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Xvii Century Medical University - Graphic Reconstruction of "Madrasai Dor Ush-Shifo" Building

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Abstract: In this article, one of the urgent tasks of modern architectural science is to fill the history of Central Asian architecture with new and rich scientific materials, to reveal and illuminate new aspects of the history of architecture of Central Asia.

Keywords: Monuments, Bukhara, arches, palaces, Bukhara, arches, AutoCAD, Photoshop, waiter, healing.

Introduction: Imam al-Bukhari, Imam Motrudi and Shahi Zinda shrines in Samarkand, Bahovuddin Naqshband, Chorbakr and Masjidi Kalon architectural collections in Bukhara, Ahmad Fergani and Burhaniddin Marhiloni monuments in Fergana, Shahrimay in Khirdag, Surkhandarya and Surkhandarya. Dor ut-Tilawat, the Blue Mosque, the Odina Mosque and the Blue Dome in Karshi, the Hazrat Imam architectural complexes in Tashkent, and dozens and even hundreds of other steps have been built to beautify them.

In fact, it is a multifaceted sphere that requires spiritual purity, if it is necessary to preserve, taste and use the historical monuments that have remained from the past, extremely complex, delicate taste and skill, deep knowledge and experience, high potential.

It is known to all of us that the architectural monuments of our republic, which have been preserved mainly from the past to us, are known and popular in the science of architecture and our people. These include mainly palaces and arcs, mosques and madrasahs, caravanserais, commercial facilities, tombs and rooms, minarets. However, historical public baths, curative dry baths, round houses, garmobas, obzons, cisterns, yachts and a few educated people about their architecture and the division of expertise in this field is no more. Because, most of them have not been stored until now, and stored, unfortunately, are becoming unpopular.

The main part: in the Islamic civilization, the health of the human body and soul, harmony and integrity between them were considered one of the requirements of Mukhim. Therefore, the health of society and the army, el-yurt was considered a great wealth of the Kingdom and statehood. We can be proud and proud to see that Islam has built many public hospitals and medical facilities in the past with the aim of combating the disease and its spread to citizens and introducing eradicating

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treatments to life[1]. The Islamic physician Ali Ibn Abbas gives such a tariff to medicine:"it is a science that teaches health care to the sick and the return of kasalik to the sick."

The Arabs first saw the public hospital in the middle of the sixth century in the Iranian city of Jundisobur, where the current scientific medicine was under the umbrella of makska. After that, the first hospital in Islam in the era of Caliph Walid ibn Abdulmalik (beginning of the 8 century) will be restored. Then one after another hospitals in the Islamic world begin to be built. They were originally called" hospital", that is, the name of the hospital. Hospitals are two types portable and permanent. The first mobile hospitals were established in Muhammad Rasulululukh (s.a.C) entered the tradition as early as the period. They were the first military hospitals to be strengthened. Later, the caliphs and the Kings used it widely; some portable hospitals were so large that their equipment was loaded into a forty-foot camel.

Permanent hospitals are built in the capital and cities. There are a lot of their types, and the most common among them are public hospitals. Apart from them, there were separate hospitals for the army, for makhovs and Asabi mutiny. Public hospitals have separate departments for men and women. In each department there are several halls, in each of which separate rooms, halls are allocated for individual types of diseases, for example, internal diseases, eye, wound, broken-out, nervous disorders. Sometimes, each disease was allocated a separate courtyard from the hospital building, and the rooms facing the courtyard formed this department. Each hospital had its own kitchen, a canteen, a church, a pharmacy, and some hospitals also had a bath.

In each hospital, in addition to the chief physician and physician, farrosh from men and women, a pharmacist, a nurse and assistants worked. Enough of them set the salary of the payer. The salary was given to hospitals from the account of the income of the established foundation.

In some public hospitals, a system of medical education was also formed, which also performed the role of a madrasah. Such hospitals were called "Madrasai Dorush-healing" in the Islamic countries of Central Asia. In each hospital there was a large awning for reporters, in which a large physician conducted a lesson. They had different instruments and books on their sides. After examining and treating the patients, the shogirdas came to the presence of teachers, medical discussions and discussions were held between the teachers and the shogirdas, books were read. Often a practical lesson for students was held in the presence of patients[2].

One of such hospitals was built in Bukhara by Subkhonkulikhan in the XVI game, which is located in Registan on the right side of the arki gate of Bukhara. The inner courtyard of " madrasai Dar ush-healing " was built in a symmetrical frontal style composition with a roof and a single-storey separate building[3]. In the courtyard of the hospital there was also a sardine, from which pure drinking water was obtained. In addition to the cells for the kasals in the hospital there was also a pharmacy, a library, awnings for teaching students, rooms of doctors, a kitchen and (pharmacy) amblatorium.

[1] Inomovich, A. N. (2021). CHARACTERISTICS OF HISTORICAL SAMARKAND CITY CENTERS. *International Journal of Discoveries and Innovations in Applied Sciences*, *1*(5), 155-158.

[2] Tolqinovich, O. J., & Ravshanovich, K. S. (2022). Principles of Formation of Architectural and Design Solutions of Modern Residential Buildings in Samarkand. *Pindus Journal of Culture, Literature, and ELT*, *2*(1), 52-56.

[3] Inomovich, A. N. (2021). Principles of Reconstruction and Formation of Residential Buildings Typical of Historical City Centers. *EUROPEAN JOURNAL OF INNOVATION IN NONFORMAL EDUCATION*, *1*(2), 29-40.

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Degree of study: Subkhonkulikhan, whose interest in medicine is great, allocated enough funds from his real estate to the activities of "Madrasai dor ush-healing". He visited this medical center often and wrote a work called "Medicine Subkhonkulikhan", which carried out news about the condition of the musculature, and he himself was a physician. Treatment in the hospital was free for everyone. This hospital was destroyed in the 30-ies of the XIX century under the pretext of cleaning the Registan Square in front of the Ark and was driven away from the face of the earth. The Registan Square was abandoned by medical stones and the hospital foundations were left under the ground. However, before us, the fragmentar photos taken during the reign of the Tsarist Russia of the hospital and the scheme of the tarhiy structure were preserved[4].

Our research shows that the architect who designed the monument and built the building used a modular system, that is, the method of "lattice of floors", based on the gas unit of measurement of that period. The reason for us to come to such a conclusion is that from Bukhara were found drawings of the scales of several buildings, which the architect of the XVI century drew with his own hands on the paper "net of folds". We have mentioned above about these findings. It is known that in the design and harmonization of tarx and style forms, medieval architects took a large module (M) equal to half the height of the portico of the building. While working on the graphic reconstruction of "Madrasai dor ush-healing", we also adopted many of these methods in the form of a large module half of the arch of the arch. When interposing and finding the dimensions of the elements of style and tarh, we used an intermediate module (M1=M/2), which is equal to half the size of the larger module. In addition to this intermediate module, we also used a small module in finding the location and interactions of styles and tarh forms. It was obtained in the case of a quarter of a large module, that is, m2=M/4. We took 1:1,5 relative to the width height of the Madrasa roof, which in the intermediate module constitutes 8:12, that is, the proportion close to the "Golden Ratio". Both wings of the head style received a proportion of 9:4:9 in a larger module than the width of the petal.

If the principles of harmony based on the module were used in finding the dimensions of the castle tarkhs and its parts, the geometric proportions obtained by the method of construction were mainly used in determining the heights of the castle-style parts. So in the past, the architects were able to apply simple whole-number arithmetic, that is, rational proportions, in the style of a holistic system, in connection with the irrational proportions of the trench, in order to achieve harmony with the forms of the castle. This same style served the most basic principle of achieving the harmony of architectural forms in the design and construction of buildings of architects of the past, namely the law of the head.

At present, the foundations of this medical facility, which have not been preserved until now, can be found under the ground if the farsh stones that have been drilled open the area in front of the Ardi-yu Bukhara arch. Taking them off, blocking them with transparent plastic materials of modern color, into which all the historical photomaterials about the healing of Madrasai Dar ush-if the repair

[4] Холиқов, С. Р. (2021). Историческое развитие архитектурного комплекса ХазратИ Имам (ХАСТИМОМ). *INTERNATIONAL JOURNAL OF DISCOURSE ON INNOVATION, INTEGRATION AND EDUCATION*, *2*(1), 104-107.

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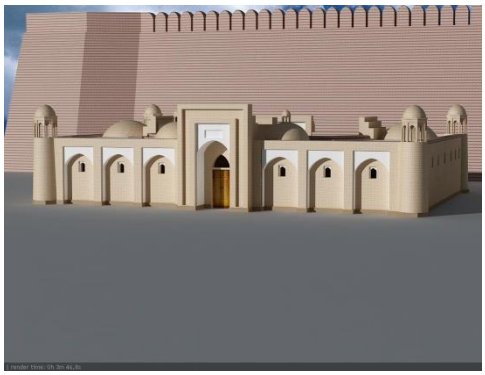
drawings we have created are developed with an image, this monument can become one of the most interesting and proud objects for foreign tourists, and for our history and culture of the past[5].

One of the Central Asian hospitals that has not been saved up to us was built in the seventeenth century by Subkhonkulikhan in Bukhara, which is located on the right side of the gate yoegina of Bukhara Ark. The inner courtyard of" madrasai Dar ush-healing " was built in a symmetrical-style composition with a roof, with a single-storey separate building. In the courtyard of the hospital there was also a sardine, from which pure drinking water was obtained. In addition to the cells for the kasals in the hospital there was a pharmacy, a library, awnings for teaching students, rooms of doctors, a kitchen and an outpatient (pharmacy).

The hospital was destroyed in the 30-ies of the XX century under the pretext of cleaning the Registan Square in front of the Ark and was pushed out of the face of the earth during the Shrovetide period. The Registan Square was torn apart from the tibial stones, and the hospital foundations were left under the ground. But before us, photos of fragments from the period of the Tsarist Russia invasion of the hospital and the scheme of the historical structure were preserved.

Practical result: Based on these photos and the scheme of history, we have developed a graphic reconstruction of the madrasah in modern computer programs. AutoCAD and Photoshop electronic systems are such programs. In AutoCAD, the history, style, and axonometry of the madrasah were developed, while in Photoshop, the image of the object was worked in color.



General view of the monument

Night view of the monument

Although computers are currently used in architectural design work in Central Asia, in the preparation of architectural monuments restoration projects until the following years, kompter graphics tools are being used without productive use. However, it is inevitable that modern electronic machines give rise to unlimited comfort and opportunities even in the design work of repair architects[6]. Trying to find the original design style of these unique monuments in the above-mentioned electronic programs, we were able to determine the architectural legislation used in the work of the building layout and style, as well as in the harmonization of architectural forms of the hospital. First of all, it should be noted that the hospital building is a rectangular inner courtyard, in the form of which the symmetrical frontal composition ishlangan. The tarkhi of the inner courtyard is

[5] Ravshanovich, X. S. (2021). Types of domes of architectural monuments of Uzbekistan. *International Journal of Culture and Modernity*, *1*, 5-8

[6] Холиқов, С. Р. (2021). Марказий Осиё архитектура ёдгорликлари гумбазларининг турлари. *INTERNATIONAL JOURNAL OF DISCOURSE ON INNOVATION, INTEGRATION AND EDUCATION*, *2*(2), 40-4

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not a straight rectangle, but has a peculiar shape, that is, an elongated octagonal appearance, which can not be found in other madrasahs and hospitals of Central Asia. This is due to the fact that the courtyard did not climb, touching the outer corners of the hospital building and creating access from the courtyard to the interior rooms located close to them. From the courtyard to the open dolons, and from them to the same interior rooms[7].

It is known that in the style of length measurement in the architecture of the XVI century "gas "(the distance from the fist of the gas-architect's hand to the shoulder) was used; two types of gas were used in Bukhara: Sharia gas and Shakh gas. The average length of Sharia gas in most cases is 60-62 CM, and Shakh gas is 104-108 CM. If we transfer the large module used in the design and construction of this hospital to the gas bill, then it corresponds to the modern size 108 CM, that is, one shox gas, in the intermediate module 54 cm (half of shax gas), and the small module 27 cm (one quarter of shax gas). Then it turns out that the ratio of the sides of the hospital tank is 16:22 in a large module, and in the same modern dimensions as in the Horn gas, this ratio is equal to 17, 28 x 23, 76 meters[8]. The sides of the inner courtyard are on the 8:13 module along the arrows, that is, it corresponds to the Golden Ratio and is 8,64x14, 04 meters. It should be noted that the architects of Central Asia did not consider the measure of the length (gas)used by them as a constant unchangeable size, similar to the modern meter vash it is for this reason that the amount of gas was taken separately for each building. Although the absolute amount of gas does not have a decisive value, it is unchanged for each building, and the dimensions of the parts of the building are taken into account in this gas, that is, in an oblique and proportional way[9]. The size of the gas length, as a rule, corresponds to several g'isht widths. And the gas itself or some gas is obtained in the form of a scaling unit, the scaling type is structured, and the dimensions of the parts of the building are determined in proportion and in proportion to the type of such a scale meshes. It did not matter whether gas was taken for a scale unit or two or more meters, since gas all the time included in its composition a whole meter of width. Well, the gas, the scale type and the breadth of the building brick (separately for each building) are among the main means of ensuring a mutually solid bond and the harmony of the dimensions of the building forms. The combination of shapes has determined the system of geometric proportions (proportions).

Thus, we found the project style that the architect of that time used in the design of "Madrasayi dor ush-healing", which was built in Bukhara in the XVI century, and on its basis we were able to repair this building with the help of modern computers.

If the principles of harmony based on the module were used in finding the dimensions of the castle tarkhs and its parts, the geometric proportions obtained by the method of construction were mainly used in determining the heights of the castle-style parts. So in the past, the architects were able to apply simple whole-number arithmetic, that is, rational proportions, in the style of a holistic system, in connection with the irrational proportions of the trench, in order to achieve harmony with the

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[8] Tolqinovich, O. J. (2022). Architecture of Traditional Residential Buildings in Historical Cities of Uzbekistan. *EUROPEAN JOURNAL OF BUSINESS STARTUPS AND OPEN SOCIETY*, *2*(1), 65-69.

[9] Tolqinovich, O. J. (2022). Modern Residential Buildings in the Historical Part of Samarkand Formation of Modern Typology. *European Journal of Life Safety and Stability (2660-9630)*, *13*, 87-92.

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At present, the foundations of this medical facility, which have not been preserved until now, can be found under the ground if the farsh stones that have been drilled open the area in front of the Ardi-yu Bukhara arch.

Case: the completed graphic reconstruction, the prepared make-up and the research materials of the project can be used not only in the study of the history of the architecture of Central Asia, but also in the study of the history of Medicine, in the preparation of exhibits related to museums and visions in this area.

The issue of studying not only the monuments of architecture preserved before us, but also the objects of urban planning, their introduction into scientific circulation and popularization among the people is also an important scientific and practical task.

REFERENCES

1. Yerjanovich, Y. B., & Mamadiyoroglu, A. A. (2021). ABOUT THE URBAN PLANNING PRACTICE OF THE URDA FORTRESS OF ANCIENT JIZZAK.*International Journal of Discoveries and Innovations in Applied Sciences*, *1*(5), 148-151.
2. Yerjanovich, Y. B., & Mamadiyoroglu, A. A. (2021). Principles of Using Ornamental Plants in the Interior. *EUROPEAN JOURNAL OF INNOVATION IN NONFORMAL EDUCATION*, *1*(2), 79-81.
3. Alisherbek, N. (2021). Development of Urban Development in the Territory of Uzbekistan.*CENTRAL ASIAN JOURNAL OF THEORETICAL & APPLIED SCIENCES*,*2*(10), 24-26
4. Нарзиев, А. К. У. (2020). РАЗВИТИЕ ГРАДОСТРОИТЕЛЬСТВА УЗБЕКИСТАНА. *Academy*, (11 (62)).
5. Alisherbek, N. (2021). About Jizzakh Cultural Heritage Sites. EUROPEAN JOURNAL OF INNOVATION IN NONFORMAL EDUCATION, 1(2), 90-91
6. Холиқов, С. Р. (2021). Марказий Осиё архитектура ёдгорликлари гумбазларининг турлари. *INTERNATIONAL JOURNAL OF DISCOURSE ON INNOVATION, INTEGRATION AND EDUCATION*, *2*(2), 40-43.
7. Ravshanovich, X. S. (2021). Types of domes of architectural monuments of Uzbekistan. *International Journal of Culture and Modernity*, *1*, 5-8.
8. Холиқов, С. Р. (2021). Историческое развитие архитектурного комплекса ХазратИ Имам (ХАСТИМОМ). *INTERNATIONAL JOURNAL OF DISCOURSE ON INNOVATION, INTEGRATION AND EDUCATION*, *2*(1), 104-107.
9. Ravshanovich, K. S., Xurramovich, K. A., & Inomovich, A. N. (2021). THE PROBLEM OF PROTECTION AND USE OF ARCHITECTURAL RESERVES OF HISTORICAL CITIES OF UZBEKISTAN. *International Journal of Discoveries and Innovations in Applied Sciences*, *1*(5), 152-154.

ISSN 2576-5973 (online), Published by "Global Research Network LLC"
under Volume:5 Issue: 2 in February-2022
https://www.grnjournals.us/index.php/AJEBM

10. Esirgapovich, J. A. (2021). CITY PARKS AND SOME ISSUES OF LANDSCAPE AND ENVIRONMENTAL ASPECT.*International Journal of Discoveries and Innovations in Applied Sciences*,*1*(5), 145-147.
11. Жонузаков, Абдувахоб Эсиргапович, and Гулбахор Уктамовна Миразимова. "Городские парки и некоторые вопросы ландшафтно-экологического аспекта."*Academy*11 (62) (2020).
12. Жонузаков, А. Э., & Холиков, С. Р. (2020). Архитектурный комплекс Хазрати Имам (Хастимом)-пример сохраненияЯ и использованияЯ культурного наследия в Узбекистане. *Academy*, (11 (62)).
13. Xurramovich, K. A. (2021). The problem of protection and use of architectural reserves of historical cities of Uzbekistan. *ACADEMICIA: An International Multidisciplinary Research Journal*, *11*(4), 1220-1223.
14. Qudratovich, B. B. (2021). Personnel Issues in the Application of Nanotechnology in Construction and Architecture. *International Journal of Discoveries and Innovations in Applied Sciences*, *1*(5), 248-250.
15. Ravshanovich, K. S. (2022). REVIT+ DYNAMO. *Pindus Journal of Culture, Literature, and ELT*, *2*(1), 57-63.
16. Tolqinovich, O. J., & Ravshanovich, K. S. (2022). Principles of Formation of Architectural and Design Solutions of Modern Residential Buildings in Samarkand. *Pindus Journal of Culture, Literature, and ELT*, *2*(1), 52-56.
17. Ravshanovich, K. S. (2022). Vertical Gardening. *European Journal of Life Safety and Stability (2660-9630)*, *13*, 93-100.
18. Yerjanovich Y. B. History of Architecture and Urban Planning of Sopollitepa Monument //EUROPEAN JOURNAL OF BUSINESS STARTUPS AND OPEN SOCIETY. – 2022. – Т. 2. – №. 1. – С. 49-54.
19. Khurramovich K. A. Main Methods of Reconstruction of the Tourism System of Historical City Centers //European Journal of Life Safety and Stability (2660-9630). – 2022. – Т. 13. – С. 82-86.
20. Sultanova, D. N. (2015). Epigrafical ornaments in architecture of Uzbekistan. *International journal of scientific & technology research*, *4*(07), 83-87.
21. Султанова, Д. Н. (2013). Применение архитектурного декора и художественной пластики в средневековой архитектуре Узбекистана и её место в художественной культуре Средней Азии. *Молодой ученый*, (12), 719-723.
22. Namazovna, S. D., Makkamovich, S. S., & Zohirovich, D. Z. (2020). Aral Oasis as Potential Base for Development of the Tourism. *Indonesian Journal of Law and Economics Review*, *6*.
23. Султанова, Д. Н. (2015). РЕШЕНИЕ ХУДОЖЕСТВЕННОГО ОБРАЗА ЗДАНИЯ АКАДЕМИЧЕСКОГО ТЕАТРА ИМЕНИ АЛИШЕРА НАВОИ В ТАШКЕНТЕ. *Вопросы гуманитарных наук*, (2), 130-135.
24. Султанова, Д. Н., Эшпулатова, М. Р., & Дусанов, З. З. (2017). ФОРМИРОВАНИЕ ПРОФЕССИОНАЛЬНОГО ОБЪЕМНО-ПРОСТРАНСТВЕННОГО МЫШЛЕНИЯ У

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25. Султанова, Д. Н. (2015). Гармонизация художественных средств в архитектурных сооружениях, посвященных космонавтике. *Молодой ученый*, (3), 933-936.
26. Султанова, Д. Н. (2021). ЗАРУБЕЖНЫЙ ИСТОРИЧЕСКИЙ ОПЫТ ХУДОЖЕСТВЕННОГО ОБРАЗОВАНИЯ АРХИТЕКТОРОВ И ДИЗАЙНЕРОВ. In *Архитектура и архитектурная среда: вопросы исторического и современного развития* (pp. 50-53).
27. Султанова, Д. Н., & Бахриддинова, З. Ф. (2021). КЛАССИФИКАЦИЯ СТОЛОВЫХ И РЕСТОРАНОВ В АРХИТЕКТУРЕ ТАШКЕНТА. In *Архитектура и архитектурная среда: вопросы исторического и современного развития* (pp. 53-55).
28. Namazovna, S. D. (2021). Harmony Of Art In Architecture Of Uzbekistan. *The American Journal of Social Science and Education Innovations*, *3*(05), 87-94.
29. Tolqinovich, O. J., & Ravshanovich, K. S. (2022). Principles of Formation of Architectural and Design Solutions of Modern Residential Buildings in Samarkand. *Pindus Journal of Culture, Literature, and ELT*, *2*(1), 52-56.
30. Tolqinovich, O. J. (2022). Modern Residential Buildings in the Historical Part of Samarkand Formation of Modern Typology. *European Journal of Life Safety and Stability (2660-9630)*, *13*, 87-92.
31. Tolqinovich, O. J. (2022). Architecture of Traditional Residential Buildings in Historical Cities of Uzbekistan. *EUROPEAN JOURNAL OF BUSINESS STARTUPS AND OPEN SOCIETY*, *2*(1), 65-69.
32. Inomovich, A. N. (2021). Principles of Reconstruction and Formation of Residential Buildings Typical of Historical City Centers. *EUROPEAN JOURNAL OF INNOVATION IN NONFORMAL EDUCATION*, *1*(2), 29-40.
33. Inomovich, A. N. (2021). CHARACTERISTICS OF HISTORICAL SAMARKAND CITY CENTERS. *International Journal of Discoveries and Innovations in Applied Sciences*, *1*(5), 155-158.

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