

## An Academic Study of Alaca Mosque the Integration of Ottoman and Western Architectural Elements

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### ABSTRACT

Alaca Mosque, located in the city of Tetova (Kalkandelen) in North Macedonia, is a significant structure that uniquely amalgamates typical Ottoman mosque architecture with Western artistic influences. Characterized by its square plan and central dome, the mosque harmonizes traditional Ottoman structural design with richly decorated interior spaces, presenting comprehensive frescoes and intricate stone craftsmanship. This study thoroughly examines Alaca Mosque's architectural and artistic features, highlighting the interaction between the building's structural components and decorative elements and the juxtaposition of its modest exterior with its grand interior.

Within the scope of the research, an on-site inspection of the mosque was performed, including the documentation of its current condition through high-resolution photography and the comparison of historical and contemporary architectural plans. This methodology facilitated the evaluation of the building's alterations over time and the effects of restoration efforts. The frescoes and decorations within Alaca Mosque's interior illustrate the synthesis of Ottoman artistic principles with Western influences. Furthermore, the analysis of the mosque's stone craftsmanship and decorative elements provides insights into the aesthetic and cultural values of the era.

The study underscores Alaca Mosque's position and significance within the Ottoman architectural heritage, emphasizing its cultural and historical value. The comparative analysis of old and new plans reveals the continuity and evolution of the mosque's architectural elements. In conclusion, a comprehensive architectural and artistic analysis of Alaca Mosque has been conducted, offering recommendations for its preservation and the transmission of its legacy to future generations. This paper aims to enhance the understanding of the Alaca Mosque as a unique exemplar of Ottoman architecture and contribute to the academic literature in architecture and art history.

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**Received:** November 07, 2024; **Accepted:** November 11, 2024; **Published:** November 20, 2024

**Keywords:** Sustainability, Wooden Structures, Building Materials, Sustainable Building Materials, Environmentally Responsible Building Design, Energy-Efficient Buildings

### Introduction

Alaca Mosque stands as a testament to the architectural ingenuity of the Ottoman Empire and its capacity to absorb diverse artistic influences. Built in the 15th century and reconstructed in the 19th century, the mosque is known for its harmonious blending of traditional Ottoman architectural principles with Western decorative arts. The term "variegated" means "colored" or "variegated," describing the structure's richly ornamented interior. This study aims to analyze in depth the architectural and artistic features of the mosque and show how its design reflects a combination of cultural and aesthetic traditions.

### Architectural Design and Structural Features

The architectural layout of the mosque follows the classical Ottoman paradigm, characterized by a square plan and a single central dome covering the main prayer area. A central dome is a cornerstone of Ottoman mosque architecture, symbolizing the dome of heaven and creating a large, unobstructed interior suitable for congregational worship. The dome rests on pendentives that transition from a square base to a circular dome—a sophisticated engineering solution demonstrating Ottoman architects' technical mastery.

The exterior of the mosque, built using a wooden frame system, presents a simple and unadorned appearance that reflects the architectural approach of the period. This simplicity, however, is a stark contrast to the richly ornamented interior, creating a conscious duality that piques the curiosity and enhances the overall aesthetic impact of the building.

### Interior Decorations and Decorative Arts

The interior of the Alaca Mosque stands out with its extensive and detailed decorations, distinguishing it from other contemporary Islamic religious buildings. The walls, ceilings, and even columns are adorned with vibrant frescoes featuring intricate floral motifs, geometric patterns, and floral designs. These decorations are executed with extraordinary artistry, demonstrating the richness of Ottoman decorative arts and the influence of local craftsmanship.

By adopting the relatively rare fresco technique, the Alaca Mosque creates a stunning visual experience. The application of pigments onto wet plaster, a technique generally limited in Islamic art due to the ban on depiction, turns the mosque's interior into a vibrant art gallery. The mastery of color and composition in these frescoes, along with their intricate details, is sure to capture the viewer's attention and inspire deep thought.

Floral motifs consist of stylized leaves, flowers, and vines and symbolize growth, fertility, and the interconnectedness of all creation—common themes in Islamic art. Geometric patterns created with mathematical precision reflect the order and harmony of Islamic aesthetics and represent the underlying structure of the universe in Islamic philosophy.

### **Minaret Symbolism and Design**

The minaret of the mosque, a structure in line with the traditional Ottoman minaret design with a single balcony, is more than just a practical tool. It rises elegantly next to the mosque, serving as a visual sign of Islamic existence and spiritual aspiration. It symbolizes the ascension to the divine, connecting the mosque to its spiritual roots and the broader Islamic tradition.

The design of the minaret complements the mosque's overall architectural composition. It includes proportions and decorative elements that maintain harmony with the main structure. Using local materials and building techniques to construct the minaret further integrates it into the regional architectural context.

### **Western Influences and Artistic Synthesis**

One of the most interesting aspects of the Alaca Mosque is the presence of Western artistic influences in its interior decorations. The frescoes display a realism and use of perspective that suggests familiarity with Renaissance artistic principles. Depictions reminiscent of landscape scenes, architectural motifs, and even baroque decorations show the cultural interaction between Ottoman and European artistic traditions.

This synthesis of Eastern and Western art forms is a testament to the cosmopolitan nature of the Ottoman Empire, particularly in regions such as the Balkans, where different cultures intersected. The mosque, therefore, becomes a physical manifestation of intercultural dialogue, embodying a unique aesthetic that transcends architectural categories.

### **Contrast Between Exterior and Interior**

The deliberate contrast between the mosque's modest exterior and richly ornamented interior serves aesthetic and symbolic purposes. Externally, simplicity aligns with the principles of modesty and avoidance of ostentation in Islamic teachings. Inside, the magnificence of the decorations reflects the believer's inner spiritual wealth and journey to enlightenment.

This contrast enriches the visitor's experience. The emergence of a fascinating interior after a simple exterior triggers feelings of admiration and introspection. The architectural design thus plays a crucial role in aligning with the spiritual goals of Islamic worship by facilitating the transition from the outside world to the sacred interior.

### **Cultural and Historical Importance**

Alaca Mosque has important cultural and historical value as a representation of the architectural and artistic diversity within the Ottoman Empire. The unique combination of styles demonstrates the empire's ability to absorb and harmonize different cultural influences. The mosque serves as a historical record of the period's social dynamics, religious practices, and artistic endeavors.

Preservation of Alaca Mosque is vital for maintaining the region's cultural heritage. The structure offers valuable insights into the period's architectural innovations and artistic expressions. In addition, the mosque maintains its importance in contemporary society by functioning as a place of worship and social meeting point.

### **Material and Method**

It aims to reveal the cultural and historical importance of the Alaca Mosque in Tetova (Tetovo) city of North Macedonia by examining its architectural and artistic features in depth. The study adopted a comprehensive methodological approach based on qualitative research methods and included a detailed primary and secondary sources analysis.

### **Literature Scanning**

Books, articles, master's and doctoral theses, and conference papers on Ottoman architecture, Islamic art, and cultural interactions in the Balkans were examined comprehensively. These sources provided in-depth information about the architectural features, artistic details, and historical context of the Alaca Mosque.

Documents obtained from the These documents investigated the mosque's construction date, architect, restoration works, and relationship with historical events.

Using historical photographs, engravings, and drawings, the physical changes and restoration processes of the mosque were evaluated over time. These visual materials provided important data about the building's history and transformation.

### **Field Study**

A field visit was made to Alaca Mosque. The mosque's architectural details, decorations, and general condition were observed during this visit. Important elements such as the exterior, interior decorations, dome, minaret, mihrab, and pulpit were examined in detail. Visual data was collected by taking high-resolution photographs and video recordings. These materials were used as the main data source in the analysis and comparison processes. Detailed observation notes were kept during the fieldwork. These notes contain important information about the structure's current condition, preservation, and possible restoration needs.

Thanks to this methodological framework, the architectural and artistic features of Alaca Mosque have been discussed from a multifaceted perspective. The combination of primary and secondary sources, detailed on-site observations, and expert opinions increased the depth and reliability of the research. The findings made it possible to make important inferences about the mosque's preservation and restoration and the cultural heritage's sustainability. This study aims to make an original contribution to academic literature to understand better the place of Alaca Mosque in the Ottoman architectural heritage and shed light on future conservation efforts.


### **Results**

This research examined in depth the architectural and artistic features, historical context, and cultural significance of Alaca Mosque. The findings show that the mosque successfully combines the classical elements of Ottoman architecture with Western and local artistic influences and is a unique structure.

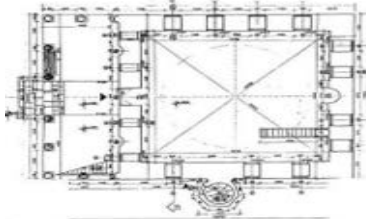
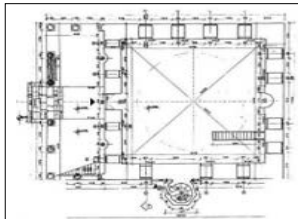

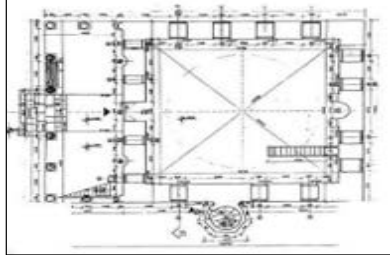
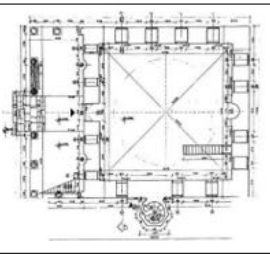



### **Architectural Features and Structural Analysis**





Alaca Mosque is a square-planned, single-domed structure and reflects the basic principles of classical Ottoman mosque architecture. During the on-site examinations, it was observed that the dome rested on pendentives, thus enabling the transition from a square base to a circular dome. This engineering solution shows that the period's structural technology and architectural knowledge were advanced.

The mosque's exterior is simple and unadorned, built using a wooden frame system. This simplicity contrasts with the rich decorations in the interior, creating a surprise effect for the visitor. The materials and techniques on the exterior are compatible with the local building tradition, thus integrating the building with its surroundings.

	<p>Building: Alaca Mosque                  Location: Tetova / Braka Miladinovi District Island No: 2                  Parcel No: 7970                  Number of Floors: 2                  Original Function: Mosque - Place of Worship                  Today's Function: Mosque - Place of Worship Construction Technique: Natural Stone and Paints</p>
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**Figure 1:** Alaca Mosque Identity Information

Before 1833		From 1833 to the present	Images 2024
Ground Floor Plan	 <p>Ayverdi, 2000</p>	 <p>Ayverdi, 2000</p>	 <p>Hüseini, 2024</p>
First Floor Plan	 <p>Ayverdi, 2000</p>	 <p>Ayverdi, 2000</p>	 <p>Hüseini, 2024</p>
East Facade View	 <p><a href="https://kulturenvanteri.com/en/yer/alacaturbekalkandelen/#17.1/42.005919/20.96657">https://kulturenvanteri.com/en/yer/alacaturbekalkandelen/#17.1/42.005919/20.96657</a> Erişim Tarihi 08.10.2024</p>	 <p>Hüseini, 2024s</p>	

West Facade View	 <p><a href="https://kulturenvanteri.com/en/yer/alaca-turbe-kal-kandelen/#17.1/42.005919/20.96657">https://kulturenvanteri.com/en/yer/alaca-turbe-kal-kandelen/#17.1/42.005919/20.96657</a> Erişim Tarihi 08.10.2024</p>	 <p>Hüseini, 2024</p>	
Front Facade View	 <p>Ayverdi, 2000</p>	 <p>Hüseini, 2024</p>	

**Figure 2:** Change of Alaca Mosque Structure over Time

Information is presented on the Alaca Mosque structure's changes over time, including its restoration and post-functional transformation. The building used as a mosque before the restoration was examined in detail, including its functions today after the restoration process. There were no architectural changes on the interior ground floor and first floor of the building; only the interior parts were renovated. As a result of the examination of the facades and minaret of this historical building, which was used as a place of worship before 1833, no structural changes occurred on the facades; only the facades were repainted, and their current state is still the same. Fifty thousand egg whites were used to paint the facades to ensure that the paints used were healthier and lasted longer.

Two sisters, Hürşide and Mensure, were the first to paint the facades, using their dowry money to renovate the exterior of the mosque. During the fire in 1833, while the building was still standing, only the minaret of the mosque was destroyed, and a new minaret was built in its place. The interior was repainted and decorated to serve its new functions. These arrangements were designed to support the purpose of the use of the space, and a balance was created between the original identity of the building and modern needs. The examination of the facades shows that the columns were protected, and no major changes were made other than repair works.

### Interior Decorations and Artistic Analysis

The most striking feature of the Alaca Mosque is the extensive and detailed frescoes in its interior. After a visual and artistic analysis, it was determined that the floral motifs, geometric patterns, and floral decorations on the walls and ceilings had high artistic value. The color palette and compositional arrangements used in the frescoes reflect the influences of Renaissance art.

The technical examination of the frescoes determined that the fresco technique was used by applying pigments to wet plaster. This technique is a rare application in Islamic architecture and makes Alaca Mosque unique. When the symbolic meanings of the motifs were evaluated, it was understood that the plant elements represent life, fertility, and spiritual growth.

### Fine Stone Work on the Mihrab and Pulpit

The mosque's mihrab and pulpit attract attention with their detailed stone workmanship. During the on-site examinations, it was observed that the mihrab was decorated with muqarnas decorations, thus creating a three-dimensional effect. The pulpit's stone carvings reveal the period's level of craftsmanship and artistic sophistication. These elements are considered successful examples of abstract aesthetics in Islamic art.

### Synthesis of Western and Local Artistic Influences

Literature review and visual analysis have revealed that the interior decorations of the Alaca Mosque are influenced by Western art. The use of perspective, realistic depictions, and baroque decoration elements, in particular, shows the reflections of Renaissance art on the mosque's interior. This situation reflects the multicultural structure of the Ottoman Empire and intercultural interactions in the field of art.

In addition, unique motifs and techniques created with the contributions of local artists and craftsmen increase the mosque's artistic richness. This synthesis shows that the building combines universal and local art movements.

### **Social and Cultural Importance**

Expert opinions and observation notes taken during the fieldwork show that the Alaca Mosque has an important place not only architecturally and artistically but also socially and culturally. Beyond being a place of worship for the local people, the mosque is a symbol of cultural identity and social ties.

Interactions with local people revealed a strong sense of ownership in preserving and restoring the mosque. This is a positive indicator of the sustainability of cultural heritage and its transfer to future generations.

### **Conservation and Restoration Needs**

The data obtained during the fieldwork shows that some parts of the mosque were damaged due to natural and human-induced factors. In particular, fading in the colors of the frescoes, moisture, and cracks on the walls were detected. Interviews with restoration experts emphasized that urgent conservation measures should be taken and international standards should plan restoration works.

### **Sustainability of Cultural Heritage and Recommendations**

The research findings reveal the importance of interdisciplinary cooperation and social participation in protecting and promoting the Alaca Mosque. It is recommended that society increase its sensitivity to cultural heritage and encourage active participation in conservation efforts through training programs and awareness campaigns.

In addition, developing sustainable tourism strategies can evaluate the mosque's tourism potential and contribute to the region's economic development. However, sensitivity should be shown in this process to preserve the building's originality and moral value.

Restoration of Alaca Mosque carried out by TIKA Decisions, Techniques and Materials

Alaca Mosque is a historical building in the city of Tetovo in North Macedonia and is one of the rare examples of Ottoman architecture. Built in the 15th century, this mosque draws attention with its rich interior decorations and architectural features. The structure, worn out over time due to various external factors and neglect, has been subjected to a comprehensive restoration process by the Turkish Cooperation and Coordination Agency (TIKA). This restoration aimed to preserve the mosque's original architectural and artistic values and to pass them on to future generations.

### **Restoration Decisions and Approach**

#### **Preservation of Authenticity and Authenticity**

Preserving the building's original architectural elements and ornaments was a priority in the restoration work. Modern interventions that could damage the historical texture were avoided in this context. A detailed documentation study was carried out before the restoration, and the current condition of the building, damages, and areas requiring intervention were determined.

#### **Use of Traditional Techniques and Materials**

Natural and local materials compatible with those used in the original structure were preferred for restoration. Expert artisans used traditional methods in historical construction techniques.

#### **Compliance with International Restoration Standards**

Internationally accepted conservation and restoration principles were carried out during the restoration. The process was managed

by an expert team of architects, restorers, art historians, and engineers.

### **Applied Techniques**

Cracks and weaknesses detected in the foundations and load-bearing walls of the structure were repaired and strengthened with appropriate materials.

The structure was static evaluated using modern engineering methods, and the necessary reinforcement techniques were determined.

### **Restoration of Wood and Stonework**

Wooden components such as ceilings, doors, and windows were repaired according to the original or replaced with original materials when necessary.

The stonework on the exterior and interior was cleaned, and damaged parts were restored with appropriate techniques.

### **Protection of Frescoes and Wall Decorations**

The frescoes in the interior were cleaned with appropriate chemical and mechanical methods in light of microscopic analyses.

Expert restorers completed missing or damaged patterns with the original technique and color palette.

### **Renovation of Roofs and Domes**

Traditional lead and tiles were used to coat the roofs and domes. Appropriate insulation materials were applied to ensure watertightness and protect the structure from moisture.

### **Materials Used**

Stones obtained from local quarries were used in a way that was compatible with the structure's original texture. The life of the wooden elements was extended by choosing durable tree species such as oak and chestnut. Lime-based mortars and plasters allowed the walls to breathe and maintain the moisture balance.

Natural pigments and paints were used to preserve the liveliness of the original colors in the restoration of the frescoes. These materials, frequently used to protect historical structures, were preferred for roof and dome coverings.

### **Conclusions**

Alaca Mosque is a striking example of an architectural and artistic synthesis that skillfully combines classical elements of Ottoman architecture with Western and local artistic influences. While it embodies the basic structural principles of Ottoman mosque architecture with its square plan and central dome, it offers a unique and vibrant aesthetic with its rich interior decorations and frescoes. The mosque's detailed frescoes, fine stone carvings, and harmonious proportions show that the art and architecture of the period had reached a sophisticated level. These features make the Alaca Mosque more than just a place of worship and increase its value as a cultural and artistic heritage.

An in-depth examination of the architectural features and decorative elements of the Alaca Mosque highlights the critical role of cross-cultural interactions in shaping architectural heritage. The mosque's combination of Western and local artistic influences reflects the multicultural structure of the Ottoman Empire and the universal language of art. This synthesis is an aesthetic achievement and a reflection of the period's social, political, and cultural dynamics. This aspect of the structure offers an important

perspective on understanding how cultural interactions and adaptations are reflected in architectural works throughout history.

The successful completion of the restoration was possible thanks to adopting an interdisciplinary approach in compliance with international conservation standards. TIKA's restoration project sets an example for preserving historical buildings and serves as a model for similar projects. Detailed analyses and research conducted during restoration show that scientific methods were applied. Combining traditional techniques with modern restoration methods has increased the durability of the building while preserving its authentic character. Ensuring the participation of local experts and the community in the project contributed to the adoption and support of the restoration by the local people.

The restoration of the Alaca Mosque carried out by TIKA is considered a successful example of protecting historical and cultural heritage. The decisions taken, the techniques applied, and the materials used ensured the structure's continued existence in the future while preserving its originality and aesthetics. This restoration work offers important lessons on the preservation and sustainability of historic buildings and makes a valuable contribution to the academic literature.

As a result of the restoration works carried out by TIKA, Alaca Mosque was revived while preserving its original architectural and artistic features. The decisions taken and the techniques applied during the restoration process ensured that the building remained true to its historical identity and, at the same time, existed in a solid and useful way in the future.

The restoration of the building has made a significant contribution to the preservation of the region's cultural and historical heritage. The mosque continues its function as a place of worship and contributes to the regional economy as a tourist attraction. The restoration provided an educational opportunity for local people and visitors and raised awareness about preserving historic buildings. The materials and techniques support long-term structure preservation and environmental sustainability.

Today, the preservation and restoration of the Alaca Mosque is vital for the sustainability of the cultural heritage and its transfer to future generations. Preserving the building's original architectural and artistic features will contribute to enriching historical and cultural knowledge. In this context, modern conservation techniques and international standards must be applied to restore the mosque. Using modern technologies and sustainable materials in the restoration process, without damaging the originality of the building, will both preserve the physical integrity of the building and contribute to environmental sustainability.

Preserving the Alaca Mosque is not just about preserving a physical structure but also maintaining social memory and identity. The mosque concretely represents the region's historical texture and cultural identity. Examination and preservation of the building will strengthen the local people's ties with the past and increase their sensitivity to cultural heritage. Therefore, it is important to ensure local communities' participation in the planning and implementation of conservation efforts. Community participation will increase the success and sustainability of conservation projects and encourage ownership of cultural heritage.

Preserving and promoting the Alaca Mosque can increase the region's tourism potential and economic development. Integrating cultural heritage with tourism will stimulate the local economy

and encourage intercultural dialogue. However, careful planning must be made to minimize the negative effects that tourism may bring and to preserve the originality of the building. Developing and implementing sustainable tourism strategies will ensure the balance between the protection of cultural heritage and economic development.

Making Alaca Mosque the subject of academic research will offer new perspectives on architectural history, art history, and cultural studies. Interdisciplinary research will allow for a more comprehensive understanding of different aspects of the structure. For example, a detailed analysis of the motifs and symbols in the mosque's frescoes can provide a more in-depth examination of the art and aesthetics of the Ottoman period. Likewise, a technical evaluation of the building's architectural features can provide valuable information about Ottoman engineering and construction techniques.

Alaca Mosque, with its unique architectural and artistic features, is an important cultural heritage that should be protected and passed on to future generations. Preserving and restoring the building means ensuring the continuity of cultural identity, social memory, and art rather than just preserving a physical structure. This study aimed to make an academic contribution to the efforts to rediscover and preserve the value of the Alaca Mosque. With future research, restoration projects, and conservation policies, the historical and cultural heritage of the mosque will reach wider audiences and continue its existence as a concrete example of intercultural dialogue.

For conservation and restoration efforts to be successful, all relevant stakeholders—architects, art historians, conservation experts, local governments, and local people—must cooperate. This collaboration will ensure that the originality of Alaca Mosque is preserved and sustainably carried into the future. In addition, it is important to increase the society's sensitivity to cultural heritage and encourage active participation in conservation efforts through education and awareness programs.

The preservation of the Alaca Mosque is important not only on a local scale but also on a national and international level. Preserving cultural heritage means preserving humanity's common values and history. Therefore, with the support of international and conservation organizations, it is necessary to provide the necessary resources and expertise to preserve the Alaca Mosque and similar historical buildings.

The architectural and artistic value of the Alaca Mosque makes it more than just a place of worship; it is a work of cultural heritage that should be preserved and passed on to future generations. The steps to be taken in line with the findings and recommendations of this study will make significant contributions to the preservation of the Alaca Mosque and similar historical buildings. In this process, interdisciplinary cooperation, social participation, and the adoption of sustainable conservation strategies are critically important for the future of cultural heritage.

Alaca Mosque is an important building that, with its architectural and artistic features, reflects the rich cultural heritage of the Ottoman period. Archive documents and on-site investigations have revealed in detail the mosque's changes and restoration works throughout the historical process. Preserving the structure and transferring it to future generations is of great importance for the sustainability of cultural heritage.

This research aims to contribute to architecture and art history literature by examining the architectural and artistic values of Alaca Mosque from an academic perspective. The findings obtained are an important reference for future studies on similar structures.

### Academic Contributions and Future Research

It made an original contribution to the literature by providing a comprehensive analysis of the Alaca Mosque's architectural and artistic features. The findings open new areas of research on Ottoman architecture, Islamic art, and intercultural interactions. Detailed technical analyses in the future may guide experts, especially regarding the conservation and restoration of frescoes [1-20].

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