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CURRENT ISSUES IN THE RESTORATION OF CULTURAL HERITAGE SITES

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Abstract

This article examines the vital importance of preserving cultural heritage through modern restoration practices. It provides a comprehensive overview of restoration definitions, emphasizing its relevance in the field of art and architecture. The study details the current state of restoration efforts in Uzbekistan, highlighting the transition from traditional craftsmanship to systematic academic training. Furthermore, the paper discusses the impact of environmental factors on monument degradation and outlines the recent educational reforms and infrastructure developments aimed at fostering a new generation of restoration specialists in the region.

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Keywords: Restoration, Reconstruction, Synthetic Restoration, Analytical Restoration, Anastylis.

Time allows one to acquire treasures, but no treasure can buy back time.

Life and Time in the Context of Restoration

Human life is in a state of constant motion and renewal. The activities of society are also inextricably linked to human consciousness and thought. Time is the ultimate judge; it evaluates everything. Time that has passed will never return, and it is impossible to replenish. Every moment is a fragment of human life. Time can be a creator and a rebel, a destroyer and a healer. Time is a judge, it is money, it is the cycle of day and night. Time is life itself and a priceless blessing. Sages have said of time: "Time is never neutral: it is either your close friend or your sworn enemy." This means that the time lived will serve as a witness either for or against a person.

As time passes, many things change qualitatively. In most cases, material values, historical monuments, books, fabrics, and various objects begin to lose their original appearance. Under any conditions, new things age over time, and sometimes they fall into complete disrepair. In such situations, the need arises to return an object to its original state, to restore its brilliance, charm, and former value. The activity that satisfies this need is called **restoration**.

Restoration (Recovery) is the recreation or renewal of something in a form as close as possible to the original; the repair, improvement, and bringing into proper condition of antique works of art and monuments of material culture that possess a certain value.

- **In architecture:** it is the partial or complete return of historical structures to their original appearance.
- **In a broad sense:** the process of rebuilding or changing a historical building or complex (**reconstruction**).

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According to its scale, restoration can be **fragmentary (partial)** or **integral (complete)**. According to modern theory, the goal of restoration is to take measures to preserve the ancient authentic appearance of a historical building from further destruction.

Restoration is subdivided into **synthetic** and **analytical** methods:

1. **Synthetic restoration** is aimed at recreating the original integrity of an architectural monument.
2. **Analytical (archaeological) restoration** focuses on the conservation of authentic parts and halting the processes of their destruction.

Restoration in Uzbekistan

The method of restoration has deep historical roots. Although the ancient monuments of Uzbekistan were built to be sturdy and durable, time has gradually eroded their beauty. In recent years, large-scale restoration work has been carried out on all cultural sites across Uzbekistan. The successful execution of these tasks required a masterful command of restoration rules, which were carefully applied and developed by experienced traditional craftsmen such as Usta Shirin Murodov, Tashpulat Arslankulov, Shamsiddin Gafurov, Kuli Jalilov, Abdulla Boltaev, Mahmud Usmanov, Saidmahmud Norkuziev, and others.

Methodological Features

Integral (complete) restoration, unlike fragmentary restoration, aims to fully reveal the ancient features of a structure as a monument of architectural history, even if the data is not always absolutely precise. This process is complex: it combines elements of conservation and fragmentary repair, as well as the reconstruction of lost parts by drawing upon all direct and indirect information. This method is the exception rather than the rule and is permissible only in strictly limited cases—specifically, when the majority of the necessary data is available.

Important Note: In monuments with a unique architectural appearance and highly artistic details, the creation of "mock-ups" (imitations) or the violation of

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the structure is considered unacceptable. Elements characterized by fine or decorative art are unique by nature and cannot be replicated as an identical product.

- **During conservation**, the authenticity of the monument remains inviolable; the risk of losing elements is excluded, and altering the original is strictly prohibited.
- **During fragmentary restoration**, the removal of layers that distort the appearance is permitted, while the volumetric composition of the building is restored. Lost details are replenished without compromising structural integrity. The primary goal of any **deep restoration** remains the maximum possible disclosure of the ancient features of the structure and the determination of its most significant characteristics as an object of architectural history.

Methodology and Types of Restoration Work

In the restoration of ancient monuments destroyed by various causes, the first step is a careful and thorough **archaeological study** of the building's foundation. This is followed by an investigation of its architectural structure, mosaics, ornaments, color schemes, and stylistic features. The restorer is responsible for determining the load-bearing capacity of the foundation to ascertain whether it can withstand the intended load. In the final stage, the history of the building is studied in detail: when and for what purpose it was erected, as well as its role in cultural history. Once a sufficient volume of data has been collected, architects, designers, and other specialists collaboratively develop the **design and estimate documentation**. During the execution of the work, it is advisable to effectively utilize ancient (traditional) construction methods.

Theoretical Foundations and Types of Restoration

The fundamental principles of restoration were developed by the Italian architect **Gustavo Giovannoni**. His theoretical views were officially adopted in 1931. He classifies monuments into two types: "**living**" (in use) and "**dead**" (unused).

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There are five recognized types of restoration:

1. **Conservation** – preserving a building in its current state to pass it on to future generations. This involves protecting the object from further decay without excessive intervention.
2. **Anastylosis** – a method of reconstructing a ruined monument using its authentic (original) fragments and returning them to their original positions.
3. **Supplementation (Replenishment)** – a method where lost parts of a building are filled in; however, the new elements are visually distinguished from the original ones so that the difference between the old and the new remains visible.
4. **The Method of Disclosure (Revealing)** – a technique where part of a monument is intentionally opened (freed from later layers) to demonstrate the true content and structure of the object.
5. **Renovation (Renewal)** – the construction of a historical copy of a building or the complete recreation of a vanished site (for example, the Imam al-Bukhari memorial complex).

In the restoration process, the use of modern building materials and structures is permitted only in places where they remain **invisible to the eye**.

Restoration in Fine and Applied Arts

In the field of fine and decorative-applied arts, restoration is typically achieved by stabilizing the current condition of the artwork and removing destructive layers to restore its original appearance.

These operations are conducted based on rigorous scientific analysis:

- Investigation of **raw materials** and the original creation technology.
- Identification of **degradation factors** and types of damage.
- In-depth research into the **provenance and history** of the material culture monument.

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Modern technical diagnostics are employed for this purpose, including spectral, chromatographic, and microcrystalline analyses, radiography, macro- and microphotography, infrared imaging, and other advanced methodologies.

The Necessity of Restoration

Cases where buildings are allowed to reach a state of total collapse before restoration begins are rare in practice. However, even when the need for intervention is indisputable, debates over the perceived "primitivity" of proposed measures and a lack of funding often lead to delays. Due to adverse weather conditions, climate, humidity, and other environmental factors, a monument in need of restoration can quickly fall into a state of extreme neglect.

Impact of Climate and the Environment

- **Industrial Zones:** In countries with temperate climates and high industrial density, soot, factory emissions, and automobile exhaust cause significant damage to gypsum ornaments, artworks, and, in some instances, the primary structural components of buildings.
- **Desert Climates:** In regions like Egypt, building facades undergo erosion due to wind-borne sand. Conversely, interior murals on gypsum and stone walls are often well-preserved due to the extremely low humidity levels.

Consequently, the degree of preservation is directly dependent on climatic conditions and geographical location. In regions with cold winds, the windward sides of a structure deteriorate more rapidly than the leeward sides. Furthermore, exposure to cold or carbon dioxide (released upon contact with rainwater) leads to the gradual chemical and physical weathering of marble sculptures.

Physical Factors of Stone Degradation

Stone walls are susceptible to destruction caused by the absorption of atmospheric moisture. When water freezes within fissures, it expands in volume, creating

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internal pressure that ruptures the material. Low temperatures are particularly hazardous for **sandstone and limestone**. While porous rocks (such as volcanic tuff) tend to be more resilient, any stone with existing cracks will inevitably suffer frost damage if water infiltrates the structure.

In regions characterized by extreme diurnal temperature fluctuations, the stone surface—which possesses low thermal conductivity—can heat up to **50–70°C**, while the internal layers remain cool. The resulting expansion of the surface layer leads to exfoliation (peeling) and crumbling. Mitigating the consequences of such thermal stress is often more challenging than addressing the effects of frost.

Protection Methods

To prevent frost damage, waterproof waxes can be utilized. In conditions of prolonged and severe cold, where silicones—which may trap moisture capable of turning into ice—do not always yield the desired effect, positive results are achieved through the use of water-soluble microcrystalline elements.

Conclusion

In summary, it should be noted that the training of highly specialized experts in the restoration of manuscript works has recently commenced in our country. Restoration laboratories dedicated to preserving unique sources are currently working on all types of manuscripts, historical documents, and printed publications. The staff primarily consists of graduates from the National Institute of Arts and Design named after Kamoliddin Behzod, as well as Samarkand State University of Architecture and Civil Engineering and Tashkent Architecture and Civil Engineering University. However, even within these institutions, there is a lack of a specialized academic direction specifically for manuscript restoration. Consequently, the development of national personnel in this field remains a highly urgent task.

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Today, there is a general shortage of qualified restorers across all disciplines, not just in manuscripts. Education is often limited to theoretical knowledge. Currently, specialist training follows the traditional “ustoz-shogird” (master-apprentice) system, where undergraduate and graduate students are involved in archival work. To produce high-class specialists, it is essential to open modern conservation and restoration laboratories equipped with state-of-the-art technology and to involve leading international experts.

Definitive steps in this direction are already being taken. For instance, on February 9, 2021, a modern conservation and restoration laboratory was inaugurated at the Samarkand State Museum of the History of Culture of Uzbekistan. This laboratory not only enhances the scientific potential of the republic and establishes a foundation for research infrastructure but also paves the way for strengthening cultural ties with the Asian region, particularly with the Republic of Korea. Furthermore, in 2023, by decree of the President of the Republic of Uzbekistan, Sh.M. Mirziyoyev, faculties for the "**Protection of Cultural Heritage Sites**" were opened at Samarkand State University of Architecture and Civil Engineering and Tashkent Architecture and Civil Engineering University.

From now on, the preservation of architectural monuments is carried out on a systematic and planned basis. Given the specifics of the restoration field and the goal of preserving unique regional architectural schools formed over centuries, a state institution, the "**Directorate for the Restoration of Cultural Heritage Objects**," is being established along with its regional centers. Funds allocated from the state budget for the preservation of cultural heritage will be prioritized for this Directorate through direct contracts.

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