

The wooden ceiling in the Great Mosque in Sana'a, "A Study in the Methods of Restoration and Maintenance"

Researcher. Amjad Ismail Mohammed

Master of Restoration and Maintenance.. Director of Information Systems at the College of Arts and Humanities... and instructor for the course Introduction to the Maintenance and Restoration of Antiquities

amgadabdulmughni@gmail.com

Abstract

This study sheds light on an important aspect that has not been studied in a specialized way before, which is the methods and ways of Restoring and Conserving the wooden ceiling in the Great Mosque in Sana'a, which is one of the most important mosques in the Arab and Islamic world.

This research aims to find scientific solutions to the problems faced by wooden boxes in the ceiling of the Great Mosque.

This study has given in-depth solutions to treat the most important aspects of Deterioration, as well as their classification, in addition to providing a documentary field study of the most important causes of Deterioration, and diagnosing their causes, leading to a presentation of the latest methods used in the treatment and restoration of decorative wood, which consisted in cleaning the wood under study, whether mechanically or chemically. This included all the dirt, stains and sedimentary materials that were attached to it, which concealed its exquisite features and decorations, in addition to the methods of strengthening and supporting the weak pieces of wood.

Keywords:

Great Mosque, Wooden Ceiling, Deterioration, Restoration, wooden boxes.

Introduction

The Great Mosque in Sana'a is considered one of the most important mosques in the world, which is characterized by its good architecture and decoration, and even its uniqueness in some architectural elements from others, as historical sources unanimously agreed that it was established during the life of the Messenger (may God bless him and grant him peace), where it was narrated that he ordered Weber bin Yahannes Al-Ansari to build a mosque in the garden of Badhan (1,2), between the bored rock to Ghamdan, and to be received by Jabal Dhin (3), which is what most historians and contemporary researchers favored.

the study Problem:

The problem of this study is reflected in the search for the optimal methods in restoring the wooden ceiling (brackets) in the Great Mosque in Sana'a, where many cracks and fissures appeared in its various walls, which resulted in structural fractures in the wooden brackets of the ceiling.

Importance and reason for choosing the topic:

The importance of the study is due to what is included in the Great Mosque in Sana'a of unique structural and artistic elements, especially its wooden ceiling, since the wooden boxes in the Great Mosque in Sana'a have not been studied before in terms of the methods and methods of their restoration.

Aim of the study:

The study aims to:

Determine methods of treatment and restoration on scientific grounds.

Shedding light on the chronic problems that the mosque's roof suffers from, in order to reach the best methods, methods, and materials for treatment and maintenance.

Study Approach:

The study relied on the analytical descriptive approach, through which the current state of the wooden lathing samples under study was described, in addition to the experimental method in applying the selected cleaning and strengthening materials to invisible test areas in the wooden ceiling lathings.

The study also necessitated dividing it into an introduction followed by two chapters, as follows:

The first topic: the theoretical aspect, which dealt with the Great Mosque in Sana'a, its planning, and the most important expansions and renovations of the mosque.

The second topic: the applied side, which dealt with the factors and manifestations of damage to wooden monuments. It also contained an applied analytical study for the treatment and maintenance of models of wooden chests in the Great Mosque in Sana'a.

The most important findings of the study:

Radiocarbon analyzes (14) of samples taken from the Great Mosque in Sana'a proved historical extensions dating back to pre-Islam, which re-assumes the re-employment of some wooden pieces taken from older facilities in the architecture of the Great Mosque. Analytical studies also showed that the renovations that took place on the wooden ceiling The mosque ends within the century (5 AH / 11 AD), which confirms that restorations were carried out during the era of Sayyida bint Ahmad al-Sulayhi.

Through the ophthalmic and laboratory study of the samples (C3, C4, C5, C6), and comparing them with the two samples (C1, C2) that were analyzed using the microscopic imaging device, it was found that the general use of hardwoods such as the walnut tree (*Juglans-Walnut*) constituted the basic load-bearing structure And secondary to the ceiling of the mosque (wooden racks and beams), and it was also used in the manufacture of part of the wooden crates, such as the closing plate, beams and frames, and the use of soft wood (pine wood) was limited to the manufacture of some secondary structural elements of the crates.

The study showed that the identified coloring materials belong to the classes of compounds commonly used for centuries, such as cinnabar, indigo blue, ultramarine blue, and the group of earth dyes, as well as the import of both Stratus and Orpiment. Realgar, and Cinnabar from other regions, especially since the discovery of modern coloring materials, or their synthesis in the laboratory, and putting them on the market was in the early century (13 AH / 19 AD).

The study concluded that the oldest (original) pictorial layer was executed before the century (8 AH / 14 AD), through the data provided by radiocarbon analyzes of wood, and compared with the results of examinations and analyzes related to the multiple colors of the wooden beams and bridges themselves.

The results of radiocarbon analysis (C14) of many samples taken from the wooden ceiling showed that they date back to pre-Islam, especially those taken from the base of the western minaret.

The study showed that the artist relied on two disparate methods in executing the gold foil on the boxes and the wooden stands.

Most important recommendations:

The study emphasizes the importance of carrying out periodic and continuous maintenance of the stashes of the Great Mosque every three months. Accurately following up on the state of the antiquity, checking its current condition, noticing any change that might occur, and dealing with it quickly.

The study recommends the use of modern indirect lighting units, which do not lead to photo-degradation of wood fibers and the color layer.

It is preferable to install units for suction and expulsion of fumes resulting from the use of incense during religious events, which may lead to the deposition of a very cohesive black layer on wooden surfaces.

References:

- •alzubaydi , 'abi alddya eabdalrahman bin eali alshiybani. qurat aleuyun bi'akhbar alyaman almimun. tahqiq: al'akwae muhamad bin eulay. dar bisati. lubnan , t (2). 1988 mi. s 51.
- •alqasim , yahyaa bin alhusayn. ghayat 'umniaat fi 'akhbar alqatr alyamani. alqism al'awala. tahqiq: saeid eabdal fataah eashur. dar alkitaab alearabii liltibaeati. alqahirati. 1968 mi. s s 64 - 65.
- •dayna: bikasr faskun. jabal hirami fi alshamal algharbii min madinat sanea'a. bimasafat 18 kilu. ealaa maqrabat min altariq 'iilaa madinat eumran fi sharqii darwan. yanzari: almaqhafiu , 'iibrahim 'ahmad. muejam albuldan walqabayil alyamaniati. j (1). dar alkalimat liltibaeat walnashr waltawziei. sanea'a. almuasasat aljamieiat lildirasat liltibaeat walnashr waltawzie. bayrut. 1422 hi / 2002 mi. s 952.
- •alsaedi , eabaas fadil. "madinat sanea'a". rasayil jughrafati. alqism aljughrafia. jamieat alkuayt waljameiat aljughrafat alkuaytiati. e (115). 1988 mi. s 44.
- •ghilan , hamuwd ghilan. al'akhshab almuzakhrifat fi alyaman (265/532 hi - 878/1137 mi). raslat majistir ghayr manshurtin. kuliyat aladab jamieat baghdad. aleiraqi. 1996 mi. s 11.