some rooms of the Central Building of the Kyiv Polytechnic Institute (Ukraine).



Figure 9. The Goldenberg Hospital in Kropyvnytskyi, Ukraine

Source: R. Malenkov (n.d.)

Figure 10 presents the façade of the Capuchin Church of Our Lady of Lourdes in Rijeka, Croatia, built between 1904 and 1929 by architect Giovanni Mario Curetta. The sculptural design was created by Urbano Botasso, and the decorative carvings were created by Antonio Marietti. The building combines neo-Gothic features with expressive oriental elements, particularly in the form of arches, pinnacles, columns with decorative finials typical of Moorish style. The striped masonry design of the façade, contrasting zoning of materials, and elements of mashrabiya stylisation on the window openings indicate a close relationship with the Moorish architectural canon, which was widespread in religious construction in Central and South-Eastern Europe at the turn of the 19th and 20th centuries. This object represents the specifics of the adaptation of Moorish decorative models to Catholic sacred architecture, while preserving the profound semantic and aesthetic features of the oriental architectural heritage (González & Llano, 2024). For instance, the façade of the early 20th-century Capuchin Church (Basilica) of Our Lady of Lourdes in Rijeka features three-lobed arches, more typical of Algerian architecture, and fashionable in the 19th century (they were used in interior designs, specifically, in the Mikhail Vorontsov Palace in Tiflis in the third quarter of the 19th century), as well as pinnacles, repeated “blind” arches, lunettes, portal niches with openwork plastic modelling and sculpture, and even mosaics, which gave the whole eclectic composition a special artistic and figurative sound.



Figure 10. Architect Giovanni Mario Curett, sculptor Urbano Botasso, and carver Antonio Marietti.
The Capuchin Church of Our Lady of Lourdes in Rijeka, Croatia. 1904-1929

Source: photo by the authors of this study

As of 2025, a considerable number of Moorish-style buildings still exist in Europe, although their condition varies considerably depending on the country, local traditions of cultural heritage protection and the current functional use of the buildings. Many historic Moorish buildings are under the protection of UNESCO and national heritage protection programmes. For instance, the Old Town of Nessebar in Bulgaria, which has preserved numerous examples of ochre plinth masonry and decorative bands, is a UNESCO World Heritage Site. This helps to ensure stable funding for restoration work and measures to protect the architectural heritage. At the same time, not all Moorish-style buildings are properly maintained. Some synagogues, kenesas, and

mosques, especially in Central and Eastern Europe, are in need of immediate restoration work or have already been destroyed during the 20th century due to wars, repression, or economic hardship. Specifically, many Karaite kenesas that functioned in Kyiv and Vilnius have been rebuilt or lost their original functional purpose (Ivashko *et al.*, 2021). At the same time, the modern practice of preserving and restoring Moorish-style buildings includes not only restoration work but also adaptation to new functional needs. For example, in Barcelona, new architectural projects interpret the Moorish style using modern building materials and technologies, creating interesting examples of an eclectic mix of historical motifs and modern design concepts (Fig. 11).

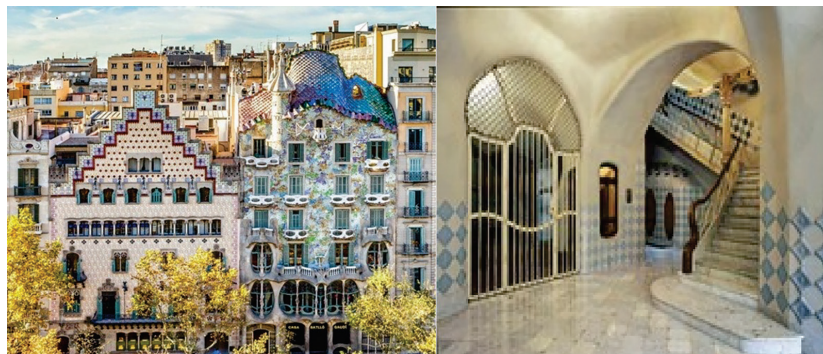


Figure 11. Casa Batlló in Barcelona, reconstructed from 1904 to 1906

Source: photo by the authors of this study

Figure 11 shows one of the most striking examples of an eclectic approach to the interpretation of the Moorish style in architecture – the famous Casa Batlló in Barcelona, reconstructed in 1904-1906 by Antoni Gaudí. Although this object is mainly associated with Catalan modernism, its façade displays numerous decorative elements that share similarities with the Moorish style, primarily in the rhythm of arcades, wavy lines, mosaic decoration, and colour

schemes. The analogies are particularly noticeable in the use of coloured ceramics, the outlines of window openings and the distribution of spatial accents on the façade. This combination allows discussing the conscious aesthetic borrowing of Moorish ornamentation motifs within the modernist discourse, which creates a new level of perception of oriental heritage in the urban space of the early 20th century. The Arab World Institute (Institut du Monde Arabe) is a



prominent architectural project in Paris, located on the left bank of the Seine in the Latin Quarter. The building was constructed in 1987 by the famous French architect Jean Nouvel, who sought to combine elements of Arabic architecture with modern construction technologies (Fig. 12).

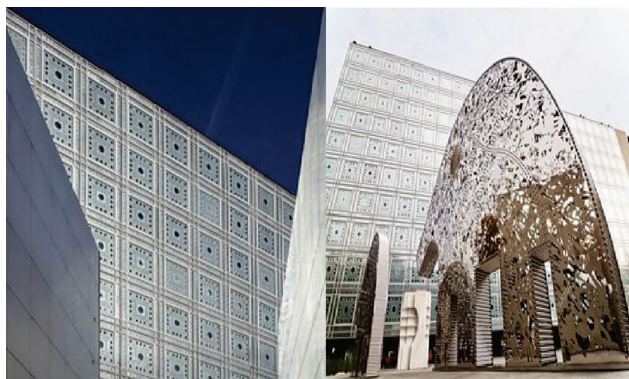


Figure 12. Institut du Monde Arabe, Paris, 1987

Source: Arab World Institute (n.d.)

The key feature of the Arab World Institute is the façade, made in the form of a complex metal mesh of 240 photovoltaic apertures that imitate traditional Arabian window grilles – mashrabiya. These diaphragms automatically open and close depending on the intensity of sunlight, creating a dynamic effect of light and shadow inside the building, as well as providing natural ventilation and lighting. This technological approach, based on the principles of ecological design, emphasises the integration of architecture with the environment. The building is shaped like a “U” and includes a library, exhibition halls, museum, conference rooms, restaurant, bookstore, and administrative offices. The architectural style of the Institute combines modernism with Moorish motifs, which is expressed in the use of geometric patterns, symmetrical structures, and ornamental elements. The purpose of such an approach is to create a cultural bridge between the West and the Arab world, preserving traditions and demonstrating their adaptation to modernity. Notably, the Arab World Institute has become not only an architectural landmark in Paris, but also a symbol of cultural dialogue between European and Arab cultures. Its façade has become a famous example of how traditional architectural motifs can be adapted to modern technology and design, leaving them recognisable but giving them new life in a modern city (Burke, 2022).

Another prominent aspect is the preservation of building interiors. For example, the decoration of horseshoe arches, openwork perforations, muqarnas, and mosaic inserts typical of Moorish architecture is actively used in the interior design of cultural and public buildings (Chernyshev *et al.*, 2020). For instance, in the restored interiors of the central building of the Kyiv Polytechnic Institute, as well as in some modern hotels and restaurants in Europe. In 2025, the Moorish style is finding new life in private and public construction. Some architectural firms are actively

using elements of the Moorish style in their projects, including in the design of cultural centres, art galleries, and tourist complexes. Although it is still largely decorative, this style continues to attract the attention of designers due to its expressive aesthetics and symbolic meaning. In contemporary interior design, Moorish ornamental motifs are often used to create ethnic or exotic spaces, especially in hotels, restaurants, tourist centres, and private homes. Furthermore, elements of Moorish architecture are used in ecological design, which seeks to integrate traditional decorative techniques with modern energy-saving technologies (Ivashko *et al.*, 2020).

Thus, the Moorish style in European architecture, which emerged based on the traditions of the Byzantine Empire and spread from Bulgaria through the Balkans, the Black Sea region to Spain, Portugal, Italy, France, Hungary, Ukraine, and other regions, continues to be a significant cultural phenomenon in European heritage. Its emergence and popularisation are associated with the use of decorative coloured plinths, pinnacles, openwork perforations, decorative arches, and other artistic and figurative elements that reflect the influences of the Spanish-Moorish Mudéjar style, Portuguese Manuelino, Gothic-Saracenic, and Indo-Saracenic styles. Despite considerable losses and destruction during the 20th century, many Moorish-style buildings still exist and are protected by national programmes and UNESCO. The current state of these objects ranges from well-preserved to endangered. At the same time, the Moorish style continues to be relevant in modern architecture and design, especially in the decorative design of public and private buildings, hotels, restaurants, and cultural centres. The use of Moorish motifs in interiors and the adaptation of this style to modern architectural needs demonstrates its attractiveness and potential for further development. The preservation and restoration of historical objects created in the Moorish style continue to be crucial tasks for modern architects, restorers, and scholars studying the architectural heritage of Europe.

DISCUSSION

The conducted study demonstrated that the Moorish style in European architecture has a long history, beginning with the Byzantine masonry tradition and developing under the influence of Islamic architecture, particularly during the expansion of the Ottoman Empire. The analysis of modern sources helped to better understand the processes of preservation and transformation of the Moorish style in different regions of Europe, as well as its influence on contemporary architectural projects. N. Ait-Aoudia Meriem (2025) showed that Blida (Algeria) has preserved numerous examples of neo-Moorish buildings of the 19th-20th centuries, which served as a source of inspiration for architects. The researcher pointed out the stylistic features of the façades of such buildings, which combine traditional elements with new materials and decorative motifs. Analogous trends can be found in modern buildings in Paris and Barcelona, where the Moorish style is interpreted through the lens of



modern technology and design. P. Burke (2022) addressed the fact that Islamic art, including architecture, actively influenced European culture through contact zones between Christian and Muslim states. These conclusions were confirmed by the results of the present study, which showed how the Spanish-Moorish Mudejar style and Gothic-Saracenic motifs became popular in regions that had close cultural and political ties with the Muslim world. A. Zerrouki (2021) noted that in Algeria, the development of the Moorish style was inextricably linked to the colonial period. The researcher emphasised the transformation of the Moorish style into the neo-Moorish style, which is marked by elements of continuity and a break with the past. These conclusions are a prominent aspect for the present study, as comparable processes can be observed in European architecture, where the Moorish style is gaining a new sound in the context of modernism and postmodernism.

F. Mazouz & M. Triqui (2024) focused on the fact that Algeria is experiencing a revival of Moorish architectural identity in new projects that combine traditional decorative elements with modern materials. These findings are in line with the presented results, which showed that in contemporary architectural projects in Paris and Barcelona, architects are actively using Moorish motifs to create modern buildings adapted to modern requirements. J. Taheri (2021) emphasised the significance of decorative arts and architecture for human psychological comfort, especially within Muslim communities. This idea is of great significance for the present study, as the contemporary use of the Moorish style often focuses on creating harmonious spaces that combine aesthetic and functional requirements. Y. Ivashko *et al.* (2021) emphasised the need to preserve and restore architectural objects in the neo-Moorish style. Their study focused on the monumental works and façades of architectural monuments of the late 19th – early 20th centuries, which often need to be preserved due to the influence of climatic factors and negligent use.

Analogous challenges are relevant for many of the European monuments considered in the study. S. Harrington *et al.* (2022) explored modernisation trends in the architecture of Bosnia and Herzegovina in the early 20th century. The study enabled a better understanding of how the Moorish style interacted with other styles, particularly during the period of national revival and cultural renewal. R.Y. Kassab (2024), in the study on the development of the Habus district in Casablanca, discussed the processes of interpreting the Moorish style in urban spaces. Comparable processes are observed in the contemporary architecture of Paris and Barcelona, where architects use Moorish motifs to create culturally significant objects. N. Lopez-Jantzen (2021) analysed the periodisation and historiography of interaction between Europe and Africa, particularly Italy and the Islamic world. The study focused on the cultural exchange and adaptation of Islamic architectural elements in medieval European art. These findings were in line with the presented results of this study, which demonstrated the influence of the Moorish style on architectural

structures in Europe, especially within the former Byzantine domains and territories under Ottoman control.

C. Mileto & F.V. López-Manzanares (2023) considered the protection of historic cities and the conservation of architectural monuments belonging to the UNESCO heritage. The analysis of the case of the Lonja de la Ceda in Valencia illustrates the significance of restoration and conservation of buildings of historical significance, which confirmed the observations on the need to restore many European Moorish-style buildings that are endangered or need to be adapted to modern requirements. G. Murray-Miller (2023) examined Orientalism in Europe in the long 19th century, analysing its epistemological and practical manifestations. The researcher pointed out that interest in Islamic architecture was part of a broader cultural phenomenon, which was expressed through attempts to combine European traditions with exotic motifs brought from the Middle East and North Africa. The findings obtained, which demonstrated the active use of the Moorish style in European buildings from the 19th to the early 20th century, are in full agreement with Murray-Miller's conclusions.

A.W. Sukkar *et al.* (2024) presented an interesting view on the use of artificial intelligence in the creation of Islamic architecture, particularly in the design of modern buildings based on traditional architectural principles. This opens new opportunities for the development of the Moorish style in modern architecture. The findings of the study also confirmed that new projects in Paris and Barcelona are partly inspired by the Moorish style but are actively adapting it to modern functional requirements through innovative technologies. A.E. Arsuaga (2021) studied the development of urban spaces in the Middle Ages, specifically, how Muslim minorities tried to adapt to the new conditions of existence in Christian states. This issue is vital for understanding how elements of Islamic architecture penetrated European cities, became part of local architectural styles, and even formed separate districts. The study showed that Moorish motifs were actively used in both sacred and secular architecture. R. Tottoli (2023) examined the cultural influence of Islamic texts in Europe, which was also reflected in architectural styles. Although the study focused more on textual studies and cultural exchange, the influence of Islamic aesthetics on European architecture is evident and continues to be a prominent aspect of the present study.

A.V. Braga (2022) explored the role of colour, geometry, and patterns in Islamic art, emphasising their decorative and symbolic function. This study is crucial for the current analysis, as such decorative elements form the basis of the Moorish style, which is actively used in modern buildings in France and Spain. S. Karray *et al.* (2023) presented a modern interpretation of the Moorish style in Testur (Tunisia), which showed that Moorish architecture is not an outdated phenomenon, but a living tradition that continues to evolve in the context of new technologies and urban concepts, which is confirmed by the results obtained, showing that Moorish elements are actively used in modern architectural design in Europe, in particular in Paris and Barcelona.



Thus, a comparison of the results obtained with the existing thematic publications showed that the Moorish style was not only a prominent part of European architecture in the past but also continues to be a significant source of inspiration for contemporary architects and designers. The Moorish style is not only a historical phenomenon, but also a living architectural tradition that is constantly evolving and changing in modern conditions. Considering the identified trends, this style can arguably develop further and find use in modern design, making it a unique example of cultural and architectural dialogue between different civilisations. All the studies reviewed confirmed the relevance of this subject, emphasising the value of preserving historical heritage and integrating traditional motifs into modern architecture.

CONCLUSIONS

Thus, a careful study of the formation and development of the Moorish (Andalusian) style in European architecture demonstrated the emergence of the tradition of “embroidered” wall masonry with rows of coloured ochre flat bricks (plinths) in masonry within the provinces of the Byzantine Empire, also in the Black Sea region, dating from the 4th to 5th centuries. Thus, from the 4th to 6th centuries, a series of monuments were built in the Balkans, within the borders of modern Bulgaria, which later became part of the architectural and construction fashion of the Adriatic during the Middle Ages. Later, the ideas of religious architecture were introduced into the sacred buildings of Muslims in Hungary, and neo-Moorish ideas were spread in Bulgaria, Croatia, Turkey, Ukraine, Croatia, Bosnia and Herzegovina, Romania, Italy, Serbia, Lithuania.

The general features of architecture referring to the Moorish style include, firstly, buildings made with elements

of “embroidered”, striped masonry of façades and interior decoration. Orthodox churches in Byzantium, the Balkans, and the Slavic countries of Europe; mosques, synagogues, Karaite kenesas, Catholic churches, cemetery churches, and secular buildings such as theatres, city administrations, cultural centres, hospitals, schools, and restaurants were traditionally built in this style. Secondly, the defining influences include the style of the Spanish Mudejar (11th-16th centuries), Portuguese Manuelino and Spanish Plateresco (both 16th century), as well as the late synthetic styles of the 19th century – Gothic-Saracenic, Indo-Saracenic, Alhambra style. All of them were reflected in plastic plaster decoration, carved alabaster, and stucco, which should be associated primarily with solemn, “remodelled” elements of the interior design of European buildings of the second half of the 19th and early 20th centuries.

The limitation of this study was the focus on the surviving architectural monuments, as well as the limited access to archival materials on lost or rebuilt Moorish-style objects. Prospects for further research should be associated with an in-depth study of architectural structures built on the territory of ethnic Ukraine in the Moorish (Spanish-Moorish, Andalusian) style during the 19th and early 20th centuries. Specifically, this applies to lost synagogues, Karaite kenesas, hotels, tenement houses, mansions, palaces of the period.

ACKNOWLEDGEMENTS

None.

FUNDING

None.

CONFLICT OF INTEREST

None.

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Витоки і розвиток споруд у мавританському стилі в Європі часів від Середньовіччя до початку XX століття

Анотація. Метою цього дослідження було вивчення функціональних, художніх і композиційних характеристик мавританської архітектури в Європі, простежуючи її витоки у візантійських мурованих кресленнях із середньовічної Болгарії. У дослідженні розглядалося, як цей стиль поширився на синагоги, мечеті, католицькі церкви та громадські установи в таких країнах, як Угорщина, Румунія, Україна, Боснія та інші. Методологія дослідження включала поєднання хронологічного принципу, мистецтвознавчого та дизайн-підходів, онтологічного, аксіологічного, герменевтичного, історико-генетичного, порівняльного, соціокультурного, крос-культурного, формально-стилістичного, типологічного та мистецтвознавчого методів аналізу. Результати дослідження виявилися наступними. Нечисленні пам'ятки з елементами «вишитої» кладки, що збереглися на Балканах, зокрема в старій частині болгарського Несебра, стали цінним джерелом формування мавританського (іспано-мавританського, андалузського) стилю. Ця традиція, що зародилася у візантійсько-середземноморському контексті, згодом трансформувалася у впізнаваний архітектурний напрям. У XIX та на початку XX ст. мода на східні форми поширилася по всій Європі, від Кавказу до Італії. У різних країнах вона проявилася в архітектурі палаців, синагог, кенас, театрів, адміністративних будівель, сакральних споруд. Дослідження довело, що формування мавританського (андалузського) стилю в європейській архітектурі має глибші, ніж вважалося раніше, візантійсько-античні корені, з подальшим розквітом у XIX – на початку XX ст. під впливом східних і західноєвропейських стилів. Практичне значення цих висновків полягає у наданні архітекторам, реставраторам і містобудівникам науково обґрунтованої бази для реставрації, адаптивного повторного використання та делікатної інтеграції елементів мавританського стилю в європейську спадщину і сучасні архітектурні проекти

Ключові слова: монументально-декоративне мистецтво; «вишивана» кладка; орієнталізм; композиція; дизайн середовища

