

Architectural Ceramics of Ancient Samarkand

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Abstract The article provides information about the types, applications and manufacture of tile ornaments i.e. architectural ceramics in the architectural monuments of ancient Samarkand, which attracted the attention of the world.

Keywords: tile, cut tile, architectural ceramics, arabesque, group, drum.

INTRODUCTION

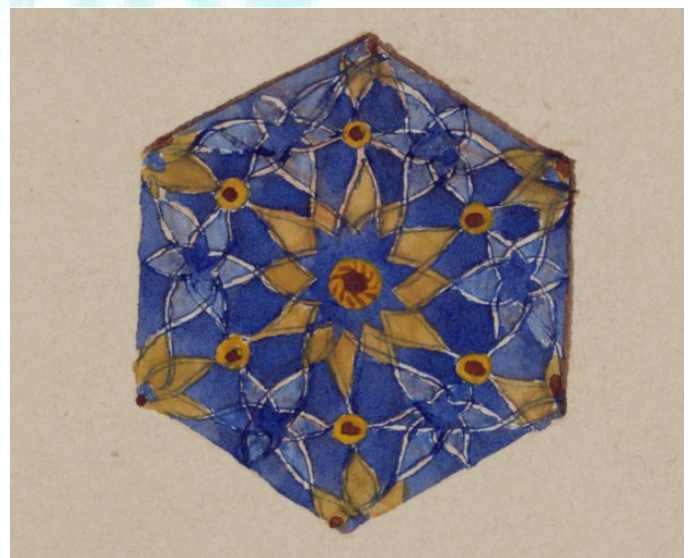
Samarkand is one of the oldest cities in the world, which is the capital of the ancient state of Sogdiana, and it is 2.5 thousand years old. In the XIV century, Samarkand became the capital of Amir Temur's empire. The great ruler gathered talented architects, craftsmen, and artists from all corners of his vast state and ordered them to build new buildings. To decorate buildings, masters used ceramic tiles created in craft workshops - majolica (tiles) and mosaic (cut tile). The composition of the tiles used to cover buildings in Samarkand, Bukhara and Khorezm is unique. Each of the ancient cities had their own schools of art, developed their own majolica compositions, which modern restorers have studied for their full composition and properties, developed for the repair of architectural monuments, and now, but as a result, tile patterns made in the modern era fade in a few years, while tiles in the ancient cities retain their bright and rich color, although they are over 600 years old.

Methods and materials: Architectural exterior decorations are mostly bricks made of tile or rivets, and patterns carved into stone, depending on the material used for interior decorations, tile or plaster, plaster, wood, stone carving or painting can be painted on the wall plaster. Depending on these characteristics, architectural ornaments can be divided into several distinct types, namely brick and wood carvings, murals, stone carvings, mukarnas (stalactite ornament), and kundal and kundal ornaments [5].

In architecture, a variety of tiles are architectural ceramics in buildings that enhance the artistry of the building and prolong the life of the building by protecting it from external influences. Decorating buildings with patterns has long enriched the world of human thought, so in architecture, the buildings decoration is given special attention.

When we look at extant architectural monuments, architectural ceramics and the art of decoration have constantly evolved in different ways. Architectural art flourished during the reign of Amir Temur. During this period, the decoration includes a variety of colors and patterns. The words of the scriptures were written in certain parts of the building, usually by masters who had acquired the art of calligraphy. In the art of decorating the facades of buildings and interiors, attention is paid to the exact interdependence of geometric structures that determine the overall harmony of architectural forms [11].

Figure 1. Majolica.





Majolica is the common name for products made from fired colored clay. The tiles are molded from colored clay, glazed, painted and only then fired in the oven. As a result, the clay and paint form a vibrant ceramic work. As an art, majolica was known in ancient times in Egypt and other Eastern countries, where colored tiles were often used to decorate walls.

Products made of ceramic-clay mixtures, the art of pottery. The ceramic-clay mass is made in the style that is still preserved in some places [3].

In this style, the fertile layer of soil is removed and then the natural continental soil is loosened and watered. Several times softened with a hoe. After periodic stirring to ensure that the soil is free of natural salts, the water that has come off the surface of the sediment sludge is drained and mixed again with clean water. In winter, dirt is collected, softened and frozen to keep the moisture content even. It was thought that a longer processing time (freezing, rinsing, turning) of the batch was more necessary for good product quality. This is true: softening increases the plasticity of the molded clay, ensuring durability and good preservation of the product. Removing salts from the soil ensures that baked goods won't be salty and reduces product moisture. In the past, when pottery was dried before baking, large amounts of straw were sometimes added to the molded mass to reduce the shrinkage of the mass. In the manufacture of molded architectural clay, pottery is often added to its composition in the form of plant stems (carcass), horse manure and wool to

prevent cracking. Sometimes thin embossed clays are mixed with reed wool [3].

To decorate the surface of ceramic products and protect them from external influences, products are covered with glaze and slipware. Items are painted with ceramic paints. In such cases, the ceramic material becomes majolica. Artistic ceramic pattern (tiles) of glossy majolica color tiles. The color scheme of the ceramic tiles of the ancient buildings of Uzbekistan has all shades of gold and blue. Religious buildings are traditionally decorated with blue domes and artistic completeness, trying to bring them closer to the sky and filled with floral ornaments.

One chapter of the booklet describes the creative work, beautification, and construction that took place in different parts of Movarounnahr during Amir Temur's reign. The author tells an interesting story about the wide streets, huge palaces and gardens built in Samarkand, the center of Amir Temur's state. According to the historian, Samarkand was called "arus al-avasim" ("bride of the world's capitals") or "al-Madiyhataz-zarqa" ("Blue City") during the reign of Amir Temur, for example, all the monumental buildings in the city were covered with blue, which was declared the official color at that time. [12]

Exterior architectural ornaments of the XIV-XV centuries are in various arabesque, girih (strapwork) or "madokhil" and "devoniy" style patterns, indoor vinegar ornaments are mainly in lojuvard (purple) and turquoise patterns, and calligraphy ornaments are in "suls" style. Such colorful compositions were widely used in the mausoleums of Shodimulk, Amir Khussein, Amirzoda, Shirinbeka aqa at the Shahizinda crossroads in Samarkand...

...The height of the inscription on the roof of Temur's mosque in Samarkand was about one and a half meters, and, according to Babur, it could be read from a distance of 2.5 kilometers. [5]

Pattern of structural tiles made of mosaic pebbles, glass, ceramics, fragments of marble and other fine-grained materials. The simultaneous use of traditional and decorative tile patterns and marble carvings form a holistic art. The peculiarity of Arabic letters by their flexibility and relief simultaneously served not only an educational but also an aesthetic function. The mosaic was obtained by laying horizontally stacked ceramic bricks with a unique pattern. An integral part of the

mosaic decoration is a collection of floral and plant patterns as well as blue and white tiles.

Along with patterns and calligraphy, frescoes are found on the monuments of Shirinbek aqa, Bibikhanum and Tuman aqa, built during the reign of Amir Temur. The buildings built during Tamerlane's reign were dominated by blue and gold. The walls and ceiling, even the ceilings, are decorated with patterns. In particular, Samarkand patterns are distinguished by the frequent use of flowers, leaves and stems[3].

Most of the facade walls of the buildings were decorated with tiles by ancient architects. The technology of creating such a mosaic of ceramic tiles is very complex. Painted clay tiles are cut into pieces, each piece is manually given the desired shape and color, baked and assembled into a colorful pattern. They are even shaped, assembled, and baked over a fire. Imagine, construction with such sophisticated technology took only a few years, for example, the Bibikhanum mosque was built in 5 years.

Figure 2. Bibikhanum mosque.



The building is decorated from top to bottom with glazed mosaics and majolica: domes, dome drums, front walls, side walls.

Figure 3. The dome of the Bibikhanum monument is decorated with majolica tiles.

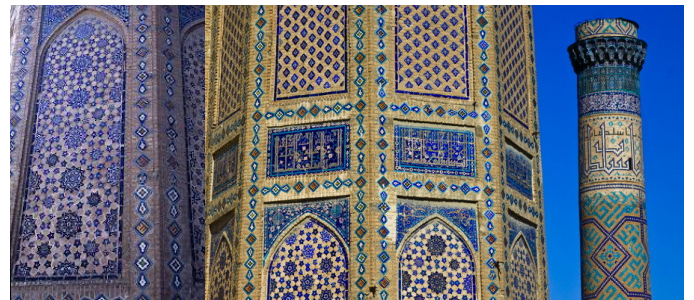


Figure 3. There is an inscription in Arabic on the dome drum of the mosque. The letter is made of glazed brick, but written in a certain "handwriting" - calligraphy in the Arabic style.

Figure 5. Calligraphic mosaic (cut tile) patterns on the dome tanbur of the Bibikhanum monument.



When we look at Bibikhanum's mosaic, we see how many little pieces of ornamentation were skillfully assembled and used.

Figure 5.A patterned mosaic of painted tiles.



The most intricate and beautiful patterns are based on tiles and stone carvings.

Figure 6. Painted and scratched majolica.



Conclusion: Today, these and other architectural objects are always in need of repair with a serious approach to future delivery and maintenance. We need to do research in science to achieve success in repairing tiles based on natural conditions.

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