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## Production and Use Specifics of Carved Decorations in the Architecture of Medieval Khwarezm (XIII-XIV Centuries AD)

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**Abstract:** This work is an attempt to study and describe some varieties of non-glazed ceramic facing bricks (the carved clay) because the goods made of this material, as well as their peculiarities, and the role they played in the socio-economical history, the aesthetics, and the architecture on Medieval Khwarezm have not been studied until the present day. The carved clay is a fragile, unfired, unglazed architectural millwork. This is why it is quite rarely found unbroken in the excavated building debris. The carved decorations on the clay support were omnipresent in the historical site ornamentation of the XII-XIV centuries AD. However, as we can judge by the surviving building details and by their fragments, in Khwarezm unglazed carved pottery, or pottery cast in the *qalip* moulds and clay slipware had been in use since the VIII century AD (the Afrighids period, V-IX centuries AD). This is testified by the surviving medieval mausoleums, mosques, houses of the rich townspeople, and by the findings at the sites discovered by archaeological expeditions. The architectural decoration parts usually had an epigraphical or botanical ornament. The carved ornament could include semiabstract botanical motives (any petals, leaves, branches), or geometrical ones, looking like entangled bands, curls, and inscriptions made in *Naskh* Arabian calligraphic style. Initially, the ornament was carved in raw clay and then fired in pottery kilns.

Closing the interdisciplinary gap in the studying of the cultural heritage of Central Asia – explicitly its architectural and aesthetic aspects – is deemed utterly important. The use of certain technologies in the production of the architectural decorations specifically from the carved clay indirectly allows to reveal and describe the social and economic practices pertaining to the medieval society and state.

The results and conclusions have an applied significance for recreating the complete decorations of the historical Khwarezmian architectural sites. Besides, the materials accumulated in this work may be of interest for art experts, orientalists, and architectural historians.

**Keywords:** carved unglazed pottery; carved decorations; carved clay; carved terracotta; carved stucco; the mihrab; the facing bricks; the ornament; the friso; Khwarezm; the Afrighids period; the reign of the Khwarezmian dynasty; the Golden Horde period.

### Introduction

The history of the state of Khwarezm is provisionally divided into several historical and archaeological periods: the Kushan-Afrighid culture (III-V centuries AD), the Afrighid culture (V-IX centuries AD), the Afrighid-Samanid culture (IX-XI centuries AD), and the Khwarezmian dynasty culture (XII-XIII centuries AD). It was the medieval age when the oasis of Khwarezm was one

of the most prominent centres of the culture, science and economy of Central Asia. The industrial arts flourished and grew in number. Among various occupations the Khwarezmians were involved in, the builders and architecture decorators of mausoleums, medreses, minarets, caravanserais, and fortifications marked the history of Khwarezm most significantly.

Due to its distant location, natural and climatic

conditions, as well as political and historical isolation, Khwarezm, unlike other regions of Central Asia, had its own authentic architectural school (G. A. Pugatchenkova, 1967, p. 21; S. A. Utaliev 2013a, p. 3). This isolation triggered the appearance of the unique construction school, and, above all, was expressed in the architectural facing.

Analysing the literature on the history of the Medieval Khwarezmian architecture and studying the relevant archaeological data, we discovered a gap in the studies of the reasons and the necessity for the use of the carved decorations (the carved clay) in the facing of the architectural buildings. The research of the history of the Khwarezm architecture began in the 1930s. In fact, the researchers limited themselves to the general description of objects and their decorative elements. This happened because, at the initial stage, they faced a problem of the integrity and specific processing of the architectural pottery. Thus, the topicality of the research is determined by the lack of related studies and prospects for the recreation of the Khwarezm medieval carved decoration. Such research is necessary to understand the importance of the cultural advances of Khwarezm in the Middle Ages in a more profound way. Studying the carved architectural decorations of Khwarezm and making out their distinguished peculiarities are essential for filling the gaps in the history of the birth and the development of the architectural decorations on the global scale, as well as for a better understanding of their value and practical use.

#### **Materials and Methods**

This work is based on both the general science methods, which are applied in every liberal science (the dialectic and systemic approaches and others) and the research methods that are specific to history (the retrospective, comparative, and competitive approaches, as well as some others).

The dialectic approach favoured a theoretical reflection of the carved decorations (the carved clay) entirety and the identification of the leading trends in their evolution as well as the causes and mechanisms providing their development. The systemic approach allowed an interdisciplinary analysis of historical events and phenomena that defined unique, specific and common features of the Khwarezmian architectural decorations. The conducted analysis helped outline the diversity of their elements and the uniqueness of the carved decorations (carved clay). The comparative

approach was used to compare the historical, archaeological, and architectural heritage of Medieval Khwarezm and its neighbouring state formations. The data obtained during different archaeological expeditions was correlated. Besides, there was an attempt to reveal similar processes in the development of the architectural decorations in various locations of Medieval Khwarezm.

Special research methods were applied to the pottery, namely the shape study methods, the technology information isolation methods, the ornament analysis methods. Those methods were found necessary and particularly useful for this work. The clay is evident to be a frequently used and a highly available material, which is why the knowledge about the pottery slips composition and the goods manufacturing technology is an original source of information. Studying it helps understand the internal relationships between societies that occupied different territories, reconstruct the trade routes and links, migration trends, and, in general, “define ways of civilisation formation”.

#### **Literature Review**

A galaxy of eminent researchers productively devoted their efforts to the questions of the history of the architectural structures of Khwarezm. In this list, the prominent places are taken by the works of A. Y. Yakubovsky, N. M. Batchinsky, B. P. Denike, V. I. Pilyavsky, N. S. Grazhdankina, G. A. Pugatchenkova, M. Y. Masson, A. M. Pribytkova, L. Aleksandrova, A. Asanov, V. M. Philimonov, K. Yusupov, N. B. Khalimov, and some others. In the research works of the listed and other authors, it was noted that the development of the architectural school of Khwarezm was unique and drastically different from the architectural schools of the neighbouring states. The distinction stood out prominently in the architectural facing. However, the difficulties in discovering and describing the methods and ways of the architectural pottery production on the surviving sites forced the researcheres to limit themselves to describing the sites and their decorative parts in a general way. This situation gave rise to a research aimed at specific kinds of the facing pottery.

The research activity around the history of Khwarezmian architecture and the known sites of it first began in the 1930s and continued in the second half of XX century. However, they all were of a descriptive and a generalising nature. The foreign researchers did not take interest in this topic in

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either XX or XXI centuries. Unfortunately, the contemporary scientists from the Central Asia countries do not pay considerable attention to the topic of this research.

However, it is necessary to acknowledge that so far the archaeological expeditions have accumulated a significant number of the decorative carved clay tiles. They make it possible to study the architectural decorations (the carved clay) of Medieval Khwarezm pointedly.

The archaeological materials obtained in the course of archaeological expeditions in Mizdakhkan (held by Karakalpak State University named after Berdakh to Mizdakhkan, 1990 – 2001), at the archaeological sites of Ustyurt, Konye-Urgench, Khiva, Mizdakhkan (held by the Archaeology Department of Karakalpak, Affiliated Branch of the Academy of Sciences of Republic of Uzbekistan) and at Shemakha kala (held by “Emir Timur yuli bilan” - meaning “Following Emir Timur’s routes” in Uzbek), 1996) formed a set of information sources. The materials of the Fund of Khwarezm Archaeological and Ethnographical Expedition, kept in Moscow, became a valuable source for the work. The excerpts and copies from the Fund's materials were made by M.-Sh. Kdyrniyazov in 1978 - 1979, and afterwards voluntarily handed over to the author. In the course of the author's work, the archive materials from Puljay kept in the State Museum of the Local Lore of the Republic of Karakalpakstan were used, as well as Konye-Urgench related materials from the funds of the State Museum of Art of Republic of Karakalpakstan, named after I. V. Savitsky.

In general, a question of the scientific generalisation of all the accumulated richest material has arisen. Studying this material helps specify the history of the architectural decoration emergence and that of its practical application during the construction works which had shaped the known sites. A comparative study of Khwarezmian tiles with the specimen from the adjacent regions allows to rise and solve several most important issues related to the history of the architectural heritage left by the population of the Oasis of Khwarezm (S. A. Utaliev, 2013a).

### Discussion

Originally, the base body for decorating buildings in Khwarezm was clay, and with time alabaster and fired unglazed terracotta. In the archaeological literature on the topic, the latter type

of decorations has various names: the architectural terracotta, or the carved unglazed terracotta, or the carved stucco, or the carved clay (S. B. Lunina, 1972, p. 34-45; G. A. Pugatchenkova, L. I. Rempel', 1965, p. 203; L. I. Rempel', 1961, p. 256-258). Terracotta had a natural colour or had been artificially coloured depending on the raw material used. At the medieval sites of Khwarezm, the terracotta of reddish-orange or lighter shades is usually found. In addition, the carved alabaster, or ganch decorations, shaped using the *qalip* moulds, had been used since the Antiquity until the Medieval Age. Such decorations had a slightly embossed ornament. Thus, there are ambiguous renderings of the unglazed architectural facing definitions in the historical, archaeological, and architectural literature.

It should be stressed that the unglazed carved stucco of Khwarezm has never been studied as a specific and original decorative solution. Because of this, we are going to try to describe some kinds of the unglazed facing pottery of Khwarezm, excavated in the course of the archaeological works over the recent 20 years. The carved decorations of the Medieval Khwarezm were most often made from simple clay mixed with loess soil. This explains why they could be classified as the facing pottery. It is necessary to point out that the unfired unglazed architectural detail, which common in the architectural ruins, is fragile and thus rarely found intact. A beautiful example of an architectural structure is depicted on one Khwarezmian toreutics artefact. A silver dish from Khwarezm found in the village of Anikovo (the Urals, Russia), depicts a besieged fortress. The walls, corner towers, ramparts, and frisos of that fortress are decorated with a massive sculptural ornament apparently made of unglazed carved pottery. In the same picture, there are ridged walls with distinctive traits of the early medieval fortifications of the Southern Aral Sea region (S. P. Tolstov, 1948a, Table 86). The big Teshik kala mansion, which is a monument of the early Middle Ages Southern Khwarezm, is decorated with feigned columns with small archivolts, richly garnished walls, and frisos made of the raw clay (S. P. Tolstov, 1948a, p. 139-141, Tables 40-41) (Fig. 1). In Teshik kala a living room of the castle's owner was also decorated by a raw clay friso rounding the entire room in the upper part of the walls. At the southwestern wall, large fragments of the friso remained in a very good



condition. The friso's ornaments consist of the interleaved octactinal rosaces of an archaic type, and also of the pentaphyllous palmettes (S. P. Tolstov, 1948a, p. 141, Tables 40, 41). A complete image of using the carved clay can be gained from adobe clay decorative details of early medieval castles and the fortress of Kavak kala in the Southern

Karakalpakstan. The outer surface of the castle No. 3 was decorated around the upper part with the clay panel ornaments imitating geometry figures: rounds, triangles, volutes, with T-like elements and diamond shapes (S. P. Tolstov, 1948b, p. 278, Pictures 90, 3).

The pottery based carved decorations are very



Fig. 1 - The Friso, a Carving in Clay, Teshik kala (after S. P. Tolstov, 1948a).

widespread in the sites dated to the centuries XII-XIV AD. The contemporary architectural carved terracotta is shaped more massively than the small-format "bow-knot bars" and might be glazed or not. It has a deep relief the ornament is carved with botanical and geometrical themes. Such ornaments were served as decorations for outside facades of various buildings, at the top edges of walls, at mosque mihrabs, on rich townspeople's houses. The carved terracotta, in a form of a fired pottery tombstone with an epitaph inscribed, could be used in cemeterial structures.

The simplest examples of the carved stucco are represented in Kavak kala (N. N. Vakturskaya, O. A. Vishnevskaya, 1963, p. 162). It is a former fortress of the age of the Great Khwarezm Anushetegin Shahs (1097 – 1231), which nowadays is a centre of an agricultural area in Southern Karakalpakstan. There the archaeologists excavated ruins of a big Jameh (Friday) Mosque with two halls for ritual prayers (N. N. Vakturskaya, O. A. Vishnevskaya, 1963, p. 150-167). To decorate the interior, builders applied the carved pottery. The facade part of Khalif Rajab mausoleum in Mizdakhkan was ornamented in a more complex way (K. Yusupov, 1990, p. 167).

This enormous construction is a mix of a mausoleum and a medrese. The found decoration elements, which are fractionally remaining parts of the main façade, allowed to graphical recreate the original look of the front side architectural decoration of this public building. Higher, above the pylon, there is a II-like framing set out of the carved baked bricks, which form an inscription in Arabic, in Naskh script. In addition, in the same place of the tympan, there are remains of decorative masonry, also made of bricks, and looking like geometry figures (Girih). The tympan's flat surfaces carried decorations made of semicylindrical carved bricks (K. Yusupov, 1990, p. 172-173). In general, we note that there is a combination and simultaneous use of adobe and baked brick mortared together with the clay in the decorations of those architecture sites.

The unglazed carved pottery (terracotta) was as well applied to the grander buildings of Khwarezm. Located in Konye-Urgench, the mausoleums of Tekish and Fakhraddin Razi (II-Arslan) were also tiled with the same pottery (V. I. Pilyavsky, 1974, p. 20-38). These structures are dated back to XII century and the early XIII century AD. In the upper part of the front facade of Fakhraddin Razi (II-

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Arslan) mausoleum, there are remains of a generous carved tiling made of baked brick. A beautiful carved ornament was made on the moist clay slab, or, more precisely, on the half-dried raw brick, and not on an already fired specimen. According to N. S. Grazhdankina (1958, p. 167), such way of the

carving on a raw slip is indicative of a practical use since the second half of XII century AD and became widespread in the early XIV century AD. Another mausoleum of Khwarezm Shah Tekish is also decorated with stalactite-like details, hewn out of the usual bricks (N. S. Grazhdankina, 1958, p. 161).



Fig. 2 - The Carved Clay, Shah Senem (after Yu. A. Rappoport, 1952).

The carved stucco, or the carved alabaster, was discovered during archaeological works in Shah Senem mosque in 1952 (Yu. A. Rapoport, 1958, p. 419-420) (fig. 2). At this site, the members of Khwarezm Archaeological Expedition discovered an alike variety of a Central Asian court mosque's architecture. In the middle of the southern wall, there was a mihrab alcove. The material for the mihrab finishing was the carved alabaster with a botanical ornament and inscriptions. All the architectural details were covered with an all-over

fine ornamental carving. The Swastika-like motives are distinguishable even now in the geometrical ornament there. The mosque building is thought to be dated to early XIII century. It was built during the reign of Khwarezm Anushtegin Shah Ala ad-Din Muhammad (1200 - 1220), i.e. on the eve of the Mongolian invasion. A carving in clay also decorated houses of the rural upper class during the times of Khwarezm Shahs, as the ruins of Daryalyk kul landmark in Western Khwarezm witness (Ye. Ye. Nerazik, 1976, p. 94-95).



In the last few decades, new sites of the Southern Aral region's city culture were discovered and examined by archaeologists. The researchers found cases when unglazed tiles in different varieties were used to decorate community or grand buildings. Such findings are, first of all, the mihrab alcoves of the Cathedral Mosque, houses of rich townspeople of Mizdakhkan, of Toprak kale in Qungrat (A. Alimbetov, 2013, p. 138-141), Bughra Khan (M. T. Turebekov, A. Alimbetov, 2001, p. 158-161), and the findings in the caravanserais of Ustyurt (Uchkuduk) (Yu. P. Manylov, 1982, p. 93 - 121). In Bughra Khan, the "Mausoleum of Bughra Khan" was excavated. In the course of the archaeological works at the collapsed walls of the mausoleum, the details of the architectural

decorations with an epigraphical and botanical ornament were found. They were originally carved into the raw clay and then were fired in a kiln (M. T. Turebekov, A. Alimbetov, 2001, p. 160). The carved ornament consists of semiabstract botanical motives (any petals, leaves, branches), geometrical motives resembling entangled bands, curls, and inscriptions made in *Naskh* Arabian calligraphic style. Those decorative elements are analogous to those found and described in the palace of Termez sovereigns who ruled in XI and XII centuries AD and on the carved terracotta tombstone of Narindjan-baba of XIV century AD, located in Karakalpakstan (B. N. Zasytkin, 1948, p. 55; B. P. Denike, 1939, p. 105, Picture 102).

Since 1985, the systematic archaeological



Picture 3. The Alabaster Details of a Decoration. Mizdakhkan.

excavations of the pre- and post-Mongolian sites in the historical and cultural compound Mizdakhkan had been carried out. In 1987 and 1990 a two-hall Cathedral mosque was excavated (M.-Sh. Kdyrniyazov, O.-Sh. Kdyrniyazov, 2011, p. 49-53).

At this architectural site, the examples of clay carving are the mihrab alcoves of the summer mosque, dated to the Golden Horde period. In the middle of the southern wall, the archaeologists managed to clean away the remnants of the mihrab alcoves. The finish of the mihrabs remained up to the height of 2 meters. The first alcove (width 1.15 m, height 1.90 m) is decorated with a set of stalactites. Those stalactites are carved out of clay, covered with few layers of red, blue, and white

paint. The side walls of the mihrab are decorated with two shallow niches with the sizes of 25x25 cm and 25x65 cm. On both sides of each niche, there are double frames with an Arabic inscription written in *Kufi* script (S. A. Utaliev, 2013, p. 138). The space between the letters is garnished with a botanical carving and painted red. The inscriptions in the eastern part of the niche run downwards, while in the western part they run upwards. Another mihrab of a later time is positioned by Quibla (the side directed to Mecca) and is located precisely in the middle of the southern wall. The distance between the mihrab and the western wall is 7.85 m, and between the mihrab and the eastern wall, it is 7.75 m. The width of the mihrab is 1.20 m, the depth

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is 45 cm, and the height is about 1.45 m. This mihrab is decorated in a more humble manner. The side garnishment of the mihrab survived at the height level of 1.50 m. In the deep of the mihrab alcove, a half-collapsed panel picture remained. It is composed of the geometrical (hexagonal) and botanic ornaments. The size of the panel picture is 1x1 m. The lower part of the panel picture is destroyed beyond the possibility of reconstruction. However, in the debris near the alcove itself, the remnants of alabaster plaster with carved ornamental shapes were found. At the both sides of the mihrab alcove at the height of 1.10 m, there were ornamental items inset into double rectangular frames. The carved pictures in them are painted yellow, white, and red. The technique of the ornamentation poses an interest. The flat surface was initially plastered with a thin layer of alabaster. On top of it, a layer of clay was plastered, and into

this clay, the intended shapes were carved. The background between the ornaments turned to get a red colour. The primary shapes of the ornament were then plastered with alabaster again (Fig. 3).

After a sand layer on the mihrab's floor was cleaned away, it turned out that the last alcove was hewn in the southern wall. The existence time of the Mizdakhkan summer mosque can be dated by the found coins of the Golden Horde Khans: Uzbek – 727 AH (*Anno Hegirae*) (1326 – 1327 AD), Djanibek – 742 AH (1341 – 1342 AD), Berdibek – 759 AH (1357 – 1358 AD), and by the anonymous coin dated to 1368 AD (M.-Sh. Kdyrniyazov, 1989, p. 119-120). The same decorative technique was discovered in the different Central Asian locations: in Tallisar tepe (Qarshi), Mag'oki-Attori (Bukhara), Afrasiyab, Muhammad ibn Bashshor (Tajikistan), and in Asht (Fergana) (S. B. Lunina 1978, p. 206-208).

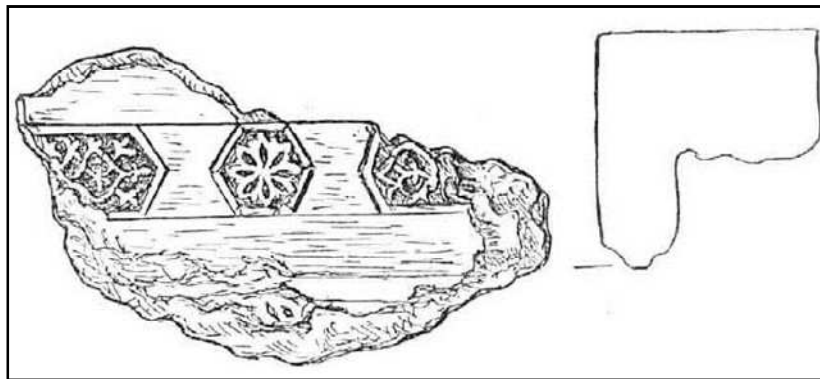


Fig. 4 - The Carved Clay, Mizdakhkan.

In Mizdakhkan, the carved stucco was used to decorate not just grand buildings but also the houses of rich townspeople. The specimen of the carved clay and the ganch were excavated in the course of archaeological works in different quarters of the town. During the excavation of the "East Quarter II" in the room No. 86 few examples of the carved stucco in the form of equally-sized tiles were found. They carried a botanical (in form of entangled vines, quatrefoiled, and hexalobed rosaces in the centre) and geometrical (in form of half-oval facets) ornaments (N. S. Grazhdankina, 1958, p. 96; B. P. Denike, 1939, p. 253, Pictures 5, 2). A fired insertion tile (Fig. 4) represented another example of carved clay. On its surface, a deeply sculptured carved ornament of a botanical type (interweaving

two-leafed and three-leafed figures, with a cordiform rosace in the middle) can be observed. The permanently set excavation works at the "North Quarter" of Mizdakhkan lasting many years promoted a discovery of the houses remnants dated back to the Golden Horde and Timurid reigns times. Among such remnants, there is room No. 2 in the house No. 1. There, a whole system of ganch decorations and frisos with carved or mold-pressed ornaments was discovered. They left in the southern wall above a *tashnau* (a wash-basin). It is necessary to highlight that in the soil filling the room No. 2, 182 the whole alabaster tiles with a facet of a *muqarna* stalactites and fragments of them were found. It is possible to determine the sizes and the ornamentation of the tiles (Fig. 5). The ornament

was applied using *qalip* moulds and then smoothed out with a knife. The entire forms of alabaster stucco belonged to public buildings decorations. In the room No. 92 of the "Eastern Quarter II" at the middle of the eastern wall, inside a special indent, the stalactite-like alabaster decoration sized 30x40 cm and 20 cm thick, was fixed in its place. It was manufactured in the shape of a *qalip*. A rectangular *pandjara* window grating with roundish glass sockets was found on the floor near the southern

wall. In the same range of the rooms, more than 110 pieces of the carved stucco, which belonged to fragments of an alabaster *pandjara*, were found in the yard of the room No. 97. Among them, there were fragments of the alabaster frame with incut hexagonal pieces of brown and reddish coloured glass. Such alabaster *pandjara* gratings have been remaining until the present day on the domes of Mazlumkhan Sulu mausoleum in Mizdakhkan.

Among the findings of carved stucco, special



Fig. 5. The Alabaster Details of a Decoration. (*Muqarna* Stalactites). Mizdakhkan.

*qalip* moulds for casting ornamented tiles with a mold-pressed ornament are sometimes found. Their ornaments repeat the motives of the alike clay tiles in the most cases (M.-Sh. Kdyrniyazov 1993, p. 97, Pictures1, 9). The carved ganch moulds were used to make the *kashi* pottery (fritware), which are sometimes found in the Khwarezmian cities of the Golden Horde Age (S. A. Utaliev 2013c, p. 19) and the Lower Volga region (N. M. Bulatov 1972, p. 271-274). In the manufacturing yard of the "Eastern Quarter II", a roundish fired clay *qalip* mould with carved ornaments was found. An *umbo* bumped core, surrounded by roundels with palmettes, is in the middle of the ornament. The embossed spots of

the carved ornament are partly glazed with turquoise glaze. Such specially prepared fired moulds could be used many times to mold-press architectural details and decorative compositions of the most prominent community buildings. In the process of firing, glaze melted and covered the embossed parts of the mould and thus those *qalips* could be re-used many times.

#### Results

In general, the clay carving was used in the form of simple geometrical ornaments on the interior of beaten-cob building walls in the architecture of Central Asia. The research of the architectural decorations showed that the usage of



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raw but dried clay was ineffective from the standpoint of longevity. The clay was often covered with a special solidifying fluid, or slipware (engobe). The use of the carving or the mold-pressing on the dried clay in architecture undoubtedly promoted the development of the art of building interior decoration. The exterior of the buildings was ornamented with the use of a peculiar technique. In the beginning, the carved clay, tiled from adobe bricks or demountable tiles, was fixed to the facade's surface. After the desired composition had been put together, the bricks were

dismounted, baked in the kiln, and then mounted back to the same facade. However, such spectacular but labour-demanding veneer technology could not last long. This is why the Khwarezmian architects began to use the ornamentally hewn baked bricks. They were convenient to compose different architectural decorations shapes. Later, the glazed architectural tiles appeared (majolica, mosaic). Nevertheless, the cheaper variety of the architectural decoration, the carved clay, was still in use in some regions of Khwarezm.



Fig. 6 - Carved Terracotta Tile. (Fired Clay). Mizdakhkan.

#### Conclusion

Thus, the carved clay and the ganch stucco were one of the most frequently used architectural decoration materials in Medieval Khwarezm. At the same time, it is necessary to note that they were employed in small party amounts. The only known exception is the mihrab alcove of Cathedral Mosque of Mizdakhkan. There, an epigraphical plate picture, in a combination with a system of stalactites, made up a volumetric decorative composition. Nonetheless, the unglazed decorations of Medieval Khwarezm were tightly bound to a pottery manufacturing. Clay tiles were often fired and such way their longevity was provided (Fig. 6). Also, the alabaster panels were used for decorative purposes. Generally speaking, the unglazed

decorative details based on the clay were used alongside with the glazed carved terracotta in the architectural decoration of the towns and settlements of Southern Aral region. The use of this simple natural substance testified a high mastership level and art skills of the architects and decorators of the Khwarezmian region. Prior to the introduction of the baked brick and the glazed terracotta, the carved clay kept an important place in the building assets of the Khwarezmian architects' practice in the art of decoration of XI-XII centuries AD.

In conclusion, we should note that any further study and analysis of the remaining conglomerates of the general architecture sites' decorations, a study of the different decorative elements, drawing in any

additional possible sources, involving any foreign practices will supplement and enrich the history of the architecture and art of Medieval Khwarezm.

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